

The Global Economic Crisis  
Sectoral Coverage

**Automotive Industry:  
Trends and reflections**

**International Labour Office**  
**Geneva**  
**2010**

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## Preface

The automotive industry is an important pillar of the world economy. It affects every aspect of daily life and it is an important source of employment – approximately 5 percent of global labour force is directly or indirectly employed in this industry. The total turnover of the automotive industry is greater than the gross domestic product of France.

The global economic crisis struck the auto industry right from the beginning and with devastating effect. Nearly every automaker posted double-digit declines in sales; Toyota announced its first operating loss in 70 years. GM and Chrysler went through a major restructuring. Corporate profits suffered, as did too the workforce, as hundreds of thousands lost their jobs.

The ILO did not waste time in reacting to the crisis in the automotive industry and the ILO Director-General, Mr. Juan Somavia, was keen to learn, how ILO could contribute to mitigating the effects of the crisis. In May 2009 the Sectoral Activities Department, together with ILO's International Institute for Labour Studies, organized a research roundtable on the automotive industry. Over 20 experts on the automotive industry from universities, international organizations, policy think tanks, employers' and workers' experts, the IOE and the ITUC took part in the discussions over two days. In December 2009 the Sectoral Activities Department organized a regional workshop for selected countries in the Asia-Pacific region. This three days workshop gathered nearly 50 participants from eight countries to deliberate employment relationship, rights at work and social protection and the impact of the economic crisis. Four country papers were prepared for the workshop. In addition, a report on the automotive industry in Brazil was prepared.

This report consists of two parts: the first part draws together the presentations and discussions of the research roundtable, whereas the second part sheds light on the auto industry in five countries (Australia, Brazil, India, Republic of Korea and Malaysia).

This report is part of a series of working papers aimed at monitoring the crisis in different economic sectors, understanding the implications for employment and working conditions, and developing policy alternatives for constituents in line with the ILO's Global Jobs Pact.

Elizabeth Tinoco  
Director  
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## Table of contents

	<i>Page</i>
Preface.....	iii
<b>The Crisis Unfolding: ILO Research Roundtable, Geneva, May 2009</b>	
Acknowledgements .....	xix
1. Introduction: Global context and business models .....	1
1.1. Global situation .....	1
1.1.1. Measures to cope with the crisis.....	3
1.2. The current business model .....	4
1.2.1. Excessive pressure on suppliers .....	7
1.2.2. Research and development: Limited real innovation .....	8
1.2.3. Brand protection and aftermarket rip-off.....	9
2. Crisis in the automotive industry: Where are we now? .....	11
2.1. Cases .....	11
2.1.1. North America .....	11
Problems of the US automotive industry.....	11
Other industry sectors.....	13
Premises and acceptance of decline.....	14
Government policy towards the US automotive industry.....	15
Conclusions on the US automotive industry .....	16
2.1.2. Japan .....	17
2.1.3. Germany .....	18
Measures to cope with the crisis.....	19
Employment implications and human effects of the crisis.....	20
Conclusions on the German automobile industry.....	21
2.1.4. France .....	21
The macroeconomic context.....	22
The French market before and after the crisis .....	22
The crisis reveals the unsustainability of a regime.....	23
Production, employment and international trade in the French automobile industry .....	24
Public policies and the automotive sector .....	25
Conclusions on the French automotive industry .....	26
2.1.5. China .....	27
Falling market demand.....	28
Automotive Industry Readjustment and Revitalization Plan.....	29
Independent innovation and branding .....	30
New energy vehicles.....	30
Consolidation and capacity control .....	31
The initial impact of the Plan and future trends .....	32

2.1.6. India .....	33
The evolution of the Indian automotive industry .....	33
Phase I: Pre-independence.....	33
Phase II: Post-independence (1950 to 1980) .....	34
Phase III: Maruti Suzuki (1983 to 1995) .....	35
Phase IV: 1995 to the present.....	35
The current crisis and industry restructuring.....	35
Employment implications.....	36
Measures to counter the slowdown .....	36
Conclusion: Crisis as a source of opportunity? .....	37
2.1.7. Brazil .....	38
Labour relations and the role of trade unions .....	39
Employment and production .....	41
Measures to cope with the crisis.....	42
Industry measures .....	42
Government measures .....	43
Conclusions and perspectives on the Brazilian automotive industry .....	43
2.2. Reflection – Crisis in the automotive industry: Where are we now?.....	44
3. Automotive industry reinvented: From crisis to the new automotive industry? .....	45
3.1. A new business model .....	45
3.1.1. How would a new business model look?.....	46
3.1.2. The future of the automotive industry .....	48
Production system evolution – manufacturing .....	50
Production system evolution – product development.....	50
Industry evolution – structure.....	50
The impacts of “green” initiatives .....	50
Employment implications.....	50
3.2. View from the suppliers .....	51
3.2.1. Outcomes of the crisis for automotive suppliers .....	51
3.2.2. The future of the European automotive sector .....	52
3.3. Labour management relations .....	53
3.3.1. Labour management relations in the United States .....	53
Workplace transformations: Learning from history .....	54
Today’s challenge: Shaping a new social contract.....	55
3.4. Managing the social dimensions of the crisis .....	56
3.4.1. Europe .....	56
3.4.2. United States.....	57
3.5. Reflection – Automotive industry reinvented: From crisis to a new automotive industry?.....	58
3.5.1. Employment implications.....	59
3.5.2. Skills improvement and retirement plans .....	59
3.5.3. Labour management relations .....	60
3.5.4. The role of trade unions.....	60
3.5.5. The role of government .....	61

References .....	65
<b>A Look at the Crisis in Selected Countries .....</b>	<b>69</b>
<b>The Australian automotive industry .....</b>	<b>70</b>
Acknowledgements .....	71
Executive Summary .....	73
1. The Australian Automotive Industry .....	74
Introduction .....	74
2. Major Structural Changes in the Automotive Industry .....	74
3. Size and Nature of the Australian Automotive Industry .....	76
3.1. Links to other Sectors of the Australian Economy .....	81
4. Government Assistance to the Industry .....	81
5. Employment in the Australian Automotive Industry .....	83
5.1. Labour Regulation in the Australian Automotive Industry .....	86
5.1.1. Hours, Wages and Remuneration .....	87
5.1.2. Work Organization in Australian Automotive Manufacturing Plants .....	88
5.1.3. Staffing Practices .....	90
5.1.4. Industrial Disputes .....	90
5.1.5. Automotive Unions .....	91
5.1.6. Social Protection .....	91
5.2. Areas for Improvement .....	91
6. Impact of the Global Financial Crisis .....	92
7. Conclusion .....	93
<b>Globalization, crisis, and the changing employment conditions in the Indian automobile industry .....</b>	<b>94</b>
Acknowledgements .....	95
Executive Summary .....	97
1. Introduction .....	99
2. Evolution of Production and Structural Change .....	100
2.1. The Vehicle Segment .....	100
2.2. The Parts and Components Sector .....	103
2.3. Intersectoral Linkages .....	103
3. Employment Trends .....	104
4. Industrial, Trade, and Investment Policies .....	106
5. The Current Crisis and Industry Restructuring .....	109

6.	Overview of Industrial Relations .....	112
6.1.	Adoption of Japanese Management Approaches .....	113
6.2.	A Case Study of the Auto Industry in West Bengal .....	114
7.	Industrial Conflict and Social Dialogue .....	117
8.	Conclusion .....	123
	References .....	127
	<b>Restructuring and employment relations in the auto industry in the Republic of Korea .....</b>	<b>131</b>
	Acknowledgements .....	133
1.	Overview of the Korean auto industry .....	134
2.	Restructuring of the Korean auto industry .....	137
3.	Employment practices of the Korean auto industry .....	139
4.	Industrial relations of the Korean auto industry .....	141
5.	Government policies for the Korean auto industry .....	143
	References .....	145
	<b>Automotive industry in Malaysia: Evolution and impact of global crisis .....</b>	<b>146</b>
	Acknowledgements .....	147
	Executive Summary .....	149
1.	Introduction .....	150
2.	Automobile industry in Malaysia .....	151
3.	Industrial, trade and investment policies of the automotive sector, Malaysia .....	153
4.	Performance of automotive industry .....	154
4.1.	Vehicle Sales and Production .....	154
4.2.	Trade Performance .....	155
4.3.	Employment .....	156
5.	Employment relationship and working conditions .....	158
6.	Industrial relations (IR) .....	159
7.	Impact of global crisis on Malaysian automotive industry .....	161
7.1.	Vehicle Sales .....	161
7.2.	Production and employment .....	162
7.3.	Employment and industrial relations during the global financial crisis .....	163
7.4.	Government counter-cyclical intervention .....	163



8.	Structural challenges and labour relations issues in the automotive industry .....	163
9.	Conclusion .....	165
	References .....	167
	<b>The Brazilian automotive industry: Historical background, development – Current crisis and trends</b> .....	169
	Acknowledgements .....	171
	Executive Summary .....	173
1.	Introduction to and historical background of the Brazilian auto industry.....	174
1.1.	Historical Perspective, Policy Regime and Trade Union Structure .....	176
1.2.	Trade Union Structure and Bargain Process .....	177
2.	Structural development of the automotive supply chain.....	178
2.1.	Modularity & Modular Design, Supply and Assembly .....	179
2.2.	The location of design activities structures the chain and the employment levels in the country .....	183
2.3.	Unions and design activities .....	183
2.4.	Where is the value added in the modular scheme? .....	183
3.	The evolution of employment, skills, wages (and other social data) .....	184
4.	2008-09: Crisis, recovery and trends .....	189
4.1.	Old Problems, Future Possibilities.....	193
	References .....	195

## **Boxes**

Box 1.1.	Decline in world auto/light vehicle production: European passenger car sales, February 2009 vs. February 2008 (percentage decline).....	1
Box 1.2.	The changing world automotive market: three factors .....	2
Box 1.3.	Reasons behind the crisis in the case of the United States .....	2
Box 1.4.	The impacts of globalization on future automobile sales .....	3
Box 1.5.	What is wrong with the current business model? .....	4
Box 1.6.	Investment in research and development.....	8
Box 2.1.	The crisis in the US automotive industry .....	11
Box 2.2.	Short-term problems in the US market.....	12
Box 2.3.	Long-term problems in the US automotive industry .....	12

---

Box 2.4.	VEBA: Voluntary Employee Beneficiary Association (Chrysler-Fiat-UAW).....	13
Box 2.5.	The Chrysler-Fiat labour peace .....	13
Box 2.6.	Results of long-term problems for US automotive companies.....	14
Box 2.7.	The federal bailout of GM.....	16
Box 2.8.	Total cost of US Government assistance: \$36.4 billion.....	16
Box 2.9.	Headline news for Japanese companies.....	17
Box 2.10.	German automotive industry .....	18
Box 2.11.	German car manufacturer in trouble: the case of Daimler.....	19
Box 2.12.	Success with the trade-in programme for “old clunkers” .....	20
Box 2.13.	Employment and salary trends in German manufacturing, 2009 .....	20
Box 2.14.	The macroeconomic context in France.....	22
Box 2.15.	Conclusions on production and international trade trends – the case of France .....	25
Box 2.16.	Growth engines within the Chinese automotive industry.....	29
Box 2.17.	The three major segments of the Automotive Industry Readjustment and Revitalization Plan.....	29
Box 2.18.	Independent brands in China .....	30
Box 2.19.	New energy and fuel-efficient vehicles .....	30
Box 2.20.	Consolidation and capacity control .....	31
Box 2.21.	Forecasts of China’s automobile demand.....	32
Box 2.22.	Phases of evolution and transformation of the Indian automotive industry .....	33
Box 2.23.	Active measures in the case of India .....	37
Box 2.24.	Concluding remarks – the case of India .....	37
Box 2.25.	Measures to cope with the crisis – the case of Brazil .....	42
Box 3.1.	A new business model .....	48
Box 3.2.	Automotive demand: Developed world.....	48
Box 3.3.	Automotive demand: Developing world .....	49
Box 3.4.	The future of the automotive industry .....	49
Box 3.5.	Dramatic drop in demand for vehicles with today’s technology .....	52
Box 3.6.	Roadmap on energy, environment and resources .....	52

Box 3.7.	The role of management, unions and government during crisis.....	54
Box 3.8.	Learning from the NUMMI venture.....	55
Box 3.9.	Anticipation of change.....	57
Box 3.10.	Defining “efficiency” .....	57
Box 3.11.	Three important points for European unions to consider .....	60

## **Tables**

Table 2.1.	Evolution of sales and market share of automobile market segments in France, 1990–2005 .....	23
Table 2.2.	China: Automobile export growth, 2004–2008 .....	28
Table 2.3.	Automobile brands being produced in Brazil.....	40
Table 2.4.	Annual growth in the Brazilian automotive industry: Main indicators, 2001–2008 (percentage change from previous year).....	41

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Table 1.	Trends in Auto Industry Production .....	101
Table 2.	Structure of Production in the Indian Car Industry.....	102
Table 3.	Auto Components Industry.....	103
Table 4.	Employment Trends in the Auto Industry .....	105
Table 5.	Percentage Change in Employment in Selected Sectors .....	111
Table 6.	Comparison of Organized and Unorganized Sectors in the Auto Industry .....	114
Table 7.	Recent Industrial Relations Conflicts .....	117
Table 8.	Changes in Capital Intensity and Wages in the Auto and Textile Industries (1998-2006) .....	120
Table 9.	Economic Contribution of the Auto Industry in Korea <sup>134</sup> (Unit: Billion Won; Million US Dollars; Thousands) .....	134
Table 10.	Production and Sales Trends in the Korean Auto Industry .....	135
Table 11.	Global Position of the Korean Auto Industry .....	136
Table 12.	Production and Domestic Sales of Korean Automakers (as of 2008) .....	136
Table 13.	Overseas Production Volume of the Hyundai-Kia Motor Group .....	139
Table 14.	Modularization Plan at Hyundai Motor Group.....	139

Table 15.	Overview of Labour Unions at Major Automakers .....	142
Table 16.	Labour Disputes at Korean Automakers.....	142
Table 17.	Revenue, Employment and Exports, Proton, 1999-2009.....	151
Table 18.	Revenue, Profits, Employment and Total Industry Volume, APM, 2000-2008 .....	153
Table 19.	Industrial, Investment and Trade Policy .....	153
Table 20.	Exports and imports of Automotive Products of Malaysia, 1990-2007 (US million).....	156
Table 21.	Sales, Exports and Imports of Auto Components and Parts (RM Billion) .....	156
Table 22.	Total number of employment by industry, 2000-2008 .....	156
Table 23.	Average Monthly Salary, 2000-2008 (RM).....	157
Table 24.	Training and Skill Level .....	157
Table 25.	Union density in the automotive industry, Peninsular Malaysia, various years. ....	159
Table 26.	Sales of Passenger and Commercial Vehicles in Malaysia (Annual Percentage Change YOY) .....	162
Table 27.	Comparing Sales during two major crises .....	162
Table 28.	Trade marks produced in Brazil .....	175
Table 29.	Extra-zone (extra-Mercosul) import tariffs.....	177
Table 30.	Production, domestic sales, exports and employment (2000 – 2008).....	186
Table 31.	Assemblers General Social Data – Passenger Cars, Light & Commercials (1996-2007).....	187
Table 32.	Component Suppliers General Social Data (1996-2007) .....	187
Table 33.	Evolution of wages in assemblers corrected for inflation, Reais (R\$) and index (basis=1999).....	188
Table 34.	Evolution of wages in suppliers corrected for inflation, Reais (R\$) and index (basis=1999).....	188
Table 35.	Monthly employment & production (Jan 2007-Aug 2009).....	190

## **Figures**

Figure 1.1.	Product proliferation gone mad – the example of Volkswagen: VM groups and models on offer, 1964–2010 .....	5
-------------	---	---

Figure 1.2.	Premature obsolescence: New product introductions, 2000–2005 (number per year)	6
Figure 1.3.	Permanent price wars: Price decline of an equivalent vehicle, 1995–2006 (index, 1995 = 100)	6
Figure 1.4.	Break-even points far too high: PSA group operating margins, 2006–2008 (€ million)	7
Figure 1.5.	Limited real innovation: Growth in R&D versus R&D intensity in automotive, healthcare and computing & electronics industries, 2001–2006	9
Figure 1.6.	Aftermarket rip-off – monopoly rents in aftercare: Breakdown of dealer sales and profits, Germany (percentages)	10
Figure 2.1.	China: Automotive output, 1992–2008 (number of units)	27
Figure 2.2.	CBU forecast: China’s total automobile demand, 2008–2013	32
Figure 2.3.	Market share for passenger cars, India, 2006–2008	34
Figure 2.4.	Brazil: Production, domestic sales, exports and employment, 2000–2008	40
Figure 2.5.	Brazil: Employment and production, monthly basis, January 2007–April 2009	42
Figure 3.1.	Stripping away the protection: European showroom numbers	46
Figure 3.2.	Take 15–20 per cent of costs out: Cost build-up in Europe (€/unit)	48
* * *		
Figure 1.	Local and export sales of Automotive Component Manufacturers*	78
Figure 2.	Production (units) of locally produced PMVs and PMV Derivatives	78
Figure 3.	Local MVP Profit Performance, 1997-2008	79
Figure 4.	Locally Produced and Imported Passenger Vehicle Sales in Australia 2001-08	80
Figure 5.	Australian Automotive Industry Employment	84
Figure 6.	Automotive Industry Employment by Industry Sector, 2006/07	85
Figure 7.	Local MVP Labour Productivity	89
Figure 8.	Intersectoral Linkages for the Automobile Industry	104
Figure 9.	Increasing Lockouts in West Bengal, 1979 1997	116
Figure 10.	Trends of Production and Utilization in the Korean Auto Industry	137
Figure 11.	Trends of Employment in the Korean Auto Industry	140
Figure 12.	Trends of Contract Workforce at Hyundai Motor	141
Figure 13.	Sales of Passenger and Commercial Vehicles	155

---

Figure 14.	Production of Passenger and Commercial Vehicles, 1980-2008.....	155
Figure 15.	Structure of the chain (tiering) - Brazilian auto industry .....	180

### **Charts**

Chart 1.	Evolution of main indicators by index – production, sales, exports, employment (2000-8) .....	186
Chart 2.	Evolution of employment by gender .....	188
Chart 3.	Evolution of employment and production (Jan 2007 – Aug 2009) .....	192
Chart 4.	Index of evolution of employment and production (Feb 2007=100).....	192

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**List of acronyms**

CEO	Chief Executive Officer
CLEPA	European Association of Automotive Suppliers
EU	European Union
GM	General Motors
MPV	Multi-person vehicles
MUL	Maruti Udyog Ltd.
NUMMI	New United Motor Manufacturing
OEM	Original Equipment Manufacturer
R&D	Research and development
SME	Small and Medium-sized Enterprise
SUV	sport utility vehicle
UAW	United Auto Workers
VAT	Value added tax
VEBA	Voluntary Employee Beneficiary Association





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**The Crisis Unfolding: ILO Research  
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# 1. Introduction: Global context and business models

## 1.1 Global situation <sup>1</sup>

The consequences of the global financial crisis have been visible since early 2008, and the crisis has by now proved itself to be the worst economic crisis since the Great Depression of the 1930s. The crisis had been looming for some time, unnoticed by many due to the success of a very limited number of products, such as sport utility vehicles (SUVs) and light trucks. At this point, however, it is evident that the automotive sector is one of the industries hardest hit by the current financial and economic crisis.

During the second part of the year 2008, demand collapsed to a degree never before experienced. In the United States, the start of the year had already seen a significant fall in demand for light trucks, and the overall fall in demand that followed was particularly hard on the “Detroit Three”<sup>2</sup> who in turn accelerated the move to close sites and reduce the size of their labour force. One of the central problems in the US automotive industry is that the car makers have been producing cars that Americans did not want to buy. This lack of innovation is now apparent, as well as the environmental concerns that were not addressed by the products offered.

The sales of passenger cars in the European industry are down 15 per cent and would be down 25-30 per cent if the scrappage system had not been in place. Sales of commercial vehicles are down 30 per cent. The production of passenger cars decreased by 25 per cent (box 1.1) and commercial vehicles by 60 per cent.

<b>Box 1.1</b>	
<b>Decline in world auto/light vehicle production: European passenger car sales, February 2009 vs. February 2008 (percentage decline)</b>	
All brands	-18.3
Volkswagen	-10.2
Ford	-12.7
Fiat	-16.5
Toyota	-18.3
General Motors	-21.9
Renault	-23.1
PSA	-25.3
Daimler	-29.8
BMW	-29.2

When analyzing the current crisis, the following elements need to be considered: (1) the emergence of short-term losses in all companies; (2) continued long-term losses of

<sup>1</sup> This section is based mainly on Bluestone (2009a), complemented by global data from Professor Kwoka and Professor Jullien.

<sup>2</sup> The Detroit Three refers to the three big automobile companies in the United States: Chrysler, Ford and General Motors (GM).

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market share; (3) the emergence of new large markets, namely in China and India; (4) the growth of production in Asia and Africa; and (5) strong merger and acquisition activities.

The impacts of these repercussions need to be evaluated for the communities that are most highly dependent on the automotive industry. For example, cities such as Detroit, which had the highest median US city income in the 1950s and which has been seriously affected by the downturn in automobile production, need to be given particular attention.

There are short-term as well as long-term factors in the crisis in the automotive industry (box 1.2). The short-term problem is simply the sudden and enormous collapse of sales. In an industry with high fixed costs, this has a dramatic effect on the companies. At a macro-level, the credit crunch and the deep recession explain this enormous collapse. At a micro-level, consumers' postponement of new car purchases results in more pronounced sales cycles than for any other consumer product. Furthermore, the fact that companies have "oversold" cars in the past, by pulling future sales into the present through cheap credit, discounting and sales to rental fleets, has exacerbated the decline in demand.

**Box 1.2**

**The changing world automotive market: three factors**

- Short-term sales volume loss due to world economic crisis (all producers).
- Long-term loss of market share by individual companies in their own national markets (e.g. GM, Chrysler).
- Long-term changes in world market share due to emergence of new companies operating in own national markets (e.g., Tata, Chery).

The reasons for market share losses of individual companies in the case of the United States are to a large extent related to relatively high labour costs and low productivity (box 1.3).

**Box 1.3**

**Reasons behind the crisis in the case of the United States**

- Higher labour costs associated with current workforce:
  - wages;
  - health insurance.
- Higher labour cost associated with retirees:
  - pensions;
  - health insurance.
- Lower productivity associated with:
  - lack of capital investment;
  - work rules, job classifications.
- Poor product quality.
- Wrong products for existing market.
- Lack of innovation in existing products.

When understanding the impact of the crisis in the automotive industry one needs to look at several different levels within the sector: the major automotive companies, the parts

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and material suppliers, the automotive dealers, the automotive repairers, individual communities, trade unions, workers and families, and investors and bondholders. The same aspects also need to be taken into account when outlining the future of the industry.

**Box 1.4**

**The impacts of globalization on future automobile sales**

- The emergence of new markets as a positive impact on automobile sales.
- The global warming and oil dependence as a positive or negative impact, depending on how it will be dealt with.
- The aging of the population as a negative impact on automobile sales.
- New urbanism as a negative impact on automobile sales.
- Growing demand for alternative forms of travel as a negative impact on automobile sales.

Source: Bluestone, 2009b.

Changing global conditions are also having an impact on future automobile sales (box 1.4). The emergence of new markets, such as China, India and Latin America, are boosting demand. Forecasts for the year 2015 present modest growth of the traditional markets in Europe, Japan and the United States, and fast growth in the new emerging markets. These trends imply changes in location of production, which will move closer to future markets.

Global warming and the dependence on oil will induce revolutionary changes in the industry. The increase of the price of the petrol, raw materials and transport in the first half of 2008 led automobile firms to review the make-up of their product portfolios and the industrial infrastructure that they had previously considered to be structurally unshakeable. The shortage of natural resources that has resulted from the accelerating growth of emerging economies combined with the desire to take concrete measures to combat climate change have meant that only significant changes will be adequate to guarantee a sustainable automobile industry.

The populations of the United States, Europe and Japan are ageing fast; 89 per cent of households in the United States will shortly be headed by someone older than 55. Furthermore, new urbanism, the revival of cities and alternative forms of transportation will most likely reduce the demand for cars.

### **1.1.1 Measures to cope with the crisis**

At the European level, there have been no measures to deal with the crisis except for those taken by the European Investment Bank, which gives loans to manufacturers and suppliers of up to 8.5 billion euros (€) in 2009. The automotive industry has to lobby against implementation of regulations and trade agreements that would be counterproductive for the European automotive industry. For example, additional regulations on CO<sub>2</sub>-emissions and a free trade agreement with the Republic of Korea could prevent the recovery of the industry.

At the national level, scrappage systems and tax reliefs have been implemented as measures to deal with the effects of the crisis. The market is up again, but the question of what will happen once these measures run out remains. If the recovery slows, longer term measures will have to be taken. Furthermore, lack of coordination between states is causing an uneven playing field, and benefits vary depending on where the company is located.

The projected worldwide sales of light vehicles in 2009 are expected to be below the 1999 levels. The big challenge to address in order to manage the consequences of the crisis

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is to build collaboration between the social partners. If the social partners work together through joint actions, it would create potential for a strengthened automotive industry.

## 1.2 The current business model

<p style="text-align: center;"><b>Box 1.5</b></p> <p style="text-align: center;"><b>What is wrong with the current business model?</b></p> <ul style="list-style-type: none"><li>• Overcompetition on new cars</li><li>• Premature obsolescence</li><li>• Price wars</li><li>• Break-even points far too high</li><li>• Excessive pressure on suppliers</li><li>• Limited real innovation</li><li>• Protected channels</li><li>• Aftermarket rip-off</li></ul> <p>Source: Wormald, 2009</p>
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The current business model has been described by a number of commentators as “broken” (box 1.5). The recession – with falls in market volumes ranging from 10 per cent to 40 per cent, according to country and region – has proved catastrophic for the light vehicle industry. It is worth noting, however, that other parts of the automotive industry have proved better armed: MAN achieved break-even in 2009 Q1, despite sales being down 37 per cent compared with 2008 Q1. The light vehicle industry generally has far too high a break-even point, hence its chronic underprofitability and excessive vulnerability to the slightest market downturn.

The conventional explanation for these trends is that there is too much overcapacity in the industry. There is indeed, in as far as the rated capacity of assembly plants exceeded pre-recession demand by about 25 per cent. In practice, however, assembly lines that are not running are not manned, or shifts are cut. As the largest component of value added in an assembly plant is direct labour, shutdowns and short-time working are not that expensive. In addition, manufacturers do not have to pay suppliers for parts and materials that are not required.

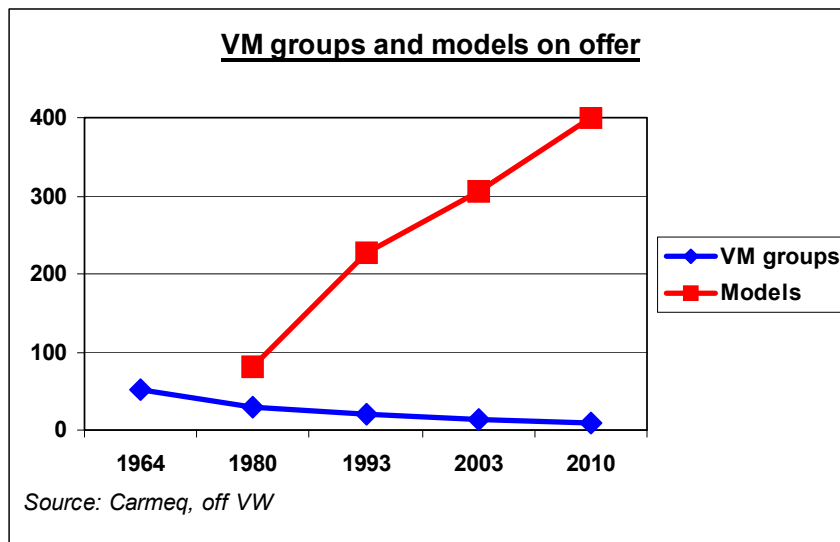
The real problem lies in the nature of competition in the new car (and by extension light truck and SUV) market. Insufficient competition is frequently decried as a market failure and more or less well dealt with through anti-trust and other measures. Over-competition, however, seems to escape attention. Indeed, it is positively lauded. The Herfindahl-Hirschman index is often used to measure the intensity of competition. The presumption is that the more competitors there are in a sector the better. This is the classical microeconomist’s perspective, reasoning in terms of small and substitutable economic agents. But It is not applicable to a giant-scale industry, which rests on interlocking networks of specialised oligopolies, with no true market interfaces between them, because of the complex assembled nature of the product. Indeed, some businesses (such as complex networks) operate best as regulated monopolies. The question is, therefore, why does a fundamentally oligopolistic industry, such as the automotive industry, manage to conspire to achieve the opposite of monopoly rents?

The answer lies in the power of myths, or collective delusions, which are exceptionally strong in the automotive industry, and which likes to believe it is unique and subject to its own laws. One of these, much worshiped over the past decade, is the



overriding need for a manufacturer to achieve global scale, with minimum production thresholds of 4 million or more units commonly quoted. This has helped propel a steady consolidation of vehicle groups across the world. New entrants also emerge as new countries join the world automotive industry club. What is commonly ignored is that living and travel patterns and therefore product requirements vary significantly across world regions. They can, however, share common components, which explains the considerable consolidation within the supplier sectors.

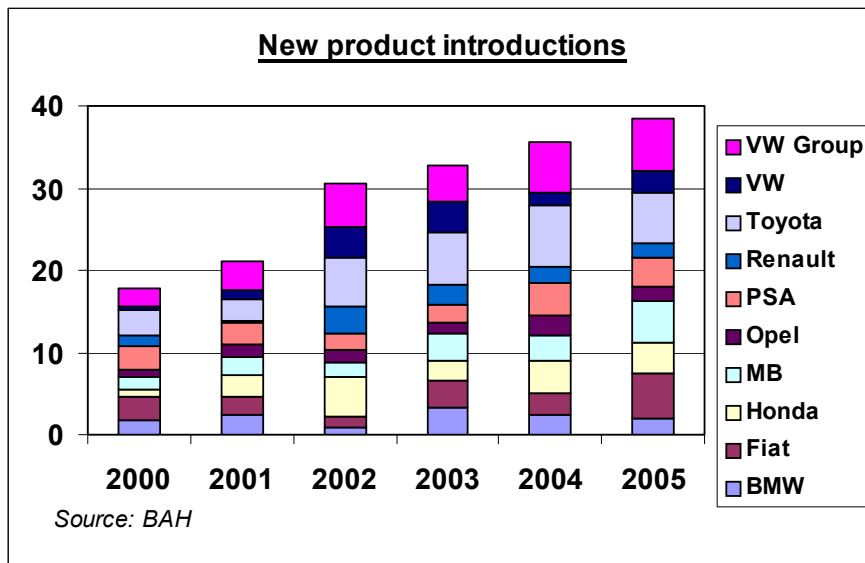
**Figure 1.1** Product proliferation gone mad – the example of Volkswagen: VM groups and models on offer, 1964–2010



Source: Carmeq, off VW.

The vehicle manufacturers are product-obsessed. There is a firm belief that the more product one can offer, the more market share one will gain (by covering all possible market segments). If everyone attempts this simultaneously, this clearly makes for a less-than-zero-sum game. Almost everyone has done just that. The number of models on offer in Germany quadrupled between 1980 and 2009 (figure 1.1). The industry claims that flexible automation has removed the cost penalty associated with proliferation of products, but this is in fact unsubstantiated. The industry remains remarkably primitive in its analysis of what drives its own costs. The upmarket specialists each have their own distinctive product positioning and a real brand image based on that. Consequently, they can price their products to obtain decent financial returns. The volume manufacturers, in contrast, are stuck in a stalemate situation. Their products are not really differentiable from each other, apart from the occasional packaging innovation, soon to be copied (the Renault Scenic was a notable example, as the first multi-person vehicle (MPV) on a mainstream European platform). Everyone competes head-on. Vast amounts of money – as much as the R&D spend – are spent on trying to create artificial brand identities through advertising and other communications. Volume car advertisements are notable for their lack of reference to actual product features and rely largely on fantasy. Because of this, the cost side of the profit equation is fatally burdened.

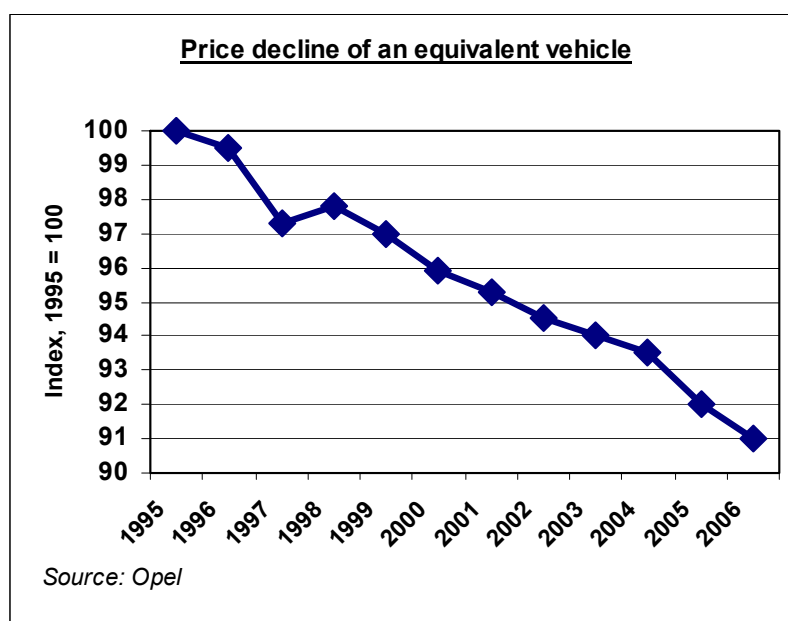
Figure 1.2 Premature obsolescence: New product introductions, 2000–2005 (number per year)



Source: BAH.

The second myth is that consumers constantly want something new. Huge efforts have therefore gone into speeding up the product development process, so as not to “miss the market”. The pace of new product introductions has been greatly speeded up – it went from 18 models a year in Europe in 2000 to 39 in 2005 (figure 1.2). Shortening the product life cycle is seen as a great virtue. Every new product replaces an old one – and demolishes its residual value in the used car market. Customers are almost perfectly informed about prices, thanks to a well-developed specialised press and the Internet. Low residual values for used cars translate directly back into pressures for discounts for new cars. The result is a permanent price war (figure 1.3).

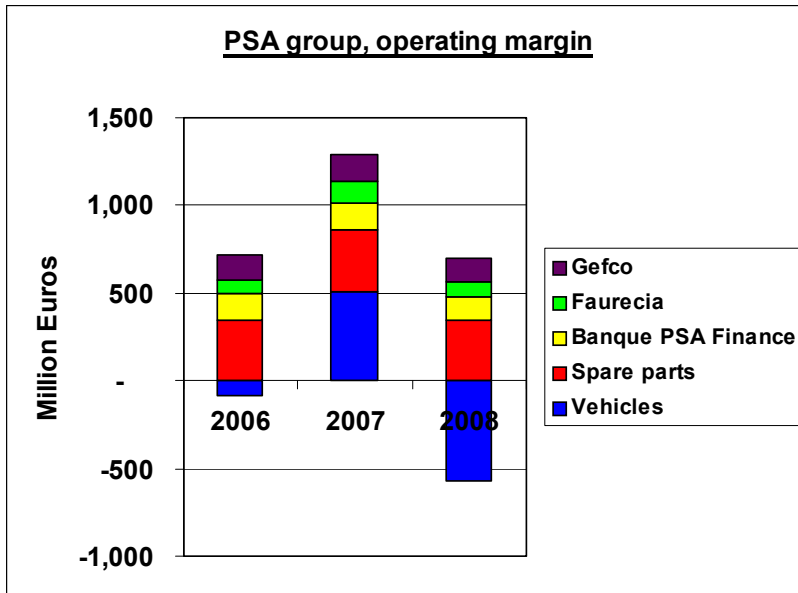
Figure 1.3 Permanent price wars: Price decline of an equivalent vehicle, 1995–2006 (index, 1995 = 100)



Source: Opel.

Given their excessively high breakeven points (figure 1.4), the manufacturers inevitably strive to maintain their volumes by every means possible. In Europe, this notably includes a growing reliance on the fleet market, although often at the cost of even lower margins. It is a classic vicious circle.

**Figure 1.4 Break-even points far too high: PSA group operating margins, 2006–2008 (€ million)**



Data source: press reports.

All of these factors jointly create endemically weak margins on new cars. Volume vehicle manufacturers are unable to earn adequate returns on investments even in the good years. They systematically make up the shortfall by exercising – or attempting to exercise – monopoly rents on the sales of spare parts, and through uncompetitive financing products offered exclusively at the point of sale. Having overcompeted to sell new cars, manufacturers would ideally like to hold their owners captive, making servicing and parts available only through their franchised dealers, thereby creating a set of parallel monopolies. Figure 1.5 illustrates this for a major European vehicle group, PSA. The European Commission has had to fight hard against manufacturers’ lobbying power to prevent them exercising monopoly power in the aftermarket by providing regulatory safeguards to protect the continued existence of an alternative independent set of providers of servicing, repairs and parts.

The overcompetition combined with the premature obsolescence, the permanent price wars and the too high break-even points have created an extremely weak vehicle business.

### 1.2.1 Excessive pressure on suppliers

Spare parts are not being made by vehicle manufacturers; 40 per cent of the profits of the industry come from trading in spare parts, channels which are being controlled by the main automakers. There is therefore excessive pressure on suppliers, most of which are located in low-cost countries. If this continues, it risks halting the development of new technology, and will also affect the responsibilities for taking into consideration global warming and energy problems.

Mutual hostility and suspicion are a poor basis for the development and production of complex assembled products, where interdependencies are very strong. The more considerate manufacturers seem to get the most out of their suppliers in the long run and to

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be the most competitive on cost and quality. Abusing the supplier base is an absolutely lethal recipe for the industry as a whole, given that systems, components and materials suppliers generally account for 75–80 per cent of the content of the final product.

Suppliers are increasingly responsible for technological development and innovation. The more powerful ones spend a higher proportion of sales on R&D than manufacturers, and a higher share is spent on real research as opposed to mere development or repackaging. Putting this capability at risk through excessive short-term financial pressures is suicidal, particularly in the face of rapidly tightening public requirements for lower emissions and fuel consumption.

Companies need to build new relationships with their suppliers. European and Japanese car makers work jointly with their suppliers on problem-solving, quality improvements and cost reduction. Squeezing suppliers is not a sustainable practice; suppliers need to maintain a profit margin to invest in research and development in order to respond to the needs of car manufacturers. However, a path dependency in these relations exists, which makes establishing new relationships difficult.

### **1.2.2 Research and development: Limited real innovation**

The myth of a highly innovative industry endures and is vigorously promoted, especially to legislators. The European automotive industry claims to spend €20 billion per year on R&D, more than the European pharmaceutical industry. Globally, the automotive industry is outspent absolutely by both healthcare and computing and electronics. It is substantially surpassed in R&D expenditure as a percentage of sales by healthcare (figure 1.5). The aggregation of R&D in the figures hides another important distinction. Whereas the healthcare sector spends heavily on research, based on fundamental life sciences, the automotive industry is thought – there are no published figures – to spend 80–90 per cent on development, i.e. repackaging existing technologies, feeding the product proliferation machine. This way of administrating R&D expenditure (box 1.6) is not sufficient in the face of the rising environmental and energy challenges.

#### **Box 1.6**

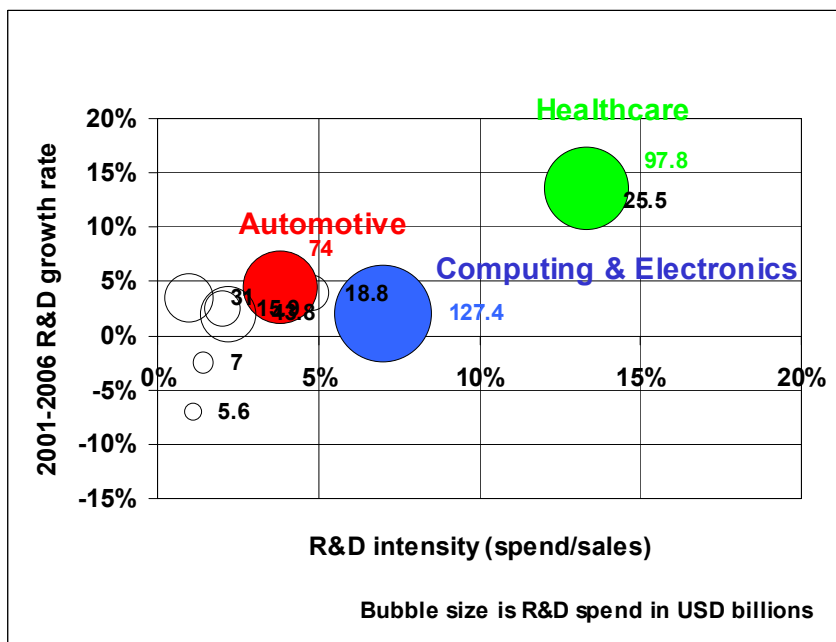
##### **Investment in research and development**

- The European automotive industry: €20 billion/year on R&D.
- The automotive industry is outspent by both healthcare and electronics.
- Most of the money for automotive R&D goes to development.
- Insufficient resources are allocated to research on environment and energy.

Source:

Hence, up to this point there has only been limited real innovation in the automotive industry. The industry operates within protected channels, to protect the existing brands. Brand loyalty is strong, and the brands are only protected for the sake of the brands, not in accordance with consumer demand. These trends are now, due to the crisis, expected to change.

**Figure 1.5 Limited real innovation: Growth in R&D versus R&D intensity in automotive, healthcare and computing & electronics industries, 2001–2006**



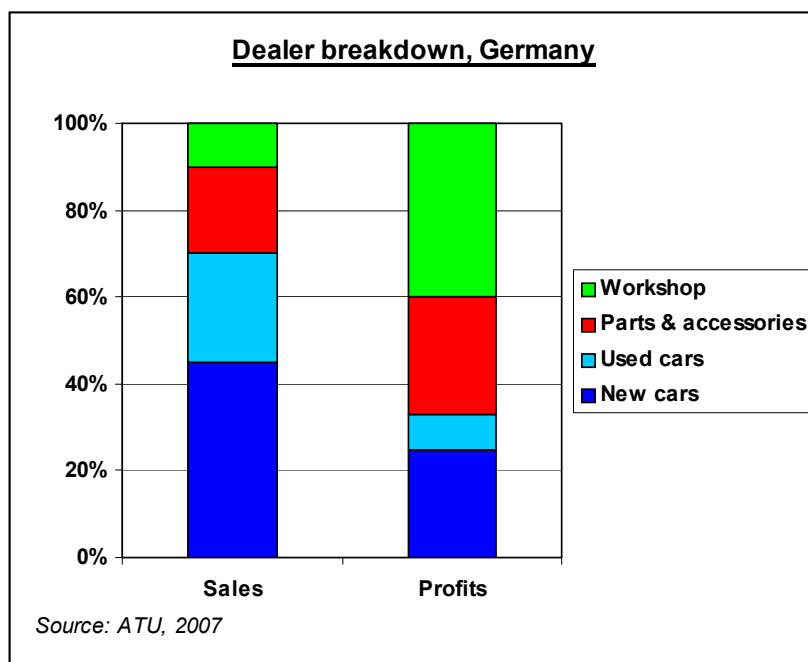
Data source: Strategy and Business, Booz & Co.

### 1.2.3 Brand protection and aftermarket rip-off

Possibly the most damaging myth of all is that of the absolute necessity of having protected, proprietary and brand-exclusive routes to market. This is commonly justified by the need to protect the brand, even though strong product brands frequently coexist with separate strong outlet brands in other retail sectors. There is of course an element of customers genuinely wanting the sales outlet also to provide after-sale service, although it does not automatically follow that this has to be under the banner of the product brand.

This is in turn linked to the consumer life cycle myth. Even though the traditional brand loyalties have faced the general developments company reorganization in the wider consumer goods market, the myth persists. While long-term loyalty to the brand does persist in upmarket and speciality cars, which really are differentiated and brandable, it has all but collapsed in volume car brands. The perceived necessity for every volume brand to offer a full range is possibly the key contributor to the excessive proliferation of product offerings.

**Figure 1.6 Aftermarket rip-off – monopoly rents in aftercare: Breakdown of dealer sales and profits, Germany (percentages)**



Source: ATU, 2007.

Dealerships are kept on a diet of small margins (even with bonuses) on cars and parts. They are therefore forced to make up the shortfall by extracting high prices from the consumer for servicing – maintenance and repair (figure 1.6). The desire of manufacturers and dealers is to treat the consumer as captive in this respect, as far as possible. Basic and extended warranties play a large role in this, including (illegal) threats and implications that they will not be honoured if a car is serviced outside the network of manufacturer-approved workshops. In effect, manufacturers and dealers try to create and protect monopoly rents. There have also been illegal attempts on the part of manufacturers to prevent independent repairers having equitable access to diagnostic systems and technical information, which are crucial to their business. Buyers of new cars (both individual and corporate) have tended to accept this situation during the first ownership cycle of the car and dealers achieve high service retention rates during this period. However, as soon as the car is resold, that loyalty declines abruptly, although at a rate which varies between countries.

The alternative is an independent workshop, which typically deals with all makes and models of car, and which sources its parts from independent wholesale distributors. These distributors provide the components suppliers with the necessary reach into very dispersed local markets, and offer high expectations of parts delivery performance.

In Europe, vertical restraints on trade are illegal under the Treaty of Rome, but can be permitted under an exemption from the treaty. Exemptions can apply for a single agreement or for a whole sector, the latter being called a block exemption. The Automotive Block Exemption Regulation is now in its third generation. The European Commission has not fundamentally challenged the dealership system. It has, however, sought a better balance between the rights of manufacturers and dealers, and – crucially – it has sought to ensure the survival of the independent aftermarket sector (workshops and distributors) so that car owners may have a choice of provider in servicing and repair.

The situation in the United States is different. There, dealers are very influential in communities and state legislatures and have got their status as sole retailers of new cars

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entrenched in state dealers laws, which are almost impossible to overturn. A manufacturer there typically faces stiff penalties if it discontinues a dealer contract.

## **2. Crisis in the automotive industry: Where are we now?**

### **2.1 Cases**

#### **2.1.1 North America<sup>3</sup>**

During the past 100 years, the automotive industry has been at the centre of US manufacturing. The traditional “Big Three” of the US industry – General Motors (GM), Ford and Chrysler – collectively have provided jobs for millions of workers. These have been good jobs: highly skilled jobs with wages to match, jobs with opportunities for advancement into the middle class, jobs with healthcare and retirement security beyond that offered by any other industry or, for that matter, by the Government. The US automotive industry is now undergoing the most profound change ever in its long and remarkable history.

As GM and Ford were celebrating their centenaries (in 2008 and 2003 respectively), the companies stood on shaky ground. The effects of the automotive market collapse were immediate and dramatic; GM sales fell 45 per cent in the first four months of 2009 compared with the same period in 2008; Ford sales went down 42 per cent; Chrysler sales fell by 46 per cent.

All of these events occurred before the entire automotive market collapsed in late 2008 – a collapse in demand that reached exceptional levels (box 2.1). The US Government took unprecedented steps to stave off complete collapse, even liquidation, of any of the Big Three companies – actions that departed from past practice and policy, and which carried considerable political as well as economic implications.

#### **Box 2.1**

##### **The crisis in the US automotive industry**

- The present crisis in the US automotive industry is not simply the result of the sales collapse, however severe that is. Rather, the problems run much deeper and extend over a long period in which mistakes by the traditional US automotive companies have left them extremely vulnerable to such shocks.
- The US automotive industry consists of more than the Detroit Three. Both upstream and downstream stages involve many companies and employees, some of which have fared considerably better than the traditional US-based automotive assemblers.
- Current policy is guiding the US automotive industry toward a new equilibrium envisioned and established by the government. This diverges sharply from past policy and practice that have focused on assisting the adjustment process.

### **Problems of the US automotive industry**

The problems afflicting GM, Ford and Chrysler have both short-term and long-term dimensions. The short-term problem is simply the collapse of sales, which has been of

<sup>3</sup> This section is based on Kwoka (2009), MacDuffie (2009) and notes from the Roundtable discussions on 20 May 2009

unprecedented speed and severity. Sales have fallen for several reasons (box 2.2): macro factors responsible are the deep overall recession together with the associated “credit crunch”. Micro contributors include the postponable nature of purchases of durables such as automobiles (which always causes larger swings in automobile sales than in the economy as a whole), and also the recent “overselling” of cars as a result of cheap credit, price discounting and sales to rental fleets. This overselling has pulled future sales to the recent past, making the current trough deeper than it would otherwise have been.

**Box 2.2**

**Short-term problems in the US market**

Macro:

- Severe recession
- Credit crunch

Micro:

- Overselling of cars
- Postponable purchases

The case of the US automotive industry differs from that in other countries because it had already been suffering from several other deep-seated problems before the crisis. Those problems, largely unaddressed, have made the industry vulnerable to outside shocks and threats. Past events that have caused the industry great difficulties include oil price spikes and competition from imports. The latter, in turn, have hastened the process of restructuring, and imply that the new equilibrium for the industry will be far different from its previous state.

The long-term problems of the US automotive industry are deeply structural (box 2.3), and so far have been largely undressed by the companies. Government policies have also left the US companies exposed to many threats.

**Box 2.3**

**Long-term problems in the US automotive industry**

- The products of US automotive manufacturers, especially passenger cars, have been inferior in quality and design to the products of most Asian competitors. US companies have been seduced by profits made through one-off profitable vehicles, such as the minivan in the 1980s and 1990s and followed by the SUV. The success with these cars obscured the fact that car sales had been in steady decline for the past 30 years and that companies were lacking longer term strategies.
- The US car manufacturers face problems with production costs. The operating costs for North American plants are much higher than competitors' costs. While the wage and wage-related costs are competitive, it is the legacy costs such as health and retirement benefits resulting from past bargains with unions that increase costs for US car makers. For each currently active worker in the US automotive industry, there are three retired workers with health insurance or retirement claims.
- Management of US car makers has been focusing on short-term goals and profitability, and has been ignoring deeper seated problems. Governance of these companies has failed, with boards protecting the CEO rather than controlling the fate of the company.
- Government policies of cheap petrol and the lack of a public policy to promote alternative technologies has added to the home-made problems.

Source: Kwoka, 2009

Measures to support the US automotive industry include the establishment of Voluntary Employee Beneficiary Associations (VEBAs), two examples being the cases of GM and Chrysler-Fiat. The VEBA of GM is composed of GM and the United Auto



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Workers union (UAW), and was created to cover UAW retirees' health insurances. The VEBA of GM-UAW will own 39 per cent of the restructured company. The GM-UAW VEBA is owed \$20 billion by GM, with the UAW agreeing to take half that amount in GM stock. The Chrysler-Fiat-UAW VEBA (box 2.4) was created in the same way.

**Box 2.4**

**VEBA: Voluntary Employee Beneficiary Association (Chrysler-Fiat-UAW)**

- When Chrysler emerges from bankruptcy, the VEBA created to cover UAW retirees' health insurance will own 55% of the restructured company.
- A protracted strike would therefore be a strike against own retirees.
- New labour deal preserves jobs for current workers and benefits for retirees, but at the cost of major concessions by the UAW.
- More than ever, employee well-being is tied to company health.

The Chrysler-Fiat labour peace presents another example of a measure to cope with the crisis (box 2.5).

**Box 2.5**

**The Chrysler-Fiat labour peace**

As part of the Chrysler-Fiat deal (through September 2015), the UAW has agreed to:

- a 6-year no strike clause;
- binding arbitration if no contract agreement (for 2011 contract);
- wage freeze through 2011;
- reduce healthcare benefits for retirees;
- a two-tier wage agreement, with new employees hired in at \$14/hour;
- changes in work rules, permitting skilled trade workers to perform production work; and
- a stricter worker attendance policy.

The main corporate problems within the US automotive industry are the management weaknesses of the Detroit Three, with a habit of denial, short-sighted perspectives and simply bad decisions. Examples of GM's poor management include its decision to commit to trucks (including the Hummer brand) and its refusal to address brand and dealer problems or to acknowledge the depth of its current difficulties. These governance failures have insulated the Detroit Three's management from pressure by outside investors and shareholders generally, and from past public policy efforts to invigorate the industry.<sup>4</sup>

## Other industry sectors

The plight of the Detroit Three has attracted the most attention, and deservedly so. Those companies form the foundation of the industry and thereby determine much of what happens both upstream and downstream from them. Yet there are other important sectors and players in the US automotive industry.

<sup>4</sup> As one overall measure of persistent value destruction, it has been calculated that between 1998 and 2007, GM invested \$310 billion in its business. Subtracting \$128 billion in total depreciation over this period implies that a net \$182 billion of society's capital was pumped into the company over that decade, and essentially wasted.

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□ **Transplant factories:** The number and importance of transplant factories – assembly plants, and to a lesser extent component manufacturing plants, owned by Japanese, Korean and European companies but located in the United States – have grown over the past 20 years. Most of these are in the southern states, thus there are substantial regional effects.

□ **Suppliers** have adapted to transplant factories by altering production processes and geographic locations. As a result of this adaptation, employment in the automotive supply sector has scarcely declined, but rather has shifted between buyers and locations.

□ **Dealers** have embraced imports, altering manufacturers' traditional relationships with their distribution base. The Detroit Three have far too many dealers for their current and future sales levels, but adjustment is made difficult by several factors, including state dealer protection laws.

### Premises and acceptance of decline

The longer term decline of the US automotive sector seems to have been tacitly accepted by the major parties. The Detroit Three companies sought and received some temporary reprieve from import competition and government regulation, but those reliefs have stalled rather than stopped the forces of change. Over the past decade, the companies, their unions and the Government itself simply allowed fundamental change to occur (box 2.6). The new equilibrium for the industry was not defined by any party, public or private, but clearly involved smaller companies, fewer sales, lower employment and great difficulties for communities.

This approach of limiting policy to adjustment reflects the American tradition of avoiding deep and persistent intervention in particular companies and industries,<sup>5</sup> but it also likely reflected a recognition of two facts. First, the decline of the US automotive industry to an equilibrium characterized by much smaller size has been inevitable, and is probably not subject to fundamental alteration or reversal by policy. Second, a slower rate of decline is very helpful in permitting all parties to adjust better to these transforming events. Adjustment is more likely within policy control or influence than the final equilibrium.

The great sales collapse of 2008 undermined this measured approach. One result has been that the industry has been forced into a massive and sudden transformation. A second result has been that, contrary to past practice, the Government has been forced to take a more interventionist approach; one that does in fact include defining a new equilibrium for the industry.

#### Box 2.6

##### Results of long-term problems for US automotive companies

Core US automotive companies have been in long-term decline:

- loss of sales, especially in passenger cars;
- loss of plants;
- loss of employment;
- loss of dealers.

<sup>5</sup> One notable exception was the 1979 government bailout of Chrysler.

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Two cases:

- The Census Bureau estimates that in 2007, Detroit had one of the lowest median annual household incomes (\$28,097) and the highest poverty rate (33.8%) among large places and cities.
- Flint, MI now has 5,000 employees (down from 100,000); parts of the city are abandoned, and there is a proposal to downsize it by bulldozing.

## Government policy towards the US automotive industry

Over the past year, the US Government has become thoroughly involved in both the adjustment and in the substance of what the automotive industry should look like. It first attempted to prevent bankruptcy by any of the Detroit Three; when bankruptcy became inevitable it sought to guide the process to a swift resolution. In addition, it has intervened in the policy and personnel decisions of GM and Chrysler, making clear its determination to put its stamp on the companies.<sup>6</sup>

Five of the programmes within the actions taken by the Government are as follows:

- The Automotive Industry Financing Program was created in December 2008 to provide direct assistance of \$23 billion to GM and Chrysler, conditional on their providing acceptable restructuring plans by 30 March 2009. When Chrysler failed to do so, it was forced into bankruptcy. While GM was granted additional time, its fate is equally clear. Government financial support was accompanied by pressure for union concessions, management changes, and product realignments (box 2.7).
- Further assistance in the amount of \$7.4 billion was provided to Chrysler Financial and to GMAC, the financing arms of the two companies. Given the importance of credit to both the wholesale and retail transactions in automobiles, the crisis in the credit markets has jeopardized the ability of these lenders to continue supporting sales.
- A Supplier Support Program totalling \$5 billion in government financing provides assistance to suppliers designated by GM and Chrysler as critical to their operations (largely, their Tier 1 suppliers). The fund, which guarantees supplier receivables, is intended to ensure that the immediate financial difficulties of GM and Chrysler do not spill over onto their suppliers and thereby jeopardize supply to Ford or to the future reconstituted GM and Chrysler.
- A Warranty Commitment Program is intended to guarantee warranties on vehicles purchased during restructuring. This \$1.1 billion programme is designed to reassure consumers who might reasonably be concerned about the value of product warranties in the face of company bankruptcy.
- The American Recovery and Reinvestment Act of 2009 established an office to coordinate assistance to communities and workers adversely affected by the loss of automotive manufacturing jobs.

<sup>6</sup> Because of its large cash reserves, Ford declined to take government assistance, and thus has been free to operate without such intervention.

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**Box 2.7**

**The federal bailout of GM**

- Through April 2009, GM received \$15.4 billion in federal loans.
- Ultimately, after restructuring, 50% of GM would be owned by the Government, 39% by the UAW and 11% by GM bondholders (who would be forced to swap debt for equity).
- GM eliminated Pontiac, leaving it with Buick, Cadillac, Chevrolet and GMC.
- The job losses are estimated to be 22,000 workers, and 13 plants will be idled.

Most recently, the US Congress is considering legislation that would give consumers vouchers toward the purchase of new vehicles achieving a certain level of fuel economy and a certain improvement over trade-ins. Similar programmes elsewhere have succeeded in temporarily bolstering sales, but the US criteria are quite modest, so that the programme operates more like a simple purchase subsidy.

The present US Administration is seeking a far greater role in transforming the industry than is traditionally the role of the US Government (box 2.8). This engagement means the Administration has taken on responsibility for the outcomes of these decisions. The critical question at this point is whether rescue plans will be successful, or if the Detroit Three collapse following government directives.

**Box 2.8**

**Total cost of US Government assistance: \$36.4 billion**

- Loans to automotive makers: \$22.9 billion
- Assistance to finance companies: \$7.4 billion
- Supplier Support Program: \$5.0 billion
- Warranty Commitment Program: \$1.1 billion.

## Conclusions on the US automotive industry

The industry has been in decline for a considerable period of time. Past government policies have been directed at slowing and smoothing the adjustment, but events have now taken over, prompting policy to exert a far more profound and substantive role in the US automotive industry. It remains to be seen how successful public policy will be in bringing about a new and desirable equilibrium for this most important industry.

Plants, production and jobs will continue to be cut in the upper Midwest. Unions will continue to lose members, even if the total employment might hold up. The number of dealers is also expected to fall dramatically. The winners from the crisis will include transplant factories and imports, including new sources, the southern states of the United States and, above all, the consumers.

Pressure for more outsourcing within the region does still exist. However, changes in the cost structure have already been set in place and costs cannot be cut much further. Nonetheless, there is a price gap and US car manufacturers are not able get a price for their products that generates sustainable profits. This is due, among other issues, to public misperception of the brands and lagged perception of product improvements, and also due to differences in costs, product and service quality.

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## 2.1.2 Japan<sup>7</sup>

In 2007 the global production of the automotive industry in Japan reached its peak, as did its overseas production. Domestic production had at this point been stable for several years; however, the middle line production also started shifting due to changes in export demand. Since 2007, domestic and overseas production has decreased with 6 million cars and exports have continuously fallen.

Domestic sales in Japan have been very sluggish, reaching a peak in 1990. In the past seven years the total volume in Japan's domestic market has fallen by 40 per cent. Changes in the population is one of the main reasons behind this decrease; ownership of cars is exceptionally low in Japan, partly due to an aging population, but also due to increasing urbanization. A large proportion of Japanese youth move from the countryside to Tokyo, which is killing the demand in the Japanese domestic market.

Around 80 per cent of Japanese cars are sold outside of Japan. A major part of the profit distribution for the Japanese automotive industry comes from the United States, which up until 2007 continued to grow. In 2008, the market shares in both the United States and in Europe started to shrink, however this trend was more severe in Europe. In terms of volume, the markets in Asia and the United States are going to continue to be the major export markets for the Japanese automotive industry.

The Japanese automotive companies began their entry in the US market in 1964, and their market share has been growing steadily, recently reaching almost 40 per cent of the US automobile market. Since the beginning in 1964 the Japanese automotive industry has been increasing at an almost constant annual rate, until 2008. The market share growth in the past five years has been substantial compared with the stable growth over the previous 40 years.

Traditionally, the Japanese automotive industry has had a low market share in the south of the United States. However, the market share in this area has during the recent years picked up, mostly due to increasing demand for pick-up trucks and minivans. In Europe, the market share has been higher; the average Japanese market share in European countries is around 15 per cent, and as much as 33–35 per cent in countries such as Denmark, Sweden, Finland and Norway.

The total operating income of the five major Japanese car makers had until March 2008 been showing an upward trend. But then the operating income drastically changed; from peak income to losses in just one year (box 2.9). The losses are expected to grow in 2009. This constitutes the worst crisis ever for the Japanese automotive industry. The operating income of the five major car makers has dropped drastically, which is particularly significant when considering that the Japanese yen (¥) has almost doubled in value against the US dollar during the same period.

### Box 2.9

#### Headline news for Japanese companies

- Toyota posted a ¥437 billion loss (\$4.4 billion) in year ending 31 March 2009 and expects even bigger loss next year.
- Nissan reports its first annual loss since 2000 – ¥265 billion loss (\$2.7 billion).
- Mazda projects a ¥50 billion loss (\$500 million) for 2009.

Source: Bluestone, 2009c.

<sup>7</sup> This section is based on Endo (2009) and notes from the Roundtable discussions on 20 May 2009.

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All five major car makers in Japan experienced huge losses during the second half of 2008; Toyota lost money for the first time in 70 years, and just the year before it was making record profits, a profit that turned into a loss in one year. The number of regular employees in Japan's automotive industry also peaked in 2007, a peak founded by a continuous increase in employment during the year before.

Seasonal workers have come to play an important role in the Japanese automotive industry. During the past five years shortages in employment have made car makers use seasonal workers in order to maintain capacity utilization. Seasonal workers are generally young people, usually working on three- to six-month contracts. After the collapse in production, the part-time and seasonal workers had to go; around 16,800 part-time or seasonal workers had to leave the Japanese automotive industry during the past year. The drastic decline in 2008 also made the labour costs decrease, and making the net income go down.

Globalization has contributed to a phenomenon that can be described as a "groupinization" of the automotive industry. In 1984, Japan had 12 different car makers, now there are 13. However, some of these car makers belong to larger main groups. For example, five of the 13 belong to Toyota. Toyota is not the only case; Nissan and Mazda are in business relationships with major companies in Europe and/or the United States. Therefore, there are not 13 independent car producers in Japan. These collaborations and different forms of relationship have grown stronger during the past few years. However, past experience provides evidence of difficulties related to this type of collaboration and/or merging of companies, and so this remains as one of the challenges for the future.

### 2.1.3 Germany<sup>8</sup>

The automotive industry in Germany was strongly knocked by the financial and economic crisis that emerged in 2008. Production output in the first quarter of 2009 fell significantly compared with the pre-year period (box 2.10). This reflects the fact that German car production is mainly export oriented; the German automotive industry depends on the export market for the majority of its orders.

#### Box 2.10

##### German automotive industry

Production: After October 2008, production levels declined rapidly. Levels for Jan-April 2009 compared with the pre-year period were:

- passenger cars: -31%
- commercial vehicles: -59%

##### Exports

- Export orders make up 70-75% of total sales.

Prior to the crisis, sales of new cars were already at a historic low in Germany, and since spring 2008 production figures were stagnating or slowly declining. According to figures from PricewaterhouseCoopers, utilization of light vehicle production capacity in Germany declined from 90 per cent before the crisis (2007) to 75 per cent now.

The current crisis is expected to accelerate in particular three paradigmatic changes affecting the German automotive industry:

<sup>8</sup> This section is based on Bratzel (2009), combined with Meissner (2009).

- 
- new markets developing in emerging economies;
  - new global players, mostly from emerging economies, enter the stage; and
  - new customer expectations are changing the markets.

The crisis hit the German automotive suppliers hard. According to a recent study by the German Association of Car Manufacturers almost all German automotive suppliers reported losses in the first quarter of 2009. The suppliers are highly dependent on export orders, therefore the cutbacks on capital-intensive stock by original equipment manufacturers (OEMs) led in many cases to a complete cessation of orders. The numbers of employees have also been significantly reduced by most supplier companies. Temporary staff and contract workers were the first to go; this in a context where 70 per cent of employees of German automotive suppliers are on short-term contracts.

Many well-known players in the German automotive industry are in trouble. Daimler is an example among the car manufacturers (box 2.11).

#### **Box 2.11**

##### **German car manufacturer in trouble: the case of Daimler**

In the period January to March 2009, Daimler reported losses of €1.4 billion (earnings before interest and tax).

Daimler's response to the losses included:

- reducing production, by enacting production stops at several plants;
- short-time working for 60,000 employees (Kurzarbeit);
- introducing salary cuts of 8.75% for 60,000 employees;
- non-payment of profit-sharing bonuses for 2008 for 141,000 employees (€1,900).

However, there remains a strong pressure to reduce costs further.

Employment guarantees are in place until 2011, but the CEO of Daimler will not rule out a reduction of the workforce if the situation gets worse. Interestingly, these measures have been taken in agreement with the works council of Daimler.

To dampen its financial problems, Daimler has collaborated with a strategic investment fund from Abu Dhabi, which has invested nearly €2 billion cash for 9% of Daimler's shares.

Most car manufacturers were not able to disconnect from these negative market trends, but some OEMs performed better than others. In 2008, only seven car manufacturer groups had above average car sales and so correspondingly increased their market share. Only Nissan could increase car registrations, whereas the sales decline of Mazda, BMW, Volkswagen, Renault, Fiat and Daimler were above average. During the first months of 2009, the low-cost or volume-based OEMs had above average market performance due to shifts in customer demand, largely towards inexpensive models and fuelled by government incentive programmes.

### **Measures to cope with the crisis**

In Germany, automotive market trends are ambivalent. In the year 2007, i.e. before the crisis, passenger car registration had already dropped to its lowest level since reunification, with 3.15 million registrations. In 2008, another all-time low was reached, with only 3.09 million cars sold. In 2009, the downturn trend initially continued in January. But the introduction of a generous scrappage incentive by the German Government caused car registration to skyrocket (box 2.12). Car sales in February, March and April increased up to 40 per cent compared with the pre-year-period. Only the mini, small and lower-middle segments profited from these trends, with sales figures increasing

by up to 120 per cent (mini segment). As expected, the scrappage incentive had practically no effect on more expensive cars. Consequently, sales of BMW and Mercedes cars further declined. However, the trend towards increased sales in the low-priced car segments and an above average reduction in sales in the higher-price segment (except SUVs) was already perceivable in 2008.

**Box 2.12**

**Success with the trade-in programme for “old clunkers”**

- Germany offers consumers €2,500 (\$3,400) to surrender their old clunkers.
- Since January 2009, this incentive helped spur more than 1.3 million new car sales.

The scrappage incentive in Germany has therefore been a short-term success in terms of stabilizing car sales. Low-cost car manufacturers and car retailers in particular have benefited from the incentive. It can be expected that passenger car registrations in 2009 will increase to at least 3.2 million units.

The mid- and long-term effects of the scrappage incentive are, however, expected to be strongly negative. According to a recent study, 75 per cent of the purchases can be accredited to “windfall gains”. Car buyers have predominately brought forward their purchase of a car to profit from the government incentive. Many switched from buying a two to three-year-old used car to a new or one-year-old car, which in turn reduced the price level for older cars. Interestingly, despite the government incentive, sales discount levels in Germany (about 16 per cent) remained high. The distortion of the price signal by high discount levels and scrappage incentives will have negative effects on customer expectations in the future.

Whereas car registrations in Germany will increase in 2009, car sales will reach an all-time low in 2010. This will be due to the abolition of the scrappage incentives, the pull-forward effects in 2009 and the expected increases in unemployment rates in 2010.

## Employment implications and human effects of the crisis

The automotive industry in Germany provides direct employment for 750,000 workers. Between 2000 and 2008, employment in the car manufacturers decreased by 6 per cent. However, the supplier industry in Germany overcompensated for the decline in the OEM workforce thanks to a shift in value added from OEM to first- and second-tier suppliers combined with a strong export success of the branch.

The latest data on the crisis show that effects on employment are not that pronounced at the moment (box 2.13), although the automotive industry has been hit harder than the manufacturing sector overall. Unemployment in Germany has been cushioned through short-time working arrangements subsidized by the government.

**Box 2.13**

**Employment and salary trends in German manufacturing, 2009**

Manufacturing sector (overall):

- number of employees: -1%
- base salary total: -5.1%

Automotive industry:

- number of employees: -2.1%
- salary total: -10.8%

Overall, the decline is twice as strong in the automotive sector.



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There has been a large increase in short-term working in the German manufacturing sector. Three-quarters of all applications for short-term working in Germany have been in the manufacturing sector, and the automotive industry is the most prominent employer of short-term workers.

There are many prognoses on how many employees in the German automotive industry will become unemployed. Estimates range from 50,000 to 100,000 in the forthcoming 24 months, which accounts for up to 15 per cent of the employees. However, quantifying the human effects of the economic crisis is difficult. They are highly dependent on state incentives and company funds (loans) as well as the point in time and extent of the recovery of the global economy.

### Conclusions on the German automobile industry

The automotive markets in Germany and Western Europe were strongly knocked by the financial and economic crisis starting in 2008. Sales figures for the three largest markets – Germany, France and Italy – are however softening the devastating situation in Europe; new car registrations in France declined only 5 per cent. And thanks to a generous scrappage incentive, German car sales are already up 18 per cent.

The sales decline in the German industry came very rapidly, was very deep and affected all regions. The German automotive industry was very vulnerable because of:

- its massive dependence on exports; and
- the interdependence of OEMs and suppliers.

Due to the crisis, the trend for further consolidation of car manufacturers will be accelerated, including in Germany. The consolidation of car manufacturers and the rising relevance of China and India will have important effects on employment in the German automotive industry. The human effects of the dramatic decline in production are significant. Nevertheless, it is important to bear in mind that – independent of the actual economic crisis – the global car industry is undergoing paradigmatic changes.

### **2.1.4 France<sup>9</sup>**

The depth of the crisis in the French automobile industry has been unprecedented. Firms who were already in difficulty have had to react radically in order to ensure their survival, while those firms previously considered to be well positioned prior to the summer of 2008 have found themselves in very fragile shape. Public policies to aid the sector have primarily been oriented at assuring the immediate survival of the companies under significant threat, but they have also been targeted at encouraging the adaptation of firms to the challenges that the industry is likely to face in the longer term.

In France, the automobile industry has occupied a key position in the debate about the crisis and how to respond to it. The automobile is a specific illustration of all that is good and bad about the French economy and the political choices that need to be made. Overall, the crisis is emphasizing past trends and is pushing actors to revisit their previous decisions.

<sup>9</sup> This section is based on Jullien (2009a, 2009b) and notes from the Roundtable discussions on 20 May 2009.

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## The macroeconomic context

Since the 1980s, French capitalism has been subject to waves of deregulation and measures to reduce state intervention. However, the financial crisis has highlighted the fact that the impact of these initiatives has not in fact been that significant. Obligatory charges on salaries have remained high, as have public spending and employment.

### Box 2.14

The macroeconomic context in France

- The crisis in France exists, but not as strongly as elsewhere – however, it is deepening.
- The crisis is mainly interpreted as a financial and banking crisis, and has been treated as such.
- Deregulation has been important for:
  - income distribution;
  - high levels of taxes and public spending;
  - banking regulation that restricts mortgages.

In other countries it became possible to borrow on the basis of the enhanced value of one's property rather than solely on the basis of one's income, but in France this type of lending is prohibited. This had the effect of limiting the dynamism of the new vehicle market in France, but overall it also meant that the crisis was less severe in France than in other countries. The high percentage of workers employed by the state and the high level of social welfare meant that the collapse in growth and consumption at the end of 2008 and in early 2009 was not as severe as in other European countries. As a result, the "French model" has begun to attract attention (box 2.14).

## The French market before and after the crisis

For a number of years before the crisis hit, sales of new vehicles in the French automobile market had been stagnating at the 2 million level, and even this was becoming increasingly difficult to achieve. Overall, the French configuration appears to be a good illustration of the growing difficulty faced by manufacturers trying to sell new cars, which has been described by Dr John Wormald as a structural tendency in the automobile competitive arena to generate "overcapacity".

The decline in new car sales has accompanied a fall in the new car purchasing power of French households, which is clear at a number of different levels. First, the proportion of new car sales made to households has, in fact, declined significantly. New car sales to households have become secondary to sales to firms in France. The growing motorization of households is occurring via second-hand vehicles, and overall the fleet of vehicles in France is aging as it grows.

Along with this trend, overall sales to households have been becoming more concentrated towards wealthier and older households. This is linked to the rise in property values and the differential impact that this has had on different categories of households. Over a ten-year period, the number of vehicles sold to the poorest households has halved. This has not been compensated for by increased sales to the richest households as these households have tended to benefit from a growing trend for firms to provide management-level employees with a company car. Thus, the richest households, who would be the natural target market for the more upmarket cars being launched, are not in fact themselves buyers to the same extent as before.

The second-hand car market has not experienced the same price inflation as the new vehicle market, and as a consequence of the increased quality of new cars, used cars have themselves become more attractive. They are increasingly reliable, they benefit from the recent reduction in average annual mileage and there is a large range of prices. All these

factors have contributed to a growing structural preference for used cars in the French automobile market.

In the new car market, cars have become more expensive as manufacturers constantly improve their vehicles' performance, but they have been finding it difficult to convince new car buyers to pay the higher prices necessary to cover the costs of these improvements. This has led to a strong restructuring of market demand, which has been very unfavourable to the high mid-range segment (down 20 per cent between 1990 and 2006) but favourable to the low mid-range segment (up 12 per cent in the same period). This development can be seen in table 2.1, in which the growth of the "other" segment is largely driven by the growth in demand for MPVs.

**Table 2.1 Evolution of sales and market share of automobile market segments in France, 1990–2005**

Range	Units	1990 %	Units	1995 %	Units	2000 %	Units	2005 %
Low	986 532	42.7	840 880	43.6	855 161	40.1	854 003	42.7
Low mid	477 631	20.7	544 062	28.2	695 146	32.6	644 929	32.2
High mid	555 053	24.0	334 457	17.3	303 028	14.2	199 009	9.9
Premium	256 381	11.1	173 370	9.0	163 293	7.7	122 794	6.1
Other	33 533	1.5	37 735	2.0	117 256	5.5	178 854	8.9
Total	2 309 130	100.0	1 930 504	100.0	2 133 884	100.0	2 000 549	100.0

Source: CCFA.

This has transformed the structure of the French market into one similar to that of the Italian market. And, as for Fiat in Italy, it has not been a favourable development for French manufacturers. PSA and Renault that have found themselves increasingly under pressure in the high mid-range and premium segments. When the best selling models in France and Germany before the crisis are compared, there were four high mid-range and premium models in the top ten sellers in Germany (Mercedes Class C, Volkswagen Passat, BMW Series 3 and Audi A4) whereas in France there were none.

The surprise commercial success in France of the low-cost Renault car, the Dacia Logan – a car developed for the Eastern European market – had already underlined the fact that new car sales were very sensitive to price, and this trend has been confirmed since the start of the crisis.

The question that emerges from a detailed analysis of these trends is whether automobile manufacturers had mistakenly entered into a competitive battle that had positioned their products at prices beyond the means of a significant proportion of French households.

### The crisis reveals the unsustainability of a regime

There have been two principal outcomes of the financial crisis. The first is the obvious need to manage the immediate crisis within the automotive industry. The second is a longer term quest for a new sustainability in the automotive industry, closely linked to the exploration of alternative economic models.

Within the French case there are two predominant attitudes to managing the crisis: (1) wait for the recovery and/or hope that economic policies work out, and use the period to accelerate the restructuring and/or accentuate the efforts already underway; and (2) fundamentally review product policies, re-evaluate the value of technology portfolios, redefine the business models and obtain new public policies geared towards sustainable development.

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## Production, employment and international trade in the French automobile industry

### *Before the crisis*

Since the mid-1980s, PSA and Renault have significantly increased the pace of internationalization of their production and of their commercial activities. As a consequence, the strategic importance of France has become relatively marginalized. Data on production indicate that French assembly plants benefited from the internationalization process – along with sales growth in France and in the EU – until the early 2000s. This is no longer the case, particularly from 2005 onwards. In 2007, French production of automobiles had lost all the gains it had made since the 1990s and fell back to its 1997 level, producing 2.5 million vehicles. The drop in French and Spanish production corresponded to the period during which production in Central and Eastern Europe and in Turkey almost doubled.

For manufacturers generally, falling employment numbers have been a long-standing trend, but for the automobile industry the trend has been different. The fall in the number of employees within the manufacturers has coincided in part with the outsourcing of production, which meant that employment overall in fact rose at the beginning of the 2000s before stagnating. From 2005 onward, this was no longer the case and, even before the current crisis hit, the sector had already lost some 40,000 jobs, representing a fall of some 13.5 per cent.

### *After the crisis*

The current crisis is clearly speeding up the process of reducing employment numbers. In terms of the production of the two French manufacturers, a gap can be seen to be emerging between what is happening to production in France, in particular for Renault, and what is happening globally. December 2008 was the month of the most drastic cutbacks and for both companies a gap emerged between sales in France and sales in the rest of the world. The French sites suffered far more from the impact of the credit crisis than did other sites, and French production as a percentage of total production for the French groups fell even faster than it had been.

Sales results for the first four months of 2009 offer contrasting pictures for models produced in France and those produced elsewhere. Peugeot's 407, for example, is produced in Rennes in France and its sales fell by 49 per cent, while sales of its 107, produced in Kolin in the Czech Republic, increased by 61.2 per cent. Similarly, sales of Renault's Laguna III, manufactured in Sandouville, fell by 51 per cent, while sales of its Twingo II, assembled in Novo Mesto in Slovenia, grew by 75.8 per cent. Leaving aside certain successful new product launches, the key products in each company's portfolio (for PSA, the C3, C4, 207 and 308, and for Renault, the Clio and Mégane) are both losing share to smaller models and are, themselves, increasingly being assembled in Eastern Europe.

However, older models continue to be offered, which are cheaper than more recent models and have been promoted heavily as part of the French scrappage scheme. These models have been relatively successful and are either totally or partially manufactured in France.

These strong trends, which have been obvious for the past five years but which have been accentuated by the current crisis, are having a direct impact on the international trade balance of the French automobile sector. In combination with the altered purchasing behaviour by French consumers, based on the combined effects of the ecological subsidy for low-emission cars (and penalty for higher emission cars) and the scrappage scheme, these trends have served to emphasize the growing importance for French automobile manufacturers of their Eastern European production sites (box 2.15).

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### Box 2.15

#### Conclusions on production and international trade trends – the case of France

- The current crisis is reinforcing an industrial problem that has been confronting the French automobile industry for a number of years.
- Some of the difficulties currently being experienced are linked to a fall in demand for French vehicles in Italy, Spain and Britain, which is due to the overall drop in demand in these markets,
- Other difficulties being experienced are more structural in nature and relate to the fact that the French market has become less and less interested in the models that French manufacturers continue to produce in France.
- It is necessary to consider whether the weakness in demand for new cars and the growing concentration of demand in lower market segments have been encouraging manufacturers to meet the low-cost demand by producing vehicles in countries with lower salaries in order to maintain their margins.
- Beyond the specific case of the automobile sector, this perspective highlights a form of competition on the basis of salaries. This should not be encouraged, in order to avoid keeping pressure on salaries, and thus purchasing power, low.

### Public policies and the automotive sector

In France, as in all countries with an automobile manufacturing sector, all actors in the car industry supply have seized upon its symbolic value and state intervention has been called upon at different levels. Immediate measures were taken in France at the end of 2008. The French Government's plan to combat the current crisis is multifaceted, but six main elements emerged.

- At the beginning of 2009, the manufacturers were accorded a loan of €6 billion, to be divided between both manufacturers, to compensate for the failings of the banking sector and to allow them to find solutions involving “greener” cars.
- In order to ensure that equipment suppliers, who have also been weakened by the crisis, are also beneficiaries, the State has had the manufacturers agree to the creation of a fund to modernise automobile equipment suppliers.
- The manufacturers' financial arms have also benefited from subsidies from the State, to allow them to continue to finance their distribution networks and clients, despite the liquidity crisis.
- The State has created its own strategic investment fund based on the model of the sovereign funds. The objective of the fund is to invest in firms judged to be strategic and threatened by bankruptcy or acquisition.
- A scrappage scheme offers €1,000 for vehicles over ten years of age that are traded in for a new “clean” car. The provisional cost of the scheme was initially estimated at €200 million, meaning that it was intended to cover new registrations of 200,000 vehicles, or 10 per cent of total registrations in 2008. However, combined with the bonus already available for buying a small car and the additional incentives added on by manufacturers, who will apply the scrappage scheme to traded in vehicles only 8 years old, it has proved to be a very significant sales tool. The level of uptake means that the cost of the scheme is likely to be significantly higher than initially foreseen.
- Schemes to put employees on part-time unemployment benefit have been made easier and State financing has been significantly improved. One constituent of the schedule is the State's contribution of €2.13 per hour to the unemployment benefit for firms of over 250 employees and €2.44 for firms with fewer than 250 employees. In return, the proportion of their previous salary that an affected employee receives is increased from 50 per cent to 60 per cent. In April 2009, an agreement was reached between the

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social partners who manage the fund that finances unemployment benefits (UNEDIC) to increase this proportion further to 76 per cent. Certain firms, such as Renault, have actually increased it to 100 per cent as part of its “crisis solidarity pact”, using in part time taken from the reduction in working time introduced as part of the 35-hour week.

Coupled with the more favourable macroeconomic conditions in France, these measures are helping the French automobile groups to resist the current crisis relatively well. The main difficulties facing them come from the three key markets, and of particular concern for their French production sites are the markets in Germany, Britain, Spain and Italy. In 2008, these markets fell respectively by 26.1 per cent, 13.4 per cent, 11.3 per cent and 1.8 per cent. In the first four months of 2009, only the German market had picked up (by 15.3 per cent) while the other three has fallen 45 per cent, 17.9 per cent and 30.5 per cent respectively.

The fall in sales – representing some 400,000 vehicles in a year – has mainly impacted the key models of both groups, which are produced in France and Spain. Some employment reduction at the end of 2008 and the support given to employment by policy-makers seem to have reduced the immediate danger. On the other hand, it is becoming clear that the consequences for the equipment manufacturers are far more marked, and an increasing number of these firms are going out of business. Those equipment suppliers that do manage to cope with the crisis are increasingly forced to review their levels of investment in R&D, which could reduce the sector’s potential for innovation.

The combination of the scrappage incentive scheme, subsidies for low-emission cars and promotions offered by manufacturers on lower cost vehicles means that car buyers in France have a large choice of cars costing less than €10,000, and in some cases less than €8,000. Despite the current crisis, therefore, household demand for cars has actually increased.

## Conclusions on the French automotive industry

The dynamics in operation in the French automotive industry and which have been accelerated by the current crisis could be interpreted as revealing a general problem underlying the sustainability of the industry’s development, which has in turn been structured by the growth model of the French economy overall.

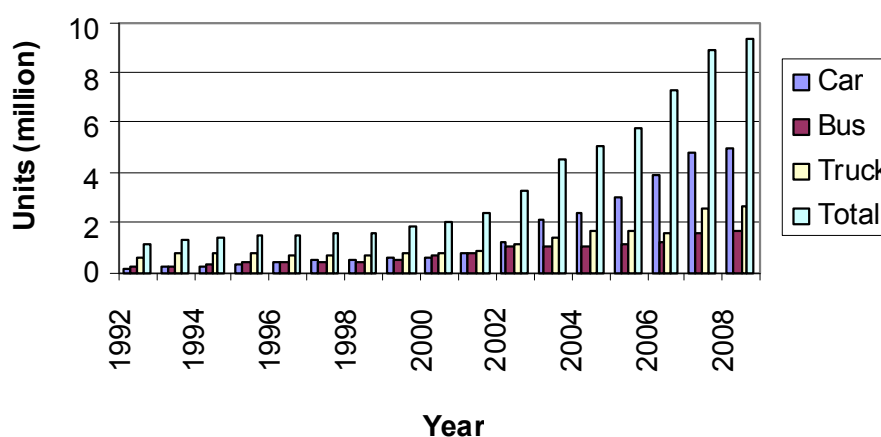
The shrinking car market is not a new phenomenon, but the rate of contraction has accelerated through the crisis. In France, demand had already stagnated before the crisis, as car makers struggled to sell vehicles to households. The tendency of car makers to produce heavier and more expensive products has decreased the ability of households to buy these cars. Households increasingly lean towards low and mid-range cars, which are mostly manufactured outside of France, for example in Eastern Europe. Employment in the car industry in France is therefore in decline. The main problem France faces today is to maintain its plants in France.

By putting a stop to the competitive dynamics of the French automobile market, the current crisis has served to reveal how unsustainable it has become. It can thus be argued that the current crisis has, in fact, had some positive outcomes for the automobile industry in France. One is the reversal of the trend towards “overquality” described by Dr Wormald, as seen from the perspective of household buyers. Another is the improvement in the “social” quality of the products sold, which have on average become smaller, safer and more environmentally friendly. Another consequence of the current crisis relates to international balance of trade in the French automobile industry.

## 2.1.5 China<sup>10</sup>

In less than 30 years, China has grown from a country without passenger vehicle manufacturing to a major automobile producing country, with lines for passenger, commercial and heavy-duty products. China built its first medium truck factory – the First Automobile Works – in 1953. It then took the country 40 years to reach an annual production of 1 million automobiles. It then took another eight years, from 1993 to 2001, to reach an output of 2 million units. The country added a third million in two years, and since 2003 the automotive sector has added an average of 1 million units annually, achieving a total output of 8.88 million units in 2007 (figure 2.1).

Figure 2.1 China: Automotive output, 1992–2008 (number of units)



Since the early 1980s, leading multinational automobile makers have sent up joint venture assembly plants in China in partnership with the country's leading state-owned manufacturers. Volkswagen, PSA Peugeot-Citroën, GM, Ford, Suzuki, Honda, Toyota, Nissan, Mazda, Isuzu, Hyundai-Kia, Mitsubishi, Daimler and BMW have one after another set up assembly plants in China's key manufacturing centres of Changchun, Shanghai, Tianjin, Beijing, Wuhan, Guangzhou, Chongqing and Fuzhou. Multinational joint venture companies now control 70 per cent of the country's passenger vehicle market.

Local independent automobile manufacturers, both state-owned and private, started to emerge in the 1990s and moved rapidly into passenger vehicle production; they have now achieved about 30 per cent of the domestic market share. Local independent manufacturers have also aggressively expanded their overseas sales since the turn of the century.

Over the past 30 years China has been gradually moving from a centrally planned economy to a market economy. The growing importance of the automotive sector to the national economy can be seen from the relationship between the annual GDP growth rate and the automobile output growth rate.

While the state planning mechanisms were still in place, the Government controlled the growth of automobile production, and so when the Government decided to invest in the

<sup>10</sup> This section is based on Xing (2009) and notes from the Roundtable discussions on 20 My 2009.

automotive industry, production went up. After 1993 the growth rates for GDP and the automotive industry became stable in relation to one another. The growth rate for automotive production then stayed above the growth rate for GDP – until August 2008, when the fall in demand occurred, which affected both export and domestic demand. However, at this point the automotive industry was still growing, but at a decreased rate in comparison with its earlier pace.

China’s rapid economic growth over the past 30 years has been driven by three major factors: (1) foreign direct investment, (2) growing domestic consumption, and (3) exports. Multinational OEMs and first-tier suppliers have without exception invested in China. Rising domestic incomes, especially for residents in large cities and the coastal areas, have enabled Chinese citizens to move into the consumption of big-ticket items, such as real estate and automobiles. In 2005, exports of automobiles exceeded the number of imports for the first time. From 2004 to 2007 the average growth rate in automobile exports was close to 100 per cent.

Chinese automotive manufacturing employs about 2.65 million people. Upstream industries employ about 3 million and downstream industries about 25 million. Total employment in the automotive and related industries accounts for 11 per cent of the country’s total employment, or 30.65 million.

### Falling market demand

The world financial meltdown and economic crises has had an impact on China since the second half of 2008. That impact has been felt in three major ways: (1) declining direct foreign investment, (2) declining export demand from the United States, Europe and developing countries, and (3) declining domestic demand.

China’s GDP growth in 2008 was 9.4 per cent, down from the 11.4 per cent in 2007. Automobile output and sales slowed to around 5 per cent, compared with 21 per cent in 2007. The output value, profit before tax and net profit of China’s 14 leading automobile group companies, which make up over 90 per cent of the total, were down 3.6 per cent, 3.5 per cent and 7 per cent respectively in 2008, compared with increases of 32 per cent, 43 per cent and 65 per cent in 2007. China’s automobile exports have been on the decline since August 2008, bringing the country’s automobile export growth rate down significantly to 33 per cent for the year (table 2.2). First quarter export in 2009 was down by 61 per cent compared with the same period in 2008, to a total of only 70,000 units.

**Table 2.2 China: Automobile export growth, 2004–2008**

Year	2004	2005	2006	2007	2008
Growth rate (%)	72	123	97	79	33

In terms of employment, the contraction of GDP growth by 2 percentage points last year means an addition of 2 million people in unemployment. According to official statistics, unemployment today stands at 4.6 per cent, but in reality, as admitted by one of China’s top economists, the rate could be as high as 9.4 per cent. With 9 million job seekers being added to the market each year, China is under great pressure to take specific measures to stimulate the economy and ensure that GDP grows at no less than 8 per cent in order to ease unemployment pressures. The central Government has therefore decided to adopt a 4 trillion Chinese yuan (¥) stimulus package to drive up investment in infrastructure and technology upgrades in order to drive up domestic demand.

China’s automotive sector has become an engine driving the country’s economic development (box 2.16). The automotive industry has been designated to be one of the



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country's "pillar" industries, and 28 of China's 31 provinces have selected to have the automotive industry as a pillar industry. China today makes close to 10 million automobiles a year, or 13 per cent of the world's total. However, China's per capita ownership of automobiles is still only one-fourth of the world average, or only 38 units per 1,000 people.

**Box 2.16**

**Growth engines within the Chinese automotive industry**

- Investment level: 39%
- Consumption level: 38%
- Export level: 23%.

## Automotive Industry Readjustment and Revitalization Plan

As part of the economic stimulus package, the Automotive Industry Readjustment and Revitalization Plan (the Plan), drafted by China's State Council on 20 January 2009, was released on 20 March 2009. Decision-makers in China are well aware of the increasingly important role of the automotive industry as a driver of the national economy and so chose it as the first industry to receive a revitalization programme. The aim of the Plan is to help the country move out of the current economic slowdown in the wake of a world financial crisis. Although the Plan covers a period of only three years, from 2009 to 2011, in terms of importance it is equivalent to a new automotive industry policy, China's third such policy.

The Plan consists of three guiding principles, eight development targets, eight major tasks and 11 policy measures. It clearly outlines China's policy orientation or strategy for the future development of the country's automotive industry in three key areas (box 2.17). While these areas were also mentioned in the first two industry policies, decision-makers seem to be much clearer about how to define and promote independent innovation and branding, what to choose for China's future technology route in new energy vehicle development and how to consolidate China's vehicle assembly business by controlling new vehicle investment projects.

**Box 2.17**

**The three major segments of the Automotive Industry Readjustment and Revitalization Plan**

1. The strategic decision to encourage independent innovation and branding, including all multinational automotive manufacturers in China.
2. National strategy for promoting new energy vehicles. The Chinese Government wishes to promote and achieve, together with independent companies and with innovative research partners, the next generation of automobiles.
3. Consolidation. The Government wishes to reduce the number of state-owned manufacturers, to around ten manufacturers country wide.

The incentives given by the government, i.e. the reduction of sales tax, new capital for investment and a decision to give subsidies for early retirement, are focused on stimulating domestic demand.

## Independent innovation and branding

### Box 2.18

#### Independent brands in China

- A unique brand/trade mark to be registered in China by an enterprise registered in China.
- The enterprise to hold full ownership of the brand's intellectual property rights.
- The marque to be clearly displayed on the front and rear of vehicles.
- Government procurement.

Independent innovation and branding (box 2.18) is mentioned in both the Guiding Ideology and the Basic Principles of the Plan, and in close association with a clear emphasis on new energy vehicle development.

One of the three Basic Principles listed in the Plan is to “Adhere to independent innovation and combine efforts in both improving traditional vehicle products and popularizing new energy vehicles; strengthen automotive R&D, develop new generation vehicle products, cultivate independent brands and develop energy-efficient, environmentally friendly new energy vehicles” (original source: Chinese Government restructuring plan; quoted by Xing, 2009).

A new element is clearly visible in between the lines about independent innovation and branding. The term “independent brand” in the Plan does not necessarily refer only to a local brand made by a Chinese OEM. Similarly, “automotive enterprise” should apply to all enterprises in China, whether state-owned, shareholdings, publicly listed, private, local Chinese or foreign-invested joint ventures.

A consensus has been largely reached among key government departments that an independent vehicle brand must have a marque or trade mark that is international, unique and registered in China by an OEM that is incorporated in China, and that the marque must be clearly displayed on the front and rear of an automobile. The China-based OEM must also have full intellectual property rights of the vehicle brand. An example of this plan in practice is the case of Honda creating its own brand.

The new brand will be registered as an independent brand. This will be consistent with the new policy to encourage independent innovation. From a national point of view, this is being done to ascertain whether the industry can move ahead and be a global player. However, it is questionable whether this constitutes real innovation, since the new brand will be a part of an existing group.

## New energy vehicles

### Box 2.19

#### New energy and fuel-efficient vehicles

- A national strategy.
- Hybrid, plug-in, pure electric and fuel-cell vehicles.
- 500,000 units by 2011, or 5% of market.
- Leading enterprise to have certified new energy vehicle.
- Government incentives for new energy vehicles.

Another major decision made by the central Government is the adoption of a national strategy in support of the development of new energy vehicles, in particular hybrid, plug-

in, pure electric and fuel-cell vehicles (box 2.19). This decision was based on both where the industry is moving and what the industry has achieved so far, and the policy is seen as one of the means to put China in the forefront in the development of new energy vehicles.

The emphasis on new energy vehicles is obvious throughout the Plan. The Government's focus on new energy vehicles will be plug-in and pure electric vehicles. Under policy measures, the Government has decided to allocate ¥10 billion in the next three years as a special fund to promote technology advancement and upgrade. Under the aim to "Popularize fuel efficient and new energy vehicles", specific measures are to be undertaken by the Government in support of the commercialization of pure electric, plug-in and hybrid vehicles: "Start national model projects for fuel efficient and new energy vehicles to be subsidized by the central coffer; support model large and medium cities to promote hybrid, pure electric, fuel cell and other fuel efficient and new energy vehicles; people's governments at county level cities and up should draft programs to prioritize the use of new energy vehicles in public transportation and fleet vehicles for taxi, utility and logistics companies, postal service and airports; build speed charging stations for electric vehicles and charging facilities at public parking and other public facilities" (original source: Chinese Government restructuring plan; quoted by Xing, 2009).

Financial subsidies and tax breaks are to be offered first to new energy vehicles for institutional and fleet use. Already, the Ministry of Finance and the Ministry of Science and Technology have jointly released a notice that the Government will subsidize fuel-cell buses by up to ¥600,000 (\$88,000) per vehicle and fuel-cell cars and light commercial vehicles by up to ¥250,000. Subsidies and tax breaks for individual consumers of new energy vehicles will be offered later this year. For new energy passenger cars sold to consumers, the subsidies are expected to be ¥10,000–50,000 per vehicle.

## Consolidation and capacity control

### Box 2.20

#### Consolidation and capacity control

- 100 OEMs, 33 car assemblers
- 14 leading automotive groups to be reduced to less than ten.
- State-owned, JV, Private

China has almost one car manufacturer for each province. According to the Plan, structural readjustment for China's automotive industry is inevitable (box 2.20), "especially after many years of high growth. The current international financial crisis has helped expose the many structural problems, internally and externally, of the industry". The Plan calls for the promotion of "enterprise mergers and acquisitions in order to consolidate crucial resources, raise the level of industrial concentration and optimize the automotive industry structure".

The Plan's target is to form "two to three large automotive enterprise groups with annual output and sales exceeding two million units; four to five automotive enterprise groups with output and sales exceeding one million units" and to "reduce the total number of automotive enterprise groups that control 90 per cent of the market shares from the current 14 to less than 10" (original source: Chinese Government restructuring plan; quoted by Xing, 2009). The Government supports major automotive parts and components enterprises to engage in mergers and acquisitions in order to expand capacity and market share in China and overseas.

Strict control over new vehicle assembly projects in China is to be expected over the next three years. This means that any new greenfield vehicle assembly project, whether it

is a new venture or an expansion of an existing operation, is unlikely to be approved by the central Government.

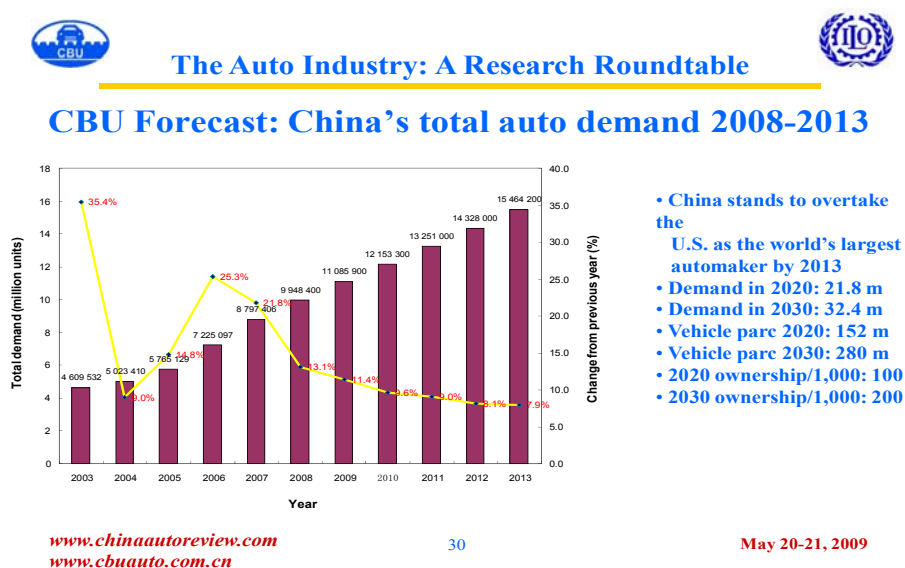
### The initial impact of the Plan and future trends

The market performance in the first four months of 2009 shows that the country's stimulus package and the Revitalization Plan have brought positive results. In the first quarter, GDP was up 6.1 per cent and automobile sales were up by close to 4 per cent. March and April sales of automobiles hit historical record highs, at 1.1 million and 1.15 million respectively. Passenger vehicle sales in the first quarter were up by 20 per cent, and sales of cars with engines of 1.6 litres and smaller were up by 42 per cent thanks to the tax benefits.

One segment of the 2008 Policy is the cutting of taxes to 1 per cent for cars with engines of 1.6 litres or smaller, while raising the taxes to as much as 40 per cent for cars, minivans and SUVs with larger engines. In March 2009, China introduced a subsidy of \$730 for vehicle buyers in rural areas. China is also seeking to be a leader in electric car production, e.g. Hafei battery-powered light trucks.

However, the industry is still haunted by reduced revenue and profit, despite growth in sales numbers. The commercial vehicle and heavy-duty vehicle sectors are still suffering from weak demand. Export of automotive products is expected to remain weak for most of 2009 and probably into 2010, until developed markets emerge from the current financial and economic crises, and while overall demand will continue to increase (box 2.21), the rates of growth will be more modest than in the past (figure 2.2).

**Figure 2.2 CBU forecast: China's total automobile demand, 2008–2013**



#### Box 2.21

##### Forecasts of China's automobile demand

China is set to overtake the United States as the world's largest automobile maker by 2013.

- Demand in 2020: 21.8 million
- Demand in 2030: 32.4 million
- Vehicle fleet 2020: 152 million

- Vehicle fleet 2030: 280 million
- Ownership 2020: 100 per 1,000 population
- Ownership 2030: 200 per 1,000 population

Looking at China as a growth market, the annual investment is estimated to be ¥100 billion (10 per cent banks), and the level of automobile financing is 10 per cent, compared with 70 per cent in the United States.

When trying to foresee future trends in the automotive sector in China, it is expected that there will be strong elements of interaction between three forces: the Government, the international players and the domestic players. The domestic players are possibly expected to move into developed markets and to contribute through new energy breakthroughs. Another upcoming issue that could create conflict is that of public and private transportation; this will need further consideration in the near future. Also notable is the potential conflict between the Plan's aim of consolidation and the aim of independent innovation and branding; the Government spends money to stimulate demand and independent innovation, while at the same encouraging consolidation between existing companies.

### 2.1.6 India<sup>11</sup>

The automobile industry in developing countries is in a similar predicament as in the developed countries, albeit on a smaller scale, given the much smaller employment numbers in the industry. A country such as India, which is less exposed to the financial debacle, is expected to grow during this crisis period, albeit at lower rates than previously.

#### The evolution of the Indian automotive industry

The evolution of the Indian automotive industry can be divided into four phases (box 2.22), as follows.

<b>Box 2.22</b>	
<b>Phases of evolution and transformation of the Indian automotive industry</b>	
Phase I	Pre-independence
Phase II	Post-independence (1950 to 1980)
Phase III	Maruti Suzuki (1983 to 1995)
Phase IV	1995 to the present

#### Phase I: Pre-independence

Prior to India's independence in 1947, the automotive industry was marginal. A few foreign companies either imported completely built units or had minor assembly plants handling imported completely knocked down kits. A very small share of local value was added and hence employment was also marginal. In 1949, the Indian Government banned the import of completely built units, and in 1953 it also banned completely knocked down kits (under the Tariff Commission), unless accompanied by increasing local content. Consistent with India's import substitution industrialization strategy, this restrictive policy was also motivated by fears over balance of payments deficits (D'Costa, 2005). By treating

<sup>11</sup> This section is based on D'Costa (2009) and notes from the Roundtable discussions on 20 May 2009.

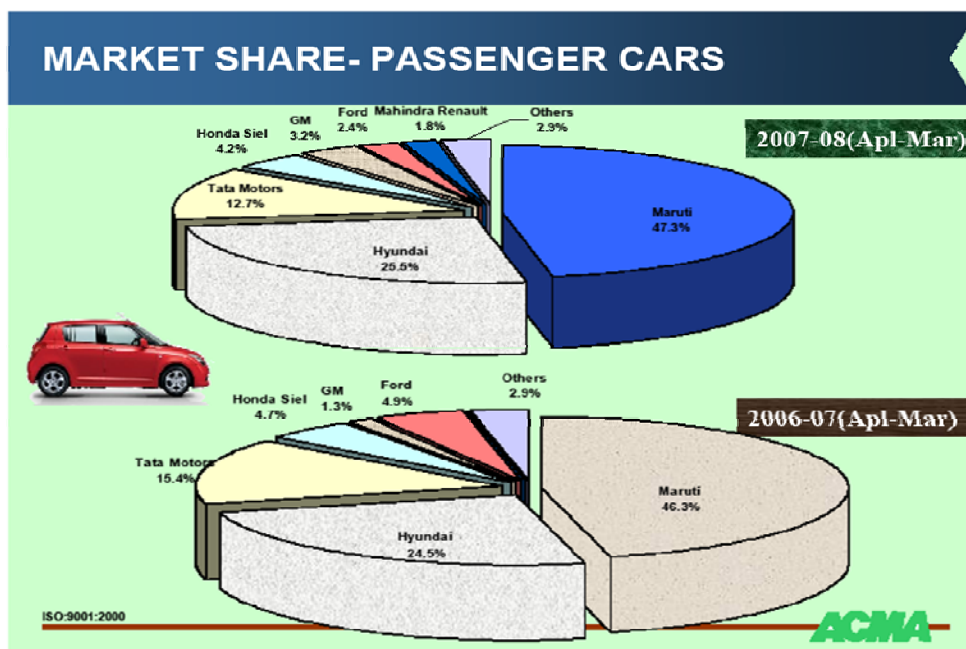
cars as a luxury product the Government discouraged the growth of the industry through policy, price controls and high excise taxes.

There were three car producers, all relying on obsolete dies from European manufacturers. All produced small volumes of output due to government licensing and all were profitable under a highly protected market. However, due to local content rules, a domestic parts and components industry did emerge, even though the bulk of the major components were produced in-house at the time. After 1975 the two-wheeler industry received a boost as this segment did not fall under foreign exchange restrictions or under monopolies. A significant part of the components industry was reserved by the Government for the small-scale sector, which was highly fragmented and technologically unremarkable.

### Phase II: Post-independence (1950 to 1980)

Over time the Government deregulated certain aspects of the automotive industry, for example by increasing foreign exchange availability to allow imports of capital equipment. However, foreign producers were not approved until 1982. Suzuki Motors of Japan was allowed to participate as a minor partner with the Government in the joint venture Maruti Udyog Ltd (MUL). No other foreign car producers were allowed until the final deregulation in 1993. During that roughly ten-year period, MUL offered an uncontested small, affordable and fuel-efficient vehicle, to the delight of Indian consumers. Until then the Indian public had to be content with high-cost, shoddy and unattractive products. MUL's market share soared (figure 2.3) and the Government has since then gradually reduced its ownership stake.

**Figure 2.3 Market share for passenger cars, India, 2006–2008**



Source: D'Costa, 2009.

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### Phase III: Maruti Suzuki (1983 to 1995)

MUL can be credited with transforming the Indian automotive industry. The Government's policy toward local content remained in effect, thus forcing manufacturers to source components domestically. Many of Suzuki's suppliers formed joint ventures with Indian components producers and, over time, the internationalization of the Indian components segment led to increased output for both domestic consumption and export. Exports reflected India's growing engineering and technological capability.

### Phase IV: 1995 to the present

The fourth phase of the development of the Indian automotive industry, that is, since 1995, has led to a thorough internationalization of the industry. Virtually all multinationals now have a presence in India, some with overcapacity. Some of these companies have begun sourcing components for their global operations. Hyundai was the first automotive multinational that was allowed a 100 per cent subsidiary in India. It has been successful in the Indian market and now has the second largest market share in a crowded market. Tata, already a market leader in in-house engineering capability for commercial vehicles, entered the lucrative passenger car market in 1998. The design was largely indigenous and over time Tata has also captured a sizeable share of the market. A decade later, in March 2009, Tata launched the Nano, the world's cheapest car. This has been a product of Tata's innovation and ability to bring costs down. Clearly, this development has various implications for employment and quality of life.

### The current crisis and industry restructuring

The differences of context of the automotive industry in India and the ones in the OECD countries are immense. The Indian automotive industry shows the same features as the Chinese industry, although at policy level their approaches are different. India deals not only with direct consequences of the crisis, but also with indirect consequences, such as the dumping of Chinese manufactured cars on the Indian market. This has resulted in reduced working time, the transfer and laying off of workers, and in certain companies the deferring of their investments.

Even if the Indian industry has not been hit as hard, segments such as the commercial vehicle industry have witnessed far greater declines in demand due to the greater price sensitivity of high-priced vehicles. Some buoyancy in Indian demand has occurred, and the Indian industry is generally poised for growth, suggesting that the crisis notwithstanding, both Indian and foreign firms in India are willing to invest in capacity expansion.

Just as there are a number of mechanisms by which the global crisis is impacting on the Indian automobile industry, there are also multiple outcomes. The direct effects include the decreased demand for automobiles at home and abroad. An indirect result is therefore reduced demand for parts and components. Other effects include the impact of the financial crisis on Indian-invested automotive firms abroad, such as Tata's Jaguar-Land Rover (JLR) in the UK, and the impact of the crisis in the US automotive industry on information technology outsourcing to Indian firms, such as Tata Consulting Services and Satyam.

The high interest rates and lack of financing have forced automobile producers to cut back on production by using partial plant shutdowns, layoffs and employee transfers, and to defer new investments and cancel new vehicle launches. For example, Tata Motors laid off 4,000 temporary workers and closed its Jamshedpur plant in Jharkhand state producing commercial vehicles for three days in November 2008. A three-wheeler manufacturer, Force Motors, reduced its working week to five days, while SKF (Svenska Kullagerfabriken), a components supplier, transferred some of its employees to other

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divisions. Honda-Siel, a joint venture, and Fiat with Mahindra & Mahindra (an Indian utility vehicle producer) have postponed new investments.

In October 2008, the components industry witnessed a 15 per cent decline in domestic sales and a 40 per cent decline in export sales (Economic Times, 2008a). This translates to a decline of roughly \$2.2 billion on an annualized basis in domestic sales of \$14.4 billion, and \$1.5 billion on export sales of \$3.6 billion, should such demand conditions persist for the next eight months. Given that other producers are hurting, there is a systemic tendency for heightened competition and thus dumping. The Indian industry has complained about Chinese component manufacturers who apparently have captured 15 per cent of the Indian import market, up from 1.5 per cent in 2003–04 (Economic Times, 2008b). The Chinese components in India cost less than the materials needed to produce them.

### Employment implications

Employment statistics for the industry are notoriously difficult to obtain. The Ministry of Heavy Industries and Public Enterprises of the Government of India reports that, as of 2006, the automotive industry employed 200,000 persons in vehicle manufacturing and 250,000 in the components industries. Another 10 million people were employed through various backwards and forwards linkages, such as financing and insurance, vehicle repair, service and maintenance, dealerships and retail outlets, drivers and the tyre industry. Thus, any major slowdown in the industry is likely to have a significant employment effect in India.

The vulnerability of Indian automotive workers is severe, given that a large number of employees are on temporary contracts rather than being permanently employed. Thus, Tata's layoff of 4,000 temporary workers is not surprising. Contract workers provide market flexibility in a labour market that is otherwise quite rigid due to archaic labour laws enshrined under the Industrial Disputes Act of 1947. Under this Act it is very difficult to fire workers in an enterprise that has 100 or more workers. Government approval is necessary, and there is no instance where such permission has ever been granted. To circumvent such barriers, firms have resorted to hiring contract workers. It has been estimated that 10–30 per cent of all production workers in the automotive industry are contract workers (Teknikföretagen, 2008: 26). The terms of employment of contract workers are subject to market dynamics. The added benefit of hiring contract workers for the employer is a significant cost saving, as contract labour is paid only 25–50 per cent of the wages given to permanent employees. Contract workers in particular have paid the price of the crisis. Next to the contract workers, the unskilled workers are the biggest victims.

The Indian economy and thus the automotive industry are less subject to the full impact of the crisis due to continued high (albeit lower than before) growth rates. Firms are still bullish on the Indian market, given the expanding Indian middle class and the growing engineering capability of Indian automotive firms.

### Measures to counter the slowdown

To counter the slowdown in the automotive industry, the Government of India has introduced a range of measures (examples are given in box 2.23). Contrary to expectations, sales figures for February 2009 belie any sign of crisis in the Indian automotive industry. Maruti Suzuki, India's largest car producer, increased its February sales by 19.1 per cent compared with February 2008 (Economic Times, 2009). The company's export numbers for February 2009 were the highest ever for any month, at 8,565 units.



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**Box 2.23**

**Active measures in the case of India**

- Cuts in customs duty and excise taxes, particularly on hybrid models and components.
- Stimulus packages encouraging soft loans, to compensate for otherwise tight lending.
- Softening of oil prices to bolster sales of automobiles.

However, given the systemic nature of the crisis, India is unlikely to escape unscathed (Kumar et al., 2009). Particularly vulnerable will be the small components suppliers, many of them in the unorganized sector, and temporary contract workers in the formal enterprises. Recent findings show that India nonetheless lost a total of about 500,000 jobs during the last three months of 2008. The automotive industry's employment fell by 2.42 per cent. In January 2009 the employment decline in the automotive sector was even greater, at 3.09 per cent (Ministry of Labour and Employment, 2009a: 7).

The export-oriented automotive components sector lost 9,391 jobs in the period August to October 2008 (Ministry of Labour and Employment, 2009b: Annex I). Curiously, the export sector within the automotive industry as a whole lost a smaller proportion of its employees than the non-exporting sector: 1.26 per cent compared with 4.79 per cent. This could be attributed to low dependence on foreign markets with low value exports of parts and components. Alternatively, the high income elasticity of automobile demand could be contributing to the larger decline in the domestic side of the employment change. However, the pattern of employment reduction in the export and non-export segments was reversed in the survey conducted in January 2009, with employment in the two sectors declining by 4.13 per cent and 0.78 per cent respectively (Ministry of Labour and Employment, 2009a: 8). It could be that the crisis worsened in export markets, while the stimulus effects in India had a more favourable impact on the domestic-oriented sector.

Many automotive companies in India have not shelved future expansion plans. Ford plans to invest roughly \$500 million in new production. Similarly, Toyota has plans for a small car unit entailing \$680 million. Given Hyundai's success and its aim to make India a small car hub, it too has major expansion plans. While these plans may be adjusted under the current crisis, the fundamentals of the industry suggest there will be expansion in the post-crisis period. This is bolstered by the fact that, with much fanfare, Tata Motors launched its Nano, the world's cheapest car, at the end of March 2009. At around \$2,000, its price places the car within the reach of many low middle income households. Since the car is expected to sell in large numbers (some estimates put it at 250,000 units a year plus exports), the industry is likely to generate a fair amount of employment for semi-skilled and skilled workers.

**Conclusion: Crisis as a source of opportunity?**

**Box 2.24**

**Concluding remarks – the case of India**

- Export-oriented sectors have been hit harder than those relying on the domestic market production.
- Businesses are still bullish due to the demand for small cars in India.
- The upcoming automotive components sector could be hit.
- Contract workers are the first to be laid off.

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| <ul style="list-style-type: none"><li>• There are opportunities to cut costs through engineering and training.</li><li>• Transportation could be reconsidered in favour of mass transit systems.</li><li>• Labour market reforms are required, backed by welfare measures.</li></ul> |
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It is evident that the Indian automotive industry is not immune to the global crisis (box 2.24); there is a crisis, however it is not as severe as elsewhere. Given the emphasis on exports since the economic reforms of the 1990s, employment in export-oriented production has taken a larger hit compared with the sectors dependent on the domestic market.

The Indian automotive industry has already started to recover, and the industry is continuously making plans to invest. In terms of measures to deal with the crisis, the industry might have to consider labour market reforms backed by welfare measures and rethink public transportation in terms of a mass transit system.

At the national level, labour reforms are needed, especially to the Industrial Disputes Act. But reforms must be backed up by meaningful social policy, which must protect workers when they are laid off. This will enable industries to adjust more flexibly, and will create a workforce that is less internally divided between contract and permanent employees and is supported by unemployment benefits. In times of crisis, training and skills diversification of workers is essential. On a broader scale, a greater focus on mass transit systems, to be achieved through heavy investment, could potentially reduce vulnerability to changes in the market and price increases for fossil fuels. It would also ensure growth in employment for manual and non-manual workers and provide a more ecologically sustainable and socially efficient transportation system.

Given the macroeconomic nature of the crisis, it is difficult to come up with an industry-specific response to stem unemployment. Still, continued emphasis on engineering to bring costs down is likely to keep the industry competitive. The Tata Nano is a case in point, and is likely to generate employment should demand accelerate. While there are many benefits to exporting, such as learning by doing and, more importantly, paying for India's massive oil imports bill, the global crisis once again suggests that excessive export dependence should be avoided. A more balanced market along with a diversified export market would give the industry a more stable development and thus more secure employment.

### **2.1.7 Brazil<sup>12</sup>**

The Brazilian economy, and particularly the automotive industry, was booming when the crisis arrived. Before the crisis, car production was at its peak and investments were planned to reach a production capacity of 5 million vehicles. In 2008, Brazil was the sixth largest producer of vehicles in the world, with an annual production of 3.22 million cars. It had been ranked seventh in 2007, but was fifth in the period January to March 2009, meaning that it gained relative market position during the crisis.

The industry is dominated by transnational companies that are well integrated in the Brazilian context. There are also a few national suppliers, which also act as global players, such as Sabo, and the bus body assemblers Marcopolo<sup>13</sup> and Buscar. The Brazilian

<sup>12</sup> This section is based on Salerno (2009) and notes from the Roundtable discussions on 20 May 2009.

<sup>13</sup> Marcopolo has plants in Colombia, Mexico, Portugal, South Africa, Russia and India.

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automotive industry has a lead in some technological areas, such as ethanol-based fuel, which has contributed to the expansion of the industry. Another factor in the expansion of the Brazilian industry is the Government's policy on income distribution, which has enabled many families to buy a car.

The automotive industry is significant in the Brazilian economy. It accounts directly for 5.4 per cent of GNP, and 22.1 per cent indirectly, and involves 1.3 million people (directly and indirectly). The Brazilian industry is to a large extent focused in the internal market, exports make up less than 25 per cent (autoparts make up less than 20 per cent of the industry, contributing 16 per cent of the revenue in 2007). Imports totalled 375,000 units, which was 13 per cent of the market, in 2008.

The crisis resulted in a severe decrease in car production, which has since started to recover. Employment has not suffered as much, but the suppliers have experienced a stronger reduction than the assemblers. Investments have shown a slowdown, mainly in some components makers. Effects of mergers and acquisitions are not yet determined. Currently, the main impact is on vehicles exports – there was a reduction of 46 per cent in March 2009 compared with March 2008. Anfavea – the Brazilian Association of Automotive Vehicles Manufacturers – expects a 3.9 per cent reduction in domestic sales in 2009 and an 11.2 per cent reduction in the number of unit produced.

Domestic car sales within Brazil are very dependent on income and on credit. When the crisis weakened credit operations, sales went down. Dealers finance also used cars, or accept them as part payment for new cars. The credit crisis virtually stopped the used car market. Data from Fenabrave – the National Association of Dealers – show 21.5 per cent in sales of used cars throughout the dealership network comparing January 2009 with January 2008.

## Labour relations and the role of trade unions

Trade unions are organized by branch and by region. There is no national collective contract, and so work conditions, in particular wages, vary significantly between regions or towns. Wages in São Bernardo – which can be described as the Brazilian Detroit, home of most car makers' headquarters, the largest plants and the most powerful union (ABC metalworkers) – are twice as much as in the Fiat plant in Betim (near Belo Horizonte, Minas Gerais). This situation makes it extremely difficult for unions to achieve unified demands and unified campaigns, actions or strikes.

Brazil is also the home of important organizational and managerial innovations in this industry, such as the modular consortium, industrial condominiums and tiering. The result is new forms of relationship between assemblers and suppliers, characterized by risk sharing, variable payment according to effective production and a special kind of service relation (Salerno, 2001; Marx et al., 1997). The country has an integrated value chain; from design (styling, basic design, detailed design, product development and testing) through the whole production chain – from steel works to electronics, from petrochemicals to tailor-made trucks.

Brazil's automotive industry has perhaps the greatest diversity of brands and models. In total, 19 industrial units are owned by 14 different light vehicle assemblers operating in the country (table 2.3). Including agricultural and construction machinery plants and

engine plants, there are a total of 49 plants in 31 cities. There are around 500 suppliers<sup>14</sup> and 4,100 dealers, and commercial relations with approximately 200,000 companies.

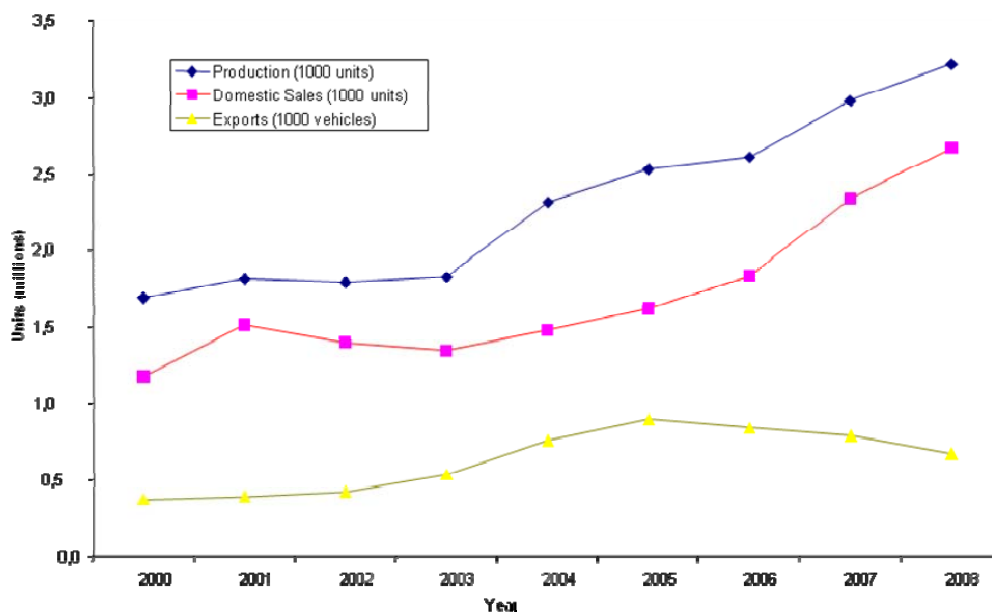
**Table 2.3 Automobile brands being produced in Brazil**

Sector	Brands	Totals
Automobiles and light commercial vehicles	Agrale, Fiat, Ford, GM, Honda, Hyundai, Iveco, Mercedes-Benz, Mitsubishi, Nissan, Peugeot, Renault, Toyota, VW	14
Truck and buses assemblers	Agrale, Ford, International, Iveco, Mercedes, Scania, Volvo, VW	8
Bus body building	Busscar, Caio Induscar, Ciferal, Comil, Irizar, Marcopolo, Mascarello, Metalbus, Neobus San Marino, Volare	10

Source: Anfavea and Sindipeças, 2009.

Brazil's automotive industry has been showing a sustainable growth in recent years. Production growth rates were on 20–25 per cent up on 2008; the peak production was in July 2008 (317,900 units per month). Employment reached a peak in October 2008, with 113,127 workers employed by assemblers and 363,200 by suppliers.

**Figure 2.4 Brazil: Production, domestic sales, exports and employment, 2000–2008**



Source: Anfavea. Assemblers only.

Figure 2.4 shows consistent growth in both production and sales from 2003 onwards. Employment followed the same path. General economic growth in the country has been led by credit augmentation (credit levels in Brazil are relatively low) and growth in family and individual incomes. Car sales were also supported by better credit conditions: longer

<sup>14</sup> Including only components/subsystems/module suppliers, categorized as automotive suppliers by the National Classification of Economic Activities (CNAE).

payment periods and lower interest rates. DIEESE (2009) estimates that 65 per cent of car sales are financed.

The export curve did not follow the same path as production, domestic sales and employment. The success of the Brazilian economy, and the current regulation of international flows of capital, led to an appreciation of the currency (real) and therefore diminishing competitiveness of the models exported.

When the crisis arrived the industry was at its peak (table 2.4), with 14 per cent growth in 2007 and 8.2 per cent in 2008 (including the crisis period). Sales in the internal market in 2007 were up 27.8 per cent compared with 2006 and up 14.5 per cent in 2008.

**Table 2.4 Annual growth in the Brazilian automotive industry: Main indicators, 2001–2008 (percentage change from previous year)**

	2001	2001	2003	2004	2005	2006	2007	2008
Production growth	7.4	-1.4	2.0	26.8	9.2	3.2	14.0	8.2
Domestic sales growth	28.4	-7.7	-3.5	9.7	9.6	13.1	27.9	14.1
Exports growth	5.3	8.6	26.3	41.6	18.2	-6.1	-6.3	-14.7
Employment growth	-4.8	-3.7	-3.3	12.3	6.1	-1.0	11.8	6.2

Sources: Anfavea, CAGED-RAIS/MTE, DIEESE ABC Metalworkers Section.

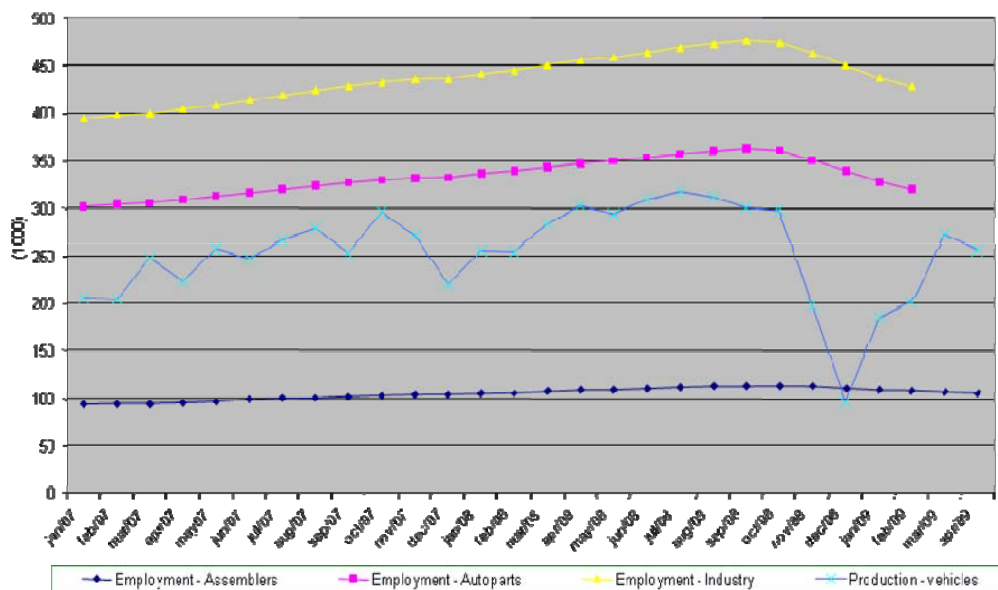
It is easy to perceive a decline in exports and an increase in imports, as sales grew faster than production. Production in 2008 was 90.4 per cent higher than in 2000, and exports 81.3 per cent higher. Employment by assemblers did not grow at the same rate as production, suggesting there were productivity gains.

The growth experienced following 2003 led the industry to invest significantly and to add more capacity in late 2007 and in the first half of 2008. Evidently, this development came to a halt with the crisis. For instance, GM (which is currently at the centre of discussions because of the crisis) is profitable in Brazil and had announced a \$1 billion investment to add more capacity in its Gravataí (RS) plant.

## Employment and production

The crisis arrived more significantly in November 2008, and in December 2008 a sharp slowdown occurred within the automotive industry, as shown in figure 2.5. During the analyzed period there were few structural modifications in the supply chain and in production, which serves as an indicator of productivity.

**Figure 2.5 Brazil: Employment and production, monthly basis, January 2007–April 2009**



Sources: Anfavea, CAGED-RAIS/MTE, DIEESE ABC Metalworkers Section.

### Measures to cope with the crisis

In the case of Brazil, the main measures used to cope with the crisis included restoring credit levels and reducing taxes (box 2.25).

**Box 2.25**

**Measures to cope with the crisis – the case of Brazil**

Restoring credit levels:

- via state-owned commercial banks;
- via BNDES (Brazilian investment bank, state owned);
- special credit for assemblers' banks (which finance car sales credit operations);
- special credit line for automotive parts producers;
- plus traditional measures by the Central Bank.

Tax reduction:

- federal Government reduced taxes on cars, trucks, buses and light commercial vehicles:
  - 7% for “popular cars” (up to 1,000cc)
  - 6.5% for cars with 1,001–2,000cc engines
  - 5.5% for flex-fuel (dual-fuel) and ethanol-only engines
  - 5% for trucks
  - 7.5% for light commercial vehicles;
- prices to consumers reduced – consumption anticipated.

### Industry measures

The Brazilian automotive industry reduced production sharply in November and December 2008. Production in November 2008 was 62 per cent of the level in July (the

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peak); in December, it had fallen to only 30 per cent of the July level. The recovery in 2009 – when production in March and April reached 85–80 per cent of the peak level – shows that:

- the industry reduced its production (to reduce inventories) more than was necessary;
- government measures to increase credit and reduce taxes had a positive effect on sales.

The slowdown was achieved initially by cutting extra-hours, and bargains were held to anticipate collective holidays, third-shifts cuts and employment reductions. Some of the companies that made the most severe cutbacks had to re-employ workers in February 2009 to cope with new levels of demand. At this point it is not clear which planned investments have been postponed and which have not.

Currently, the main issue affecting both assemblers and suppliers is exports. Government measures to stimulate internal demand have been successful, at least in the short term, but exports depend on external markets recovering. The Brazilian automotive industry has gained relative position in the worldwide production ranking since the crisis, suggesting that it has been less affected than others.

Mergers and acquisitions in the global automotive industry may have a strong influence on the Brazilian industry in the medium range. For instance, the acquisition of Opel by Fiat or another company will directly impact GMB (GM Brazil), because Brazilian models are based on European platforms owned by Opel.

## Government measures

The Brazilian federal Government took advantage of the relatively exceptional condition of the economy; there were reserves of currency and a surplus in external trade, inflation was under control and there had been sustained growth in recent years. The solid banking system within Brazil and the large internal market also contributed to positioning the Brazilian automotive industry well internationally. High taxes on cars are used to make more efficient policies to reduce taxes in order to induce consumption.

In brief, the Government measures aim to restore credit and to induce consumption through tax reductions (see box 2.25). The Central Bank has reduced interest rates,<sup>15</sup> reduced the compulsory deposits that banks are obliged to maintain<sup>16</sup> and has conducted dollar auctions to stabilize exchange rates.

## Conclusions and perspectives on the Brazilian automotive industry

The Brazilian economy and the automotive industry were very well placed when the crisis arrived. The strength and special circumstances of the economy and the banking system have meant that the general crisis has had a less severe impact in Brazil than in other countries. However, the measures undertaken by the Government have produced effects mainly in the internal market. Furthermore, the measures are to a large extent short-term measures only; they stimulate the sales of cars, but do not change the overall structure of demand.

<sup>15</sup> The Brazilian Central Bank is autonomous federal institution.

<sup>16</sup> Up until 13 November 2008, the Central Bank had reduced compulsory deposits seven times.

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## 2.2 Reflection – Crisis in the automotive industry: Where are we now?

The preceding reviews of the impacts of and responses to the crisis in the different automotive industries worldwide lead to the following conclusions:

- There is a need for fundamental change – a restructuring – in what the automotive industry builds; i.e., a need for **change in products**.
- There is a need for change in how the products are being built; i.e., a **change in production**.
- There is a need for change in how fundamental social and technical relations are built up; i.e., a need to **restructure the relationships** between the social partners.

Times of crisis provide substantial opportunities for change; therefore, now is the time to be serious about making these changes. When dealing with the critical issues that the automotive industry is facing, there is also opportunity to address change.

The industry is trying to learn from observation how to integrate different systems, in order to promote change. The change ought to be based on building efficient capacity, i.e. labour productivity improvements. The know-how exists, however the diffusion of that knowledge needs to be persistent and applied through joint agreements so that of the whole of the industry works in the same direction.

In the United States there has been a trend for trade unions to become part of a company's stakeholders. This gives the unions a chance to be involved in shaping policy, as well as making them responsible for the results of the company. This new structure brings a momentum to link labour issues with the evolution of the company. There is a government responsibility to initiate the development of this social relationship, potentially a new "social contract", as neither of the social partners can be expected to forge a sustainable process alone.

In India, the relationship between unions and employers is characterized by the old manufacturers, which collaborate with unions who are traditionally affiliated to political parties. The new companies, such as Suzuki, have non-affiliated enterprise unions. These unions have been characterised as being more interested in "bread-and-butter issues", e.g., issues regarding canteens and uniforms. Party-affiliated unions in India are in generally more oriented towards protecting jobs.

Trade unions in Brazil are structured by sector and region. This means that individual unions are living on their own separate islands. The key demands of the Brazilian unions are a reduction on archaic levels and more teamwork. It has, up to this point, been difficult for Brazilian unions to influence national policies.

In China, unions exist at both at national and enterprise levels. Party organizations and unions play a positive role in resolving issues such as production and training. Since China has a large pool of poor workers, manufacturers can easily find new workers. This results in a huge turnover in employment. The central Government has been working to counter this by introducing policies to protect labourers when being laid off.

In developing countries such as Brazil, China and India, the crisis has not hit as badly because the automotive industry in these countries is not export oriented. In countries such as Thailand, on the other hand, the crisis caused a 54 per cent drop in output, and pushed the country's GDP down by 4 per cent.



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One of the key questions in the analysis of the impacts of the crisis is whether the automotive industry is generally healthy but with a few very vulnerable companies, or whether there is a systemic problem in the industry worldwide. Regardless of whether the crisis in the automotive industry is a long-term crisis or a temporary recession, it can be expected to reduce the number of weak and vulnerable companies within the industry. Not rescuing vulnerable companies can in the short-term be bad for employment, but it provides opportunities for healthier companies to develop and create a healthier, more sustainable industry. Due to the crisis, enterprises in the United States will not enjoy the same profits as before. The biggest potential for cost reduction exists on the distribution side.

When looking at the current situation it is important to look beyond the short-term crisis and to consider long-term trends, such as the ageing of the population, the growth of urbanization, changes in transportation modes, the role of new technology and the emerging changes in demand; i.e. the globalization of the industry.

The ability of the automotive industry to operate the potential performance of change is dependent on the ability of different companies in different regions to share their experiences. So far, companies within the automotive sector have not been interested in collaboration and/or knowledge sharing. Where there have been examples of improvements in procedures throughout the whole production chain, big difficulties have been encountered in transferring these beneficial experiences between the major manufacturers. An essential step in this aspect is to break down the barriers that in the past have prevented the dissemination of change and development.

The automotive industry has historically been a slow learner. One of the reasons behind this can be found in the difficulties of changing a culture – path dependency and the built-in slowness go hand in hand with cultural change. Bringing about a culture change in an existing facility is possible through innovative networks, if there is a joint commitment from all the major stakeholders, including the Government. Through joint commitments, fundamental change will be possible. The crisis in the automotive industry now opens a window of opportunity to insist on the implementation of these changes.

### **3. Automotive industry reinvented: From crisis to the new automotive industry?**

#### **3.1 A new business model <sup>17</sup>**

There has been a major critique towards the industry from several different directions, stating that the problem of the industry is that it relies upon a broken economic model (see section 1.2). When concluding the failures of the current business model, one must at the same time look ahead at the emergence of a new, well-functioning model.

Although the industry is a victim of the recession, it is also partly responsible for its own difficulties in coping with the situation. The terrible downturn and the strong fall in demand is also a problem for heavy vehicle producers, but the light vehicle industry is the only one screaming for government support.

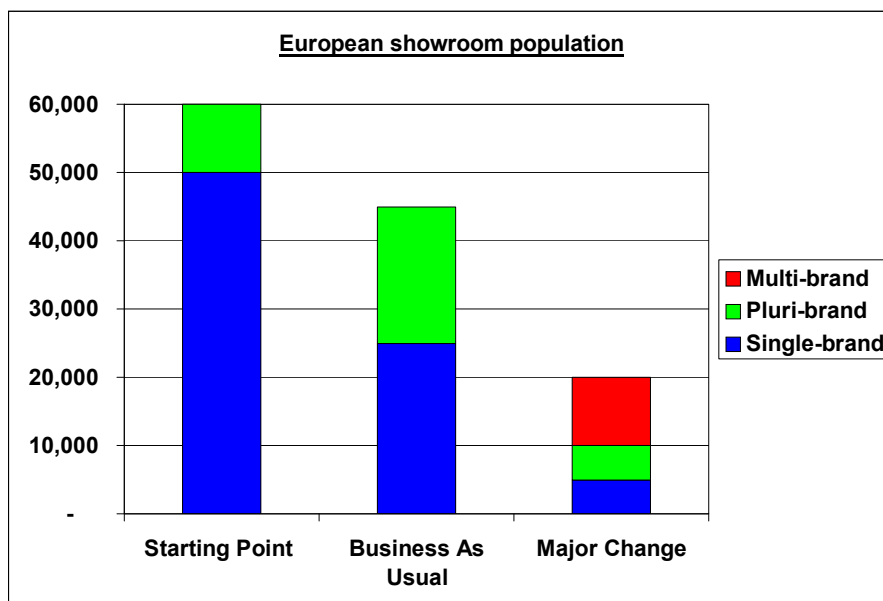
<sup>17</sup> This section is based on Wormald (2009) and complemented on MacDuffie (2009).

### 3.1.1 How would a new business model look?

To a large extent, the change drivers and challenges for the automotive industry revolve around (1) environmental issues, (2) legislation and regulation (both at national and regional levels), and (3) personal mobility and shifting lifestyles (the industry needs to adapt according to new demands). These are also closely linked to the implications of the globalized society.

The key feature of the new business model is that it has to strip away the brand-exclusive and monopolistic franchised dealer system, and it must move away from the idea that there has to be large brands. New car retailing needs to be opened up to normal competition, as is the rule in virtually all other retail sectors. In highly motorized societies, there is no need for numerous local car showrooms as car purchases are infrequent and customers are usually highly prepared. The outlet population could be reduced by three-quarters (figure 3.1). This would cost the jobs of salespersons, but they are only a minority of a dealer's staff, and are typically the least qualified and the least stable. There should logically be three or four national new car sales chains, complemented by regional chains and independent local operators. Upmarket and specialist brands might well retain brand-exclusive outlets, assuming their customers value the exclusivity and are prepared to pay for it.

Figure 3.1 Stripping away the protection: European showroom numbers



Source: Maxton and Wormald, 2004.

There is also a need to separate servicing from sales, to have a strong and efficient network which is not tied to a specific brand. With the cross-subsidy link broken, it would be possible to separate properly aftersales from sales. The European Commission has tried to achieve this by regulation, but it needs also to be done through market forces. Although there are many dealer workshops, their effective local presence is severely reduced by their being predominantly single-brand operations. Their other major weakness is their pricing, driven up by the need to fuel the cross-subsidies. In Europe, hourly dealer workshop rates are 40–50 per cent higher than those of independents, and the same is true in North America. Dealer workshops are not seen by consumers as being particularly accessible or supportive. Their strengths are in belonging to a structured and disciplined network, and in being able to share in the brand image of the manufacturers, with a presumption of quality. The independents are virtually their mirror image: local, accessible, generally friendlier,

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cheaper – but unchained, unbranded, undisciplined and threatened by the rising technology content of new cars.

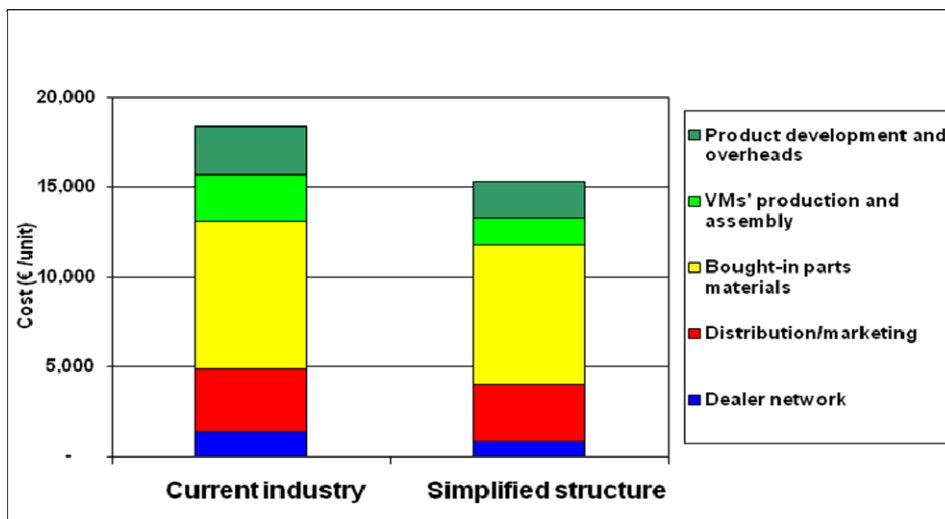
The third main characteristic of the new business model is to reduce the supply chain, and to simplify the distribution of spare parts. The tradition of locating a local parts store at each main dealership, specific to the vehicle brand, has led to an absurd proliferation of locations and parts stocks. The previously suggested restructuring of workshop networks would trigger a massive shake-up in parts distribution, to the benefit of the larger independent groups. Crucially, these would need to rise above their present dominant role of extracting larger discounts from parts manufacturers to actively supporting the development training of workshops.

Purging the supply side requires far greater standardization and carry-over of components, longer product life cycles and retrofitting. It also implies the completion of industry unbundling; i.e. three or four engine companies, three or four transmission companies and three or four platform companies.

If all this happens, then the rest follows. The supply side of the industry will no longer be able to protect its own inefficiencies and redundant capacities by controlling the routes to market. Strong, independent new car retailers will reject weak models, which will rapidly end proliferation and artificial full-lining. Manufacturers will have to differentiate themselves genuinely, for example by concentrating on particular styles of vehicle. They will no longer be able to afford the luxury of developing and making that which they could more rationally source from outside. Major subsystems, such as engines and gearboxes, will be sourced in the same way as fuel and brake systems, seats and interior trim systems. It is also possible that platform suppliers will become distinct from final assemblers – the concept is already there within large vehicle groups, which share platforms across their different vehicle brands. The increased standardization and carry-over of systems and components will mean the reuse of designs in new models. It is highly likely and desirable that we shall see much longer product life cycles, and very possibly designs will be made more “open” to enable easier retrofitting of new subsystems and components. This could, for example, enable very much faster diffusion of highly desirable innovations, such as electronic collision avoidance systems.

The structural cost gains for the industry could be phenomenal (figure 3.2). Today, about 30 per cent of the pre-tax price of a new car is incurred beyond the factory gate. This could fall to 20 per cent. Independent mass retailers could easily live on the 10 per cent dealer margin. Some costs are incompressible, such as physically shipping the new cars to the point of sale and warranty claims – although these, too, should fall, as product lines are simplified and new models no longer rushed out so fast. A 10 per cent of sales saving might be possible by eliminating the manufacturers’ overspending on micro-managing and policing their dealers, and on sterile competition in advertising and promotion.

**Figure 3.2 Take 15–20 per cent of costs out: Cost build-up in Europe (€/unit)**



Data source: Maxton and Wormald, 2004.

It is in the public interest to strip away the arbitrary protectionist barriers that disfigure the industry today, and also to impose the highest practical environmental and technical standards upon it. The current recession should not be used as an excuse to protect and subsidize the present inefficient industry model. It should instead be used to force through its replacement by a better one (box 3.1). In redesigning the car, the industry also needs to change itself. Implications for these changes are many, in relation to all major companies, their suppliers and to the automotive repair industry.

**Box 3.1**  
**A new business model**

- Protection stripped away
- Service separated from sales
- Simplified spare parts distribution
- Enhanced collaboration between car producers and suppliers.

Source: Wormald, 2009.

### 3.1.2 The future of the automotive industry

The crisis in the automotive industry can be seen as a sharp decline in a normal business cycle, rather than as a bubble that has burst. Demand in the developed world is expected to pick up again (box 3.2), although there will be changes to consumers' choices and decision-making. In the developing world, continued growth of GDP and populations will provide additional stimulus to demand (box 3.3).

**Box 3.2**  
**Automotive demand: Developed world**

- The global automotive industry will recover to pre-crisis levels as the global economy recovers. This is a cycle, not a bubble.
- The scrappage (retirement) rate of the existing fleet provides a floor under demand (in the United States, 13 million units per year).
- Populations continue to age; older households divert a greater proportion of income to vehicle

purchase (as they are relieved of the expense of raising children), for a volume and a mix boost.

- Continued GDP and population growth (varying by nation) will provide additional stimulus to demand.
- Consumers may well be more cautious about new car purchases in future, shifting to slightly less expensive cars, or from new to used cars.
- Thus the demand recovery may not be completely proportionate, but will perhaps be in the region of 95%.

Source: MacDuffie, 2009.

### **Box 3.3**

#### **Automotive demand: Developing world**

- In the developing world, demand is likely to return to 100% (even 105%) of previous levels with the return of economic health, for the following reasons:
- A large fraction of new car demand is “first car” rather than “replacement car” demand, hence less deferrable.
- The used car market is often very immature and inefficient, so demand flows primarily to new cars.
- Car finance availability has been patchy at best, such that few future buyers are currently weighed down by vehicle debt.
- The income elasticity of demand is higher than in the developed world, as even a small change in average GDP can bring millions of new buyers into car-buying range very quickly.
- As car purchase credit does become more available, more people will enter the car-buying market more quickly; a multiplier effect.

Source: MacDuffie, 2009.

The shape the new automotive industry will be determined by a number of complex and interlinked factors (box 3.4). The nature of competition will have a particular influence. In the future, the US market is expected to be more similar to the European one, i.e. many automakers competing intensively for 8–15 per cent of the overall market. Developing countries will experience intense competition among multinational OEMs, and new domestic firms will arise, strengthened by this competition. New entrants (e.g. Geely in China and Tata in India) will focus initially on high demand in their home markets, but will in a short time also start to export to developed markets. Not all automakers will be huge; a place will remain for highly capable smaller firms (e.g. Honda, BMW in 1990s).

### **Box 3.4**

#### **The future of the automotive industry**

- The industry crisis has had a huge effect on specific automakers (depending on size, market share, brands and capabilities).
- The global demand is expected to return to pre-crisis levels (albeit at 95% of past levels in developed countries, 105% in developing countries).
- The concept of “Build where you sell” will prevail; new entrants (e.g. China, India) will pursue both mergers and acquisitions and “transplant” strategy.
- Given a more integral vehicle design and increasing levels of technology, large automakers will continue to dominate the industry.
- Green initiatives will prompt a multiplicity of new technologies and fuel types, with none achieving dominance in short-to-medium term.
- Employment levels will continue to be relatively high, although differently distributed; wages will be lower and benefits under pressure.

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A greater availability of low-cost cars (e.g. Tata's Nano, selling for around \$3,500) are expected. At higher incomes, ownership levels will increase to multiple vehicles per family. Even where the very best public transportation is available, total person trips tend to hit a threshold and further growth is absorbed by vehicle-based mobility. Other main factors and implications on the future of the automotive industry are outlined in the following sections.

### Production system evolution – manufacturing

Manufacturing will move within regions, to lower labour cost areas. Large, highly automated manufacturing plants will achieve reliably high labour productivity. Lean production plants will continue to have advantages over “efficient mass production” plants in terms of quality, flexibility and market responsiveness. The advantages of flexible automation, and assembly lines that can build multiple models and launch new models quickly, will continue to grow.

### Production system evolution – product development

Product development cycles will lengthen somewhat due to greater technological complexity, a larger supplier role in design and more physical (versus virtual) prototypes. Developing and deploying new technological features during advanced engineering (pre-product development) will be more important in determining which products succeed. Product architecture is becoming more integral and less modular due to increasingly complex requirements (e.g. environmental and safety regulation, electronic features). Increased use of common parts may increase product developments costs (while decreasing purchasing cost).

### Industry evolution – structure

Automakers will retain a crucial systems integration role and hence will have more power than suppliers. Some suppliers may amass enough capabilities to become automakers, but suppliers will not attain the dominant role. Most automakers already achieve scale economies in every aspect of the business, with the exception of developing new technologies. Barriers to entry to the industry will remain high, given the capital and labour intensity of the industry.

### The impacts of “green” initiatives

Purchases of small cars follow the trend of petrol prices closely. Raising fuel taxes (slowly; while dealing with regressive aspects) is the best way to change consumer and automaker behaviour with respect to fuel efficiency. Alternatively, stable fuel efficiency standards that are coordinated (across states and countries) plus carbon regulation could have a similar, albeit less direct, effect.

### Employment implications

The depression in sales of cars has had huge impacts on employment in the industry. It is uncertain whether employment will return to previous levels. The change in the industry might also have negative implications for employment. At the same time, the vehicles need to correspond to future transportation needs. The change might also imply the loss of dealer sales staff, but this is an unqualified profession that will be able to move to different sectors.

Automation in the industry is already high and the way cars are made will not be fundamentally different in the future. The central question is rather where employment will be located. Production will continue to move to lower cost areas and closer to emerging markets, where the future growth of demand is expected. What also needs to be considered

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is the fact that the transportation needs are different over the world – there is a need for purpose specific, specialized vehicles. Higher technology content is needed, in particularly when looking at the fuel problem. Improvements need to be done on active safety, as opposed to passive safety. These developments will create a rational division of labour, and more stable, high-quality employment.

## **3.2 View from the suppliers**<sup>18</sup>

Automotive suppliers in Europe are worth about €500 billion in annual turnover, employ 5 million workers and spend €12 billion on R&D. This represents approximately 50 per cent of the automotive industry's R&D budget, as well as the majority of patents. Approximately 75 per cent of a car's value comes from suppliers.

### **3.2.1 Outcomes of the crisis for automotive suppliers**

The outcomes of the crisis from a production perspective (box 3.5) are in particular related to:

- liquidity shortages;
- massive restructuring due to the overcapacity in the market;
- layoffs of temporary and agency workers; and
- budget cuts in R&D.

With 2.5 million cars stockpiled in Europe and 4 million in the United States, car producers have halted production and extended holidays during the months of crisis, with suppliers following suit. The reduction of car sales across all markets worldwide by 10–20 per cent led to a drop in supplier revenues of 20–40 per cent. At the same time as revenues went down, the financial crisis reduced the willingness of banks to ensure liquidity of firms. In Germany, the rejection rate for credit applications by car manufacturers and suppliers is at 21 per cent, leading to postponement of necessary investment in R&D.

The current crisis has further delayed payments to suppliers; payment times are now typically 90 days or longer. In the United States the Government want banks to accept invoices as collateral, and CLEPA is actively lobbying for the adoption of a similar policy in the EU.

The industry is plagued by a huge production overcapacity. With a nameplate capacity of 90 million cars, the utilization was 69.5 million in 2007 and is heading towards 49–53 million in 2009. Even sound companies have cut all non-essential costs and reduced temporary and agency workers. The German metalworkers' union, 16-Metall, estimates that there was a 37 per cent reduction in the number temporary workers in Germany alone.

<sup>18</sup> This section is based on Lange (2009) and notes from the Roundtable discussions on 21 May 2009. Mr Wolfgang Lange represents the European Association of Automotive Suppliers (CLEPA). CLEPA is an industrial association with 82 corporate members with well-known members such as BOSCH, DELPHI, VALEO and TRW, as well as more than 3,000 SME members. CLEPA is an accredited partner of the EU and the UN with 27 national and sectoral associations (e.g. FIEV in France, VDA in Germany, SMMT in UK, SERNAUTO in Spain).

#### **Box 3.5**

##### **Dramatic drop in demand for vehicles with today's technology**

- In the first quarter of 2009, passenger car registrations were down by 17.2%.
- In February 2009, commercial vehicle registrations were down by 38.7%.
- There are 2.5 million unsold cars in Europe.
- Plants have suspended production for 1–3 months.

### **3.2.2 The future of the European automotive sector**

Coupled with reduced national spending in education and investment in future skills, Europe may lose its global position as leader in technology. However, the crisis may lead to a positive outcome through stimulation of training and re-training of existing workforce; companies do not dare to lose ground with respect to competitors.

Funding of about €7 billion from the European Investment Bank earmarked for the automotive industry has so far only benefited producers, not suppliers. Two suppliers are currently under consideration, but no funds have yet been allocated. Distribution of funds should be reconsidered, to take into account employment distribution and research spending. Car manufacturing employs 1 million workers, while 5 million work for suppliers. Suppliers spend as much on R&D as do the car manufacturers. Technological innovation for tomorrow needs to be financed, but suppliers have so far been neglected.

New regulations in the EU and the United States require car manufacturers to reduce CO<sub>2</sub> emissions. The CO<sub>2</sub>-reduction legislation passed in December 2008 includes the requirement that 65 per cent of new cars must emit no more than 120g/km CO<sub>2</sub> by 2012, 75 per cent by 2013, 80 per cent by 2014 and 100 per cent by 2015. By 2020, the maximum CO<sub>2</sub> emission limit for all new cars will be 95 g/km. The CO<sub>2</sub>-reduction legislation also includes a penalty for not achieving these limits.

Meeting these requirements will dramatically change the industry. However, mass sales of electric vehicles are not expected to start before 2020 (box 3.6). The development of hydrogen as an alternative fuel is less likely due to technological problems.

#### **Box 3.6**

##### **Roadmap on energy, environment and resources**

2012–15 Hybrid technologies, e.g. “stop-start”

- Not expensive and have benefits for fuel consumption.
- It is possible to find intelligent solutions in the short term.
- Electric vehicles will start to appear in commercial scale.
- Downsizing of vehicles.
- Turbocharging.
- Other downsizing technologies.

2020 Electric vehicles (medium range)

- Mix of electric and internal combustion cars.
- Range extender for non-urban areas.

2030 Electric vehicles (long range)



- 30–40% of sales.
- The electric car will have the same characteristics and performance as a conventional car including all technologies and will be cheaper.

#### 2030 Biofuel

- Advanced fuels from biomass and waste (second-generation biofuels) will be major source of liquid fuel.

#### 2030–50 Hydrogen and fuel-cell technologies

- Will act mainly as a bridge to electric cars.

#### 2050

- Electric vehicles will be the majority of the vehicle fleet.
- Heavy vehicles will still use liquid fuel (second-generation of biofuels).

The automotive industry is undergoing a major transformation, which creates new opportunities but, at the same time, represents major challenges for the industry, its employees and the territories in which the sector operates. To understand the trends for the coming decades, CLEPA is currently involved, together with the European Metalworkers' Federation (EMF) in a 12-month project: "Anticipation of Change in the Automotive Industry", financed by the European Commission's Directorate-General for Employment. The project aims to create an informal observatory of change and an early warning system to anticipate change and the negative effects of restructuring, along with maintaining a sustainable industry that will create quality jobs. The project also aims to develop regional strategies to support the automotive industry, taking into account the needs of the supply chain in particular.

The project focus also includes increasing the competitiveness of the industry through a highly skilled workforce, in particular by retraining the workforce to make more sustainable products. The CLEPA project will help in anticipating change at company level; due to the crisis, member companies have reduced their working time to four days per week, the fifth day will be used for retraining workers. The retraining of workers is an example set by the Japanese automotive industry; a fruitful strategy that can be used during the crisis in order to retrain the work force for the future.

### **3.3 Labour management relations<sup>19</sup>**

#### **3.3.1 Labour management relations in the United States**

The crisis poses major challenges to labour and employment relations for all types of industries throughout the world. Labour management relations in the automotive industry focus not only on issues of finance and technology, but also on the social contract and employment relations. The multiple levels of labour management relations can be divided into the following categories:

- workplace level;
- collective bargaining and negotiation;
- corporate strategy and governance; and

<sup>19</sup> This section is based on Kochan (2009) and partly on Bluestone (2009a).

- 
- national level.

At the workplace level, industrial relations are strongly linked to creating decent work and serving as a facilitator for change and innovation. The role of the collective bargaining system includes managing the conflicts between the different interests within the labour relations, i.e., contributing to well-functioning industrial relations. The level of negotiation has been undergoing changes during the last period; the bargaining table has expanded to accommodate multi-stakeholder negotiations, including bondholders, employers, employees, retirees, the Government and the public, including both customers as taxpayers. The main challenge now is to negotiate a new social contract.

The corporate strategy and governance level is responsible for building sustainable vehicles and for creating sustainable organizations. This includes envisioning, planning, negotiating and managing, as well as financial expertise and corporate social responsibility, to enable the transformation of the automotive industry into a “green industry”.

The role of the national level within the automotive industry has undergone change during recent years. The national level is no longer expected to provide an industrial policy, but instead to manage balanced job creation/retention and investment in product development and technology, and possibly to influence the prices on the car market. In the long term this means building a sustainable industry.

As well as functioning on multiple levels, the labour management relations involve many different parties (box 3.7), including unions, employers, investors, governments and the public.

<p style="text-align: center;"><b>Box 3.7</b></p> <p style="text-align: center;"><b>The role of management, unions and government during crisis</b></p> <p><b>The role of company management</b></p> <ul style="list-style-type: none"><li>• To serve customers</li><li>• To serve workforce</li><li>• To serve investors.</li></ul> <p><b>The role of trade unions</b></p> <ul style="list-style-type: none"><li>• Short-term concessions</li><li>• Long-term engagement and involvement</li><li>• From traditional workplace contract to enterprise compact.</li></ul> <p><b>The role of government</b></p> <ul style="list-style-type: none"><li>• Short-term stimulus</li><li>• Industry regulation</li><li>• Infrastructure investment.</li></ul> <p>Source: Bluestone, 2009c.</p>
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## Workplace transformations: Learning from history

Looking at the case of the United States, the labour relations have been expanding both in scope of issues and the numbers of stakeholders and parties involved. Labour relations address issues such as the organization of work and continuous improvement and

commitment to the ILO Decent Work Agenda. At the same time, labour relations cover issues such as collective bargaining and companies' transition to a greener economy.<sup>20</sup> After the collapse of the financial system, national governments have come to play a much more extensive role in labour relations. Furthermore, investors have equally become part of negotiations.

When managing crisis situations it is essential to learn from past events, such as the historic conversion of the automotive industry into a war industry in the 1940s, and the post-war "social contract" that shaped industrial relations for the following three decades. Another crucial learning episode took place in the 1980s with the development of innovative labour management relations.

The New United Motor Manufacturing (NUMMI) plant in California, a joint venture between Toyota and GM, can be used as an illustrative example (box 3.8). The plant applied innovative workplace practices such as flexible work systems, integrated work units, engagement of workers and unions, modest and incremental investment in automation, lean manufacturing and just-in-time production. The industry, however, lost sight of these strategies in the 1990s, seduced by the success of SUVs and large trucks, which provided high profit margins, and as a consequence losing its commitment to continuous improvement.

**Box 3.8**

**Learning from the NUMMI venture**

By 1987, NUMMI was the leader in productivity in the United States, with half as many work hours per unit has the highly automated GM plants and only 69 defects per 100 units.

**Productivity and quality performance of selected auto assembly plants:**

	Productivity <sup>1</sup> (hrs/unit)	Quality <sup>2</sup> (defects/100 units)	Automation level <sup>3</sup> (0 = none)
Honda, Ohio	19.2	72.0	77.0
Nissan, Tenn.	24.5	70.0	89.2
NUMMI, Calif.	19.0	69.0	62.8
Toyota, Japan	15.6	63.0	79.6
GM, Mich.	33.7	137.4	100
GM, Mass.	34.2	116.5	7.3

1. Productivity is defined as the number of man-hours required to weld, paint and assemble a vehicle.

2. Quality is based on a J.D. Powers survey of customer-cited defects in the first six months of ownership.

3. Level of automation is a radio robotic application in each plant divided by the production rate. These figures have been normalized, with 100 indicating the highest level of automation in this group.

Source: Krafcik and Womack, 1987.

### Today's challenge: Shaping a new social contract

The social contract that was negotiated after the Second World War created the foundation of industrial relations for the three decades that followed, and lead through its

<sup>20</sup> See for example the 'Green jobs' agenda by the ILO.

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wage–productivity formula to shared prosperity. The challenge of today is to shape a new social contract that takes the legacy costs out of price competition. The 2007 negotiations with the UAW brought entry-level wages down to competitive levels and cut fringe benefits. Clearly, a new social contract will be contingent on the industry and individual firms rather than on governments. UAW is now a major equity shareholder in Chrysler and GM, and to a lesser extent in Ford. The owners of the companies need to see the current bailout as more than a financial deal. A new focus is needed, involving unions at the enterprise level on a path to continuous improvement.

When the unions of United Airlines in the early 1990s acquired a majority of the company, it was mostly viewed as a financial bailout after a crisis. The failure of this event was that no change of company culture occurred. The union and the workforce did not get involved at the workplace, and thus productivity and quality stayed flat and the model of company ownership became dysfunctional.

The present situation of the automotive industry raises the question of whether GM, Chrysler and the UAW can learn from examples such as NUMMI, Saturn, United Airlines and the post-war social contract. The evolving debate around these questions needs to include more stakeholders; including both private and public stakeholders, who together have put their money at risk. The logic of the restructuring plans for the automotive industry means that if bondholders only receive 10 per cent of their investments out of a GM restructuring plan, they would rather see GM file for bankruptcy. Nonetheless, employees have also taken on major sacrifices and are equally entitled to have a stake in the negotiations. A new social contract needs also to include environmental groups, and a society that helps to fund the industry's move towards a greener future.

### **3.4 Managing the social dimensions of the crisis<sup>21</sup>**

#### **3.4.1 Europe**

The main impact of the crisis on the social dimension of the European automotive industry is redundancy, and the fact that agency workers, among others, are being taken out of the workforce. At the same time, permanent employees are also experiencing a threat to their positions. The main aims of the unions in this aspect are to keep the workforce employed, to avoid redundancies and to retain knowledge and competence within the companies.

The foremost danger in the short-term is the loss of skills and know-how; if the workforce is being laid off, difficulties will arise when the demand for cars increases.

The impacts of the crisis on strategic alliances and on corporate governance structures are also expected to be severe.

The short- and medium-term measures for future development ought to be focused on the following areas:

- regulating short-time working, and ensuring European harmonization so that the regulation is the same throughout the region;
- regulating agency work, which is related to the implementation of directives and the strengthening of workers' rights;

<sup>21</sup> This section is based on Meissner (2009) (Europe) and Helper (2009) (United States).

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- lowering the retirement age;
  - catching-up with missed training opportunities, in combination with the shortening of working time;
  - maintaining high-quality R&D, to ensure Europe remains a leader in the creation of new technologies; and
  - reorientation of skills towards new, emerging technologies.

In order to manage the social dimension of the crisis and to protect workers, there is a need for coordination between trade unions at the European level. A partnership involving car manufacturers, suppliers and metalworkers has been set up (box 3.9) to monitor changes in employment and skills needs in the sector, in order to develop best practice on how to restructure the industry in a socially responsible manner, and in a way that will create and maintain a sustainable industry.

**Box 3.9**

**Anticipation of change**

The anticipation of change is a principal focus of the European approach. As a result, the “European Partnership for the Anticipation of Change in the Automotive Industry” was launched in 2007 with the aim of bringing together the major economic and social players within the sector. The member organisations of the partnership are:

- ACEA (the European Automobile Manufacturers Association)
- CLEPA
- EMF (European Metalworkers Federation); and
- the European Commission

### **3.4.2 United States**

Efficiency is one of the keys to a well-functioning automotive industry. When looking at efficiency within the industry (box 3.10) it is apparent that if jobs are lost within a company it is due to other companies being more efficient. The job losses are in a sense temporary, as the workforce will instead move to a more efficient company. From a union perspective, jobs are the key to both an efficient and a well-functioning automotive industry.

**Box 3.10**

**Defining “efficiency”**

Efficiency is defined as most output per input. This underlines the importance of valuing outputs and inputs at their true costs, including environmental costs, and not including violation of labour rights.

When reconciling efficiency and employment aspects it is important to understand and take into consideration the country-specific facts; different countries face different problems and have different obstacles and advantages. The main situation to avoid is false efficiency; for example, false efficiency will arise if, in an attempt to improve international competitiveness, the workforce is reduced through labour exploitation.

In the US automotive industry a short-term problem has been created by the plummeting demand for all brands; a fall of around 45 per cent has occurred over the past year in comparison to the previous year. This has had huge impacts on jobs; between 2004 and 2008, the workforce was reduced by 30 per cent.

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Another, possibly more long-term problem is drop in union membership, and hence the protections for workers is being reduced. At the same time, unions are starting cross-company collaborations, for example through GM and Toyota.

One of the main long-term problems for the US automotive industry is that the Detroit Three are not competitive, and that they have set the pattern for labour relations not only in the automotive industry but also for the US economy as a whole. One of the sources of their lack of competitiveness is the quality gap: the lower quality of their products in comparison with the other global players. In addition, their moves to reduce supplier costs, which comprise 70–75 per cent of all costs, have continuously been ignored.

US government policies have made it extremely expensive for the big companies to shrink their workforces, due to retirement and healthcare costs. A “protective ditch” has been created, which now constitutes a problem for the environment and for the competitiveness of US companies. Trade agreements have been based on competitiveness by wages, not on workers’ or human rights. The US companies have therefore achieved their market share through competitive bidding, as opposed to sharing knowledge with the suppliers, which would ensure that the suppliers provide low costs and good quality. In fact, it has been more profitable to sell market share and then buy back the stocks. The strategy of buying back stocks has been combined with the strategy of using cutbacks in the workforce as a means to save the industry.

A possible solution for the future of the US automotive industry would be to focus on creating a competitive industry, but not by lowering the wages. The UAW has agreed that workers can receive \$14 per hour in order to avoid wage reductions, thereby preventing a downward wage spiral.

The role of the US Government in this situation is to act as a long-term investor, and not to take a short-term approach, which in some ways has been the response to the crisis so far. The short-term plan for GM has been to import cars from low-cost countries, as a part of a strategy to reduce costs. Instead, what needs to be done is to undertake measures that would close the quality gap on a global basis; i.e. for the US automotive industry to be competitive with, for example, the Japanese industry. The key combination is to close the trade defect while at the same time meeting local needs. The union argument is that the way to create competitiveness is to increase wages elsewhere at the same time.

The government approach to the problem could be to focus on setting broad goals, and to hold companies responsible for developing action plans and for achieving the aims of those plans. These action plans should include mechanisms for dialogue and collaboration, both with workers and with suppliers. It is not beneficial for US workers, or for the companies, to achieve short-term profit goals by going abroad to reduce costs – on the contrary, this will only raise fear and protectionism. A balance between the rights of consumers and the rights of workers is needed, with a focus on local content.

### **3.5 Reflection – Automotive industry reinvented: From crisis to a new automotive industry?<sup>22</sup>**

One of the main points to consider when evaluating the crisis in the automotive industry is that there are two different sets of dynamics within the crisis: one for OECD-

<sup>22</sup> This section is based on the Roundtable discussion that took place on 21 May 2009, at ILO Headquarters in Geneva.

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countries and another for emerging countries such as Brazil, India and China. The United States and Europe have been suffering job losses; but even so, there is a need for a cross-stakeholder agreement that protectionism should not be the answer.

The automotive industry needs to learn that it is acting in a global market, a market where some players are more competitive than others. Within this perspective there is a need to incorporate balanced job security, both in Western countries and in developing countries.

### **3.5.1 Employment implications**

The depressed sales of cars have had a huge impact on employment in the industry, and it is uncertain whether employment will return to previous levels. However, automation in the industry was high even before the crisis, and the way that cars are made will not be fundamentally different in the future. The important question is, rather, where will employment be located? It is likely that production will continue to move to lower cost areas and closer to emerging markets, where the future growth of demand is expected.

Despite expected consolidation in the industry, overcapacity and fierce competition are likely to remain. Wages and employees' benefits will be under pressure.

There is a need for the industry to adapt to new customer expectations and to address environmental issues. This implies strong efforts at both international and national levels to increase research on renewable energy and transmission technologies. These changes will require retraining of workers as the workplace will change.

### **3.5.2 Skills improvement and retirement plans**

Toyota strategically uses retraining programmes instead of laying workers off. The workers that are not to be retrained are provided with early retirement plans. This applies not only to Toyota's production in the United States, but also to production in Japan and Europe. The actions carried out by Toyota during the crisis mean that Toyota will be prepared when the crisis subsides, in order to recover as one of the leading competitors, with better productivity and continued gains in market share.

Japan is also facing the pressures of globalization; investors wanting to invest in Japan, and wanting to sell in Japan. How to interface with the rest of the world is a growing challenge, which is composed of twin problems; the need to preserve and retrain the workforce, while at the same time the immediate crisis suggests that the workforce in the automotive industry should be decreased. During times of crisis, the Japanese model might be in need of more flexibility; the standard training might, for example, not match the increasing need for movement between sectors.

The crisis was indeed a global crisis. In the past, the Japanese companies never had to lay people off – up to 12 months ago they were making record profits. Now even Toyota has started reducing the number of regular employees in Japan, and when Toyota starts cutting down, every sector in Japan will follow; Toyota is the lead in setting strategies.

Further follow-up needs to be done on two central questions: will workers come out of this process being more, rather than less, loyal to their company, having been retrained for a higher skill instead of being laid off?; and how will workers' attitudes towards the unions change? Workers have traditionally not believed the companies' promises of no layoffs; however, the success of the enterprise is also important for the workers, and if the companies stick to their promises, worker loyalty could potentially increase. The issues of reduced working time and reduced wages also need consideration; even Toyota, which has

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extensive experience in retraining and reorganizing the workforce, could not maintain their production levels because of the low demand.

### **3.5.3 Labour management relations**

Conflict-free labour management relationships are difficult to achieve in times of economic crisis. With all the existing overcapacity in the industry, painful cuts in employment are inevitable. Limitations in terms of mutual benefits between management and workers are expected, which might lead to temporary conflicts between the parties.

The crisis in the automotive industry has offered an opportunity to reconsider the models of labour management relations. New voluntary ways for labour and management to work together need to be developed. Within this development, the appropriate role of government needs to be ascertained. This development needs to be done in line with the evaluation of the government policies being implemented during the crisis.

The traditional workplace model, with a “social contract” between workers and management, designed to overcome opposing interests of employees and management, is no longer sufficient. Nonetheless, it has helped to transform the working class into a middle class. A new concept of an “enterprise compact” would emphasize the common interest of all parties in the success of the industry. In this new model, both unions and management are responsible for improving productivity and quality and for the transition towards a greener industry. The current crisis could be the moment to institutionalize the enterprise compact as a paradigm for working together.

In 2008, a new partnership between car manufacturer associations, suppliers and metalworkers was set up to monitor changes in employment and skills needs in the sector, in order to develop best practice on how to restructure in a socially responsible manner. This includes, among other things, improved coordination between unions at the European level.

### **3.5.4 The role of trade unions**

One of the main issues for the restructuring of the automotive industry is how to get away from the precarious work and precarious contracts and move towards a more skilled and permanent labour force in the industry (box 3.11). One of the keys is the role of training and investing in skills. The International Trade Union Confederation underlines the important link between the automotive industries in developed and developing countries, and emphasizes the need not to focus only on the situation of the United States and Europe, but also to consider the development of production in the developing countries.

#### **Box 3.11**

##### **Three important points for European unions to consider**

- The unions need to avoid repeating mistakes from the past. It is difficult to organize and coordinate union actions at a European level because industrial relations systems differ from country to country. Nonetheless, coordination is an indispensable way forward. It is essential to take advantage of this momentum in order to change the system and create jointness – jointness needs to be one of the vital conditions of the new model of the industry.
- Trade unions need to be participating at all levels, starting at the workshop floor and extending up to the management divisions.
- Unions fear that the restructuring of the industry will bring unemployment. In this case, unions have to accept that it will be difficult to maintain past levels of employment. At the same time, it is the role of the unions to push for improvements in the policies for the labour marketplace, in order to find a balance between flexibility and security, sometimes described as “flexicurity”. The lack of



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coordination at a European level can in this aspect reduce Europe's ability to counter the crisis.

Source: Roundtable discussions 21st May, 2009

### **3.5.5 The role of government**

The risks related to government interference are among a range of issues connected to the micro-management of companies. In the example of Saturn, the contract between the unions and management was only 18 pages long; in comparison, GM's contracts often exceed 1,000 pages. The Saturn contract included a commitment by unions and management to jointly solve problems on a continuous basis. However, this form of problem solving is not sufficiently institutionalized. Thus, the Saturn model did not fail – but was destroyed by bad leadership.

The US Government has committed nearly \$40 billion to assist the automotive industry (half of which is in the form of direct loans to Chrysler and GM) and another \$5 billion to supplier support programmes, and has also set up community assistance programmes to intervene in regions that are subject to difficulties as a result of the restructuring of the industry. The debate is whether this is too much or too little support.

Most previous government assistance has been to ease unevenness in the equilibrium, not to restructure the whole sector. But now, a new equilibrium needs to be defined. This constitutes one of the main challenges. In the way the governments are getting involved, they are also assuming responsibility for the outcomes of their actions. The risk arising from government support is that companies will continue to build cars for a market where there is no demand for what is being produced.

In France there is restricted space for political actors. The French Government has an implicit collaboration with the companies not to close any plants in exchange for public funds. This implicit collaboration does not take into account the likelihood that companies will close down anyway, sooner or later. Other types of long-term commitment, such as agreements on the types of cars to be produced in the future, would possibly be more useful. The actions taken by the French Government have, among the surrounding actors, been regarded as protectionism. Furthermore, the French scrappage scheme has not had a strong positive impact, at least not in the long term; people have swapped their old cars for cheap new cars manufactured outside Europe.

In France many of the stakeholders, aside from the major companies, have difficulties making inputs in the restructuring of the industry. Another country-specific problem for France is the fact that the two main car makers in France do not share the same view of the crisis in industry, and does not manage to develop equal solutions to the problems; one is focusing on short-term solutions, and the other does not recognize the change in the industry, sticking to the belief that the market will come back – playing a passive role in order to wait out the crisis. In both cases the long term plans are missing.

*Professor B. Jullien, Roundtable discussions, 21 May 2009*

In the case of Italy, the Government is highly restricted on giving money to the automotive industry. The general government policy is that no plant must be shut down; only a crisis putting a company at severe risk of closure would constitute a valid reason for giving government support. In Italy, there is no collaboration between the Government and companies, and unions mainly stand aside.

The actions taken by the Chinese Government include a cut in sales tax on smaller cars, from 10 per cent to 5 per cent, a policy that is valid only during 2009. Another recently introduced policy is the increased consumption tax on vehicles with larger engines. There are two critical aspects of these new policies. First, the Government's

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institutional purchase still constitutes the major part of the consumption, and in this aspect it is not enough with the consumption tax. The policy needs further development and to be extended in order to encourage people to buy smaller vehicles, and so that people buying big cars will have to pay more. The second aspect is fuel efficiency. China has published regulations for passenger cars stating the need to achieve fuel efficiency standards. These policies have proven to be much more effective than the tax cuts.

The Chinese Government also recently implemented a fuel tax. Such a policy includes some risks, since China is not urbanized and rather need to rely more on mass transportation systems.

The Chinese domestic market continues to be the subject of a standing regulation, which is limiting the business of foreign multinational corporations. As a result, a number of national companies have grown into strong players and so the external multinationals are no longer threatening the domestic industry.

The measures taken by the Brazilian Government include tax cuts. Brazil has a tax system with federal and regional VAT and a property tax on vehicles. The regional VAT and property tax depend on the type of vehicle and the type of fuel used. Engines that consume petrol only pay more than flex-fuel (dual-fuel) engines, and small cars are exempt from VAT. In the case of Brazil, the link between availability of public funds and commitments on the preservation of jobs or investment in R&D needs to be further elaborated.

The cultural differences between the US, European, Chinese, Japanese, Indian and Brazilian automotive industries are a fact. However, global competitiveness applies to all, and needs to be faced and dealt with. Due to the crisis, the trend towards further consolidation of car manufacturers will be accelerated. The 18 or so global car manufacturers (groups) in the three old core automobile regions – the United States, Western Europe and Japan/Korea – will be significantly reduced in number over the next five years. Important survival factors will be: ability to reduce costs, critical size (global automotive group), financial performance, innovativeness and strategic positioning. One has to bear in mind that the old OEMs will be challenged by a few upcoming global Chinese- and Indian-based car manufacturers. The consolidation of car manufacturers and the rising relevance of China and India will also have harsh impacts on employment in the German automotive sector.

An area that to a large extent has been neglected is the environmental aspects and the “green car”. The industry needs restructure in order to make hydrogen fuel available. For the plug-in vehicle engineers claim vast changes are needed in both production and delivery of the electricity. There are some bigger engineering and economical problems that needs to be resolved with regard to these matters.

*Professor J. Kwoka, Roundtable discussions, 21 May, 2009*

Critiques of the automotive industry describe the industry as inward looking; in the future, it needs to look for ideas and innovations from the outside, in order to adapt them and absorb them into the industry. There is a need for the industry to learn from interactions and to institutionalize knowledge sharing. It is essential to integrate longer term strategic thinking into the automotive industry, and to involve all social partners.

The crisis in the automotive industry is not only an outcome of the financial crisis, but also a quest for a new model of sustainability for the industry. If the crisis in the automotive industry was just a result of the credit crunch, waiting until growth picks up again would be enough to manoeuvre through. There would be no need to restructure and rethink products and strategies. However, the crisis has structural causes and is linked to the exploration of alternative economic models.

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The key role of the ILO is now to address the issues posted during these roundtable discussions, by linking the information and expertise to the tripartite structure of the ILO. Linking the analysis of the automotive industry to the regular ILO tripartite format will provide the opportunity to benefit fully from the expertise provided. There is a need to keep, and to elaborate, the knowledge network formed during this roundtable, and to encourage further support to the tripartite decision-making process.

The restructuring of the automotive industry will bring both new winners and new losers. The production will shift to new auto zones, and new fuel-efficient vehicles can potentially lead to a new boom in vehicle sales. The final questions with regard to the crisis and the future of the automotive industry are which companies and countries will be able to take best advantage of the industry's new opportunities, and how this can be done as a joint collaboration between all social partners.



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## **A Look at the Crisis in Selected Countries**

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## The Australian automotive industry

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## Executive Summary

This report provides an overview of the Australian automotive industry and focuses on its importance to the Australian economy and the extent to which recent trends have impacted upon automotive employment.

The Australian automotive industry is responsible for the employment of over 64,000 Australian workers in the vehicle-manufacturing sector alone and impacts greatly upon employment in the wholesale and retail automotive industry sectors.

The report will focus on the experiences and employment practices of the three local motor vehicle producers (MVPs) in Australia (Toyota, Ford and General Motors Holden) as they provide useful examples of the changing employment trends in the automotive industry and often influence employment practices in related industry sectors, particularly the component and retail industries. The report will also comment on the current state of the Australian automotive components sector and will show that the components sector remains highly dependent upon the local MVPs despite attempts to diversify its revenue base in recent years.

The report suggests that the Australian automotive industry provides a useful example of the way in which provides a useful example of how employment relations are shaped by a combination of global market pressures and local responses from governments, employers and unions.<sup>23</sup> Indeed, the report will argue that automotive employment in Australia can be largely explained by the intersection of intensified global competition, continuing structural reform and the ongoing provision of significant government assistance.

In reflection of this suggestion, the report will be structured as follows. The introduction will provide a brief history of the Australian automotive industry and will seek to highlight the historically high levels of protectionism and the subsequent attempts to reform the industry. The report will then detail the major structural changes experienced by the industry as a result of 20 years of structural reform. The size and nature of the automotive industry will be detailed with a focus on the importance of the automotive industry to the Australian economy and its influence on linked sectors within the Australia economy. The crucial role that government assistance continues to play within the Australian automotive industry will be made clear and it will be suggested that this has cushioned local MVPs and component manufacturers from the effects of structural reform, but that it has failed to prevent local MVPs from experiencing significant financial losses over the past five5 years. In this context automotive employment trends will be detailed and explained with a focus on the shift ofchanging employment practices to more precarious forms of employment in the context of the Global Financial Crisis (GFC).

<sup>23</sup> Russell D. Lansbury, Jacob Saulwick and Chris F. Wright, "Globalization and Employment Relations in the Australian Automotive Industry", in *Globalization and Employment Relations in the Auto Assembly Industry: A study of seven countries*, ed. R. Blanpain, Kluwer Law International, 2008, p. 1.

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# 1. The Australian Automotive Industry

## Introduction

The Australian automotive industry has a long history, beginning shortly after the advent of the automobile. The first 50 years of the Australian automotive industry were characterized by the importation of foreign components, local body building and extensive local assembly. As there were no whole production facilities during this time, early automotive employment consisted of a small number of component manufacturers and assembly firms. However, this changed as a result of post-WWII difficulties in sourcing foreign motor vehicles and also as part of the wider post-war industrialization of Australia. In the late 1940s, with the strong support of the Australian government, General Motors Holden expanded its Australian operations to full process production. Since then, a number of foreign automotive manufacturers (such as Ford, Toyota, Mitsubishi, Austin, Morris, Standard, Rootes, Rover, Volkswagen and Chrysler) have engaged in motor vehicle production and assembly within Australia to varying degrees.

Strong state intervention has been a key feature of the Australian automotive industry since moving to whole-vehicle production. Any attempt to assess the current state of the automotive industry in Australia must appreciate the traditionally high levels of protectionism and the subsequent attempts to reform the industry over the past 20 years. These reforms are ongoing and have continuing ramifications for local automotive employment. This is particularly the case in a context in which local MVPs have experienced significant financial losses and declining share of the domestic product market over the past five years.

Whilst the Hawke Labor government in the early 1980s instigated the industry reforms, subsequent Australian governments have continued to provide significant support to the industry in non-traditional forms of assistance, such as through R&D finance, investment schemes, purchasing plans and specific labour packages. This has had the effect of cushioning some of the effects of restructuring and has also encouraged foreign-owned MVPs to continue their operations within Australia despite significant financial losses.

The following sections will detail the major structural reforms to the industry in recent years, production trends over the past decade, the current size and importance of the automotive industry to the Australian economy, and the nature of current government assistance, to the extent that these factors explain and also present challenges and opportunities to automotive employment in Australia. The report will then profile current employment and workplace trends in the Australian automotive industry. With these factors in mind, the report will assess the impact of the Global Financial Crisis (GFC) on the Australian automotive employment.

The report will ultimately suggest that, whilst ongoing structural reforms and the GFC continue to provide significant challenges for the Australian automotive industry, the three local MVPs have been largely protected from these events by significant Government assistance and partnerships.

## 2. Major Structural Changes in the Automotive Industry

The Australian automotive industry has undergone major structural reforms over the past 20 years and these reforms have largely focused mainly on the removal of tariffs,

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import quotas and other forms of local protectionism in order to increase the competitiveness of the Australian industry and encourage foreign investment in Australian manufacturing.

Protection of the local automotive industry began in the 1960s when the Australian Government introduced “industry plans” which enticed foreign-owned carmakers to establish manufacturing facilities within Australia. However, subsequent plans required MVPs to commit certain models to 95 per cent Australian content, while and later plans introduced in the 1970s sought to end low Australian content assembly altogether.<sup>24</sup> This forced a number of foreign manufacturers to abandon high volume production within Australia. Increased international competition and the oil shock of the 1970s saw the remaining MVPs in Australia suffer significantly from drastically reduced exports and a flooding of the local market with foreign imports. This led to greatly increased quotas and tariffs being placed on imported vehicles in order to protect the local industry and jobs.<sup>25</sup> The quota on foreign imports was capped at 20 per cent of total domestic market numbers in 1975 and the tariffs on imported vehicles gradually increased throughout the 1970s, reaching a high of 57.5 percentper cent in 1978.<sup>26</sup> High levels of protection continued into the mid-1980s.

In 1984 the Hawke Labor Government introduced the Passenger Motor Vehicle Plan (commonly known as the “Button Plan” after the then Minister for Industry, Senator John Button), which sought to restructure the automotive industry through reshaping both structural and production aspects of the industry. The goals of the Button Plan aimed were to reduce the industry’s dependence on protectionism and state assistance, improve productivity and facilitate closer linkages between the MVPs and their foreign parent companies. In practical terms, this included ending the import quota system by 1992 (although this was later brought forward to 1988 due to rapid depreciation of the Australian dollar) and a 20 percentper cent reduction in import tariffs by 1992.<sup>27</sup> Button was well aware of the rationalization effects that this would have on the industry and sought to soften the impact by offering retrenched workers compensation packages and promising the relevant unions better “quality” jobs for the remaining workers.<sup>28</sup> This “quality” was to come as a result of the rationalization of production lines and models from 13 models in eight factories in 1984 to a goal of six models in three factories by the mid-1990s.<sup>29</sup> Only four of the MVPs (Toyota, Ford, Holden and Mitsubishi) survived the rationalization and continued to be the only MVPs in Australia until early 2008, when Mitsubishi ceased local production.

<sup>24</sup> Australian Automotive Intelligence, *Australian Automotive Intelligence Yearbook 2009*, Victoria, St. Kilda, 2009, pp. 6-9.

<sup>25</sup> Ibid.

<sup>26</sup> Productivity Commission, *Review of Automotive Assistance: Inquiry Report*, The Commonwealth of Australia, Canberra, 2002, p. 278.

<sup>27</sup> Colon, R. and Perkins, J., *Wheels and Deals: The Automotive Industry in Twentieth-Century Australia*, Aldershot: Ashgate Publishing, 2001, p. 136.

<sup>28</sup> Byran, D., “Interview with John Button”, in *Journal of Australian Political Economy*, 1997, Vol. 30, p. 11

<sup>29</sup> Lansbury, Saulwick and Wright, op cit, p. 15.

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Restructuring of the automotive industry stalled somewhat under the Howard Liberal-National coalition Government from 1996-2007. Despite having a strong neo-liberal agenda (particularly in the realm of employment relations), the Howard government appeared not to have had a clear strategy for the Australian automotive industry. However, it did continue with structural reforms, holding tariffs at 15 per cent from 2000 to 2004 but then reducing them to 10 per cent in 2005. Yet MVPs in Australia were cushioned from reducing tariffs during this time by the introduction of the Automotive Competitive and Investment Scheme (ACIS), which allowed MVPs to receive duty-free credits and concessions on imports in return for local investment. This was a planned strategy to help the industry cope with the reduction in tariffs.<sup>30</sup> Indeed, the dual existence of tariff reductions on the one hand and continuing government assistance on the other has been a key theme of the Australian automotive industry over the past 20 years.

Government-led restructuring of the automotive industry continues today, albeit in at a much slower pace, with a planned reduction in tariffs on imported vehicles from the current 10 per cent to 5 per cent by January 2010, which will leave Australia with the third-lowest tariffs of any major automotive-producing economy.<sup>31</sup> A recent government report on the Australian automotive industry suggested that restructuring of the automotive industry would continue beyond 2010, resulting in further rationalization and consolidation of the automotive industry.<sup>32</sup> However, the report also strongly recommended significant ongoing government assistance for the industry, which could continue to mitigate the impact of such restructuring as well as potentially shielding MVPs and Australian automotive workers from the effects of the GFC. This dual policy, explored below, can have unpredictable effects on automotive employment as restructuring has the tendency to rationalize and reduce employment in some areas, whilst ongoing government assistance creates and protects jobs in others.

### **3. Size and Nature of the Australian Automotive Industry**

The current Australian automotive market is relatively open and competitive by world standards.<sup>33</sup> In 2009, there were over 40 automotive companies competing in the domestic passenger vehicle market, with over 60 models on offer for domestic purchasers.<sup>34</sup> In contrast to the large number of importers, only three automotive companies manufacture vehicles locally, namely, The three local MVPs, are Toyota Motor Corporation Australia (Toyota), Ford Motor Company of Australia (Ford) and General Motors Holden (Holden). All three are wholly foreign owned and operate whole production processes in select regions of Australia. Until recently, Mitsubishi also manufactured vehicles in Australia but ceased production in February 2008 following a long period of financial difficulties and despite considerable government assistance. Mitsubishi remains in the Australian market as an importer of vehicles.

<sup>30</sup> The Honourable Steve Bracks, *Review of Australia's Automotive Industry: Final Report 22 July 2008*, The Commonwealth of Australia, Canberra, 2008, p. 92.

<sup>31</sup> Ibid p. 1.

<sup>32</sup> Bracks, op. cit.,

<sup>33</sup> Based on very low production-to-sales ratios of automotives producing countries, Ibid, p.9, Table 1.1.

<sup>34</sup> Ibid.



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Motor vehicle production in Australia by the three MVPs is concentrated in a small number of regions in the states of South Australia and Victoria. Toyota manufactures both vehicles and engines in Altona (Melbourne, Victoria); whilst Ford has an assembly plant in Broadmeadows (Melbourne, Victoria) and a component and engine plant in Geelong (Victoria). Holden has an engine plant on the same site as its administrative headquarters in Fisherman's Bend (Melbourne, Victoria) but manufactures vehicles in Elizabeth (Adelaide, South Australia). Such concentration of production facilities in a small number of regions by all three of the MVPs has significant ramifications for employment prospects and opportunities in the relevant communities. They are considered below in the context of employment in the Australian automotive industry. The three MVPs also have substantial research and development (R&D) capabilities, with Ford and Holden each employing approximately 1,000 personnel in their respective design and engineering facilities. Toyota has similar facilities which operate on a smaller scale and employ approximately 100 personnel.

In addition to the MVPs, component suppliers constitute a large proportion of the Australian automotive industry. The exact number of component manufacturers can be difficult to quantify at any given time but it is estimated that there are currently over 200 component manufacturers operating in Australia which employ 41,000 people, amounting to over 60 per cent of total automotive employment in Australia.<sup>35</sup> All three of the MVPs maintain strong supply links with the Australian component manufacturers. In 2006, MVPs in Australia sourced 75 per cent of their components (\$4.6 billion) from Australian component manufacturers.<sup>36</sup> This dependence of local component suppliers on local MVPs is illustrated in Figure 1 below. However, a recent Government report into the Australian automotive industry noted evidence that this relationship is being threatened by competition from foreign component manufacturers.<sup>37</sup> Indeed, the report found that since 1994 component imports have increased by 74 per cent.<sup>38</sup> From 2004 to 2006, component sales to local MVPs fell by 33 per cent and those to foreign MVPs were also down by 40 per cent.<sup>39</sup> Further, the three MVPs in Australia have increasingly tended to award only short-term contracts to component producers, undermining their long-term financial security.<sup>40</sup> The report suggested that up to one-third of the Australian component manufacturers were at risk of exiting the industry in 2008,<sup>41</sup> an assessment which preceded the GFC.

Together the vehicle manufacturers and automotive component suppliers accounted for around \$4.7 billion of Australian export earnings in 2007, making the industry one of Australia's top ten export earners and the largest Australian manufacturing export earner.<sup>42</sup>

<sup>35</sup> Federation of Automotive Product Manufacturers, *Submission to the Automotive Review*, 2008, May, p. 55.

<sup>36</sup> Department of Innovation, Industry, Science and Research, *Key Automotive Statistics 2007*, DIISR, Canberra, 2008, p. 22.

<sup>37</sup> Bracks, *op. cit.*, p. 12.

<sup>38</sup> *Ibid.*

<sup>39</sup> Federation of Automotive Product Manufacturers, *op cit.*, p. 40.

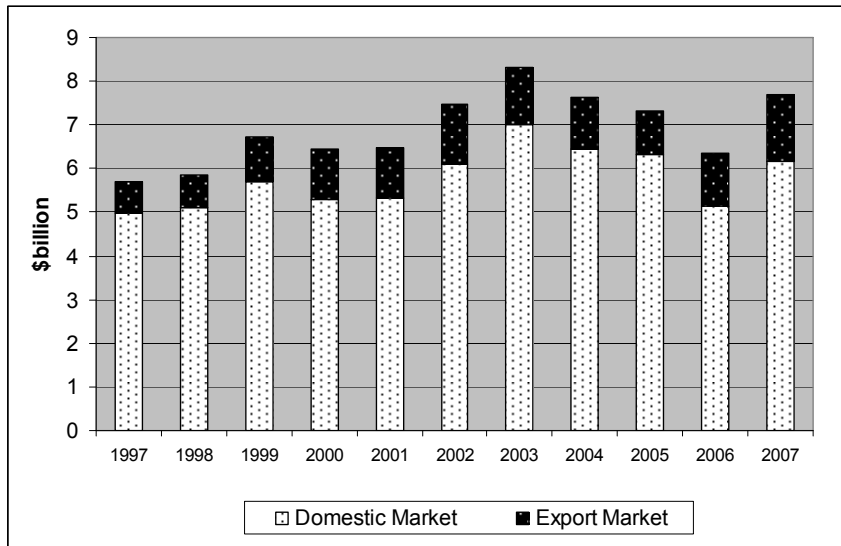
<sup>40</sup> Bracks, *op cit.*, p. 12.

<sup>41</sup> *Ibid.*

<sup>42</sup> *Id* at p. 9.

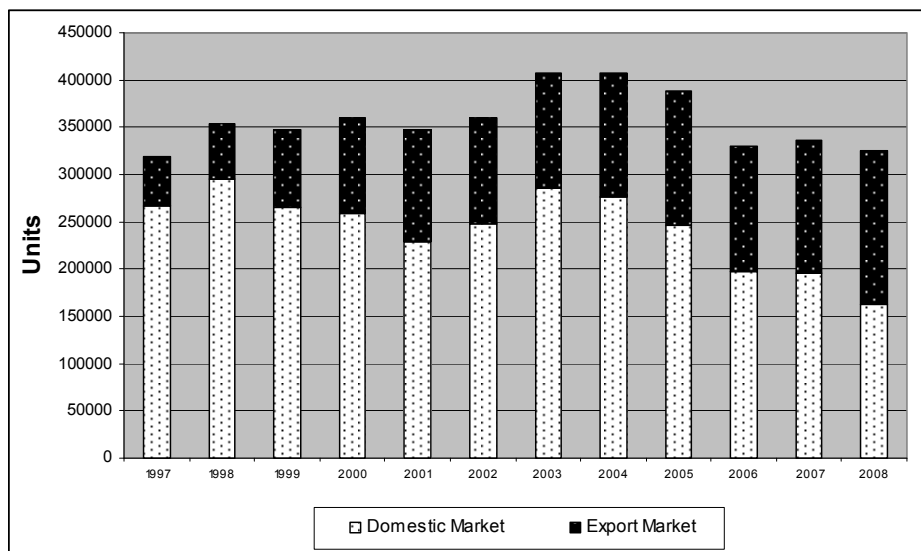
Indeed, automotive manufacturing in Australia in recent years has generated greater export revenues than more traditional export industries such as wine, wool and wheat, illustrating the importance of automotive manufacturing to the Australian economy.<sup>43</sup> Total production (units) of locally produced Passenger Motor Vehicles (PMVs) for both local and export markets is detailed in Figure 2. The significance of the Australian automotive industry to the Australian economy is further reflected in its importance to the Australian labour market as discussed in detail below.

**Figure 1. Local and export sales of Automotive Component Manufacturers\***



Source: Department of Innovation, Industry, Science and Research, Key Automotive Statistics 2007, DIISR, Canberra, 2008, p. 22, Table 11.  
 \*This graph represents local and export sales of member companies of the Federation of Automotive Products Manufacturers (FAPM).

**Figure 2. Production (units) of locally produced PMVs and PMV Derivatives**

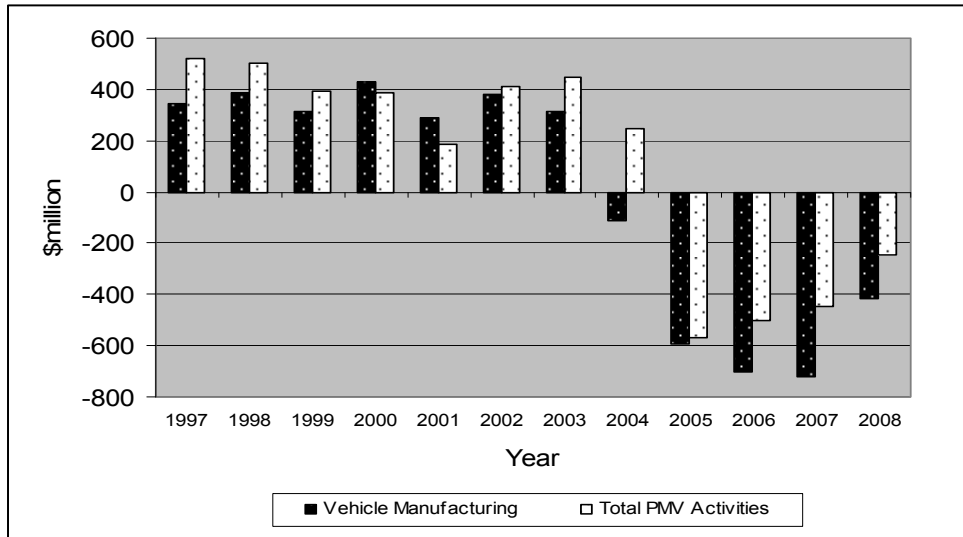


Source: Department of Innovation, Industry, Science and Research, Key Automotive Statistics 2008, DIISR, Canberra, 2009, p. 22, Table 8.  
 PMV derivatives include Light Commercial Vehicles that are based on PMV platforms.

<sup>43</sup> Id at p. 14.

Despite the outperformance of more traditional export industries, MVPs in Australia have been characterized by significant financial losses over the last five years. Although Toyota has generally performed better than Holden and Ford, it has also recently reported financial losses caused by a combination of increased global competition, appreciation of the Australian dollar eroding the protectionist effects of import tariffs, continued structural change, rising fuel prices and changing consumer tastes.<sup>44</sup> The profit performance of the local MVPs over the past ten years is illustrated in Figure 3 below.

**Figure 3. Local MVP Profit Performance, 1997-2008**

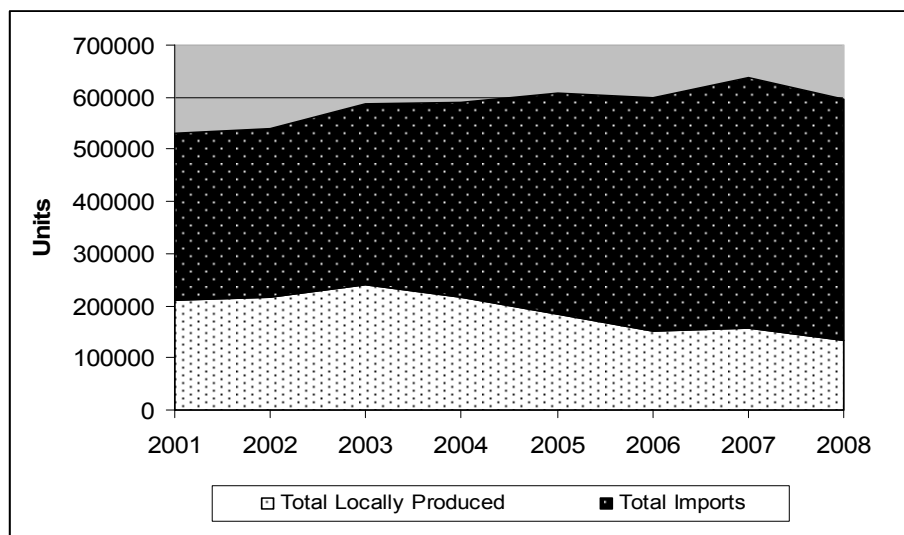


Source: Department of Innovation, Industry, Science and Research, Key Automotive Statistics 2008, DIISR, Canberra, 2009, p. 27, Table 23. Vehicle Manufacturing includes profit before tax (current prices) of GM Holden, Ford Australia, Toyota Australia and Mitsubishi Australia. Total PMV activities include PMV manufacturing, sales of imported PMVs, sales of imported components as parts and accessories and component production for local sale and export.

The market share held by local MVPs has reduced considerably over the past decade, causing them great concern because, although exports increased under the effects of the Button plan, up to 80 per cent of local vehicle production is still sold domestically. The local and foreign shares of the domestic market are depicted below in Figure 4 below.

<sup>44</sup> Id at 13.

**Figure 4. Locally Produced and Imported Passenger Vehicle Sales in Australia 2001-08**



Source: Department of Innovation, Industry, Science and Research, Key Automotive Statistics 2008, DIISR, Canberra, 2009, p. 19, Table 4.

Holden recently announced a return to small vehicle manufacturing (after ceasing small car operations during implementation of the Button Plan) and both Holden and the Australian Manufacturing Workers Union (AMWU) hope that this will allow them to regain larger shares of the domestic market as Australian consumers shift their preferences towards more fuel-efficient and environmentally friendly models. However, profit margins on small cars are significantly lower than those on larger passenger vehicles and may not deliver the revenue increase that Holden is hoping for. Further, Australian consumers may desire fuel-efficient cars but they have traditionally preferred family-sized cars, as evidenced by the current production lines of the three MVPs. Perhaps as a reflection of this, Ford had also planned to produce the Focus (a small passenger car) from next year, however it has since decided instead to produce a fuel-efficient engine in partnership with the Australian government under a \$230 million green engine initiative.<sup>45</sup> Ford has stated that it expects no jobs to be lost as a result of this change in production plans.<sup>46</sup> Holden may be hedging its bets, as it also has plans to produce an Australian-made fuel-efficient V6 engine for its larger Commodore model.<sup>47</sup> Though not in partnership with the Australian Government, Holden receives Government support under the *New Car Plan for a Greener Future* scheme. Similarly, Toyota has plans to produce a hybrid model in Australia from 2010 in order to respond to the Australian consumer preference for a family sized, fuel-efficient car.<sup>48</sup> These production plans may assist the three local MVPs to regain a greater share of the domestic market in the near future.

<sup>45</sup> The Honourable Kim Carr, “Governments partner with Ford on new green engines”, Press Release, Ministers for Innovation, Industry, Science and Research, 24 July 24 2009.

<sup>46</sup> Ibid.

<sup>47</sup> The Honourable Kim Carr, “Holden Introduces a new green engine”, Press release, Ministers for Innovation, Industry, Science and Research, 4 August 4 2009.

<sup>48</sup> Yoshio Takahashi, “Toyota Set to Build Hybrid in Britain”, in *The Wall Street Journal*, 20 July 2009.

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### 3.1 Links to other Sectors of the Australian Economy

The Australian automotive industry also has significant links to other sectors of the economy, including the aftermarket manufacturing sector, the retail, service and repairs sector, and the advanced manufacturing sector.<sup>49</sup> The automotive aftermarket sector supplies parts and accessories to the independent automotive aftermarket (outside of MVPs channels) and also to the original equipment automotive aftermarket (parts and accessories distributed through MVPs and their dealer networks).<sup>50</sup> The sum of the Australian Automotive Aftermarket Association membership suggests that this sector currently employs around 30,000 people beyond those represented in the automotive industry statistics. The automotive retail sector distributes Australian-made vehicles as well as imported vehicles to domestic purchasers. There are over 1000 car dealers in Australia, with over 52,000 employees in this sector.<sup>51</sup> The advanced manufacturing industry provides design, tooling, manufacturing technology and equipment to the manufacturing sector, including the automotive manufacturing industry.<sup>52</sup> This sector is integral to the growth and development of the automotive industry and currently employs approximately 12,000 people. The truck and bus sector also relies heavily on component manufacturers and R&D knowledge and skills of the light car automotive industry in order to manufacture locally.

The automotive industry also has strong links to the education sector, particularly with those institutions (such as schools, Technical and Further Education providers, and universities) that provide manufacturing and engineering qualifications, and has established industry-specific links with training providers. The current Rudd Labor Government is strongly focused on increasing the skills of Australian workers under its “Education Revolution” policy, which includes plans for increased numbers of skilled workers and stronger links between industry and education providers. This will further strengthen the link between the automotive industry and the education sector.

## 4. Government Assistance to the Industry

As detailed above, the Australian automotive industry has a long history of government assistance and protectionism. Considerable progress has been made toward making the Australian automotive industry more open and competitive via the removal of tariffs and other protections, but this has not signaled a decrease in government assistance to the industry but rather a shift in the nature of assistance provided. Whilst traditional forms of government support were provided through tariffs and quotas on imports, the primary form of assistance currently given to the automotive industry is through R&D grants such as the “Green Car” industry fund, investment incentives and labour support packages.

The level of industry assistance is high compared with other Australian industry sectors. In 2006-07 motor vehicle and component manufacturing received combined budgetary and tariff assistance of \$1.3 billion or approximately \$4,000 per vehicle

<sup>49</sup> Bracks, op cit, p. 13.

<sup>50</sup> Ibid; Australian Automotive Aftermarket Association, *Submission to the 2008 Automotive Review*, 2008, p. 6

<sup>51</sup> Bracks, op cit, p. 13.

<sup>52</sup> Bracks, op cit, p. 13.

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manufactured domestically.<sup>53</sup> Only the food, beverage and tobacco sector received more assistance in absolute terms.<sup>54</sup> Another measure of government assistance to the industry is the net assistance relative to the automotive industry's contribution to the economy. Under this measure, the effective rate of contribution was approximately 12.2 per cent<sup>55</sup> in 2006/07, the fourth highest amongst all Australian industries.

The reasons for such high levels of government support are varied. The most obvious is to help the industry adjust to the effects of ongoing structural reform and, in particular, to avoid the loss of automotive jobs. Second, the industry vicariously supports other sectors of the economy to which it is linked. Finally, spillover effects, such as R&D, skills development and business networking, have important, albeit less tangible, effects upon the Australian economy.

Current government assistance measures include a 10 per cent tariff on imported cars and most components, and the ACIS. Under the ACIS, MVPs earn duty credits based on percentages of the value of their car production (10 per cent) as well as their local investment in plants and equipment (10 per cent) and R&D investment (up to 45 per cent with an industry cap of \$150 million). MVPs use these duty credits to offset the import tariffs on imported vehicles. Component manufacturers also receive similar assistance but this is restricted to investment (25 per cent) and R&D (up to 45 per cent). Total industry assistance under the ACIS is capped at \$2 billion for the five-year period from 2006 to 2010. From 2010 the ACIS will be replaced by the Automotive Transformation Scheme (ATS). Changes include assistance at 5 per cent of the value of car production, provided in grants instead of duty credits, and uncapped assistance extended to vehicles produced for both the domestic and export markets. Total assistance under the ATS will be capped at \$1.5 billion from 2010 to 2015, with a reduction to \$1 billion from 2016 to 2020.

The recently announced Green Car Innovation Fund aims to encourage research, development and commercialization of fuel-efficient and environmentally friendly vehicle technology. The funding for this project is \$1.3 billion over five years and ratios of funding are tied to MVP investment. This fund will be a key source of assistance for the industry over the next five years and will cushion the effects of the January 2010 reduction in import tariffs from the current 10 per cent to 5 per cent. A number of projects (some of which are mentioned above) have already been initiated under this scheme, including Holden's production of the Cruze, Ford's green engine partnership with the Federal Government, and Toyota's production of a hybrid vehicle from 2010.

Government support for automotive jobs is especially evident in the labour assistance packages, many of which were in response to Mitsubishi redundancies up until its eventual withdrawal from local manufacturing in February 2008. In May 2004, Mitsubishi closed its Lonsdale engine plant in South Australia and reduced its workforce at its Tonsley Park plant. The Howard Government responded by announcing a \$10 million labour adjustment package to assist the retrenched workers, with smaller amounts of assistance continuing in the following two years. In February 2008, Mitsubishi announced the closures of its remaining South Australian operations. The Federal and South Australian Governments responded with a combined \$50 million package to support retrenched workers (\$10 million worker assistance and \$40 million to strengthen South Australia's manufacturing base where many of the workers resided). Holden employees also received assistance in

<sup>53</sup> Productivity Commission, *Trade and Assistance Review 2006-07*, Annual Report Series, Productivity Commission, Canberra, 2008, Table 2.7, p. 216.

<sup>54</sup> Ibid.

<sup>55</sup> Ibid.

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2005 when a section of the Elizabeth plant was closed, resulting in the loss of 1223 jobs (\$10 million package). The most recent labour assistance occurred in April 2009 when the Federal government agreed to pay for training for shift workers on down time after the Holden plant dropped to one shift with two alternating crews at its Elizabeth plant. The government has also provided direct financial assistance to Holden in order to prepare its Elizabeth plant to produce the Cruze (a small car) from 2010 and to maintain its production workforce until this occurs.

Additional government support to local MVPs is through the purchase of locally manufactured vehicles. In 2007, government purchasing of locally produced vehicles amounted to 19 per cent of total Australian-made vehicle sales.<sup>56</sup> The Australian government has also recently supported small businesses to purchase new assets (including new vehicles) by offering a 50 per cent rebate where these assets are purchased before 30 June 2009. Anecdotal reports suggest that this rebate has stimulated new car sales during the GFC.<sup>57</sup>

The Government has also actively supported the industry by forming official trade teams that have sought to explore and secure global export markets that would be beneficial to local MVPs.<sup>58</sup> Further assistance measures include an Automotive Supply Chain Development Program and the establishment of an Automotive Industry Innovation Council that will coordinate the restructuring of the industry.

## **5. Employment in the Australian Automotive Industry**

A comparison between automotive employment figures in the early 1990s and in recent years would suggest relative stability over the past 15 years. However, closer analysis reveals that automotive employment numbers have fluctuated slightly during that period, reaching a high of 69,800 employees in 2003/04 and settling to 67,385 employees in 2006/07. Figure 5 below details employment figures from the mid-1990s to 2006/07.<sup>59</sup> It should be noted that these figures do not take into account the estimated 4,413<sup>60</sup> job losses experienced as a result of the withdrawal of Mitsubishi from local manufacturing in 2008.

<sup>56</sup> Bracks, op cit, p. 11.

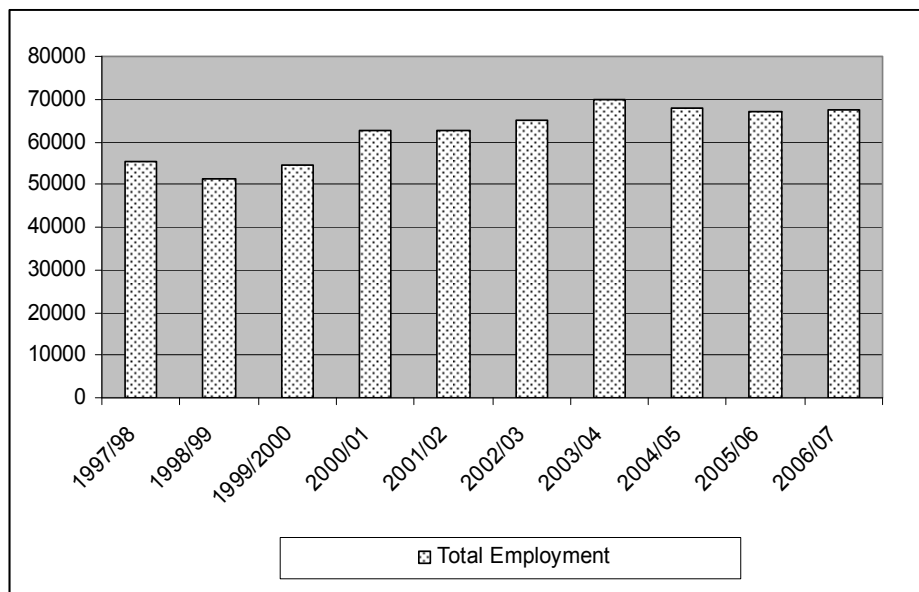
<sup>57</sup> Stuart Innes, "Sales Up as Dealers Set for Cruze Control", in *The Advertiser*, 30 July 2009.

<sup>58</sup> The Honourable Kim Carr, "Automotive Industry Envoys Announced", Press Release, Ministers for Innovation, Industry, Science and Research, 23 July 23 2009.

<sup>59</sup> The 2006/07 figures are the latest official figures available for employment in the Australian Automotive Industry.

<sup>60</sup> Department of Education, Employment and Workplace Relations, *Review of Australia's Automotive Industry*, DEEWR, May 2008, p, 28.

**Figure 5. Australian Automotive Industry Employment**



Source: Department of Innovation, Industry, Science and Research, Key Automotive Statistics 2008, DIISR, Canberra, 2009, p. 29, Table 21. These figures are based on the Australian and New Zealand Industrial Classification Code (ANZIC) 2006, 231 which includes Class 2311 (Motor Vehicle Manufacturing); Class 2312 (Motor Vehicle Body and Trailer Manufacturing); Class 2313 (Automotive Electrical Component Manufacturing); and Class 2319 (Other Motor Vehicle Parts Manufacturing).

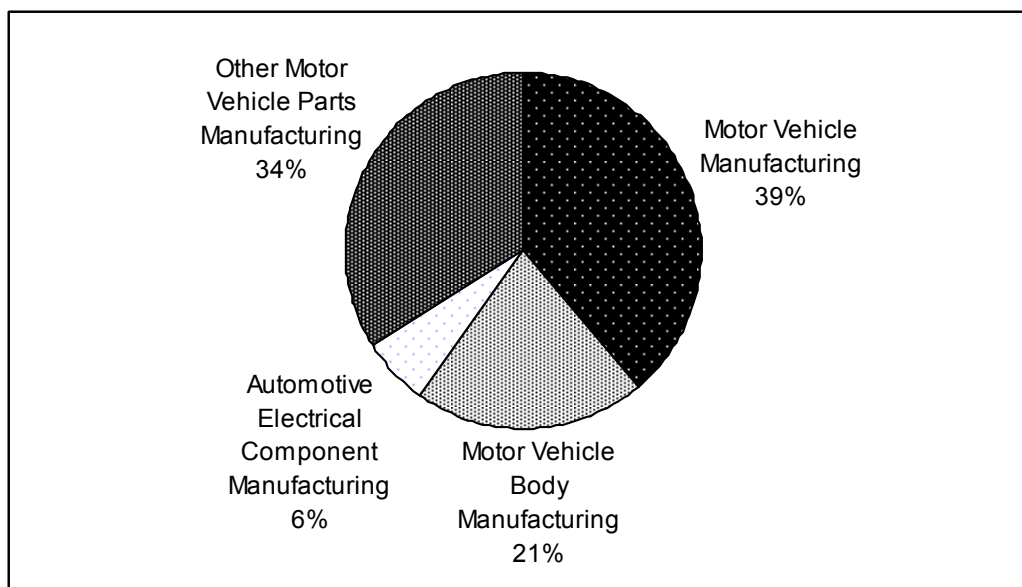
Whilst absolute automotive employment figures have remained relatively stagnant from the beginning to the end of the last decade, other sectors of the economy have increased their overall share of the Australian labour market. Indeed, the manufacturing sector's share of total employment has fallen from 14.2 per cent to 10.5 per cent over the last 15 years.<sup>61</sup> This suggests that, whilst long-term employment figures in the Australian auto-industry have remained stable, the industry's share of total employment in Australia has decreased. This was partly due to the closure of the Nissan plant in 1992, the closure of various Mitsubishi operations over recent years, and Holden's decision in 2005 to make a quarter of its workforce redundant. Yet it is also indicative of the increased pressure on the Australian industry from import competition. Furthermore, the above employment figures do not yet account for the loss of jobs following Mitsubishi's total cessation of manufacturing in February last year.

In 2006/07 local MVPs employed 39 per cent (26,135) of total automotive workers; when combined with motor vehicle body manufactures (14,322), these two industry sectors account for over 60 per cent of industry employment. Component manufacturers employ 37 per cent of industry workers, slightly less than the MVPs, and the remaining 6 per cent of automotive workers are located within the automotive electrical and instrument manufacturing sector. Thus, MVPs and motor vehicle body manufacturers account for the majority of automotive employment but the component manufacturers are also significant employers within the industry. The key difference between the industry sectors is the ratio of employers to workers: the three MVPs employ over 25,000 automotive workers, while the 200-plus component manufacturers employ approximately the same number. This may influence the extent to which workers in the varying industry sectors are covered by collective agreements and comparable employment conditions.

<sup>61</sup> Department of Education, Employment and Workplace Relations, *Review of Australia's Automotive Industry*, DEEWR, May 2008, at p. 7.



Figure 6. Automotive Industry Employment by Industry Sector, 2006/07



Source: Department of Innovation, Industry, Science and Research, Key Automotive Statistics 2008, DIISR, Canberra, 2009, p. 19, Table 4. These figures are also based on the Australian and New Zealand Industrial Classification Code (ANZIC) 2006: 231.

In 2007, the median age of workers in automotive industry was 40 years,<sup>62</sup> very close to the Australian industry average. Figures suggest that the average age of the automotive industry workforce will continue to rise over the next decade, in line with Australia's aging workforce and demographics. This may impact on older workers who are retrenched as current research indicates that older workers are at greater risk of long-term unemployment. The automotive industry features a higher percentage of migrant labour (27.7 per cent in 2008) compared with both the manufacturing average of 21 per cent and the average across all Australian industries of 15 per cent in the same year.<sup>63</sup> As mentioned earlier, employment in the automotive industry is largely concentrated in a very small number of regions within the states of Victoria (primarily around Melbourne) and South Australia (Elizabeth). This is particularly the case for the three MVPs (Toyota, Ford and Holden), which only operate facilities in these particular regions. This has significant ramifications for the local communities in these regional labour markets, both in terms of direct job opportunities and in terms of economic stimulus for the area.

The type of employment in the industry is also changing. Full-time employment in the industry is high by Australian standards but there is a growing shift towards more precarious forms of employment. Most employees in the industry are males in full-time positions. In the year to February 2008, 82.5 per cent of the total automotive industry workforce was comprised of full-time male workers as compared to an average of 46.7 per

<sup>62</sup> DEEWR, op cit, p. 9.

<sup>63</sup> Id at 11. It must be noted that the relevant data available on migrant labour in the industry is based purely on place of birth (in this case, persons born in Other Than Main English Speaking Countries) and does not reflect a migrant employee's length of residence in Australia, their employment status or their proficiency in the English language. Thus, a higher percentage of migrant labour may suggest increased labour risks for those workers (such as a higher chance of long-term unemployment if retrenched) but the extent of such risk would depend upon the factors mentioned above.

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cent for all industries.<sup>64</sup> Whilst male full-time employment in the industry was well above the Australian average, female full-time workers in the industry only made up 13.3 per cent of employment as compared with a much higher 24.9 per cent across all industries.<sup>65</sup> This data demonstrates that the Australian automotive industry is strongly male-dominated, characterized by high levels of full-time employment and very low levels of part-time employment (4.1 per cent) as compared to other Australian industries (where the average is 28 per cent). Despite these high levels of full-time employment, there is evidence of a shift towards more precarious forms of employment, considered in detail below.

## 5.1 Labour Regulation in the Australian Automotive Industry

Although enterprise bargaining was not on the Australian policy agenda until the early 1990s, the four MVPs have operated under separate enterprise awards since 1973 when the industry-wide award was abandoned.<sup>66</sup> Despite this, the enterprise bargaining agreements (EBAs) of the four MVPs remained relatively similar due to coordination between the employer and union groups.<sup>67</sup> Indeed, the EBAs were so similar that occasionally there were accusations of pattern bargaining (which is prohibited in Australia), accusations denied by both the employers and unions. This similarity began to change slightly throughout the 1990s as enterprise bargaining became more firmly established and some of the MVPs began to experience negative financial outcomes (particularly for Mitsubishi).

Current enterprise bargaining remains relatively coordinated, particularly as the AMWU now covers approximately 90 per cent of an almost 100 per cent unionized automotive workforce. It also remains coordinated due to a commitment from the three MVPs in their relevant EBAs to maintain the collective bargaining process. This was very important to the unions following the Howard government workplace reforms, which contained provisions for individual, non-union employment contracts known as Australian Workplace Agreements (AWAs) that had the potential to replace both awards and EBAs. Following the introduction of the *Workplace Relations Act* (1996) Cth,<sup>68</sup> awards could only cover a maximum of 20 employment matters; those beyond this were to be negotiated with individual employers in the form of an EBA and renegotiated every three years. Unusually, the awards which continue to apply to the automotive sector are “enterprise awards”, with each award applying to a specific MVP. This dual regulation of employment relations (that is, a common award supplemented by individual EBAs) is crucial for understanding the complex nature of employment regulation in the Australian

<sup>64</sup> DEEWR, op cit, p. 11.

<sup>65</sup> Ibid.

<sup>66</sup> Lansbury, Saulwick and Wright, op cit, p. 21.

<sup>67</sup> Ibid.

<sup>68</sup> Cth” refers to ‘Commonwealth’ which denotes a federal law that applies across Australia (i.e., across the Commonwealth of Australia), as opposed to a State law which only applies within a particular State. Employment in Australia has historically been regulated by State law but this changed in 2006 with the introduction of the *Workplace Relations Amendment (WorkChoices) Act* 2005 (Cth) amendments to the *Workplace Relations Act* 1996 (Cth). The current Act, the *Fair Work Act* 2009 (Cth), continues a federal system of workplace regulation, which regulates the vast majority of employment relationships in Australia.

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automotive industry.<sup>69</sup> Indeed, during the 2008 bargaining period, a consolidated EBA was agreed between Holden and the relevant unions that incorporated the award and all prior agreements for the first time.

Due to its dominance and representative power in the industry, the AMWU tends to set the bargaining agenda with all three MVPs. A study conducted by Lansbury et al (2006)<sup>70</sup> compared the EBAs of the four MVPs (Toyota, Ford, Holden and Mitsubishi) in order to assess the extent to which they converged or diverged on a range of employment issues. This useful analysis highlights the changes to workplace practices and security across the three MVPs. This is important not only for MVP employees but also for understanding the flow-on effects to other automotive employers (particularly component manufactures) due to the close supply linkages and just-in-time nature of the Australian automotive industry. As the Lansbury et al (2006) study is unique in the automotive industry, this report will focus on changing workplaces in MVPs as an indicator of the shifting workplace practices across the Australian automotive industry.

### **5.1.1 Hours, Wages and Remuneration**

In recent years, hours of work have been relatively constant across all MVP EBAs. A 38-hour week and a 19-day month are standard across the industry. There are only minor differences between the EBAs with respect to rostered days off and leave provisions.<sup>71</sup>

Wages were also relatively constant in the industry. Automotive wages were almost 20 per cent higher than the manufacturing average but generally lower than comparative wages in automotive industries in other developed countries. There was some variation between the wages of Mitsubishi employees and the employees of the remaining MVPs in the last decade but this was related to crisis measures to protect the company from ceasing local production (which, as previously mentioned, occurred in early 2008).<sup>72</sup>

Interestingly, none of the three MVPs has actively pursued performance-related pay provisions in recent years. Whilst the three relevant EBAs do contain varying performance provisions, these are generally linked to non-core payments or bonuses. Recent analysis has found that these provisions are often inconsistently applied and are usually of a short-term nature due to worker perceptions of unfairness and poor management of the schemes.<sup>73</sup> This inconsistency may also be explained by strong union reluctance to support remuneration schemes which would introduce competition amongst workers.

<sup>69</sup> Russell D. Lansbury, Chris F. Wright and Marian Baird, 'Decentralized Bargaining in a Globalizing Industry: The Automotive Assembly Industry in Australia', *Relations Industrielles/Industrial Relations*, Vol. 61, Issue 1, pp. 70-92, 2006

<sup>70</sup> Ibid.

<sup>71</sup> Lansbury, Saulwick and Wright, op cit, p. 25.

<sup>72</sup> Id at 26.

<sup>73</sup> Russell D. Lansbury and Marian Baird, 'Employment Relations and Restructuring of the Automotive Assembly Industry in Australia', *Bulletin of Comparative Labour Relations*, Vol 45, pp. 95-118.

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### **5.1.2 Work Organization in Australian Automotive Manufacturing Plants**

As Toyota is the dominant MVP in the Australian industry, lean production work processes have had a significant impact upon the way in which work is organized by the three Australian MVPs. Whilst Toyota's EBAs specifically refer to production systems arrangements and its employees are required to undergo formal training to familiarize them with its lean production systems, recent research found that Ford was perceived to have the "leanest" forms of production, with Toyota acknowledging that its processes could be "leaner".<sup>74</sup> Ford's and Holden's EBAs were also found to have clauses detailing production processes and expectations, similar to those found in the Toyota EBA. Whilst all three MVPs have "lean production" clauses within their EBAs, actual work practices vary between the manufacturers. Field visits to production plants and interviews with production and trade workers revealed that Holden preferred to use "work-groups" to reflect a more inclusive and democratic European model of workplace structuring. This model differs from the "teamwork" model, a hybrid of the American and Japanese approaches and often used by Holden's American parent company, General Motors.<sup>75</sup> Toyota implemented a more traditional Japanese kaizen approach which focuses on continuous improvement in line with the global Toyota Production and Management Systems processes.<sup>76</sup> Ford varied again, utilizing "natural work groups" which often involved trade and non-trade employees working as a cohesive group.<sup>77</sup> Managers of the MVPs had a mixed response to the team-based production processes; some suggested the teams had led to significant productivity improvements, whilst others felt there was still a lot to be done.<sup>78</sup> Despite these uncertainties, labour productivity in MVPs has improved over the past decade, as detailed in Figure 7 below.

<sup>74</sup> Lansbury, Wright and Baird, op cit, pp 70-92; Lansbury, Saulwick and Wright, op cit, pp. 24-28.

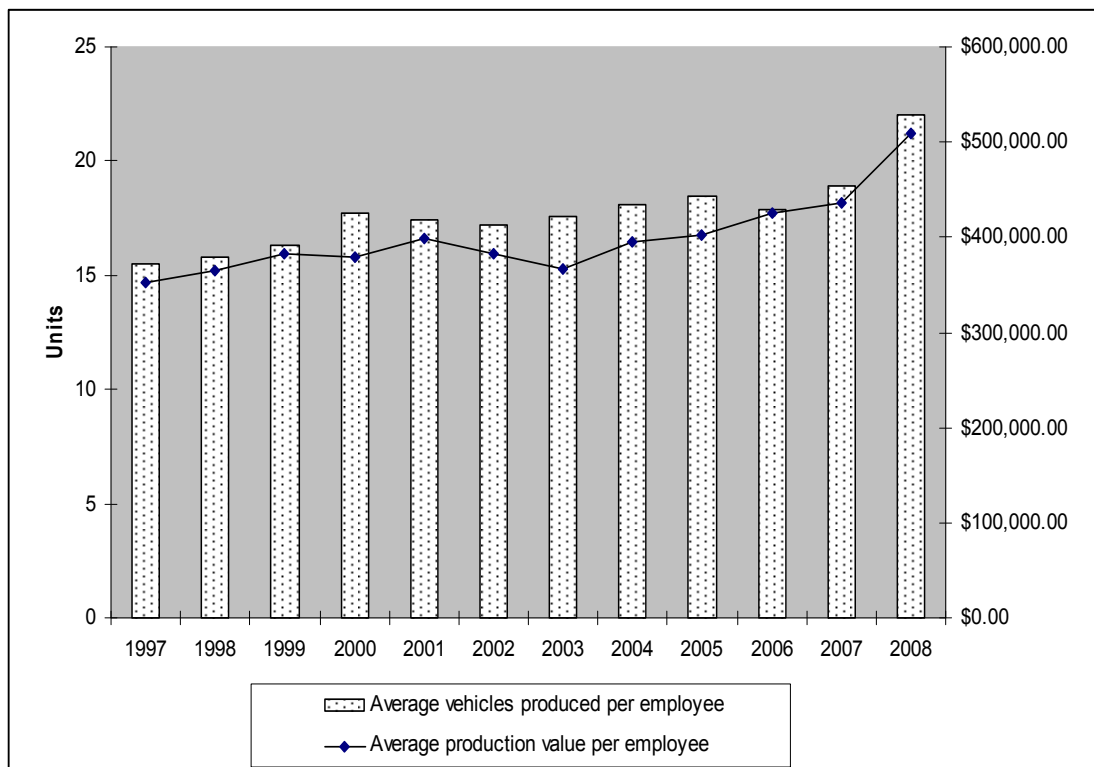
<sup>75</sup> Ibid.

<sup>76</sup> Ibid.

<sup>77</sup> Ibid.

<sup>78</sup> Ibid.

**Figure 7. Local MVP Labour Productivity**



Source: Department of Innovation, Industry, Science and Research, Key Automotive Statistics 2008, DIISR, Canberra, 2009, p. 29, Table 22.

The same study presented evidence amongst workers that such provisions and practices had negative implications for work intensification and the potential elimination of jobs.<sup>79</sup> This has also had flow-on effects to the component suppliers due to the just-in-time nature of the automotive supply chain. Importantly though, union officials commented that some of the work team structures had a greater likelihood of leading to work intensification than others.<sup>80</sup>

Concerns regarding work intensification have been exacerbated by significant changes to job structures occurring in the industry over the past two decades. There was a reduction from 240 job classifications in the original industry award to six trade levels and three non-trade levels. It must be noted, however, that this was not a sole product of the MVP EBAs but actually a process of award streamlining that occurred throughout the 1980s, and which happened to be consistent with lean production principles.<sup>81</sup> There has also been a related push to remove demarcations between trade and non-trade workers (particularly evident at Ford), but skilled workers fear that this will undermine their qualifications and related remuneration.

<sup>79</sup> Ibid.

<sup>80</sup> Ibid.

<sup>81</sup> Lansbury, Saulwick and Wright, op cit, p. 24.

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### 5.1.3 Staffing Practices

A very recent development in Australian labour regulation is the requirement that all EBAs contain “flexibility provisions” under the *Fair Work Act 2009* (Cth). The intention is to allow employers to respond to changed economic conditions, yet there is concern that such a requirement will introduce uncertainty to employment arrangements with respect to staffing practices.

As stated earlier, over 90 per cent of automotive jobs are currently full-time positions, with a standard 38-hour week across the industry. However, there is evidence that staffing practices have been shifting toward more non-standard forms of employment and the increasing use of contract labour.<sup>82</sup> This is in line with an increasing tendency to utilize contingent or precarious forms of employment across all Australian industries.

The move towards non-standard employment amongst MVPs was largely initiated and advanced by Mitsubishi when it was still a local MVP. As far back as 1998, Mitsubishi utilized the threat of closure of its Australian operations to negotiate up to 15 per cent of its workforce to become “variable temporary labour” (VTL). This trend continued with an increase of VTL to 20 per cent in the 2001 Mitsubishi EBA, which included provisions that VTL could be engaged by the hour. Other flexibility arrangements included the deferral of casual loading payments to VTL workers, which sought to avoid the problem of casual employees not receiving the same paid leave entitlement of paid employees.

Whilst Mitsubishi was able to negotiate these flexible arrangements due to the ongoing threat of the closure of productions and total loss of jobs (which occurred in early 2008), other MVPs have been less successful in reaching agreement to adopt such practices. Despite this, there have been increases in the non-standard forms of employment allowed under the recent EBAs of the current three MVPs. Toyota has increased probationary periods of workers to 6 months, after which they can either be made permanent employees or their employment ceases without recourse. Holden has been able to negotiate the use of contract maintenance workers but they must still be employed by Holden, not by an external labour company (as was the case with Mitsubishi’s flexibility arrangements).

The GFC has significantly reduced production shifts at Holden (from two teams/two shifts to two teams/one shift), with workers from each team working alternating weeks. The effect has been to halve daily production at the Elizabeth plant. Workers are currently being paid no less than 75 per cent of normal wages and have been provided with Government training during downtime to increase their skills. Also, workers have been given the opportunity to take leave and/or find alternative employment for six months and then return to the company once the production of the Cruze commences in 2010. Holden has justified these arrangements as attempts to weather the downturn and retain the capacity to return to full production in 2010.

### 5.1.4 Industrial Disputes

The incidence of industrial disputes in the automotive industry has historically been higher than the average across all Australian industries, yet has become less common over the past decade. Spikes in industrial disputation were apparent in 2000 and 2003 when unions instigated structured campaigns in support of enterprise bargaining claims, but

<sup>82</sup> Ibid at p. 26.

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except for these two years levels of disputation were very low.<sup>83</sup> This may be partly due to provisions prohibiting industrial action outside of bargaining periods under the *Workplace Relations Amendment (WorkChoices) Act 2005* (Cth) amendments to the *Workplace Relations Act 1996* (Cth). Such provisions, however, did not prevent two major industrial disputes arising in 2007 in response to redundancies at two component manufacturers. Indeed, the *WorkChoices* legislation generated substantial tension between the MVPs and the AMWU and reflected the wider tension between employers and unions in Australia during this period. This tension has eased since the removal of some of the more contested provisions of the *WorkChoices* legislation and the commencement of the *Fair Work Act 2009* (Cth).

### **5.1.5 Automotive Unions**

The most significant union in the automotive industry is the AMWU, a very strong stakeholder representing over 90 per cent of the automotive workforce.

As mentioned above, the three MVP EBAs contain clauses committing to collective bargaining practices and detailing additional union rights and responsibilities. Whilst the inclusion of one union provision will usually flow on to other automotive EBAs, there are still some variations between the three MVPs with respect to union provisions. Despite these variations, union representatives indicate that they have near unrestricted access to their workers and are in close communication with MVP management.<sup>84</sup>

The presence of consultative work groups is also a feature of all of the MVPs. Representatives from both the union and MVP management teams have indicated that such arrangements help to maintain effective communication between the parties and are particularly effective in dealing with ad hoc issues.<sup>85</sup> Suggestion schemes have also been introduced successfully at Holden.

### **5.1.6 Social Protection**

In Australia unemployed persons receive social protection in the form of social security payments and other forms of Government assistance, including job search assistance for retrenched workers. The level of assistance depends upon individual workers' financial needs and the availability of relevant jobs in their locality.

## **5.2. Areas for Improvement**

Skills formation is an important issue in the automotive industry,<sup>86</sup> both in terms of improving the skills of current employees and ensuring that there is a sustainable skilled workforce beyond the industry's aging population. Australia's current national skills shortage has exacerbated the specific skills shortfalls faced by the automotive industry. The Rudd Labor Government has proposed increased funding for skills training and the establishment of councils to facilitate stronger links between the automotive industry and skills providers.

<sup>83</sup> DEEWR, op cit, p. 32.

<sup>84</sup> Lansbury, Saulwick and Wright, op cit, p. 30.

<sup>85</sup> Ibid.

<sup>86</sup> Lansbury, Saulwick and Wright, op cit, p. 28; Bracks, op cit, p. 80; DEEWR, op cit, p. 16.

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## 6. *Impact of the Global Financial Crisis*

Prior to the GFC both Holden and Ford were already experiencing substantial losses. Holden recorded losses of over \$140 million in both 2005 and in 2006, whilst Ford reported losses of \$40 million in 2006 and \$87 million in 2007. As stated earlier, these losses were caused by a combination of increased global competition, appreciation of the Australian dollar, which eroded the protectionist effects of import tariffs, continued structural change, rising fuel prices and changing consumer tastes. Toyota did not experience any losses during the same period but reported negative results for the first time in the 2008 December quarter. There is concern that the GFC will exacerbate the challenges faced by the three MVPs and that it will result in further automotive job losses. Indeed, car sales in Australia dropped by approximately 20 per cent from 2008 to 2009<sup>87</sup> and the industry minister raised concerns that two out of every three major component manufacturers are under financial stress.<sup>88</sup>

A current example of the precarious nature of the Australian automotive components sector in the context of the GFC is the case of Automotive Components Limited (ACL). ACL is one of Australia's most prominent component suppliers, yet was very recently placed in administration despite receipt of significant government funding (A\$7m in 2009) and favorable loans from Ford Australia.<sup>89</sup> It is estimated that the removal of ACL from the component sector could potentially result in the loss of 5,000 jobs which would have significant ramifications for all three local MVPs who rely on ACL for the ongoing supply of engine bearings and gaskets.<sup>90</sup> Whilst some have argued that ACL's demise was due to a crash in sales caused by the ending of the favourable tax incentive scheme,<sup>91</sup> the former Chairman of ACL, Ivan James, insisted that it was due to broader global factors including the effect of the increasing value of the Australian dollar, which has drastically reduced component import revenues in the context of fixed price contracts and fixed overheads.<sup>92</sup> As of mid-September 2009, ACL had been placed in administration and its receivers insisted that it immediately make between 80 and 120 positions redundant, either voluntary or forced, in order to return to profitability.<sup>93</sup> Whilst ACL's future remains uncertain, the Tasmanian state government has indicated that it will support ACL receivers to maintain the supplier as a viable business in order to protect both the Tasmanian components sector and the broader automotive industry from further job losses.<sup>94</sup>

Holden is also a cause for concern after its parent company, General Motors, entered Chapter 11 bankruptcy in June 2009 in the USA. Holden reassured its workers that the

<sup>87</sup> John Beveridge, "Car makers stalling for time", in *The Herald-Sun*, 4 April 2009.

<sup>88</sup> Ben Schneiders, "Car industry declining rapidly, minister warns", in *The Age*, 25 March 2009.

<sup>89</sup> Economist Intelligence Unit; Australian Associated Press, *With Ford as a customer, how can you fail? Easy, says ACL boss*, AAP, 28 August 28 2009.

<sup>90</sup> Economist Intelligence Unit.

<sup>91</sup> *Ibid.*

<sup>92</sup> Australian Associated Press, *With Ford as a customer, how can you fail? Easy, says ACL boss*, AAP, 28 August 28 2009.

<sup>93</sup> Australian Associated Press, *Vital car parts maker to shed up to 120 jobs boss*, AAP, 16 September 16 2009.

<sup>94</sup> Australian Associated Press, *With Ford as a customer, how can you fail? Easy, says ACL boss*, AAP, 28 August 28 2009.



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bankruptcy would neither affect its operations nor result in the loss of any Australian jobs. In 2009 it entered into labour-saving arrangements, including executive wage and salaried pay freezes in March and the move in April to a two-teams/one-shift production at its Elizabeth plant. Holden has also offered manufacturing employees the opportunity to take 6 months unpaid leave in order to find alternative employment and then return, to a guaranteed position, in 2010 when production of the Cruze commences.

Beyond these measures that have been announced publicly by Holden, the extent of the GFC's impact on the Australian automotive industry to date is difficult to gauge. Profitability statements are available only to December 2008 and current labour market statistics do not adequately reflect the flexibility arrangements that may have been implemented by the three MVPs in order to reduce production and labour costs.

Ford and the AMWU are negotiating a new EBA, which may result in changed working arrangements reflecting the current economic climate. Changes in employment arrangements under the Ford EBA may have flow-on effects to the other MVPs once their EBAs expire. Whilst Toyota has reported financial losses for the first time since 1941, it has announced no plans to alter employment arrangements in the near future. Ultimately, the fate of the MVPs is closely linked with the duration of the GFC.

Despite the uncertainty, it is clear that significant and ongoing government assistance is cushioning the Australian automotive industry from the full impact of the GFC. Indeed, this was publically stated by the Industry Minister, Senator Kim Carr,<sup>95</sup> In truth, the ACIS and the Green Car Scheme (as detailed above) are helping to cushion the industry from both the GFC and global competition and structural reforms more generally, and may explain why the Australian automotive industry has fared relatively well compared to its global counterparts in the current economic context.

## **7. Conclusion**

The Australian automotive industry is a significant contributor to the Australian economy and is responsible for a large number of jobs within manufacturing and linked sectors.

Employment in the industry is currently characterized by high levels of male full-time labour, though there is some evidence of a shift towards more precarious forms of employment which may be exacerbated by the GFC. The effect of the GFC on automotive employment will be determined largely by its duration, the capacity of the MVPs to sustain temporary labour arrangements, and the extent to which the Australian government is willing to continue its substantial financial assistance to the industry beyond 2010.

<sup>95</sup> The Honourable Kim Carr, "Automotive Industry Envoys Announced", Press Release, Ministers for Innovation, Industry, Science and Research, 23 July 2009, July 23.

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**Globalization, crisis, and the changing employment conditions in the Indian automobile industry**

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## Executive Summary

This report examines the evolution of the Indian automobile industry over the past decade to highlight the changes in working conditions at the enterprise and industry levels. The analysis is confined to light vehicles, namely, cars and utility vehicles, occasionally two-wheelers (scooters, motorcycles, and mopeds), and the parts and components industry. The aim is to capture the major structural changes of the auto industry, identify some of the key forces influencing such developments, and relate these developments to employment conditions. While India's industrial relations system is different from that of other countries, the impact of globalization has weakened unions in India just as it has elsewhere. More importantly, India's internally generated deregulation has forcefully altered employment markets, albeit unevenly.

Aside from the trends in employment, this study also accounts for the current impact of the financial crisis on Indian auto workers. The auto industry has been hit by the liquidity crisis, reducing demand at home and abroad in certain segments, and thus increasing unemployment. However, compared to other countries, the Indian industry is in better shape due to its growing maturity and its ability to compete in the small car segment. India's parts industry is performing quite well despite increasing global competition. The most serious challenges can be found in the unorganized sector, where workers are vulnerable to economic downturns due to increasing competition and lack of basic protections. Unorganized sector workers do not have the employment security and other benefits that are available to workers in the organized sector. They are also unable to unionize mainly because of the absence of regulations that govern employment tenure and partly due to a significant form of temporary employment and their lack of sophistication about workers rights and the employment market.

In discussing employment conditions in an evolving Indian auto industry, this report also presents the industry in the context of the broader industrial relations climate. In doing so this study identifies the crucial areas around which labour conflicts in India occur and suggests some mechanisms by which social dialogue could take place. Specific areas for possible reform and dialogue include the division between management and workers in a hierarchical and paternalistic system, the sharp dualism in labour markets based on organized and unorganized sectors, the role of multiple unions and their links to political parties, and the increasing vulnerability associated with export-oriented, flexible labour markets.

The study is divided into six sections. First, production trends and the changing structure of the auto industry are briefly presented and the key dynamics identified. In this section, the development of the parts and components industry along with the intersectoral linkages is introduced to capture the significance of the automobile industry. In the next two sections, information on employment in the industry and trade and investment policies are presented to set up further discussion of the India's employment situation in the auto industry. Some dimensions of inter-state investment competition are discussed to suggest that industrial climate per se does not account for capital flight from one state to another. Section 4 covers in detail the impact of the financial crisis on employment in India. In section 5, an overview of Indian industrial relations is presented along with a case study of West Bengal. Section 6 discusses the nature of industrial conflict in India, touching upon the future of collective bargaining and identifying opportunities for improving social dialogue in the automotive industry. A brief discussion is also presented on special economic zones and their possible impact on unionization.

In the absence of field research, this report rests mostly on published data sources and occasionally on informants from the industry. However, even published data suffer from obsolescence and poor quality. They are at an aggregated level, providing only indirect

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insights into the industry. Data on employment and working conditions in the Indian auto industry is even scarcer. Likewise, there are few scholarly resources available that specifically take a “labour studies” approach to the Indian auto industry. Nevertheless, based on an exhaustive search for available scholarly, policy, governmental, and media sources, this report analyzes the social and political environment of Indian auto workers and discusses implications for future employment conditions.

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## 1. Introduction

This report examines the evolution of the Indian automobile industry over the past decade to highlight the changes in working conditions at the enterprise and industry levels. The analysis is confined to light vehicles, namely, cars and utility vehicles, occasionally two-wheelers (scooters, motorcycles, and mopeds), and the parts and components industry, hereinafter referred to as the “auto industry”. The aim is to capture the major structural changes of the auto industry, identify some of the key forces influencing such developments, and relate these developments to employment conditions. While India’s industrial relations system is different from that of other countries, the impact of globalization has weakened unions in India just as it has elsewhere (Saini, 2006). More importantly, India’s internally generated deregulation has forcefully altered employment markets, albeit unevenly.

Aside from the trends in employment, this study also accounts for the current impact of the financial crisis on Indian auto workers. The auto industry has been hit by the liquidity crisis, reducing demand at home and abroad in certain segments, and thus increasing unemployment. However, compared to other countries, the Indian industry is in better shape due to its growing maturity and its ability to compete in the small car segment. India’s parts industry is performing quite well despite increasing global competition. The most serious challenges can be found in the unorganized sector. The unorganized consists of enterprises that are not registered under certain sections of the Factories Act. The recent National Commission for Enterprises in the Unorganized Sector (2009: 3) adopts the following definition: “The unorganized sector consists of all unincorporated private enterprises owned by individuals or households engaged in the sale and production of goods and services operated on a proprietary or partnership basis and with less than ten total workers.” Thus the sector is characterized by numerous small components manufacturers where workers are vulnerable to economic downturns due to increasing competition and lack of basic protections. Unorganized sector workers do not have the employment security and other benefits that are available to workers in the organized sector. They are also unable to unionize mainly because of the absence of regulations that govern employment tenure and partly due to a significant form of temporary employment and their lack of sophistication about workers rights and the employment market (Das, 2001: 377). However, even the organized sector hires “contract” workers who are similarly vulnerable during business downturns.

In discussing employment conditions in an evolving Indian auto industry, this report also presents the industry in the context of the broader industrial relations climate. In doing so this study identifies the crucial areas around which labour conflicts in India occur and suggests some mechanisms by which social dialogue could take place. Specific areas for possible reform and dialogue include the division between management and workers in a hierarchical and paternalistic system, the sharp dualism in labour markets based on organized and unorganized sectors, the role of multiple unions and their links to political parties, and the increasing vulnerability associated with export-oriented, flexible labour markets.

High quality data on employment and working conditions in the Indian auto industry are generally not available. Likewise, there are few scholarly resources available that specifically take a “labour studies” approach to the Indian auto industry (see D’Costa, 1998, 2003; Unni and Rani, 2008). Nevertheless, based on available scholarly, policy, governmental, and media sources, I will analyze the social and political environment of Indian auto workers and discuss implications for future employment conditions. In the absence of field research for this project, this report relies significantly on D’Costa (2005) to capture the historical evolution of the auto industry and describe the key characteristics associated with employment and industrial relations.

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The study is divided into six sections. First, production trends and the changing structure of the auto industry are briefly presented and the key dynamics identified. In this section, the development of the parts and components industry along with the intersectoral linkages is introduced to capture the significance of the automobile industry. In the next two sections, information on employment in the industry and trade and investment policies are presented to set up further discussion of the India's employment situation in the auto industry. Some dimensions of inter-state investment competition are discussed to suggest that employment relations per se do not account for capital flight from one state to another. Section 4 covers in detail the impact of the financial crisis on employment in India. In section 5, an overview of Indian industrial relations is presented. Section 6 discusses the nature of industrial conflict in India, touching upon the future of collective bargaining and identifying opportunities for improving social dialogue in the automotive industry. A brief discussion is also presented on special economic zones and their possible impact on unionization.

## **2. Evolution of Production and Structural Change**<sup>96</sup>

### **2.1. The Vehicle Segment**

The evolution of the Indian auto industry can be divided into four phases:

- Pre-independence (before 1947)
- Post-independence (1950-1980)
- Maruti-Suzuki (1983-1995)
- From 1995 to the present

Prior to India's independence in 1947, the auto industry was marginal. A few foreign companies either imported completely built units (CBU) or had minor assembly units based on imported completely knocked down (CKD) kits. A very small share of local value was added and hence employment was also marginal. In 1949 the Indian government banned the import of CBUs and in 1953 also banned CKDs (under the Tariff Commission), unless accompanied by increasing local content. Consistent with India's import substitution industrialization strategy, this restrictive policy was also motivated by fears over balance of payments deficits (see D'Costa, 2005: 46-49). By treating cars as a luxury product, the government discouraged the growth of the industry through licensing, price controls, and high excise taxes. The commercial vehicle segment was treated differently due to its definition as a public good and the significance of road transportation in India.

By the 1960s, there were three car producers, all relying on obsolete dies from European manufacturers. All produced small volumes of output due to government licensing and high excise duty and all were profitable under a highly protected market. Local content rules fostered a domestic parts and components industry even though the bulk of major components were produced in-house by the auto manufacturers themselves. After 1975 the two-wheeler industry received a boost as this segment did not fall under foreign exchange restrictions or monopolies. A significant part of the components industry

<sup>96</sup> A detailed understanding of the evolution of the Indian auto industry is found in D'Costa (2005).



was reserved by the government for the small-scale sector, which was highly fragmented and technologically unremarkable.

Over time the government deregulated certain aspects of the automotive industry by, for example, raising foreign exchange availability to import capital equipment, but did not approve foreign producers until 1982 when the moribund people's car project of Sanjay Gandhi, son of former Prime Minister Indira Gandhi, was nationalized. Suzuki Motors of Japan was allowed to participate as a minor partner with the government in the joint-venture called Maruti Udyog Ltd. (MUL). However, no other foreign car producers were allowed until the final deregulation in 1993.<sup>97</sup> During that roughly ten-year period MUL offered an uncontested small, affordable, fuel-efficient vehicle to the delight of Indian consumers. Until then the Indian public had to be content with high-cost, shoddy, and unattractive products made by Hindustan Motors, Premier Automobiles, and, for a limited time, Standard Motors. MUL's market share soared and the government gradually raised resources by reducing its ownership stake in the highly successful joint-venture. Since the complete deregulation of the Indian auto industry in 1993 many multinationals have entered the Indian market, not only raising the national output (Table 1) but also enhancing domestic competition.

**Table 1: Trends in Auto Industry Production**

	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
<b>CARS</b>	574.369	517.907	564.052	608.851	843.235	1.027.858	1.112.542	1.238.021	1.416.418	1.516.791
<b>MULTI UTILITY VEHICLES</b>	124.310	125.938	105.667	114.479	146.325	182.018	196.371	222.495	244.648	218.228
<b>LCVs</b>	61.213	63.869	65.756	83.195	108.917	138.896	171.781	225.724	254.062	224.589
<b>BUSES &amp; TRUCKS</b>	114.068	88.185	96.752	120.502	166.123	214.807	219.297	294.258	291.114	192.537
<b>SCOOTERS</b>	1.259.408	879.759	937.506	848.434	935.279	987.498	1.020.013	943.944	1.074.933	1.157.432
<b>MOTOR CYCLES</b>	1.794.093	2.183.430	2.906.323	3.876.175	4.355.168	5.193.894	6.201.214	7.112.281	6.503.532	6.801.964
<b>MOPEDS</b>	724.510	694.974	427.498	351.612	332.294	348.437	379.574	379.987	430.827	435.513
<b>All 2-WHEELERS</b>	3.778.011	3.758.163	4.271.327	5.076.221	5.622.741	6.529.829	7.600.801	8.436.212	8.009.292	8.394.909
<b>3-WHEELERS</b>	205.543	203.234	212.748	276.719	356.223	374.445	434.424	556.126	500.592	501.030

Source: Society for Indian Automobile Manufacturers LCV=Light Commercial Vehicle

The fiscal year 1999-2000 was an important turning point for the Indian auto industry: its output exceeded half a million units for the first time. In the following decade the Indian industry added another one million cars, taking national annual output to 1.52 million units. Interestingly, the auto segment has not suffered from the current financial crisis here as much as in other countries. Output actually increased by 7 per cent between 2007-08 and 2008-09. Demand for cars in India remains buoyant. However, demand for the more expensive multi-utility vehicles (MUV), which has expanded substantially since 2003-04, fell by 11 per cent over the last financial year. The commercial vehicle (CV)

<sup>97</sup> For details of this new joint-venture, see D'Costa (1995).

segment, including light and heavy vehicles, has been subject to greater business cycle swings due to higher unit prices and their direct links to the changing investment climate. Within the CV segment, the light CV segment has grown consistently every year since 1999-2000 except for the last financial year when output fell by 12 per cent. The heavy CV segment, with a much higher output compared to the light segment, fell steeply in the last fiscal year – by 34 per cent, signaling a greater impact from the global recession. The two-wheeler industry has been dynamic, crossing eight million units in 2006-07 and growing by 123 per cent since 1999-2000. Overall, most auto companies in India have been bullish on the Indian market, notwithstanding the current economic slowdown.

The structure of auto industry production in India has undergone a fundamental transformation. Until the early 1980s, the car industry was essentially a duopoly between Hindustan Motors and Premier Automobiles. After the establishment of MUL and until the deregulation of car production in 1993, the industry was characterized by a near-monopoly. Since 1995 the industry has become oligopolistic, with four main players: MUL, Hyundai of South Korea, Tata Motors, and Honda-Siel, a joint-venture between Honda and Siel of the Siddharth Shriram Group.<sup>98</sup> It has been thoroughly internationalized with global multinationals but there are also minor operations resulting in industry fragmentation (Table 2). Based on 2007-08 output, MUL has 47.3 per cent of the car market. The top two producers together have 73 per cent of the market, while the top three control 86 per cent of car output. In 2008-09, MUL produced 100 per cent of the mini cars, a total of 62,323 units and 47 per cent of 1.8 million compact cars. Hyundai and Tata had 37 per cent and 11 per cent, respectively, in the compact market. In the mid-size market, MUL, Hyundai, and Honda-Siel had 32 per cent, 26 per cent, and 16 per cent, respectively. Tata Motors was already a market leader in in-house engineering capability for commercial vehicles but it was not in the business of producing cars until 1998. A decade later, in March 2009, Tata launched the Nano, the world’s cheapest car. This has been a product of Tata’s innovative capability to bring costs down, often termed “frugal engineering capability.” With the launch of the Nano in 2009 Tata Motors is poised to become the second largest producer in India when full capacity utilization is reached in its greenfield unit in Gujarat state.

**Table 2: Structure of Production in the Indian Car Industry**

Company	Market Share (%)	Rank of Company	Cumulative Market Share (%)	
Maruti Suzuki		47.3	1	47.3
Hyundai		25.5	2	72.8
Tata		12.7	3	85.5
Honda-Siel		4.2	4	89.7
General Motors		3.2	5	92.9
Ford		2.4	6	95.3
Mahindra-Renault		1.8	7	97.1
Others		2.9		100.0

Source: OSEC 2008

<sup>98</sup> Hyundai was the first auto multinational that was allowed a 100 per cent subsidiary in India.

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## 2.2. The Parts and Components Sector

Just as the production of automobiles has been increasing in India, the auto parts and components industry has been expanding in parallel fashion. Table 3 shows recent trends in the parts and components industry. The sector has witnessed growing investment, turnover, and exports. For example, turnover has nearly trebled since 2003-04 to US\$18 billion in nominal terms, which was also reflected by an expansion in exports. However, the share of exports to total output has hovered around 20 per cent in the last few years, indicating a highly competitive global auto parts market and India's low position in the overall value chain. Despite growing exports, the Indian auto parts and components industry is a net importer due to the proliferation of multiple models produced by many multinational companies. Consequently, the industry is fragmented with potentially non-viable small-volume, specialized components producers.

**Table 3: Auto Components Industry**

Value in million US \$	2003-04	2004-05	2005-06	2006-07	2007-08*
Turnover	6,730	8,700	12,000	15,000	18,000
Exports	1,274	1,692	2,469	2,873	3,615
Imports	1,428	1,902	2,482	3,328	4,938
Investment	3,100	3,750	4,400	5,400	7,200
Export as % of Turnover	18.9	19.5	20.5	19.2	20.1

Source: Automotive Components Manufacturers Association

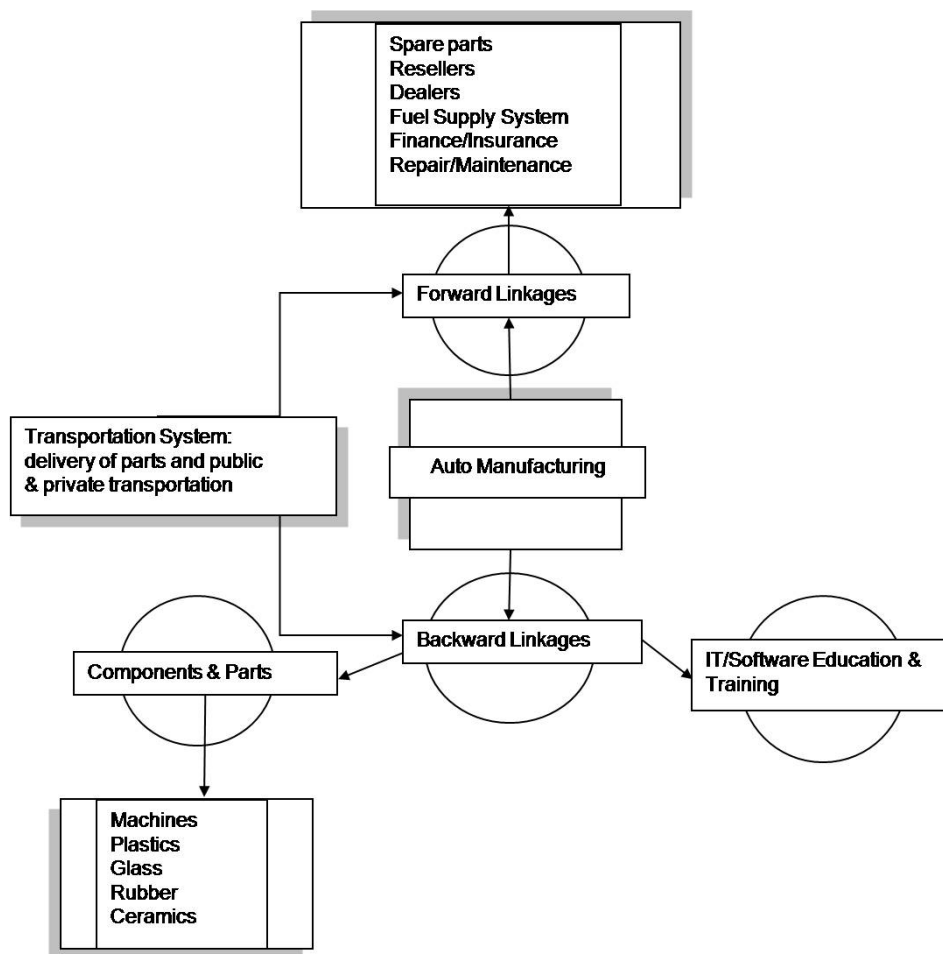
[http://acmainfo.com/docmgr/Status\\_of\\_Auto\\_Industry/Status\\_Indian\\_Auto\\_Industry.pdf](http://acmainfo.com/docmgr/Status_of_Auto_Industry/Status_Indian_Auto_Industry.pdf), 08/27/2009.

\*Estimated

## 2.3. Intersectoral Linkages

It has been estimated that the auto industry as a whole represents about 4 per cent of India's GDP (Government of India, 2002). Roughly half a million workers are directly engaged in the industry, making the auto industry economically and socially significant. There is also significant indirect employment, estimated at ten million, due to multiple layers of forward and backward linkages. Backward linkages are crucial to the development of the auto industry as they illustrate how one firm's output in one sector becomes the input of another in another sector (Leoncini and Montresor, 2001: 1324). The most important backward linkage is the parts and components industry (see Figure 8). The supplier industry is further linked backward to the metals industry (especially steel), as well as machine building, plastic, rubber, glass, ceramics, IT and software, and transportation for delivery of components. The sector is also linked to educational institutions through, for example, its need for engineers (see Ohara and Sato, 2008).

**Figure 8: Intersectoral Linkages for the Automobile Industry**



Over time the development of forward linkages has catalyzed further growth in the industry and thus spurred more backward linkages. The automobile industry is linked forward to finance and insurance, dealerships and service centers, the fuel supply system, exporters, and the spare parts market, among others, all of which rely on the output of the auto industry. It is evident that the backward and forward linkages are not always independent of each other. For example, a transportation system delivers parts and components, which is an upstream activity. Research on fuels is a downstream activity, which may be linked to engines and thus the components industry. Thus if output of automobiles is growing, as in the case of India, the network of intersectoral linkages as a whole is also expanding, generating employment. Output of the linked sectors is further enhanced when the industry serves both the domestic and export markets. However, as we will see below, the Indian production structure, especially in the upstream activities, is characterized by a dualism: fewer large firms in the organized sector compared to many small-scale firms in the unorganized sector. The implication for employment is that high-quality jobs are scarce despite rapid growth of the industry.

### 3. Employment Trends

Employment statistics for the Indian auto industry are notoriously difficult to obtain but the Ministry of Heavy Industries and Public Enterprises of the Government of India reports that as of 2006 the auto industry employed 200,000 people in vehicle manufacturing and 250,000 in the components industries, for a total of 450,000. (2006: 15). Another 10 million people were employed through various backward and forward linkages, such as financing and insurance, vehicle repair, service and maintenance,

dealerships and retail outlets, the tire industry, drivers, etc. A more recent estimate put the total employment figure at roughly 13 million (Ministry of Heavy Industries and Public Enterprises, Government of India 2008: 39).

More detailed and possibly more reliable employment statistics are available from the Annual Survey of Industries (ASI). However, the most recent data publicly available are for 2003-04 (Table 4). The relevant standard industrial classification scheme (known as SIC codes) includes the categories of manufacture of motor vehicles, manufacture of bodies, and manufacture of parts and components. Forward linkages such as maintenance and repair of motor vehicles, motor cycles and parts are also listed. During 2003-04, the last year for which such data are available, there were a total of 286,000 people employed, with 213,000 of those in the manufacturing of vehicles and the parts industries.<sup>99</sup> These figures are nearly half those given in a recent government estimate (see above). The difference is probably due to employment data estimated at different time points, with the more recent years accounting for the massive expansion of the industry and thus the higher government estimate. In addition, the larger government estimate includes unorganized workers in the organized sector. Other estimates based on the National Sample Survey Organisation of the Government of India show that employment in 2005-06 in the organized sector of the auto industry was 431,000 and in the unorganized 183,000, with a total of 614,000 workers (see Narayan and Vashist, 2008: 24). While total employment in the unorganized sector was much smaller than in the organized sector, the number of firms in the former was more than ten times greater than in the latter (38,342 units compared to 3,738). This clearly reflects not only the small-scale nature of the unorganized sector firms but also the much lower capital intensity of the organized sector, and lower productivity. More importantly, employment in the auto industry as a whole grew by 12 per cent during 2003-04 – 2005-06, compared to output growth of 22 per cent during the same period (Narayan G. and Vashist 2008: 117).

**Table 4: Employment Trends in the Auto Industry**

	SIC 341	SIC 342	SIC 343	SIC 502	SIC 504	Total	Total ASI
<b>No. of Workers</b>							
1995-96	172296	14372		119855		306523	7632297
1996-97	173946	17330		131651		322927	7405858
1997-98	179596	16746		182309		378651	7604907
1998-99	65120	17546	121927			204593	6364464
1999-2000	55686	20426	127658			203770	6280659
2000-01	54678	10706	121391			186775	6135238
2001-02	48157	12816	120522	42369	3445	227309	5957847
2002-03	46687	15130	136595			198412	6161494
2003-04	51613	16030	145323			212966	6086908
<b>Total Persons Engaged</b>							

<sup>99</sup> Total Persons Engaged = Employees (=Workers + persons receiving wages and holding clerical or supervisory or managerial positions) + all working proprietors and their family members who are actively engaged in the work of the factory even without any pay.

	SIC 341	SIC 342	SIC 343	SIC 502	SIC 504	Total	Total ASI
1994-95	216849	17321		136440		370610	9227097
1995-96	243753	21297		150231		415281	10222169
1996-97	247205	23923		163226		434354	9795296
1997-98	253825	24034		229918		507777	10001099
1998-99	97480	22110	162061			281651	8588581
1999-2000	81862	27454	179169			288485	8172836
2000-01	79420	13483	165020			257923	7987780
2001-02	69409	15869	165770	67524	6981	325553	7750366
2002-03	66675	18634	182554			267863	7935948
2003-04	72135	19292	194239			285666	7870081

Source: Central Statistical Organisation, India

SIC 341 Manufacture of motor vehicles

SIC 342 Manufacture of bodies (coach work) for motor vehicles, manufacture of trailers and semi-trailers

SIC 343 Manufacture of parts and accessories for motor vehicles and their engines

SIC 502 Maintenance and repair of motor vehicles

SIC 504 Sale, maintenance and repair of motor cycles and related parts and accessories

Total ASI (Annual Survey of Industries) refers to broadly total organized manufacturing plus manufacturing services

Since demand is heavily driven by incomes beyond a certain threshold level, any macroeconomic slowdown in the economy, as well as depressed demand abroad for India's exports of parts and components, will hit the industry hard. The vulnerability of Indian auto workers is severe, given that a large number of employees are on temporary contracts rather than permanently employed. Contract workers provide market flexibility in a labour market that is quite rigid due to archaic labour laws enshrined under the Industrial Disputes Act of 1947. Under this Act it is very difficult to fire workers in an enterprise that has 100 or more employees (see Dougherty, 2008). Government approval is necessary and there is no instance where such permission has ever been granted. To circumvent such barriers, firms have resorted to hiring contract workers. It has been estimated that 10-30 per cent of total production workers in the auto industry are contract workers (Teknikforetagen -- Association of Swedish Engineering Industries 2008: 26). The terms of employment of contract workers are subject to market dynamics but without the protection afforded to permanent employees. Thus, the recent layoff of 4,000 temporary workers by Tata due to economic slowdown is not surprising. The added benefit of hiring contract workers for the employer is significant cost savings, as they receive only 25-50 per cent of the wages paid to permanent employees.

#### 4. Industrial, Trade, and Investment Policies

Since 1993 the Indian automobile industry has been fully de-licensed, meaning no government approval is needed nor are there any production limits imposed on firms. Today automobile manufacturing receives "automatic" approval, whereby no license is

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required as long as the projects adhere to certain restrictions pertaining to locating outside of metropolitan areas and do not enter into activities that are reserved for the small-scale sector. The locational policy is designed to diffuse industrial activities to other locations away from major urban areas to bring about more uniform industrial development. The reservation policy is aimed at boosting small enterprises and protecting them from undue competitive pressure. Both domestic and foreign capital can make investments in the industry, with the latter up to 100 per cent (Investment Commission of India, 2009). The auto components industry is also fully liberalized, allowing for 100 per cent foreign ownership subject to small-scale sector reservations. Additionally, there are no restrictions on the import of components.

Given the transformation of the Indian auto industry since the 1980s, the government has targeted it for global preeminence through investment and trade policies. India is the 12th largest auto producing country and, as discussed below, its expansion has not slowed despite the current financial crisis. Overall production grew by 3 per cent over the 2007-08 and 2008-09 fiscal years, while passenger vehicle production grew by 3.3 per cent over the same period (India Brand Equity Foundation, 2009). The robustness of the Indian industry is partly due to an expanding consumer class, the ability of Indian firms to reduce costs through “frugal engineering,” and growing technological capabilities. Consequently, the government has devised a broad promotional plan to make India a leading producer of small cars. Its recent special economic zone (SEZ) policy to encourage competitive industrial production is also aimed at auto components for the world market (Madhan, 2008). Even in a crisis year, nearly 336,000 passenger cars were exported in 2008-09, registering a growth of 53.7 per cent over the previous year (India Brand Equity Foundation 2009). Multinationals, such as Hyundai, Maruti Suzuki, and Fiat, among others, are the leading exporters. The industry is expected to grow at 13 per cent per annum over the next decade (Madhan, 2008).

The government’s Automotive Mission Plan 2006-16 provides a policy position on the future development of the Indian auto industry and is indicative of its investment policy in the sector. In addition to expanding production and increasing the industry’s contribution to India’s economy, the plan also aims to ease the industry’s transition to a globally open market and foster the development of alternative, non-hydrocarbon energy sources (Government of India, Ministry of Heavy Industries and Public Enterprises, 2002). The National Policy on Biofuels aims to increase blending of biofuels with petrol and diesel to 20 per cent by 2017 (Government of India, Ministry of External Affairs 2009). This would not only save foreign exchange but also boost auto-related R&D. However, a switch from food crops to cash crops to generate biofuel will have major implications for agricultural prices for India’s 1.1 billion consumers. For the components industry, the plan is to increase the number of tier 1 and tier 2 suppliers for the global market. To attain this, both the volume of production and complementary R&D for creating new products will have to be increased. Auto investments need to be complemented by massive infrastructure investments. Here, too, the government policy has been promotional, though demand for infrastructure is far behind supply. The government allows 100 per cent FDI under the automatic route for infrastructure projects such as highways and roads, ports, etc. While there are some restrictions on foreign equity in telecom and airlines services, the auto industry faces few barriers to entry.

Today India has an open industrial policy toward foreign investment and increasing trade for the automotive segment. This is evidenced by the growth and diversification of the industry, increasing exports of both vehicles and components, and India’s ability to produce new products with frugal engineering skills. It is also evident that the recent acquisitions of major global automotive assets such as Jaguar and Land Rover by Tata Motors will provide access to market intelligence as well as foreign innovations, which in turn contributes to the domestic technological effort (Pradhan and Singh, 2008). This is consistent with the government’s active policy framework designed to facilitate both

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domestic and foreign investments and make India a global hub for manufacturing and designing compact cars. It is also related to making India a design centre for the global automotive industry as Indian and foreign companies use India as a global platform for small cars.

The industry is of course increasingly patterned on the basis of clusters. In the pre-Maruti era there were three main clusters: Kolkata in the east, Chennai in the south, and Pune in the west. Since 1985 the industrial landscape has been geographically altered by emerging new automotive clusters. There are two interrelated reasons for this: the first is the path-dependent nature of development, where initial major investment (for whatever reasons) by, for example, Maruti in Gurgaon in Haryana, led to subsequent investments by suppliers in the vicinity, thus creating a cluster in the north around the National Capital Region. The second reason is state policy, explicit or otherwise, in the promotion of the auto industry, which indirectly also involved more “flexible” labour markets. If the US industry is any indication, most of the new foreign and domestic plants have been located in the south away from the unionized Detroit area in Michigan. Reinforcing this has been US local state policies in the south that underplayed unionization by the “right to work” rule, which in an anti-union social environment limited unionization of workers in these new plants. The Indian case also presents a similar pattern in that investments have gradually shied away from states that have been perceived as pro-labour. The state of West Bengal is one such case (see Case Study below), although to its credit the state government more recently has been trying very hard to retain and attract domestic and foreign investments.

But labour climate in the end may not determine auto investments.<sup>100</sup> The differences that matter are the perceived synergy among component buyers and suppliers within a cluster and the state’s ability to reliably provide basic utility services. Labour militancy does have an impact but in these times in West Bengal it is no longer the same and disinvestment in the state had already begun in the 1970s. It may be pointed out that Tata’s Nano factory in the state of West Bengal was shelved because of local politics not labour militancy. In fact, the state government supported the project but large landowners, fearing economic losses, resisted the transfer of land for industrial purposes (Mohanty,,,,, 2007). In the end states that are pro-business, such as Gujarat, or states with skilled workers, such as Tamil Nadu with a history of auto industrialization, and states with sizeable markets, such as Maharashtra, are important investment destinations. In an important but controversial exercise, Bibek Debroy (2005) ranked states by their “economic freedom”, implying that labour climate is not a barrier. According to him:

..., economic freedom is captured by measuring the size of government; legal structure and security of property rights; and regulation of credit, labour and business. There are data constraints in other areas. Plus, there is an overall ranking. But note that the objective behind the economic freedom rating is narrower than the quality of life objective and only 26 variables are included. Among 20 states, Gujarat is ranked 1st in the overall index but the overall scores (not ranks) show little difference between Gujarat, Andhra Pradesh, Kerala, Chhattisgarh, Tamil Nadu and Maharashtra. In “size of government”, Gujarat is second, behind Chhattisgarh. In “legal structure and security of property rights”, Gujarat is 8th, behind Tamil Nadu, Madhya Pradesh, Kerala, Haryana, Chhattisgarh, Rajasthan and Andhra Pradesh. And in “regulation of credit, labour and business”, Gujarat is 6th, behind Maharashtra, Jammu & Kashmir, Orissa, Jharkhand and West Bengal. What pulls Gujarat up is “size of government”, not the others.

<sup>100</sup> But see Aghion, et al. 2008 for the standard view that pro-labour states grow less than pro-employer states.



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While it is difficult to separate out the influence of various variables on investment climate, it is indicative that many factors are at work and not simply the labour climate. However, once a state is perceived as pro-business the chances are that more businesses will locate there, resulting in a self-fulfilling prophesy.

## **5. The Current Crisis and Industry Restructuring**

The Indian auto industry story is mixed. In contrast to most other economies, it has not been hit as hard by the current financial crisis. However, some segments, such as the commercial vehicle industry, have witnessed far greater declines in demand due to greater sensitivity to high-priced vehicles. So, while the financial crisis is having an effect on the Indian auto industry, it is being felt less deeply than in the US and elsewhere. The crisis notwithstanding, both Indian and foreign firms in India are willing to invest in capacity expansion. In the discussion below the impact of the crisis on the industry is presented first, followed by a brief discussion of India's growth potential. In both cases the employment dimension is given due consideration, despite the lack of recent data.

Just as there are a number of mechanisms by which the global crisis is impacting the Indian automobile industry, there are also multiple outcomes. The direct effects result from the absolute and relative decreased demand for select automobile models at home and abroad. Indirectly, this results in reduced demand for parts and components at home and abroad. A third set of effects, direct and indirect, are cross-border, such as the financial crisis afflicting Indian-invested auto firms abroad, including Tata's Jaguar-Land Rover (JLR) in the UK, and the American auto crisis and its impact on IT outsourcing to Indian firms, such as Tata Consulting Services and Satyam Computers. IT companies provide a variety of enterprise resource planning services on a customized basis to automotive companies, such as IT systems maintenance, supply-chain management, inventory control, payroll, insurance, and credit services. Slowdown in the automotive industry via backward linkages significantly affects the types of services outsourced.

Indian auto firms have responded in different but predictable ways to the ongoing global economic slowdown. High interest rates and lack of auto financing have forced auto producers to cut back production of select models using partial plant shutdowns, lay-offs and transfer of workers to other divisions, deferment of new investments, and cancellation of new vehicle launches. For example, Tata Motors laid off 4,000 temporary workers and closed its commercial vehicle Jamshedpur plant in Jharkhand state for three days in November 2008. There have been other responses in the auto industry during the recent downturn in the last quarter of 2008 and first quarter of 2009. A three-wheeler manufacturer, Force Motors, reduced its work-week to five days, while SKF, a components supplier, transferred some of its employees to other divisions. Honda-Siel, a joint venture, and Fiat, cooperating with the Indian utility vehicle producer Mahindra and Mahindra, have postponed major new investments.

The Indian business press reported in October 2008 that the components industry witnessed a 15 per cent decline in domestic sales and a 40 per cent decline in export sales (Economic Times, 24 November 2008). This translates to a decline on an annualized basis of roughly US\$2.2 billion in domestic sales of US\$14.4 billion and US\$1.5 billion on export sales of US\$3.6 billion, should such demand conditions persist for the next eight months. Given that other producers are hurting, there is a systemic tendency for heightened competition and thus dumping. The Indian industry has complained about the capture by Chinese component manufacturers of 15 per cent of the Indian import market, up from 1.5 per cent in 2003-04 (Economic Times, 16 December 2008). Chinese components in India reportedly cost less than the materials needed to produce them.

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There are two counter movements affecting the Indian auto industry. The first, as we have seen above, is the pressure unleashed by the global recession, forcing buyers at home and abroad to postpone or cancel purchases. Accordingly, firms are adjusting to reduced demand. However, the second is that there are signs that the Indian economy and thus the industry are less subject to the full impact of the crisis due to continued high (albeit lower-than-before) growth rates. Firms are still bullish on the Indian market, given the expanding Indian middle class and the growing engineering capability of Indian automotive firms. The net impact of these two movements is difficult to predict, but the impact on the Indian auto industry is unlikely to be as devastating as that on other producing countries, such as the US, and export-dependent countries such as Japan, South Korea, and Mexico.

The Indian government has introduced some counter-measures to the slowdown in the auto industry. These include cuts in customs duty and excise taxes, particularly on hybrid models and components. Stimulus packages have encouraged soft loans, which are compensating for otherwise tight lending. The softening of oil prices from their historic highs is also bolstering the sales of automobiles. Contrary to expectations, sales figures for February 2009 belie any sign of crisis in the Indian auto industry. MUL, now renamed Maruti Suzuki, remains India's largest car producer, increasing its February sales by 19.1 per cent compared to February 2008 (Economic Times, 2 March 2009). The company's export numbers for February 2009 were the highest ever for any month, with 8,565 units. Similarly, other India-based firms, such as Hyundai and Mahindra and Mahindra, experienced unexpectedly high sales.

However, given the systemic nature of the crisis, India is unlikely to escape unscathed (see Kumar et al, 2009). Small components suppliers, many of them in the unorganized sector, and temporary contract workers in the formal enterprises will be particularly vulnerable. This is borne out by two recent reports produced by India's Ministry of Labour and Employment covering the effects of the economic slowdown on employment for October-December 2008 and January 2009. Despite the sampling limitations of these "quick" studies for a large country such as India, the findings confirm a total loss of about 500,000 jobs during the last three months of 2008. The auto industry's employment fell by 2.42 per cent, but export-oriented sectors such as gems and jewelry declined by a much higher rate of 8.58 per cent (Government of India, Ministry of Labour and Employment 2009a: 13). In January 2009 the employment decline in the auto sector was even greater, with 3.09 per cent (Government of India, Ministry of Labour and Employment 2009b: 7). The hardening of the liquidity crisis and contraction of bank loans possibly contributed to a steeper fall in employment.

The export-oriented auto components segment lost 9,391 jobs in the August-October 2008 period (Government of India, Ministry of Labour and Employment, 2009a: Annexure I). Curiously, the share of the export sector within the auto industry as a whole fell by a smaller share than the non-exporting sector, -1.26 per cent compared to -4.79 per cent (see Table 5). This could be attributed to low dependence on foreign markets with low-value exports of parts and components. Alternatively, the high income elasticity of automobile demand is reflected by the larger decline in the domestic side of employment change. On the other hand, the magnitudes in the fall in employment in export and non-export segments were reversed in the survey conducted in January 2009 by -4.13 and -0.78, respectively (Government of India, Ministry of Labour and Employment 2009b: 8). It could be that the crisis worsened in export markets, while the stimulus effects in India had a more favorable impact on the domestic-oriented auto industry.

**Table 5: Percentage Change in Employment in Selected Sectors**

Industries	Exporting Units		Non-exporting Units		Direct Employment (Oct-Dec 08)	Contract Workers (Oct-Dec 08)	Overall Employment Change (Oct- Dec 2008)**	Overall Employment Change (Dec 2008-Jan 2009)
	Oct-Dec 08	Dec 08- Jan 09	Oct-Dec 08	Dec 08- Jan 09				
Mining	-0.32	Not covered	-0.33	Not covered	-0.06	-0.81	-0.33	Not covered
Textiles	-1.29	-0.49	0.32	0.01	-1.11	4.6	-0.91	-0.35
Metals	-2.6	-0.70	-1.24	-1.71	-1.04	-4.53	-1.91	-1.31
Gems & Jewellery	-8.43	-8.44	-11.9	-	-9.27	-3.86	-8.58	-8.44
Automobile	-1.26	-4.13	-4.79	-0.78	-0.77	-12.37	-2.42	-3.10
Transport	0.0	-	-4.03	-2.62	1.96	-9.93	-4.03	-2.62
IT/BPO	0.33	-0.13	1.08	-4.07	0.51	1.6	0.55	-1.66
Overall	-1.13	-1.13	-0.81	-1.24	-0.63	-3.88	-1.01	-1.17

Source: Government of India, Ministry of Labour and Employment, 2009a (pp. 13-14); 2009b (pp. 8 and 11).

Other than textiles and information technology and business process outsourcing, all other sectors under study witnessed declines in employment. Although employment in the automobile industry as a whole fell by 2.42 per cent, contract workers in this sector suffered the most, with a decline of 12.37 per cent (see Table 5). A further disaggregation of employment declines by manual and non-manual workers shows that contract manual workers had a greater decline at 12.45 per cent compared to non-manual contract workers at 9.77 per cent (Government of India, Ministry of Labour and Employment, 2009a: 15). Since permanent employees are difficult to fire, a slowdown means a reduction in capacity utilization and thus disguised unemployment on the one hand and layoffs of contract workers on the other.

At the same time, many auto companies in India have not shelved future expansion plans. Ford plans to invest roughly US\$500 million in new production. Similarly, Toyota has plans for a small car unit entailing US\$680 million. Given Hyundai's success and its aim to make India a small car hub for international markets, it too has major expansion plans. While these plans will be adjusted under the current crisis, the fundamentals of the industry suggest continued expansion in the post-crisis period. This is bolstered by the fact that, with much fanfare, Tata Motors launched its Nano at the end of March 2009. Its price of around \$2,500 places the car within the reach of many low middle-income households. Since the car is expected to sell in large numbers (some estimates put it at 250,000 units a year plus exports), the industry is likely to generate a fair amount of employment for semi-skilled and skilled workers. However, the political turmoil in West Bengal over land acquisition for the Nano factory forced production to be relocated to Gujarat, causing a regional shift in employment from one state to another. West Bengal already suffers from lower growth and development. The state's major auto company—Hindustan Motors - has little production left in the state. Hence, the state has missed an opportunity not only to resurrect a dying sector but also to place the state on the global map of automobile manufacturing.

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## 6. Overview of Industrial Relations <sup>101</sup>

India's industrial relations in the organized sector have traditionally been conflict-prone. The political party-affiliated trade unions in most large workplaces have fragmented labour and in certain instances immobilized management (Venkata Ratnam, 1995). There is little bargaining power among the fragmented Indian trade union movement, with the exception of public sector employees who are perceived as "pampered citizens" (Johri, 1992). Industrial relations in India, patterned after the confrontational Taylorist industrial relations of the West, have contributed to labour militancy, low morale, and opposition to new production systems.<sup>102</sup> Multiple unions connected to political parties and external union leaders, who are not employees of the firms involved, can make collective bargaining a nightmare in India (see Dhal and Srivastava, 2000). However, with globalization, governments worldwide have become pro-business to attract capital and corporations themselves have preferred to invest strategically in less industrialized areas where unionization is either absent or weak (for the US, see Law, 1991). In India, many of the new automotive ventures have been established in the less unionized and industrialized areas of Haryana, western Uttar Pradesh, and Madhya Pradesh. The chief criterion for such locations has been "industrial climate," a euphemism for peaceful industrial relations compared to older industrialized areas such as Kolkata or Mumbai.

One interesting development is that in all the new automotive enterprises, including Tata Motors, the workers are under company rather than trade unions. These unions are generally established by management in a given enterprise for the explicit purpose of creating production flexibility. They differ from trade unions in India in that the company union has no formal links to any political party and its office bearers generally come from the rank and file of workers in the enterprise. Managers have decreed the formation of only one union at each workplace, unaffiliated with any political party, making corporate objectives easier to meet and ensuring less conflict in industrial relations, especially in situations when more than one union exists in the same enterprise. Tata Motors, known for its "harmonious" industrial relations (Tata Motors, 2007), explicitly recognizes the rights of employees as per the Constitution of India and encourages employees to join unions. In practice, however, each Tata production facility has its own company union with a high share of employee membership it (Tata Motors, 2007). Despite its paternalistic approach, Tata has progressive elements in its industrial relations and ultimately provides significant welfare benefits to its employees, including health care, education, training, and environment management for both employees and residents of villages adjacent to its factories.

Earlier attempts by political parties to organize a firm's workers under party-affiliated trade unions have been thwarted by management. While the management of DCM-Toyota (a defunct light commercial vehicle company) did not want any union, MUL's management explicitly sought to create an enterprise union.<sup>103</sup> MUL's strategy was patterned after the Japanese approach to industrial relations. Interestingly, in most cases the workers themselves opted for internal enterprise unions, suggesting the perceived irrelevance of membership in more institutionalized and bureaucratic unions. It may also

<sup>101</sup> This section relies extensively on D'Costa (2005)

<sup>102</sup> This was echoed by virtually all the representatives of automotive firms I spoke to during my fieldwork in Delhi, Bombay, and Madras in 1991, Pithampur in 1992, Calcutta 1995, Halol in 2001, Bedadi in 2003.

<sup>103</sup> It is therefore not surprising that DCM-Toyota in its initial years was plagued by various labour disputes. While lay-offs have been rare in the assembly industry, DCM-Toyota in the late 1980s resorted to firing workers as it continued to face limited demand for its product.

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be the result of the undeveloped nature of politically-inspired collective consciousness, given the limited education and rural social background of many workers in the auto industry.

## 6.1. Adoption of Japanese Management Approaches

At its inception, MUL proactively avoided a strike organized by external agents by using both hard and soft approaches. Attempts by central trade unions, such as the Indian National Trade Union Congress (INTUC), controlled by the centrist Congress party, and the more left-leaning Hind Mazdoor Sabha (HMS), to organize MUL's workers failed. The failure to organize a party-affiliated union was a result of the struggle between different factions of workers, state intervention to arbitrate the dispute, and management's preemptive strategy to "democratize" the union, facilitated by the ethnically heterogeneous workforce (Mathur, 1991:50-51). Labour peace was secured through monetary and non-pecuniary incentives to increase worker participation in the production process. It should be recalled that MUL was initially a public sector company with a minority share held by Suzuki Motors and thus even the government of India took an exceptional approach to industrial relations in the automotive sector. It should be noted that Maruti Suzuki is the largest auto company in India but how much of its success can be attributed to labour peace is debatable.

Employee turnover in the auto industry is generally low and these jobs are coveted. Most vacancies are filled through internal promotions; in a few cases fresh graduates from the government-sponsored vocational Indian Technical Institute and higher-level engineering positions are recruited externally. This internal labour market and general inter-firm immobility due to limited opportunities for many workers in conjunction with company incentives have enhanced worker loyalty, job satisfaction, and an averseness to labour militancy. Most unions are against flexibility if it is interpreted simply as numerical flexibility, i.e., the ability to "hire and fire." However, they are also against company unions (D'Costa, 1998). If, however, flexibility encompasses the various Japanese-type practices that increase production efficiency, then several union leaders appear to be favourably disposed (Personal Interviews with various trade unions, Delhi 1992).<sup>104</sup> Trade union leaders consider it a necessary step in coping with economic challenges confronting workers in India.<sup>105</sup> They believe that empowerment, even with nominal changes such as providing common canteens, office space and uniforms, can have a significant psychological effect on the Indian worker. Most auto workplaces are organizationally flat but social hierarchies based on caste and class, and the intrinsic separation between white and blue collar work, continue to pervade the social sphere of production across India.

Most Indian automotive companies have embraced Japanese-style management approaches: quality circles, teamwork, continuous improvements in process, etc. Workers are encouraged to offer suggestions to improve efficiency and enhance the work environment. If implemented, these suggestions often carry cash rewards. When production targets are met workers in the larger auto manufacturing firms receive bonuses, sometimes as high as one and a half month's salary. In exchange for industrial peace, auto workers in large enterprises have accepted company paternalism and have materially

<sup>104</sup> For shop-floor details entailing flexible production using new intra-firm organizational arrangements and new technologies see D'Costa (2005: 114-128).

<sup>105</sup> Although dated, much of the discussion is based on extensive interviews conducted in Delhi in 1992 with central trade union leaders from the All India Trade Union Conference (AITUC), Conference of Indian Trade Unions (CITU), Hind Mazdoor Sabha (HMS), and Bharatiya Mazdoor Sangh (BMS).

benefited from the expansion of the industry. This was evident, for example, in the Toyota-Kirloskar joint-venture, where a strike by the union on wage issues was quickly settled to maintain production (Plant Visit, Bedadi, March 2003). The story is of course different in the smaller firms and in firms in the unorganized sector. As mentioned earlier, the unorganized sector is highly fragmented with ten times the number of organized sector firms employing only 30 per cent of the organized sector total (Table 6). It is evident that fragmentation combined with small output share and low productivity compared to the organized sector gives workers little leverage.

**Table 6: Comparison of Organized and Unorganized Sectors in the Auto Industry**

Variable	1994-95		2001-02		2005-06	
	Organized Sector	Unorganized Sector	Organized Sector	Unorganized Sector	Organized Sector	Unorganized Sector
No. of Enterprises	2318	11758	3443	31428	3738	38342
Employment (100,000)	2.78	0.62 (16%)	3.44	1.48 (30%)	4.31	1.83 (30%)
Capital (Rs. 10 million)	5448	216 (4%)	18639	1559 (8%)	14408	2105 (13%)
Output (Rs. 10 million)	22219	440(2%)	39491	1351(3%)	134165	2027 (2%)
Capital Intensity (Rs. 100,000)	1.96	0.31	5.41	1.05	3.34	0.87
Labour Productivity (Rs. 100,000)	7.98	0.71	11.47	0.91	31.13	1.11
Capital Productivity (Rs. 100,000)	4.08	2.04	2.12	0.87	9.31	0.96
Employment per Enterprise	120	5	100	5	115	5
Output per Enterprise (Rs. 100,000)	959	4	1147	4	3589	5
Capital per Enterprise (Rs. 100,000)	235	2	541	5	385	6

Source: Narayan and Vashist (2008: 24).

Except for employment, other figures have been rounded to the nearest whole number. For additional details see original source.

## 6.2. A Case Study of the Auto Industry in West Bengal

The state of West Bengal, where Hindustan Motors (HM) is located, deserves some discussion as it was the home of India's first major car company and industrial relations has been an important factor influencing both the fortunes and response of HM. There has traditionally been a high degree of political mobilization among organized industrial workers in the state. Workers have had considerable leverage to raise salaries, buttressed by a dramatic increase from the late 1970s to the mid-1990s in membership of the Centre

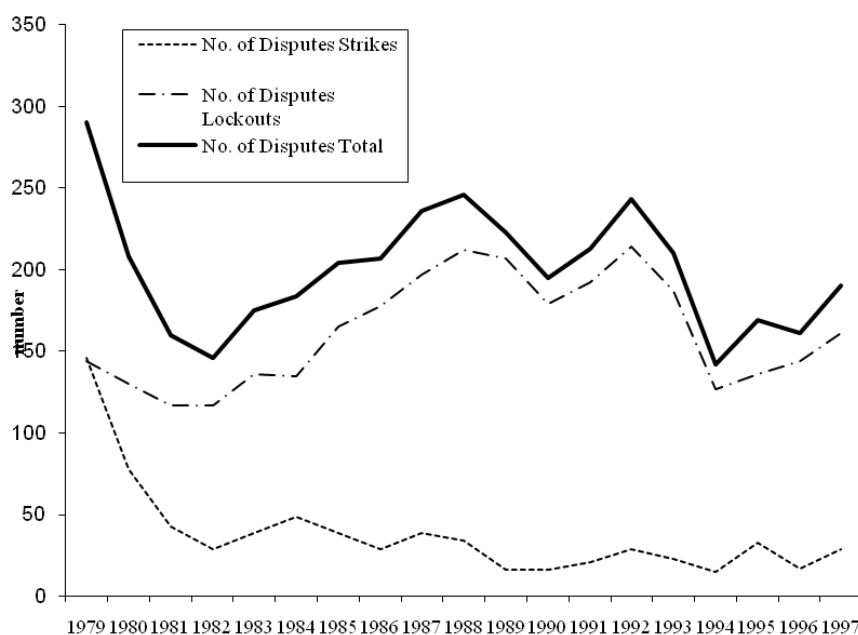
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for Indian Trade Union (CITU), the labour wing of the ruling Communist Party of India (Marxist) CPM. From 1977 to 1996, CITU's membership increased by 49 per cent to 709,708 (Modak and Bhatkalkar, 1997:42). The labour militancy of industrial workers initially put industrialists on the defensive but they later went on the offensive by investing in other states rather than West Bengal and locking out plants with the intent to close them permanently. Investments and profitability were undermined by increasing wage costs due to overstaffing, technological obsolescence (due to a slowdown in investments), industrial agitation by workers, and lockouts by employers.

West Bengal's abysmal industrial relations climate was the result of CPM's explicit support of CITU members when in opposition to the ruling party in the state, and of CPM's difficulty in controlling its labour wing when in power. The earlier go-slow agitations adopted by trade unions during turbulent economic times contributed to a general climate of industrial malaise. Public sector workers adopted a lackadaisical approach, knowing that a pro-labour government could actually do little to discipline them. The equally casual approach adopted by organized blue-collar workers and white-collar state employees made West Bengal unattractive for capital investment. When the CPM came to power in 1977, industrial capital was already on the offensive and deliberately under-investing in industries and striking against workers and the political leadership using lockouts (Figure 9).<sup>106</sup> Since 1978 the gap between the number of strikes by workers and lockouts by management has widened with the latter exceeding the former until 1989. While the number of workers involved and the number of person days lost due to strikes and lockouts reflect cyclical patterns since the 1960s, lockouts since the 1980s have been clearly on the rise in the state (Gangopadhyay, 1996: 277; Datt, 2000). However, strikes and lockouts are not the only form of labour disputes. There are a variety of work stoppages and agitations that do not result in either strikes or lockouts but reflect ongoing worker dissatisfaction over labour-related issues (see Shyam Sunder, 2003: 706, also Table 7, below). If allowed to fester they could lead to a tense industrial relations climate and in some cases generate a contagion effect in other work places.

<sup>106</sup> This interpretation is different from but not inconsistent with the micro institutional view of Banerjee et al. (2002).

**Figure 9: Increasing Lockouts in West Bengal, 1979 1997**



Source: Government of West Bengal, Department of Labour (various issues) in Datt (2003:124).

In recent years the numbers of both strikes and lockouts have been falling at the national level. The average number of strikes and lockouts during 1999-2001 were 446 and 345, respectively, involving 0.88 and 0.26 million workers (calculated from Government of India, Department of Labour, 2003). However, the average number of person days lost due to strikes and lockouts in each of these three years was 9.38 million and 51.17 million, respectively. This pattern of declining industrial disputes has been mirrored in West Bengal, albeit for different institutional and historical reasons. Between 1992 and 1997, West Bengal had nearly half the lockouts of the national total. The industrial employers, including some multinationals, took an offensive posture. Since lockouts are plant shutdowns at the express will of the management, they can be interpreted as capital exercising its strategic choice by foregoing production in the state.

Faced with increased costs and labour strife in West Bengal, auto investors sought alternative business strategies such as diversification of production, movement into financial activities or movement of productive capital to other more conducive host states. The state's relative industrial decline and the concomitant rise of other regions suggest that the conditions for favorable accumulation have shifted elsewhere. The emergence of Delhi and other states as new clusters of automobile production and consumption reflects the changing terrain for economic activities. This outcome is also consistent with heightened capital mobility encouraged by economic reforms and the competition among state governments to attract investments.

Gradual disinvestment strategies or "harvesting" of capital equipment based on borrowing money, stripping a firm's assets, and ultimately declaring a lockout have been integral to business strategies among firms in the state of West Bengal (Banerjee et al,



2002).<sup>107</sup> Consequently, technological obsolescence has rendered plants uneconomical and lockouts have appeared to be a good commercial strategy for owners, under the circumstances. In the end, West Bengal's emblematic industrial decline and capital flight, which began before the 1960s, is reflected by Hindustan Motors. It was a cumulative outcome of a slow-growing national economy with local labour strife during the 1970s, plant obsolescence by financial strategies in the 1980s and 1990s, and, since the mid 1990s, the emergence of alternative industrial locations in the national economy under a changing policy environment.

The establishment of MUL, which produces fuel-efficient vehicles near Delhi, and the rise of other automotive clusters elsewhere in India exacerbated the competitive pressure on HM. HM's joint-venture with GM did not lead to significant expansion of HM's capacity as GM pulled out of the project in 1999. HM did not have or was not keen to commit resources to expand capacity at the GM-HM facility. Saddled with a workforce of over 10,000, HM's management felt that modernization of West Bengal's plant in 1998 and increasing reliance on outsourcing of parts and components meant that less than a tenth of its workforce was needed (Bearak, 1999). However, given the pro-labour position of West Bengal's government, strong unions, and the unions' frustration over HM's mismanagement and accumulation strategy, the West Bengal unit has been a site of prolonged labour conflict, primarily over employment and job preservation. The battle has been complicated by the awkwardness of the leftist ruling party in dealing with the capitalist imperatives of increased productivity and capital-friendly investment policies that are now integral to the new liberal economic policies at the national political level.

## 7. Industrial Conflict and Social Dialogue

Based on the earlier review of industrial relations it is clear that a number of complex issues make industrial relations in India prone to conflict, contributing to an excessive form of politicization of some workers, and leave the rest ineffective in negotiating with employers. There are two forms of severe industrial strife: strikes by workers and lockouts by employers. While workers in some enterprises and production facilities could be highly politicized and strike for real or perceived violations of worker rights, employers and managers are equally forceful in expressing their demands by closing plants through lockouts. As noted earlier in the case of West Bengal, which has a reputation for industrial turmoil, the number of lockouts exceeded the number of strikes. Elsewhere, lockouts sometimes followed strikes in auto firms (see Table 7 for Toyota). Beyond these forms of industrial conflict, most of the labour-management disputes take the form of sit-ins, memorandums, agitations, and sometimes violent protests. An extensive survey of the popular press reporting on industrial strife in India (Table 7) illustrates the varied forms of industrial disputes and responses by workers and management.

**Table 7: Recent Industrial Relations Conflicts**

Year	Company	Sector	State	Nature of Dispute
2009	Nestle	Processed Food	Uttaranchal	Strike due to firing of workers for unsatisfactory performance
2009	Mahindra & Mahindra	Automobiles	Maharashtra	Strike due to suspension of trade union president, delayed wage agreement

<sup>107</sup> This was also witnessed in the case of the US steel industry where investors shied away from modernization of plant and equipment and instead diversified into more profitable non-steel activities (Markusen 1985; D'Costa 1999).

Year	Company	Sector	State	Nature of Dispute
2009	Cummins	Auto-related: diesel engines	Maharashtra	Agitation inspired by Shiv Sena, a chauvinistic political party, in favor of reinstating workers dismissed earlier
2009	Hyundai Motors	Automobiles	Tamil Nadu	Strike demanding recognition of union, management recognizes only Workers Committee, issue over wages, reinstating employees, and rescinding earlier transfers of workers elsewhere
2009	Hyundai Excavators	Construction equipment	Maharashtra	Protest over termination of employment without due cause
2009	MRF	Auto-related: tires	Tamil Nadu	Strike demanding recognition of union, inter-union rivalry, lockout, demand for salary instead of piece-rate
2008	Tata Motors	Automobiles	West Bengal	Violent protests by landowners against industrial use for agricultural land
2008	Mico Bosch	Auto components	Rajasthan	Strike due to suspension of two top members of union, followed by lockout
2008	Hero Honda	Two-wheelers	Haryana	Protests by casual and contract workers seeking state-level wages, creating permanent employment
2007	Bajaj Auto	Auto-related: two and three wheelers	Maharashtra	Stand-off between workers and management over bonus and wage issues, workers demanding wage parity with local average,
2007	Pricol Tech	Auto components	Tamil Nadu	Agitation by workers to prevent transfer of employees
2006	Honda Motorcycle	Auto-related: two-wheelers	Haryana	Strike by contract workers demanding regular employment, union formation
2006	Toyota Motors	Automobiles	Karnataka	Strike due to dismissal of few workers for misconduct, violent behavior, soon followed by lockout
2006	Mico Bosch	Auto- and rail-related	Karnataka	Threat to strike and lockout issues on inter-plant disparity in benefits, incentives, and gifts, failure to grant permanency to employees hired in 1997
2006	Tata Toyo Radiators	Auto-related: radiators	Maharashtra	Strike by contract workers
2005	Maruti Udyog	Automobiles	Haryana	Disputes due to non-recognition of union affiliated with AITUC linked to the Communist Party of India
2001	Maruti Udyog	Automobiles	Haryana	Dismissal of General Secretary of workers union
2000	Maruti Udyog	Automobiles	Haryana	Agitation over pension and incentives schemes, dispute over production target
2000	Maruti Udyog	Automobiles	Haryana	Strike by rival faction of company union, threat of job loss due to new hires, union demand to freeze voluntary retirement schemes

Source: Various news media and Saini (2006)

The bulk of the issues concerns disputes over wages, bonuses, pensions, incentive schemes, production targets, termination of employment and arbitrary transfer of workers.

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Workers in factory settings everywhere try to include these elements in collective bargaining. However, as we have observed, trade unions in India are heterogeneous, politically fragmented, and unable to speak with one voice. Employers find this situation both to their advantage and disadvantage. They can play one union over another if there are multiple unions, although in the automotive industry the general practice has been to foster a company union. Where more than one union exists, managements have typically refused to recognize any union. In many instances the attempt to organize unions along party lines has been thwarted by employers and rejected by employees as well. Instead of trade unions, many automotive companies have promoted employee associations or worker committees. These are independent of external politics and negotiate with employers to resolve issues that are of direct and immediate relevance to the workers.

When it comes to collective bargaining in the Indian auto industry, there is no countrywide auto workers union. Hence each auto company has its own union, largely “internal” and patterned after company unions. The union could be non-aligned to political parties such as the Indian National Trade Union Congress (INTUC), the All India Trade Union Congress (AITUC), the CPM backed Centre on Indian Trade Unions (CITU), or the Bharatiya Mazdur Sangh (BMS) affiliated to the Bharata Janata Party. In some auto establishments the union President could be an outsider belonging to one of the political parties and thus the union is allied to a particular political party. Typically the industrial relations department of the company conducts negotiations on wages and benefits either every year or every two or three years. Based on this agreements are signed with the workers union. The wage levels are largely dictated by the manufacturing industry wage pattern in a particular region or state. For example, the auto industry wages in West Bengal would be lower than those in Delhi in the north or Pune in the west. Southern India could have lower rates than in the West or North. Industrial maturity, the degree of unionization, and the state of the industry influence these negotiations. Without field visits data on collective bargaining is nearly impossible to obtain.

Similarly, it is difficult to obtain recent wage trends in the industry without field visits. However, relying on now-dated data available from the annual survey of industries, it is clear that auto sector wages are among the highest in the manufacturing industries. Of the 25 main sectors at the two-digit level, wages for 2005-06 show the following traits. The highest wages were in coke, petroleum, and nuclear fuel with an annual average wage of Rs. 140,109. Next highest was basic metals, which was only marginally higher than the auto industry. The higher wages in these two sectors could be partly explained by a significant public sector presence, although mining, which also is partially under the public sector, on the average has lower wages (Rs. 25,086) due to the semi-skilled nature of work. Not surprisingly, the lowest average wage occurred in agriculture and related activities (a mere Rs. 17,316) and in tobacco and related products (Rs. 17,893).

Compared to textiles, the auto industry enjoys roughly twice the capital intensity and wages (see Table 8). However, the average annual wages for workers have remained relatively stable in the early to mid 2000s. Perhaps what is striking is that capital intensity, as measured by fixed capital per firm, has increased since 2002-03 but actually fell considerably from 2001-02 (Rs. 80.31 million) to 2002-03 (Rs. 66.51 million). One possible hypothesis is the writing off of excess capacity or scrapping of obsolete technology. The subsequent expansion of the industry, however, is indicative of growth in the size of firms as well as greater efficiency of capital as reflected by constant fixed capital per worker. Average annual wages were relatively stable during 2001-2006.

**Table 8: Changes in Capital Intensity and Wages in the Auto and Textile Industries (1998-2006)**

		Fixed Capital per Firm (Rs. Million)	Fixed Capital per Worker (Rs. Million)	Fixed Capital per Employee (Rs. Million)	Annual Average Wages per Worker (Rs.)
2005-06	NIC 34 (auto)	85.75	0.95	0.73	88,286
	NIC 17 (textiles)	40.42	0.49	0.2	46,366
2004-05	NIC 34 (auto)	79.15	0.96	0.73	88,671
	NIC 17 (textiles)	34.24	0.43	0.37	44,632
2003-04	NIC 34 (auto)	78.20	0.94	0.70	84,980
	NIC 17 (textiles)	32.02	0.41	0.35	43,277
2002-03	NIC 34 (auto)	66.51	0.97	0.72	83,553
	NIC 17 (textiles)	31.43	0.40	0.34	43,827
2001-02	NIC 34 (auto)	80.31	1.21	0.88	84,760
	NIC 17 (textiles)	31.31	0.39	0.33	44,827
		Fixed Capital per Firm (Rs. Million)	Fixed Capital per Worker (Rs. Million)	Fixed Capital per Employee (Rs. Million)	Annual Average Wages per Worker (Rs.)
1998-99	NIC 34 (auto)	72.33	1.00	0.73	68,236
	NIC 17 (textiles)	28.08	0.33	0.28	35,915

Source: Annual Survey of Industries, various years, Ministry of Statistics & Programme Implementation, Government of India,

[http://www.mospi.nic.in/stat\\_act\\_t3.htm](http://www.mospi.nic.in/stat_act_t3.htm)

There are many workers in the unorganized sector of the auto industry and within the organized contract workers. Both constituencies are precarious workers with limited rights because they do not belong to unions and are vulnerable because of the temporary tenure of their employment. In the earlier discussion of the effect of the global crisis, it was shown that contract workers tend to face the brunt of layoffs. Here the broader issue of employment rights is critical. Contract workers prefer permanent employment. However, employers prefer contract workers because their temporary status allows management to circumvent the Industrial Disputes Act, which prevents firing of workers without government approval. Based on information in Table 7, it is evident that organized workers in some instances do assist their contract labour counterparts by negotiating with management to create permanent positions for them. In the Indian industrial relations context, this is a rare phenomenon since permanent workers are on the defensive today,

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with the bulk of employment generated in the unorganized sector. Where unions are strong and workers movements a positive social force, the mobilization of contract and unorganized workers becomes possible. However, under the current economic environment of flexible labour demands, securing permanent employment for contract workers and organizing unorganized workers will remain significant challenges for trade unions.

The challenge is compounded by the increasing enthusiasm for China-style special economic zones (SEZs). There are economic, employment and technological merits for the promotion of SEZs (Palit and Bhattacharjee, 2008) but they also have a weakening impact on unionization, a point generally dismissed by SEZ proponents. In fact they emphasize that labour supply ought to be elastic (thus creating flexible wages, or low in the Indian case) and that without it the advantage of SEZs in India would be lost (see Palit and Bhattacharjee, 2008: 74). Given the history of export processing zones, a form of SEZs, worker rights have received short shrift. Such experiences have been witnessed in East and South East Asia and in the maquiladoras of Mexico. Since abundant, cheap, and disciplined labour is one of the selling points for exports, SEZs on a large scale in India could have a debilitating effect on unionization and thus collective bargaining. However, much would depend on the kind of industries promoted in these SEZs. Since many of the SEZs are designed to foster labour-intensive industries to absorb unskilled and semi-skilled workers, such labour flexibility could be accepted, provided of course that core labour rights were protected. What is interesting is that the SEZ Act of 2005 includes an escape clause that brings industries in SEZs under Development Commissioners, who can define an SEZ as a public utility service and thus bar strikes and lockouts without prior notice (Palit and Bhattacharjee, 2008: 76).

Social dialogue thus must begin at both organized and unorganized worker levels. Unions are important social institutions to protect the rights of workers. The ILO's core labour standards include freedom of association and the right to collective bargaining, the elimination of forced and compulsory labour; the abolition of child labour, and the elimination of discrimination in the workplace. It may be mentioned that India has not ratified conventions 87, 98, 138, and 182, which deal with freedom of association, minimum wage, and the worst forms of child labour. The Indian government did not ratify these due to its "inability...to promote unionisation of the Government servants in a highly politicised trade union system of the country" (Government of India, Ministry of Labour and Employment, 2009c: 2). According to the government many of these rights enshrined under ILO conventions are already guaranteed by India's constitution. Conventions 138 and 182 dealing with employment of children has not been ratified but discussions are underway with the ILO. The ILO is not in a position to enforce existing supervisory mechanisms in sovereign nations. Nevertheless, elected governments have intrinsic value-based and political incentives to protect their workers. Given the over-politicization of some trade unions and the passivity of others, a call for a national dialogue to improve India's industrial relations and foster a climate of trust and well-being is needed.<sup>108</sup>

At a minimum all workers' rights need to be recognized as well as "rights at work" that apply to employers under the ILO's definition of freedom of association. These rights, enshrined in the nation's constitution, need to be creatively extended to vulnerable workers. At the same time, the archaic forms of trade unionism protecting worker rights at all costs in a fluid internationalizing environment need to be reviewed. Reforming the Industrial Disputes Act should not mean that management can dismiss workers on a whim.

<sup>108</sup> In 2008 a manager was bludgeoned to death for sacking workers in an Italian auto component factory near Delhi (Blakely 2008), while a human resource manager in another auto component manufacturer in Tamil Nadu was beaten to death in September 2009 for laying-off workers (Singh 2009).

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Rather there has to be due process within organizations that both employers and unions can agree to and abide by, within a national framework of progressive social policy. Arbitrary dismissal and transfer of workers are socially irresponsible, especially in a country where jobs are scarce even with high rates of economic growth. They go against the fundamental expectation of right to work. While contract workers by definition do not qualify to join formal unions as they are hired by labour recruiters, there is no inherent reason why they cannot be organized. The challenge, of course, will be mediating four different constituencies—the subcontractor and its presumably temporary workers, and the employer and its unionized, permanent workers.

Multiple unions in a single workplace are politically attractive to workers because they do not presume workers are homogenous and have the same work-place related issues. However, in practical, organizing terms multiple unions, especially when influenced by external political elements pursuing narrow particularistic goals, are ineffective in protecting workers in general because they often work against the interest of employees. Hence a more pragmatic approach to representing all workers at the enterprise level should be devised. National discussions around these issues will be critical. Political parties have a social responsibility to educate their members about labour rights without fostering sectarian politics. The government's "Report of the National Commission on Labour" by the Ministry of Labour and Employment covers some of these issues in great detail and has a lot to say about worker participation in decision making. Yet at the ground level, it is apparent that decision making is not shared between workers and management, especially relating to income and job security.

Dialogue between unions and employers arbitrated by the state will be critical to facilitate the adjustment of workers who have been made redundant due to increased international competition. For example, if greenfield plants are set up for productivity, competition, or labour cost reasons there must be mechanisms to ensure that older workers made redundant by plant closings are given viable options, such as joining the new plant or being retrained and re-skilled for new forms of employment. The latter requires a nationwide overhaul of the education system so that factory work is appreciated because of the skills, high wages, and job security in a life-long learning environment. At the same time, when greenfields encroach on agricultural land, as in the Tata Nano case, mechanisms to deal with appropriate compensation to farmers, as well as opportunities to train locals as factory workers, are critical to generating auto industry employment in such new locations.

Organizing the unorganized workers is a more difficult task. The two groups are often pitted against each other politically. At one level the unorganized sector is seen as suppressing wage growth for the organized sector. However, the characteristics of the two sectors are quite different. In manufacturing in general and in the auto industry in particular, the unorganized sector consists of small firms with low capital investment and limited technological inputs. The workers in this sector characteristically come from low-income groups, are poorly educated, and lack skills that are necessary to be part of the organized sector in the first place. They are unprotected as they do not fall under the purview of any labour-related regulations. In the absence of any social security they are also the most vulnerable and, as witnessed in the recent employment surveys of the Indian government, are hard hit in an economic downturn.

Giving a voice to unorganized workers would not necessarily mean trying to organize them in the usual way. However, a collective form of organization at some level will be necessary, with the caveat that education, social background, etc., are likely to be impediments to organizing the unorganized workers. Ela Bhatt's successful founding of the Self-Employed Women's Association for female workers in the informal sector may provide insights into organizing unorganized workers in the auto industry. The most lasting contribution to the security of both organized and unorganized workers would be educating

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them—through vocational training and re-skilling that would provide them with the capabilities to meet the demands of the dynamic market. In the long term it would be in the best interest of workers to be educated in the social and economic values of collective action to provide a better living for all. The state too will have to play a progressive role in ensuring that the vulnerable constituencies find open channels for an effective social dialogue.

## 8. Conclusion

The Indian auto industry has come of age. However, there are several areas of contention where employment conditions need to vastly improve. The industry has been growing since the arrival of Suzuki Motors in the early 1980s and markets have deepened after complete deregulation 1993. Both domestic and foreign companies are key players. However, with the dilution of government shares in MUL, nearly all companies in the passenger vehicle segment except for Tata are multinationals. Ownership aside, the Indian auto industry has been transformed in part by learning-by-doing, which has been inspired by Japanese industrial practices. This has led not only to enhanced manufacturing capability in automobiles but more importantly to the development of backward linkages to the parts and components industry. This industry has begun exporting in a visible way, while Indian manufacturing capability has attracted many foreign companies.

Employment conditions in the automotive sector are less straightforward. Embedded in India's broader industrial relations environment, India's employment conditions are patchy. Improvements have been made in some areas, where a more human resource-based approach has been adopted with enterprise-based firms. But in most others, tension between workers and management persists for a variety of reasons. Some of these include:

- hierarchical social systems in which employers and managers wield considerable clout over workers
- workplace grievances that are not quickly and amicably settled
- external agents such as political parties trying to control or form new unions in the enterprise, thereby contributing to multiple unions, often working at cross purposes
- employers banning unions altogether or selecting only a company-sponsored union, undermining collective bargaining
- the sharp division between regular and contract workers in the organized sector and between organized and unorganized sectors
- the inability of unions to convert temporary employment to permanent positions<sup>109</sup>
- employers and workers resorting to strikes and lockouts to settle labour disputes rather than keeping channels of communications open
- arbitrary layoffs and transfers as a response to global competitive pressures and deregulation

<sup>109</sup> It may seem odd for employees to do this given that it is the prerogative of employers. However, one of the progressive elements of a workers' movement is to ensure equality of work conditions and job tenure. Of course, not all Indian unions are engaged in such social causes but are driven by narrow, political goals.

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- employer strategies to shut production units by shifting production to another location, thus circumventing labour laws, and
  - the inability of government to respond proactively or arbitrate in a judicious way to maintain a conducive work environment.

To improve India's employment conditions a number of issues will have to be addressed through a broader social dialogue among key stakeholders in the industry and at the industry level. First, workers need a voice. In times of economic crisis and global competition workers feel immense insecurity. Hence collective bargaining must be ensured. Second, employers wishing to promote their firm internationally must follow important corporate social responsibility (CSR) norms, which go well beyond existing laws and regulations. Some employers, such as Tata, have adopted a "harmonious" human resource approach, albeit paternalistic in practice. Tata has also reached out to constituencies in the neighboring town and villages next to its Jamshedpur factories to provide a wide array of urban services including medical treatment, education, and environmental management. However, most firms limit their social engagement to the production unit and the employees directly linked to the enterprise.

Third, the government must be more proactive in settling disputes quickly in a manner that does not destroy jobs. India's record in generating manufacturing jobs in the organized sector is lamentable. Protecting current jobs and generating new ones will be critical to realize the fundamental goals of a social dialogue. Changing investment policy, building infrastructure, and promoting exports are efforts in the right direction.<sup>110</sup> While there are many benefits to exports such as learning by doing, and more importantly, paying for India's massive oil import bill, the global crisis suggests that excessive export dependence should be avoided, as evidenced by the impact of the current crisis. A more balanced market along with a diversified export market would give the industry a more stable development and thus more secure employment.

Exports aside, India's contract workers have been hardest hit, with their manual or unskilled counterparts facing the brunt of the crisis. Additional policies promoting industrial clusters and their diversification into more value-added activities will be a long-term cornerstone of industrial jobs. However, more needs to be done for contract and unorganized workers in the areas of job security, better wages and work conditions, and long-term career prospects through investment in education and life-long learning opportunities.

In other spheres political parties need to look beyond simply electoral politics for mobilizing workers. Labour should be encouraged to play a progressive role representing not only their collective interests but also the interests of the less privileged workers in the unorganized sector. It is also imperative that multiple unions do not work against each other and weaken their bargaining position. Under international competitive pressure there has to be some balance between flexible labour markets and security. In the latter case state unemployment benefits or some form of social security could cushion some of the fallout from flexibility. Also, continued emphasis on engineering to bring costs down is likely to keep the industry competitive. The Tata Nano is a case in point and is likely to generate employment, should demand accelerate.

To bring unorganized workers into the organized sector is a challenging task, given India's demographic structure and the inability of industries to generate adequate

<sup>110</sup> On 27 August 2009 the Indian government extended its favorable policies toward exporters, such as tax holiday, duty refund on imports for exporters, and duty free imports of capital goods, among others (see The Times of India 27 August 2009).



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employment. Although the service sector has become quite dominant in economic terms, there is a lack of high-volume, high-quality jobs. To capture spill-over effects it is crucial to have large-scale investments in industry and infrastructure to absorb millions of poorly educated and unskilled workers. State-funded education is a complementary activity for the long-term health of labour markets, especially the unorganized sector. Investments in training and skills upgrading will be critical not only to support workers in the auto and other manufacturing sectors but also to empower workers in exercising their employment options.



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**Restructuring and employment relations in the auto industry in the Republic of Korea**





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## 1. Overview of the Korean auto industry

The auto industry in Korea is one of the key industries that have contributed substantially to the country's sustained economic growth and export expansion over the last 40 years. As illustrated in Table 9, the auto industry has expanded its weight in the Korean economy. The relative share of the auto industry in production and added value of manufacturing sectors more than doubled between 1986 and 2007. During the same period, the employment of the auto industry has increased from 101,200 to 277,300 and the export of this sector more than tripled. Now, the auto industry is the second largest in production values and exports among Korean manufacturing sectors, next to the electronics industry.

**Table 9. Economic Contribution of the Auto Industry in Korea**

(Unit: Billion Won; Million US Dollars; Thousands)

	Production <sup>1</sup>	Export <sup>2</sup>	Employment <sup>1</sup>	Added Value <sup>1</sup>
1986	4,679 (5.09)	1,505 (4.34)	101.2 (3.70)	1,651 (5.02)
1990	16,239 (9.16)	2,163 (3.33)	186.3 (6.17)	5,839 (8.23)
1995	35,090 (9.62)	8,962 (7.17)	220.6 (7.47)	13,081 (8.20)
2000	53,889 (9.54)	14,904 (8.65)	204.0 (7.69)	20,575 (9.38)
2005	100,679 (11.96)	37,095 (13.04)	266.5 (9.49)	32,950 (11.43)
2006	110,989 (12.29)	42,403 (13.03)	276.6 (9.70)	36,749 (11.43)
2007	118,803 (11.95)	48,972 (13.18)	277.3 (9.63)	38,865 (11.21)

Source: Korea Automobile Manufacturers Association (2009)

Note 1: Production and added value are estimated by billion Korean Won. The unit of employment is thousand. In these three columns, the figure in parentheses denotes the percentage of the auto industry to all manufacturing industries.

Note 2: Export is estimated by million U.S. dollar. The figure in parentheses denotes the percentage of the auto industry to all industries.

The auto industry affects a number of related industries both upstream and downstream. In fact, the Korean auto industry has to a large extent contributed to the growth of upstream and downstream industries, such as machinery, steel, electronics, glasses, textiles, oil refinery, rubber, industrial chemistry, vehicle maintenance, finance, transportation, and tourism. The total size of workforce employed in those industries related to the auto industry is approximately 1.63 million (10.3 per cent of total workforce) in Korea, as of 2007. This figure comprises 277,300 in the auto manufacturing sector, 357,300 in forward industries, and 1.02 million in a variety of backward industries (KAMA 2009). Auto manufacturing is comprised of 110,000 in the auto assembly sector, 159,300 in the auto parts sector, and 8,000 in the auto trailer manufacturing sector.

The Korean auto industry has achieved “compressed growth” and made remarkable inroads into the global auto markets over the past 40 years. As demonstrated in Table 10, the production volume and domestic sales of the auto industry have grown respectively by 14.6 per cent and 10.5 per cent per year on average between 1981 and 2008. More notably, the yearly average of export growth is 24.3 per cent during the same period. As a consequence, as shown in Table 11, Korea has ranked fifth worldwide in terms of auto production volumes and ranked fourth amongst exporting countries from the mid-1990s to the present. Moreover, the country has had a sizable domestic auto market reporting sales of over one million since 1996 (except 1998). In the recent global economic crisis, which caused serious damage to the global auto industry, the Korean auto industry, led by the Hyundai-Kia Motor Group, is dealing fairly well with the business slump in domestic and

overseas markets, albeit the temporary decline of production and sales compared to its counterparts in the advanced countries.

**Table 10. Production and Sales Trends in the Korean Auto Industry**

Year	Production		Domestic sales		Export		
	Unit	% Change	Unit	% Change	Unit	% Change	
1981	133,084		8.1	109,837	5.1	24,937	-1.2
1982	162,590		22.2	140,624	28.0	20,602	-17.4
1983	221,019		35.9	193,788	37.8	25,356	23.1
1984	265,361		20.1	210,094	8.4	52,350	106.5
1985	378,162		42.5	246,282	17.2	123,110	135.2
1986	601,546		59.1	288,251	17.0	306,369	148.9
1987	979,739		62.9	420,048	45.7	546,310	78.3
1988	1,083,655		10.6	523,476	24.6	576,134	5.5
1989	1,129,470		4.2	762,959	45.7	356,040	-38.2
1990	1,321,630		17.0	954,277	25.1	347,100	-2.5
1991	1,497,818		13.3	1,104,184	15.7	390,362	12.5
1992	1,729,696		15.5	1,268,374	14.9	456,155	16.9
1993	2,050,208		18.5	1,435,967	13.2	638,557	40.0
1994	2,311,663		12.8	1,555,602	8.3	737,943	15.6
1995	2,526,400		9.3	1,555,902	0.0	978,688	32.6
1996	2,812,714		11.3	1,644,132	5.7	1,210,157	23.7
1997	2,818,275		0.2	1,512,935	-8.0	1,316,891	8.8
1998	1,954,494		-30.6	779,905	-48.5	1,362,164	3.4
1999	2,843,114		45.5	1,273,029	63.2	1,509,660	10.8
2000	3,114,998		9.6	1,430,460	12.4	1,676,442	11.0
2001	2,946,329		-5.4	1,451,450	1.5	1,501,213	-10.5
2002	3,147,584		6.8	1,622,268	11.8	1,509,546	0.6
2003	3,177,870		7.9	1,318,312	-18.7	1,814,938	20.2
2004	3,469,464		10.2	1,094,652	-37.0	2,379,563	31.1
2005	3,699,350		6.6	1,142,562	4.5	2,586,088	8.7
2006	3,840,102		3.8	1,164,254	1.9	2,648,220	2.4
2007	4,086,308		6.4	1,219,335	4.7	2,847,138	7.5

Year	Production	Domestic sales		Export	
2008	3,826,682	-6.4	1,154,483	-5.3	2,683,965

Source: Korea Automobile Manufacturers Association (2009)

**Table 11. Global Position of the Korean Auto Industry**

	Production Volume	Export Volume	Domestic Sales
1995	5 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>
2000	5 <sup>th</sup>	6 <sup>th</sup>	10 <sup>th</sup>
2005	5 <sup>th</sup>	4 <sup>th</sup>	14 <sup>th</sup>
2008	5 <sup>th</sup>	4 <sup>th</sup>	13 <sup>th</sup>

Source: Korea Automobile Manufacturers Association (2009)

Note: The ranking of export is as of 2007.

At present, the Korean auto industry is comprised of five automakers – Hyundai Motor, Kia Motor, GM Daewoo Motor, Ssangyong Motor, and Renault Samsung. The Hyundai-Kia Auto Group has been absolutely dominant. As shown in Table 12, the combined share of Hyundai and Kia in production volumes and domestic sales, respectively, reached 71.3 per cent and 76.9 per cent in 2008. GM Daewoo, which is affiliated with General Motors as a manufacturing base of small passenger cars, exports the majority of its production volumes to the global GM sales network. Renault Samsung and Ssangyong are minor players in the country's auto market.

**Table 12. Production and Domestic Sales of Korean Automakers (as of 2008)**

	Production	Domestic Sales
Hyundai	1,673.6 (43.7)	571.0 (49.5)
Kia	1,055.2 (27.6)	316.4 (27.4)
GM Daewoo	813.0 (21.2)	116.5 (10.1)
Ssangyong	81.4 (2.1)	39.2 (3.4)
Renault Samsung	187.9 (4.9)	102.0 (8.8)
Others	15.5 (0.4)	9.4 (0.6)
Total	3,826.7 (100.0)	1,154.5 (100.0)

Source: Korea Automobile Manufacturers Association (2009)

Note – Others include Daewoo Tata, Jindo, and Daewoo Commercial Vehicles; the figure in the parenthesis is the relative share.

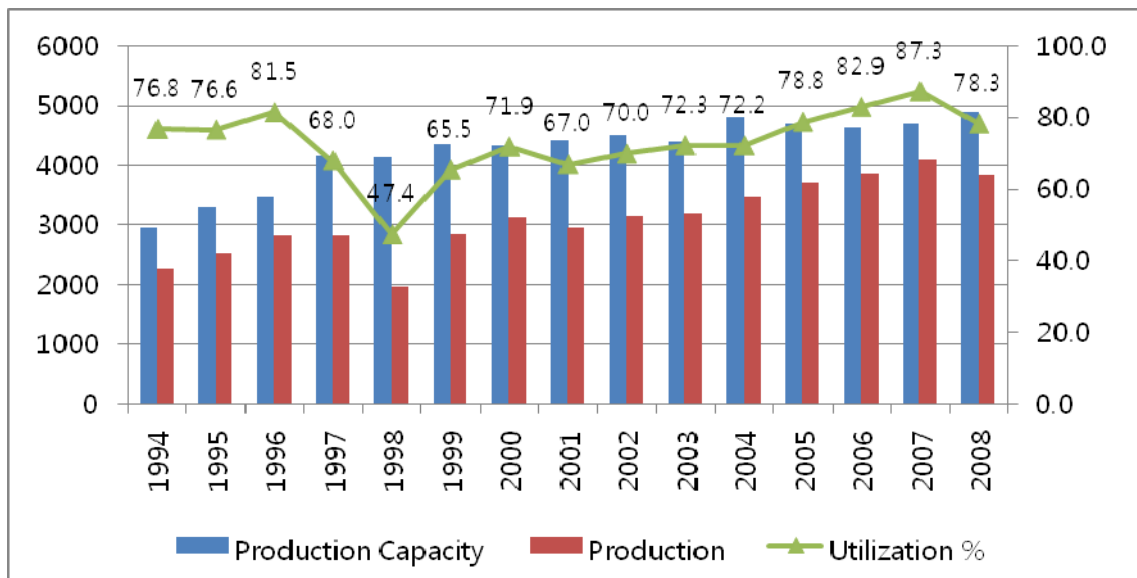
As of 2008 the auto parts manufacturing sector is comprised of 889 first-tier suppliers, including 118 large firms and 771 small firms. Total sales of those auto parts suppliers grew from 32,119.4 billion won in 2003 to 50,190.0 billion won in 2007, but declined slightly to 49,586.6 billion won in the context of the 2008 economic crisis. 74.3 per cent of auto parts sales came from auto parts supply to Korean auto makers in 2008. At present, each first-tier supplier is connected with two automakers, on average. It is noteworthy that during the economic crisis of 1997-1999 a number of auto parts suppliers were taken over by large foreign suppliers, while Korean auto makers introduced the

hierarchical structure of auto parts supply along with their move towards modular manufacturing. The growth of export by auto parts suppliers is remarkable, in that the total export of auto parts suppliers more than doubled between 2004 and 2008, increasing from 5.93 billion US dollars in 2004 to 13.95 billion US dollars. The trade balance of the auto parts supply sector has improved from 3.13 billion US dollars in 2004 to 9.60 billion US dollars in 2008.<sup>111</sup> The growth of export and trade balances in the auto parts supply sector is chiefly associated with the expansion of overseas production by Korean automakers (particularly Hyundai and Kia), and partly with the increasing sourcing of foreign automakers from Korean auto parts suppliers (Cho et al, 2004).

## 2. Restructuring of the Korean auto industry

Prior to the 1997 financial crisis the Korean auto industry comprised nine automakers – Hyundai Motor, Hyundai Precision, Kia Motor, Asia Motor, Daewoo Motor, Daewoo Heavy Industry, Ssangyong, Samsung Motor, and Samsung Commercial Vehicle. As shown in Table 2, the total volume of domestic sales and production by Korean auto makers dropped sharply by 48.5 per cent and 30.6 per cent in the context of the 1998 economic crisis. As a consequence, the overall utilization of industry-wide production capacity fell below 50 per cent in that year, as illustrated in Figure 10. Confronted with the economic crisis, the Korean auto industry, which witnessed the existing automakers’ aggressive expansion of production capacity and the entry of a new automaker (Samsung Motor and Commercial Vehicle) in the first half of 1990s, fell into a vortex of drastic restructuring. Since 1997, Korean automakers (except Hyundai Motor), which ran into serious trouble due to excessive competition, over-expansion of production facilities, and crippling debts for aggressive investment, experienced a change of corporate ownership through mergers or acquisition (Lee, 2002). In the context of the unprecedented economic slump in 1997-1998, the Korean auto industry crisis started with the Kia group’s bankruptcy in July 1997 and deepened with insolvency declared consecutively by Ssangyong, Samsung, and Daewoo.

Figure 10. Trends of Production and Utilization in the Korean Auto Industry



Source: Korea Automobile Manufacturers Association (2009)

<sup>111</sup> 1000 won = 0.87 USD (November 2009)

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The Kia group, which included Kia Motor and Asia Motor, collapsed in the first half of 1997 due to corrupt management practices, financial vulnerability resulting from excessive loans, and the Samsung group's continuing pressure for acquisition. The government and creditor banks, concerned about this collapse's damaging impact on the national economy, took special policy action to assist the insolvent Kia corporate group and put it into court receivership.<sup>112</sup> In 1998, the Hyundai Motor group acquired the Kia corporate group through the process of public bidding. In early 1998, Ssangyong, which was in serious financial difficulties due to its heavy debts, was taken over by Daewoo which sought to enter the luxury car and small commercial vehicle markets. In the same year, the Samsung group, which failed to buy out Kia, decided to withdraw from the auto business. As a consequence, Samsung was put into court receivership in June 1999 and sold to Renault in April 2000.<sup>113</sup>

Until 1998, Daewoo's auto business was in good shape. In fact, Daewoo took second place in market share in 1997 and 1998 by introducing a series of new passenger car models and expanding its business segments through the acquisition of Ssangyong. Yet, the Daewoo group broke down in 1999 because of excessive debts resulting from its ambitious global business strategy to build a worldwide network of auto production. In dealing with the Daewoo group's insolvency, the government put Daewoo and Ssangyong into the "debt workout" program in August 1999. Daewoo was brought into a public bidding process and finally acquired by General Motors in September 2001. GM acquired part of Daewoo's production facilities (Kunsan and Changwon plants) in 2002 and later absorbed the old production facility in Bupyeong, along with its satisfactory business performance. Under the recent global economic crisis, GM Daewoo Motor survives as an affiliate of General Motors, yet is now troubled due to its holding company's financial insolvency.

Ssangyong Motor, which was separated from the Daewoo group in 1999, was under the debt workout program until the government decided to sell it to the Shanghai Automotive Industry Corporation (SAIC) in early 2005. This Chinese automaker was interested in Ssangyong's diesel engine technologies and luxury car models. As Ssangyong's business performance deteriorated under the recent global economic crisis, the SAIC decided to give up its ownership in early 2009. As a result, Ssangyong is again in court receivership at present.

Hyundai Motor, which reshuffled its top management in early 1999, merged with Hyundai Precision and acquired Kia Motor. The Hyundai-Kia Motor group has since built its dominance over the domestic market and expanded aggressively overseas. As illustrated in Table 13, the Hyundai-Kia Motor group has increased its overseas production volume to almost 1.46 million units in 2008. When combining the domestic and overseas production volumes, it becomes the global top five automaker by producing 3,883 million units. Moreover, the Hyundai-Kia group has actively implemented the modular production model as its manufacturing rationalization. This group established Hyundai MOBIS in 2000, which has played a central role in developing and manufacturing modular parts, and set out a long-term plan to develop the modular production system for establishing the "Just-in-

<sup>112</sup> The government's special policy was called "the accord of bankruptcy suspension" in terms of which insolvent companies were given special treatment for suspending their repayment of loans for two months.

<sup>113</sup> Renault acquired the Samsung Motor Group with an investment of 650 billion won and had the Samsung group and creditor banks maintain 19.9 per cent and 10 per cent of the company's shares, respectively. Renault renamed the company Renault-Samsung and continues to produce a localized model of Nissan's Maxima mid-size car. Samsung Commercial Vehicles, another auto business owned by the Samsung group, liquidated in 2000.

Sequencing (JIS)” operation, as shown in Table 14. The level of modularization has grown from 10 per cent to 30 per cent over time when introducing new vehicle models. The corporate group has lifted the overall level of modularization from 30 per cent in 2005 to 40 per cent by 2006. The modularization is accompanied by outsourcing of parts sequencing jobs, automation of modular parts assembly, ergonomic improvement of working environment, and workload balancing of main production lines (KMWF 2005b). At the same time, the modularization has created surplus labour by simplifying the production line.

To sum up, the Korean auto industry has experienced extensive restructuring in the aftermath of the 1997 economic crisis. The Hyundai-Kia Auto group has impressively expanded its presence in the domestic and overseas markets, whereas other Korean automakers fell into business crisis and became targets of M&A by foreign firms as part of the restructuring of the global auto industry.

**Table 13. Overseas Production Volume of the Hyundai-Kia Motor Group**

		2006	2007	2008
Hyundai	India	299.0	338.6	486.1
	China	290.1	231.8	300.3
	U.S.	236.8	250.5	237.0
	Turkey	18.5	90.1	81.6
	Czech	-	-	12.0
	sub-total	844.4	911.0	1117.1
Kia	China	115.4	105.5	138.7
	Slovakia	5.0	145.1	201.5
	sub-total	120.4	250.6	340.2
Total	964.8	1161.6	1457.3	

Source: Korea Automotive Research Institute (2009)

**Table 14. Modularization Plan at Hyundai Motor Group**

		2001	2002	2003	2004	2005	2006
Cockpit Module	Module design & parts development			Integrated modules development			
Chassis Module	Simple assembly	Module design & parts development		Integrated modules development			
Front-end Module				Module design & parts development	Integrated modules development		

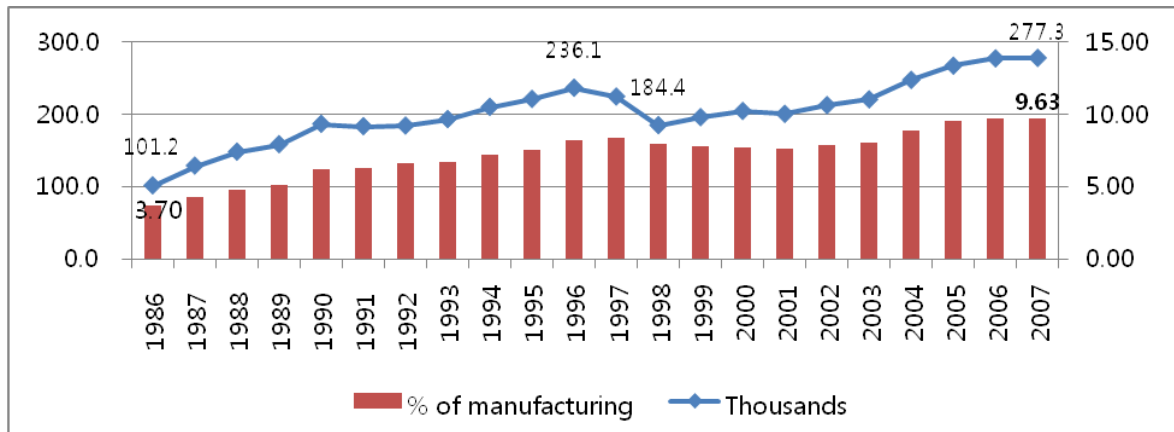
Source: Lee & Park (2008)

### 3. Employment practices of the Korean auto industry

Employment of the Korean auto industry showed sustained growth until the mid of 1990s. As demonstrated in Figure 11, the total employment of this industry grew from 101,100 in 1986 to 236,100 in 1996. The relative share of the auto industry in the country’s manufacturing sector increased from 3.7 per cent to 8.15 per cent during the same period.

Confronted with the severe business slump in 1997-1998, the auto industry witnessed its employment size drastically drop by 21.9 per cent in this period.

**Figure 11. Trends of Employment in the Korean Auto Industry**



Source: Korea Automobile Manufacturers Association (2009)

In the context of the economic crisis, major Korean automakers undertook the unprecedented downsizing consecutively. Kia went bankrupt in early 1997 and massively reduced its payroll (by more than 10,000 workers) by resorting to voluntary retirement packages and spinning off sales business units. Hyundai, faced with very low utilization of productive capacity during the economic crisis, also carried out a sizable downsizing of over 12,000 employees, including permanent dismissals (277), unpaid temporary layoffs (1,968), early retirement (6,451), regular retirements (1,420), and cutting its subcontracted workforce (1,722) (Lee & Park, 2008). Daewoo, which increased its employment through its merger with Ssangyong Motor in 1998, took action in early 2001 when it was under court receivership to reduce its payroll by around 7,400, including 1,750 dismissals.

As the domestic auto market recovered rapidly in the second half of 1999, Hyundai and Kia merged sales business units and affiliated manufacturing operations, thereby increasing their employment levels in that year. Faced with the rapid recovery of auto demand from domestic and overseas markets, Hyundai recalled its temporarily laid-off as well as permanently dismissed workers in early 2000, while Kia recruited over 2,000 new production workers in the same year. GM Daewoo also began to recall some of its 1,750 dismissed workers in August 2003 and finally re-hired its remaining 1,000 dismissed workers in early 2006. This is attributed mainly to the sharp growth in foreign demand coming from GM's international sales network. As a consequence, since the economic recovery of 1999 the total employment of the auto industry has risen up to 277,300 in 2008. Under the recent economic crisis, however, Ssangyong, which was put into court receivership, undertook a massive downsizing of 2,646 employees, including dismissal of over 1,000 workers in mid-2009.

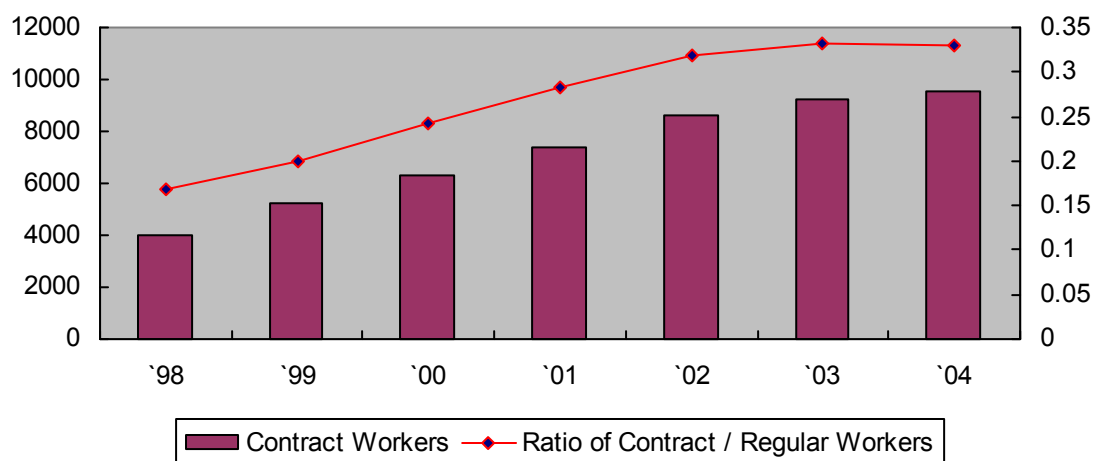
A notable change of employment practice in the Korean auto industry is the growing use of irregular workers, particularly contract workers, at auto plants in the post-1997 period. The automakers, after having massively downsized their regular workforce, commonly expanded the use of contract workers in their productive operations rather than recruited new regular workers as market demand recovered. Figure 12, for instance, illustrates a drastic increase in the size of the contract workforce at Hyundai Motor. Between 1998 and 2004, the number of contract workers grew from around 4,000 to nearly 10,000. The relative share of those workers in relation to the total production workforce in Hyundai auto plants soared from 16.9 per cent to over 30 per cent. Other automakers, such as Hyundai Motor, increased the number of contract workers to fill the job positions of laid-off regular workers. Until 2008, the heavy reliance of Korean automaker on irregular workers has remained unchanged. Faced with the recent economic crisis, however, the



automakers, including Ssangyong, dismissed a number of irregular workers (over a thousand) to buffer the business slump and protect the employment of regular workers.

According to a union member survey, conducted by the KMWU (2009) in early 2009, workers at automakers are 40.7 years old and have 15.76 years of job tenure on average, while those at auto parts suppliers are 40.4 years old and have 14.26 years of job tenure. This survey reports that the total amount of monthly wages of workers at automakers, including basic wages, overtime allowances, and bonuses, is 4.04 million won on average, slightly higher than those at auto parts suppliers (3.73 million won). Monthly wages of production workers vary among automakers to some extent. Workers at Hyundai receive the highest monthly wages, amounting to 5.2 million won on average, followed by Kia (4.2 million won), GM Daewoo (3,99 million won), and Ssangyong (3.9 million won). The wide variation of wages among automakers is attributed to differences in workers' job service years, which are applied directly to their annual pay raise, and the different financial condition of each automaker.

**Figure 12. Trends of Contract Workforce at Hyundai Motor**



Source: Park (2006)

#### 4. Industrial relations of the Korean auto industry

All automakers, except Renault Samsung, are unionized. As summarized in Table 15, the four labour unions organize the majority of production workers and low-rank white-collar employees. All the unions were transformed as affiliated units of the Korea Metal Workers Union (KMWU) in mid-2006. These unions have kept enterprise-based bargaining and union administration unchanged until now, although the leadership of the industrial union has demanded that they participate in industry-wide central bargaining. Recently, a schism between the large auto unions and the KMWU has widened since the latter's attempts to organize industry-wide bargaining failed due to employers' opposition and union members' indifference. In 2009, local union leaders at Hyundai Motor announced their independent administration from the KMWU, while a majority of union members at Ssangyong Motor voted for withdrawal from the industrial union.

**Table 15. Overview of Labour Unions at Major Automakers**

	Hyundai	Kia	GM Daewoo	Ssangyong
Establishment	July, 1987	August, 1960	July, 1963	July, 1987
Union members	44,168 (7 local units)	29,160 (5 local units)	10,300 (4 local units)	5,150 (1 unit)
Union density	80.8%	89.5%	63.7%	72.1%
full-time officers	91	73	85	70
Union dues	1% of Basic Wage	1.2%	1%	1%
Union Type	Union shop	Union shop	Open shop	Open shop

Source: Korea Metal Workers Union (2009)

Note: The figure for Ssangyong is as of May, 2008, while that of the others is as of May, 2009.

Over the past 20 years, labour unions at major automakers have played an influential role as pattern setters in nationwide collective bargaining and industrial relations. These unions, which are affiliated with the Korea Confederation of Trade Unions (KCTU) pursuing militant unionism, have created substantial production losses almost every year through dispute action, as illustrated in Table 16. Between the late 1980s and mid-1990s, these unions were very active and successful in enhancing economic welfare and working conditions. From the economic crisis of 1997 and onward, each auto union engaged in intense strike action opposing management-led downsizing: Hyundai and Kia in 1998, Daewoo in 2000, and Ssangyong in 2009. The labour unions, which experienced business slump and downsizing, demanded contractually guaranteed employment security for their members in the period of recovery. In addition, long working hour practices, which produce a sharp increase in musculoskeletal disorder cases along with the ageing of auto workers, have become a core concern of the labour unions. For instance, the average working hours in 2006 amounted to 2,438 at Hyundai, where around 7 per cent of hourly employees worked for more than 3,000 hours per year (Lee & Park 2008). All labour unions demanded the implementation of a two-day shift work schedule to reduce working hours and eliminate night work between midnight and 6:00 a.m. However, this new work shift has not yet been adopted due to management's discord. It is noteworthy that contract workers who organized their own unions at auto plants from the mid-2000s have since placed themselves as a core source of labour disputes in the automakers by demanding employment security and improvement of working conditions. As such, militant activism of labour unions at automakers, resulting in confrontational industrial relations and heavy damages in production and exports, has been a crucial concern of the government and management.

**Table 16. Labour Disputes at Korean Automakers**

Summary of labour disputes	
1997	Daewoo: wage negotiation (36 days)
1998	Hyundai: layoffs (18 days)
	Kia: restructuring (22 days)
	Daewoo: wage negotiation (36 days)
	Samsung: restructuring (70 days)

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### Summary of labour disputes

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1999	Hyundai: wage and labour contract negotiation (12 days) Kia: wage negotiation (2.5 days) Daewoo: wage negotiation (31 days) Ssangyong: wage negotiation (18 days)
2000	Daewoo: restructuring (75 days) + irregular workers union (3 days)
2001	Hyundai: wage and labour contract negotiation (30 days)
2002	Hyundai: wage and labour contract negotiation (18 days) Kia: wage and labour contract negotiation (12 days) Ssangyong: wage and labour contract negotiation (8 days)
2003	Hyundai: wage and labour contract negotiation (42 days) + irregular workers union (34 days) Kia: wage contract negotiation (34 days)
2004	Hyundai: wage negotiation (6 days) Kia: wage and labour contract negotiation (18 days) GM Daewoo: wage and labour contract negotiation (43 days)
2005	Kia: wage negotiation (15 days) + irregular workers union (71 days) Daewoo: irregular workers union (46 days)
2006	Hyundai: wage negotiation (31 days) + irregular workers union (100 days) Kia: wage and labour contract negotiation (36 days) + irregular workers union (62 days) GM Daewoo: wage and labour contract negotiation (45 days) Ssangyong: wage and labour contract negotiation (49 days)
2007	Kia: wage negotiation (47 days) + irregular workers union (61 days) GM Daewoo: wage negotiation (8 days)
2008	Hyundai: wage negotiation (5 days) Kia: labour contract negotiation (7 days)
2009	Ssangyong: layoffs & restructuring (77 days)

Source: Ministry of Labour (2008)

## 5. Government policies for the Korean auto industry

The government took policy action to nurture the auto industry in the 1960s and 1970s as part of its economic growth plan. In 1962, it set the first five-year plan to foster

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the auto industry and enacted legislation to limit the import of foreign vehicles and auto parts. In the mid-1960s, the government announced a comprehensive plan to nurture the auto industry and localize auto parts. The 1970s witnessed the government's continued policy efforts to develop the auto industry and help automakers export their cars. In the early 1980s, when automakers were confronted with a serious business crisis in the context of the second oil shock, the government took forceful restructuring action to rationalize segments of auto vehicles among troubled automakers. By its rationalization policy, the government assigned Hyundai and Saehan (predecessor of Daewoo) as the automakers to manufacture passenger cars, while Kia and Donga (predecessor of Ssangyong) were assigned to the commercial vehicles segment. The government's regulatory action remained in effect until the mid-1990s, when this policy was lifted to allow the existing automakers to freely get into any auto segments and permit a new automaker, such as Samsung, to enter the auto business. This liberalization policy led to excessive competition and debt-laden expansion of production facilities, and, in turn, resulted in a serious crisis for the country's auto industry, as discussed in Section Two.

Since the economic slump in 1997-1999, the government undertook the restructuring of insolvent automakers, including Kia, Samsung, Daewoo, and Ssangyong, by getting involved as their key creditor in the M&A decision-making process. Under the economic crisis, the government lifted its regulatory policy to limit the import of foreign cars, particularly Japanese, in order to obtain emergency loans from advanced countries, including Japan. As a consequence, the country's domestic auto markets have since become completely open to foreign auto makers.

During recent years, the government has made policy efforts to reach Free Trade Agreements (FTA) with advanced economies, such as the U.S. and EU. In terms of the FTAs, Korean automakers are expected through free trade to expand their exports of vehicles to those markets. In the context of the recent global crisis, the government took temporary policy action to reduce the sales tax on vehicles by 30 per cent for the period December 2008 – June 2009 in order to promote sales. This policy is extended until the end of 2009. Moreover, the government launched a "Green Growth New Deal" to overcome the current economic crisis, which includes subsidizing the development of "green" cars and fuels. This subsidy, amounting to over 2.2 trillion won, is allocated for automakers to design electronic and hybrid cars and to develop auto engines using "green" fuels (i.e., bio-ethanol).

As such, the government has played a significant role in nurturing and restructuring the auto industry during the economic crisis. In recent years, it has helped automakers enhance their global competitiveness by adopting the FTAs and offering subsidies for developing "green" cars.

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**Automotive industry in Malaysia: Evolution and impact of global crisis**

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## Executive Summary

In the early 1980s Malaysia initiated the National Automotive Project aiming for local ownership and control, economies of scale and increased local content. The domestic automotive industry expanded in the following decades in terms of production, employment and local content, but the policy failed to generate sufficient industrial upgrading and international competitiveness indicated by 55 per cent capital utility in 2008. Local ownership and control have withered in the 21st century with only one significant national manufacturer, PROTON, staying in business and looking for strategic partners. The shift to a national automotive strategy impacted heavily on the employment and industrial relations of the automotive industry. A centralized collective bargaining (CB) system based on an industrial union and an employers' association emerged in the 1970s but this setup changed during the 1980s to a pluralistic and decentralized CB system based on individual employers negotiating with enterprise unions in the larger auto manufacturers and assemblers, while the industrial union increasingly organized component and parts companies. In 2004 the trade union density was nevertheless 45 per cent, indicating a similar high level of collective agreement (CA) coverage. From the 1990s until the 2000s trade unions and workers in the CA-regulated sector faced a downward pressure on employment conditions due to increased hiring of contract (often foreign) workers. Moreover, employers have continuously resisted union organizing and voice at the workplace level framed by Malaysia's legislated and enforced restrictions on internationally (ILO) recognized trade union rights and workplace practices. The global financial crisis and economic recession in 2008-09 did not affect Malaysia's automotive industry as much as the East Asian financial crisis did in 1997-98, and the government has also taken counter-cyclical actions. The lower impact of the 2008-09 global recession relates paradoxically to the industry's weak international competitiveness, implying small export of automotive products from Malaysia. In the long term, however, there is no alternative to radically improving the automobile industry's productivity and competitiveness. The government's National Automotive Policy (NAP) of 2006 makes this a cardinal objective and outlines a set of relevant means (e.g. human resources development in an industry with 80 per cent unskilled workers). However, NAP is based on a rather narrow alliance between the government and the national auto makers, and in a highly unionized industry the policy will probably not succeed unless all key stakeholders of the industry are mobilized, including workers and trade unions. Forming a comprehensive and inclusive automotive productivity alliance will provide an institutional driver of the NAP into a "fair growth" trajectory with high-performance workplaces, companies and clusters.

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## 1. Introduction

The Heavy Industrial Policy in the early 1980s marks a significant change of industrialization strategy in Malaysia towards building a nationally owned and controlled automotive industry, and this shift impacted employment and industrial relations of the industry. The inauguration of the first national automotive project, PROTON, in 1983 with the formation of a joint venture between the Heavy Industry Corporation of Malaysia (HICOM), Mitsubishi Motor Corporation (MMC) and Mitsubishi Corporation (MC) of Japan was the Malaysian government's attempt to increase local content, rationalize the industry to achieve economies of scale and upgrade the assembly industry to a manufacturing industry with international competitiveness (Abdulsomad, 1999).

Equipped with protective measures and subsidized in various ways by the government, the first Proton cars were rolled out in 1985. Subsequently, the national automotive program also established a small car manufacturer (PERODUA) in 1993, a heavy vehicle company (Malaysian Bus and Truck, MTB) in 1994, a motorcycle manufacturer (MODENAS) in 1995, and a light vehicle commercial manufacturer (INOKOM) in 1997. Local auto parts and components manufacturers and suppliers were encouraged to upgrade through local content and vendor development programs especially in partnership with Proton and Perodua.

The national automotive sector has de facto been reduced to one corporation<sup>114</sup>, Proton, and this corporation lacks competitiveness in international markets. Twenty four years after the launch of the first national car the local automotive suppliers are still lacking technological progress (Abdullah et al. 2008; Zadry and Yosof 2006; Wad 2006, 2008). However, Proton's domestic market base made it less exposed to the global financial and economic crisis in 2008 but its inadequate international competitiveness is a critical weakness in the long term. This is also acknowledged by the Malaysian government in its National Automotive Policy (NAP) that "aims to facilitate the required transformation and optimal integration of the national industry into regional and global industry networks" (MIDA 2009, 2). The six more specific objectives are: to turn the domestic automotive industry and especially the national car manufacturers into competitive entities; to create a niche-oriented automotive regional hub in Malaysia; to generate automotive capabilities and economic value adding at a sustainable level; to increase exports of motor vehicles, components and parts; and to secure capable Bumiputera participation and higher benefits for automotive customers. A review of NAP was tabled to be published in September 2009 (Cheah, 2009) but is postponed to October 2009.

Considering that the global automotive industry at present is a value-destructing sector which undergoes tremendous "consolidation", the purpose and objectives of the NAP pose tremendous challenges for the key stakeholders of the Malaysian automotive industry. The paper provides an overview of the automotive industry<sup>115</sup> in Malaysia with a

<sup>114</sup> Formally speaking PERODUA, MTB and INOKOM are also "national" projects, but only INOKOM is today majority owned by local capital (controlling shareholder is Sime Darby with 51 per cent). INOKOM does only have 1.1 per cent of total vehicle market in 2009 and is doing contract assembling for Hyundai (MAA [www.maa.org.my/](http://www.maa.org.my/) accessed 6.8.2009; [www.inokom.com.my/](http://www.inokom.com.my/) accessed 28.9.2009).

<sup>115</sup> The automotive industry includes all industries producing motor-driven vehicles, i.e., two-wheelers (motorcycles, scooters, etc), 3-wheelers ("autos") and 4-wheelers (automobiles). In the Malaysian automobile industry light vehicles and especially passenger cars form the overwhelming share. Henceforth, the terms automobile, automotive and auto are used interchangeably for convenience. Data sources do not always allow for statistical separation of light from heavy vehicles.

focus on light automobile vehicles on the one hand and on the industry's employment and industrial relations on the other. This is followed by the analysis on the impact of the global crisis 2008/09 on the automobile industry. Then, the structural issues of the Malaysian automotive industry are discussed focusing on the role of employment and labour relations for improving the competitiveness of the industry and vice versa, before the paper is concluded. The analysis is predominantly based on secondary data, but primary data has been generated about employment and industrial relations of the automobile industry due to insufficient secondary data about this aspect.<sup>116</sup>

## 2. Automobile industry in Malaysia

The automobile industry in Malaysia consists of 15 motor vehicle producers (OEMs) of which six are motor vehicle manufacturers and nine are assembling companies, including franchise holders with rights to assemble, and most are non-national car assemblers like Toyota and Honda.<sup>117</sup> As of June 2009, the two "national" car manufacturers, Proton and Perodua<sup>118</sup>, control 57.8 per cent of the total vehicle market with 27.1 per cent and 30.7 per cent controlled by Proton and Perodua, respectively<sup>119</sup> (MAA, 2009a). The totally installed capacity is above 960,000 motor vehicles (MIDA 2009) compared to domestic production around 530,000 units in 2008 making up a capacity utility of 55.2 per cent at the peak of production.

The national auto manufacturer, Proton, upgraded technologically to original design manufacturing (ODM) in 2000 and to engine manufacturing in 2002. These achievements followed Proton's collaboration with and acquisition of the British sports car maker, Lotus, and technical collaboration with another European engineering firm, respectively. However, Proton and other Malaysian auto makers have not entered the automobile technology frontier (e.g., energy efficient vehicles). In the 21<sup>st</sup> century Proton lost domestic market share but it has stayed profitable most of the time and generated additional employment. This indicates that in a protected market Proton can be viable with selective government support of the national auto sector. Moreover, advances in domestic and international markets are conditioned by new models being launched (see table 17).

**Table 17: Revenue, Employment and Exports, Proton, 1999-2009**

	1999/ 2000	2000/ 01	2001/ 02	2002/ 03	2003/ 04	2004/ 05	2005/ 06	2006/ 07	2007/ 08	2008/ 09
Revenue (RM million)	5399.6	6902.9	8571	7674	6361.2	8483.3	7796.9	4687.3	5621.6	6486.6
Profit after tax (RM million)	91.7	311.8	613	809	510.3	442.4	46.7	(589.6)	184.6	(301.8)

<sup>116</sup> Acknowledgement: Among the stakeholders of the industry NUTEAIW (and MTUC on general issues) has delivered information about employment and industrial relations issues inaccessible from existing sources. The views of the government and the Malaysian Automotive Association have been covered through their websites or from other sources. The usual disclaimers prevail.

<sup>117</sup> Downstream activities by wholesalers and dealers conducting sales and marketing are delimited.

<sup>118</sup> Perodua is classified formally as a "national" motor vehicle maker but the manufacturing subsidiaries are 51 per cent equity-controlled by Japan's Daihatsu Motor Co. (41 per cent) and Mitsui & Co. (10 per cent) through the Perodua Auto Corporation where they hold 51 per cent equity. Thus, Perodua is in reality controlled by Japanese firms, particularly Daihatsu Motor Co., although Malaysian interests control the sales company and the overall holding company.

<sup>119</sup> In the passenger vehicle market, Perodua and Proton control 33.8 per cent and 29.7 per cent, respectively.

	1999/ 2000	2000/ 01	2001/ 02	2002/ 03	2003/ 04	2004/ 05	2005/ 06	2006/ 07	2007/ 08	2008/ 09
Employment	5753	6228	9910	9466	8715	10300	11159	9525	11500	11500
Domestic Car Sales (units)	170296	195228	227229	205471	146339	182924	166968	88635	116911	139824
Exports (units)	n.a.	8838	8648	7929	7339	17243*	12765	20528	17337	17387
Revenue (Domestic) RM Million	n.a.	n.a.	n.a.	n.a.	5494.8	7052.0	6441.0	3162.3	4131.9	n.a.
Revenue (Exports) RM Million	n.a.	n.a.	n.a.	n.a.	866.4	1413.3	1355.9	1525.0	1489.7	n.a.

Source: Company's annual reports.

Note: \* Sales of new models e.g. GEN 2 increased the exports more than double. Proton also expands to new export markets such as China and Middle East. Financial year ends on March each year.

The competitiveness of the Malaysian automobile industry hinges very much on the quality, efficiency and delivery capabilities of the auto components and parts sector. These auto component and part suppliers service two markets, the original parts and components demanded by the vehicle makers (OEMs) and replacement equipment market (REM) where items are being bought by repair shops and individual customers. In 2008, there were around 690 firms manufacturing and supplying over 4,000 automotive component and parts<sup>120</sup> (MIDA, 2009) and of these, 70 per cent were OEM supply. The component and parts sector accounted for RM 6.37 billion in sales with RM 4.6 billion and RM 2.0 billion in imports and exports in 2008, respectively. Around 45 components manufacturers export components and parts primarily within low-tech products like steering wheels, rims, brake pads, wheels, bumpers, bodies, exhausts, radiators and shock absorbers. Among the original equipment suppliers (OES) major players include the foreign manufacturers such as Delphi Automotive Systems, TRW, Siemens VDO, Bosch, Denso and Nippon Wiper Blade, while the major local players include APM Automotive, Sapura, Delloyd and Ingress (MIDA, 2009). Some of the firms (Ingress, Hicom Teck See, Sunchirin, APM Corporation and Delloyd) have established investment in ASEAN countries like Thailand and Indonesia. Despite some well-established firms in this segment, the majority are still lacking in terms of technology progress (Simpson et al. 1998; Zadry and Yosof 2006; Rosli and Kari 2008; Wad 2008). In the OEM segments, transnational OEMs have established ever-raising international standards of global brands including the ISO/TS 16949 (Wad 2006). Investments in technology and R&D are still too low with around 2 per cent in average during 2000-2005 for OEMs, while other equipment manufacturers only spend around 0.14 per cent (DOSM 2009, own calculations). Issues of volume, quality, high price, and dependence on technology suppliers for design have made these segments more vulnerable, especially during crisis. During the 2000s one of the local key auto suppliers, AMP Automotive Holdings, has managed to stay profitable with long-term increasing revenues while downsizing its workforce since 2005 (table 18).

<sup>120</sup> The major OEM parts and REM manufactured in Malaysia include: a) body panels and other components for transmission, such as transmission shift lever and fork, transmission control linkages, speedometer pinion, clutch, torque converter and drive shaft; b) steering, wheels and brake parts; c) electrical & electronic parts, such as automotive electronic module/ component or sensor, navigational system, air conditioners, radios, batteries, control cables, horns, wiring harnesses, alternators, starter motors, clocks, fuse boxes, head lights, indicating/signaling lights, meters, gauges, switches or horns, control cables, speedometer cables, metallic tubing or hoses; and d) other parts, such as tyres and inner tubes, exhaust systems, mirrors and upholstery such as carpet and floor mats, seats and safety belts.

**Table 18: Revenue, Profits, Employment and Total Industry Volume, APM, 2000-2008**

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Revenue (RM million)	620	660	696	664	789	971	900	839	944
Profit after tax (RM million)	n.a.	n.a.	n.a.	n.a.	58	72	59	59	58
Employment	2793	2798	3203	3198	3638	3888	3678	3021	n.a.
Total Industry Volume (units)	343000	396500	435000	405000	487600	551045	490768	487176	n.a.

Source: Company website and annual reports.

The automotive industry also contributes establishing forward and backward linkages with others sectors. Although data about the extent of linkages are hard to find, the sector is very much linked (directly or indirectly) to other supporting industries like chemical, steel, rubber, plastic, electrical and electronic components, and service industries such as stamping, repairing, designing, insurance, storing, shipping, distribution and marketing, banking and finance, and other service industries. The linkage and spill-over effects in terms of technology transfer, etc, have entitled the automotive industry to be “the industry of industries”, and therefore it has been considered a strategic sector for industrialization among developing countries, including Malaysia.

### 3. Industrial, trade and investment policies of the automotive sector, Malaysia

The automotive industry in Malaysia went through different phases of development in response to different policy initiatives, among other factors: Import-based industry 1957-66; import-substitution 1967-82; joint national automobile program with Japanese auto makers 1983-2003; independent national automobile industry 2004 to the present (2009) (see Table 19).

**Table 19: Industrial, Investment and Trade Policy**

Period	Event
1957	Malaysia independent as Federation of Malaya. Import of CBUs continues.
1963	Malaysia began to encourage the establishment of the automotive industry.
1964	Policy announcement to encourage assembly and manufacturing of components parts of automobiles.
1967	Six assembly plants approved by the government (mainly joint venture projects with European and local partners).
1970	Recommendation for expansion of local content to 40 per cent (Walker Report).
1983	1st National Car project approved and agreement took off between HICOM, Mitsubishi Motor Corporation and Mitsubishi Corporation.
1985	Launch of National Car Project (PROTON) and production of Proton Saga.
1986	Promotion of Investment Act 1986 offers tax exemptions (Pioneer status & Investment Tax Allowance).
1993	2nd National Car project (PERODUA) was established to produce smaller and affordable vehicles (PERODUA is expected to complement PROTON and the vendor development programs*). Joint venture with Daihatsu, Mitsui and several government-controlled companies where Malaysian equity amounted to 68 per cent and Japanese equity to 32 per cent.

Period	Event
1994	3rd National Automotive Project, Malaysian Truck and Bus (MTB), was established to produce smaller lorries and buses. Joint venture with Diversified Resources Herhad (DRB), Hicom Holding Bhd, Isuzu Motor Ltd Japan and ITOCHU Corporation.
1995	HICOM with PROTON is privatized and controlling share is acquired by Jahaya, owner of DRB. His death in March 1997 in a helicopter crash, a few months before the outbreak of the East Asian financial crisis, turned DRB-HICOM and PROTON into dire straits.
2000	State-controlled Petronas takes DRB-HICOM's controlling share of PROTON. Later government controlled investment agency, Kazanah, acquires the largest stake of 43 per cent.
2001	PERODUA is restructured from a joint venture (72 per cent Malaysian equity) with a vehicle sales firm (PSSB), vehicle manufacturing firm (PMSB) and engine manufacturing firm (PEMSB) into two joint ventures whereby Daihatsu and Mitsui acquire 51 per cent equity control of the new company, the Perodua Auto Corporation (PCSB), which again controls 51 per cent equity of the manufacturing (PMSB) and engine (PEMSB) companies.
2004	PROTON becomes fully owned Malaysian company. MMC and MC exit as minority shareholders.
2005/06	Transformation of tariff protection measures to excise tax measures adapting to AFTA. Announcement and launching of the National Automotive Policy.
2007	MTB becomes majority owned by joint venture partner, Isuzu Motors (51 per cent), acquiring 31 per cent stake from DRB-HICOM in addition to its existing 20 per cent stake.
2009	Second stimulus package. Review of automotive policy is expected in October of 2009.
2010	Phasing out of approval permits (APs) for CBU import by end of December 2010. (Limited APs will be issued)

Source: Authors

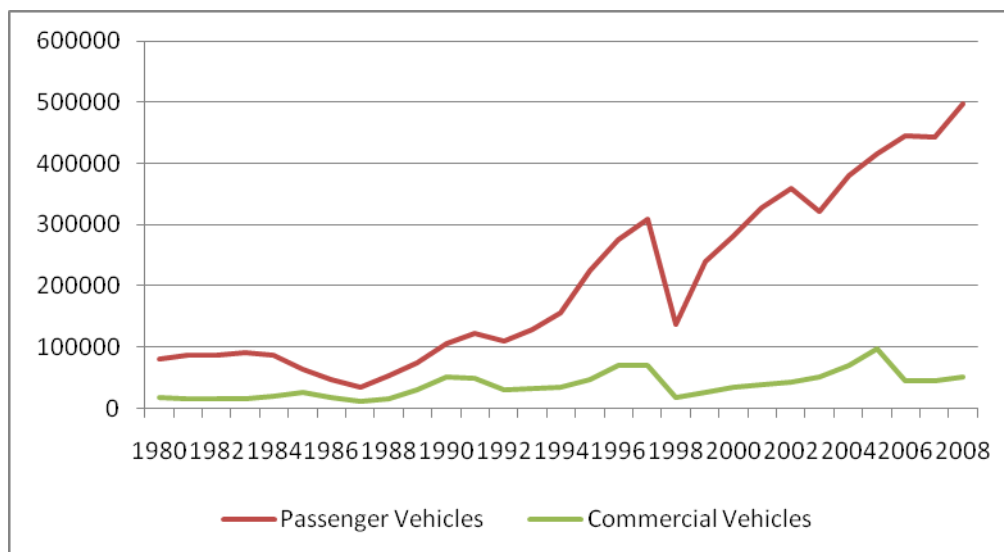
## 4. Performance of automotive industry

### 4.1. Vehicle Sales and Production

Malaysia is primarily buying and producing passenger cars (Wad 2009). The passenger vehicles segment (excluding 4 wheel drivers) is the major market in Malaysia outperforming the commercial vehicle segments.<sup>121</sup> The markets for passenger vehicles continued to surge over the years except during the global economic recession in 1985 and the Asian financial crisis in 1997-98 (see Figure 13). During these periods sales contracted with the largest contraction during the financial crisis. After 1998, the markets for passenger vehicle continued to grow at an average rate of 10.5 per cent per annum. The sales of commercial vehicles show a steady growth except for 1997-98 and again in 2006 due to the effects of East Asian and global financial crises, respectively. As of June 2009, the sales of passenger and commercial vehicles are 228,200 and 22,892 units, respectively. Compared to Jan-June 2008, a decline of 9.7 per cent is recorded.

<sup>121</sup> Commercial vehicles include panel vans, pick ups, trucks, prime movers and buses. In 2008, their market shares are 8.6 per cent, 49.3 per cent, 37.9 per cent, 1.9 per cent and 2.3 per cent, respectively.

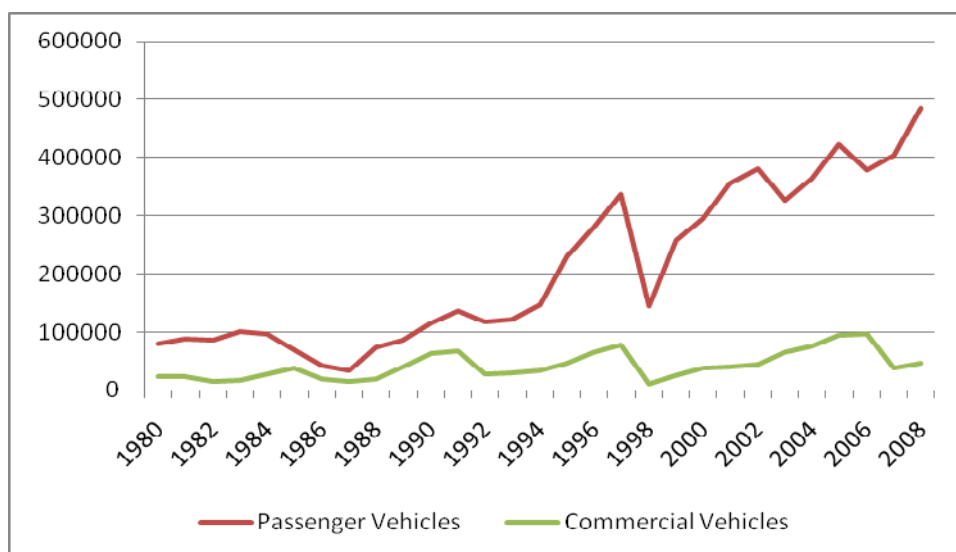
**Figure 13: Sales of Passenger and Commercial Vehicles**



Source: MAA, 2009c

The same trend is observed in the production of passenger and commercial vehicles (see Figure 14). In 1985 and during the financial crisis production contracted the largest and a gradual increase is observed after 1998. However, relatively, the impact of 1997 crisis is much larger than the recent global crisis.

**Figure 14: Production of Passenger and Commercial Vehicles, 1980-2008**



Source: MAA, 2009c

## 4.2. Trade Performance

In 2007, the world share of automotive exports in the total merchandise exports is 8.7% (WTO, 2008). Among the developing and emerging economies (NIEs), China, Korea and Thailand were the top exporters of automotive products. Malaysia's automotive exports are 0.6 per cent of the total merchandise exports of Malaysia. From 2000 to 2007 the automotive exports of Malaysia increased from US 121 million to US 1122 million (see Table 20). However, the trend shows that Malaysia's exports share is still far below

even that of Taiwan, Philippines and India (who mainly concentrate on domestic markets) (WTO 2008). Malaysia's imports show an increasing trend from 1990 to 2007. This might also indicate that without the domestic market Malaysia's automotive sector would find it difficult to survive. In turn, Thailand and Korea exhibits a better position in trade where both maintained a positive trade balance.

**Table 20: Exports and imports of Automotive Products of Malaysia, 1990-2007 (US million)**

Malaysia	1990	2000	2005	2006	2007
Export	121	307	725	920	1122
Import	1312	1833	3395	3221	3223

Source: WTO, 2008.

Note: Automotive products include SITC groups 781, 782, 783, 784, and subgroups 7132, 7783. Other transport equipment such as railway vehicles, aircraft, spacecraft, ships and boats and its components and parts is excluded. Based on SITC rev. 3.

Table 21 shows the sales, exports and imports of the auto component and parts sub-sector. The sector's sales show an increasing trend over the years. However, the sector is still highly dependent on imports. The negative trade balance of automotive products indicates that Malaysia still needs to improve its competitiveness in component and parts manufacturing. On one hand, the inability of local suppliers to meet quality and to provide cheaper components and parts has encouraged the auto manufacturers to source for import components. On the other hand, due to commitment to foreign partners in return for technological know-how, suppliers hardly have the avenue to export. Although exports of the sector increase over the years, it is still far below that of Thailand and other emerging economies. The major exports include steering wheels, road wheels, bumpers, gearboxes, brakes, radiators and suspension shock absorbers that are relatively low tech products.

**Table 21: Sales, Exports and Imports of Auto Components and Parts (RM Billion)**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Sales	3.00	3.93	4.65	5.19	4.90	4.91	5.86	5.25	5.46	6.37
Imports	1.10	1.14	1.21	1.48	1.50	2.24	3.98	4.08	4.50	4.60
Exports	0.44	0.32	0.53	0.73	0.86	1.07	1.40	1.85	2.70	2.00

Source: MIDA, 2009

### 4.3. Employment

The auto manufacturing and assembly and the parts and components manufacturers generated nearly 50,000 jobs in 2008, with 24,310 and 24,249 employed, respectively, and residual transport equipment 6614 (see Table 22). Proton and Perodua have the largest share of workforce with nearly 70 per cent of the total employment of motor vehicle manufacturers. The industry recorded 4.9 per cent annual average growth rate of employment over the past eight years.

**Table 22: Total number of employment by industry, 2000-2008**

MISC Code	Industries	2000	2001	2002	2003	2004	2005	2006	2007	2008
341	Manufacturer of motor vehicles	14568	16301	16988	17543	19055	22693	21880	22295	24310
343	Manufacturer Parts & accessories for motor vehicles & engines	18380	22148	23499	23963	24188	28684	25644	24488	24249
359	Transport Equipment n.e.c.	5322	5242	5299	5491	6021	5940	6555	6601	6614
	Total	38270	43691	45786	46997	49264	57317	54079	53384	55173



Source: MPC, 2009

Note: The employment number is based on survey of selected firms. In average, 16 motor vehicle manufacturers, 100 parts and component manufacturers and 25 other transport equipments manufacturers were surveyed. Average monthly salary refers to total salaries and wages/ total employment/12.

The monthly salary of the automotive sector is highest in the segments of motor vehicle manufacturers (see Table 23). In the manufacturers of components and parts (mainly consist of small medium industries) monthly salary in average is around RM 1,600 in the 2000s.

**Table 23: Average Monthly Salary, 2000-2008 (RM)**

MISC Code	Industries	2000	2001	2002	2003	2004	2005	2006	2007	2008
341	Manufacturer of motor vehicles	2250	2201	2251	2221	2354	2251	2473	2593	2853
343	Manufacturer Parts & accessories for motor vehicles & engines	1359	1410	1482	1572	1635	1581	1660	1786	1849
359	Transport Equipment n.e.c.	1371	1517	1536	1637	1759	1702	1712	1761	1870

Source: MPC, 2009

Note: The employment number is based on survey of selected firms. In average, 16 motor vehicle manufacturers, 100 parts and component manufacturers and 25 other transport equipments manufacturers were surveyed. Average monthly salary refers to total salaries and wages/ total employment/12.

Owing to stiff competition, productivity plays a key role. Due to the past dependence on motor vehicle assembly and low technology applied, unskilled workers consist of more than 80 per cent of the workforce while skilled and semiskilled is around 5 to 7 per cent (see Table 24). This tremendous gap in human resource recruitment and development has to be overcome if the industry is going to be upgraded. Automotive manufacturers have engaged in skill enrichment programs, not least the national auto manufacturers. For instance, Perodua's application of the Japanese production standards and procedures requires improvements in human skills. In this aspect, employees receive various training in production control, welding, painting, trim and final maintenance, tooling, stamping and quality control (Mahidin & Kanageswary, 2004, Rasiah 2001). This has contributed to the development of skilled and semi-skilled workers. Although Proton significantly contributes to the skill improvements of the employees, on average the industry still lacks the investment in training and employability of skilled workers. The training expenditure as a percentage of sales for both manufacturers of motor vehicles and other transport equipments is below 0.20 per cent.

**Table 24: Training and Skill Level**

Manufacture of motor vehicles, trailers and semi-trailers				
	Training (% of sales)	Skilled Workers	Semi-skilled Workers	Unskilled Workers
2000	0.06	5.09	5.34	89.58
2001	0.06	5.24	5.40	89.36
2002	0.10	9.36	5.64	85.00
2003	0.07	5.80	5.66	88.54
2004	0.04	6.73	5.92	87.35
2005	0.07	7.09	6.00	86.91

Source: Authors calculation based on annual manufacturing survey dataset, DOSM, 2009.

Note: Skilled, semi-skilled and unskilled workers represent the percentage of degree holders, diploma holders and non-degree and diploma holders out of total workforce.

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## 5. Employment relationship and working conditions<sup>122</sup>

The employment conditions of the automobile industry are regulated by employment law and, to a wide extent, also by registered collective agreements (CAs) (see below on IR). With a high level of unionization and collective agreement coverage the industry is a relatively “well paid” place to work (see table 7 above), and it is less exposed to “precarious work” conditions and numerical flexibilization compared to labour market segments with lower or no coverage of collective agreements. However, during the 1990s until the financial crisis 1997-98 and again in the 2000s an increasing number of immigrants have been employed in manufacturing, including the automobile industry. This has happened primarily in the non-unionized sector where as many as 80 per cent of production workers can be immigrant labourers, according to NUTEAIW. In the industrial union segment 20 per cent of the workforce was contract workers in 2008, while it is up to 35 per cent in Proton and Perodua. In addition, foreign contract labour has increasingly been supplied by so-called “outsourcing” companies whereby the manufacturer is saved from contributing to pension and social security schemes (Employees Provident Fund; Social Security Organization). The vast amount of legal immigrant workers is subjugated to immigration law, and illegal immigrants are working in the informal sector without any legal protection. MTUC estimates that there are 1.8 million registered foreign workers and 1.2 million undocumented workers at present in Malaysia at present.

The industry is a male-dominated, with 80-90 per cent male employees. Formal working time has on average been a five-day work week with around 44 hours. Overtime has been widely used in boom conjunctures, while reduction of overtime is widely used during times of declining growth. In cases of stagnation or recession, several additional measures are applied, like internal functional relocation of employees, time off for training and education, temporary lay-offs, four days work week, etc. During the East Asian financial crisis 1997-98, for example, OEMs made use of a wide range of initiatives to avoid retrenching regular Malaysian employees that are protected by labour legislation and CAs. The measures included natural attrition, non-renewal of contract workers’ employment, retrenchment of immigrant workers, reduction of increments and bonuses and temporary shutdowns keeping the workforce on reduced pay (e.g., 75 per cent) (Peetz & Todd 2000, 47-51). When retrenchment was unavoidable managements made extensive use of Voluntary Separation Schemes (VSS) and, as the last option, direct retrenchment. None of these measures protected employees anyway from experiencing deteriorating remuneration and working conditions.

More specific and up to date statistical data on wage levels among various employment groups are not available. In the 2000s the average annual wage increase among workers has been 3 per cent per year, says NUTEAIW. This seems to be slightly below the average monthly salary improvement from 2000 to 2008 (see table 7 above). A newly recruited worker will get around 600 RM per month as basic salary (equal to 28 RM per workday) and 100-150 RM in incentive allowances per month plus other benefits in accordance with the CA. This income level is far below industry average. It is, contends NUTEAIW, also insufficient for a worker to make a decent living, and the worker has to work overtime to make both ends meet (MTUC demands 900 RM plus allowances to be the minimum wage level in Peninsular Malaysia). NUTEAIW inform that contract workers

<sup>122</sup> In Malaysia employment is subject to labour law and registered collective agreements, if they exist. Temporary employment is translated into regular employment after six months while contract employment is not.

work 12 hours a day for 18 RM (equal 13.2 RM for a normal 8.8 hour workday), and they are not entitled to medical leave or annual leave.

In Malaysia, legislation about occupational safety and health has been improved in the 1990s and OSH committees have become mandatory in larger manufacturing enterprises. In the case of Proton and in non-national, organized OEMs like the Ford-related company AMI, safety committees were part of the workplace in the early 2000s with union-nominated employees from the plant.

## 6. Industrial relations (IR)

In the early 2000s trade union density in the Malaysian automotive industry was 39 per cent in 2000 raising to 43 per cent in 2002 and 44.5 per cent in 2004 (table 25). This level is relatively high considering that overall union density in Malaysia is around 14-15 per cent in 2000<sup>123</sup> and that union density in automobile industries in Thailand, Indonesia and the Philippines are much lower (Wad 2004b). The high union density approximates with collective agreement coverage, indicating a labour market segment highly regulated by collective bargaining.

**Table 25: Union density in the automotive industry, Peninsular Malaysia, various years.**

	2000	2002	2004
Employment Automotive industry	38,270	45,786	49,264
Union membership Automotive industry	14,979	19,703	20,355
	2000	2002	2004
Union density (%) Automotive industry	39.1	43.0	44.5

Sources: *Employment*: Dept. of Statistics (selected years) Annual Survey of Manufacturing Industries. Malaysia. KL: DOS. *Trade union membership*: Dept. of Trade Union Affairs. Annual Reports. selected years. KL: MHR. Reference date is March 31. Note: Union density: Calculated as union membership over employment. Note: The union density figure is both an underestimate because employment refers to "persons engaged" and not only for wage earners eligible for union membership (includes owner operators and executive staff), and an overestimate because the survey does not cover small companies.

On the other hand, the employers do not have a collective bargaining unit (employers' association) but negotiate individually with trade unions. The Malaysian Employers Federation (MEF) is not a proper trade union with collective bargaining authority, and it merely assists member companies with labour market information and counseling in employment and industrial disputes and in company-level collective bargaining, besides engaging in advocacy about labour legislation and labour market policy. The Malaysian Motor Trades Association (MAA) is an industry association advocating the interests of motor vehicle traders, manufacturers and assemblers, but the core auto makers, Proton and Perodua, are not members. Malaysian Automotive Component Parts Manufacturers (MACPMA) is an association of components and parts companies and voices their concerns to the government. This industrial relations situation is an outcome of the trajectory of industrial relations in Malaysia's automotive industry.

<sup>123</sup> Parasuraman (2004, 19) calculates union density to 8.3 per cent in 2000, but he uses total employment figures (8,920,000) and not figures for wage earners in Malaysia (5,441,365) or Malaysian wage earners (4,823,829) (DOS 2003).

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In the 1970s a centralized collective bargaining system evolved in the Peninsular-based Malaysian automobile industry following the establishment and development of the National Union of Transport Equipment and Allied Industries Workers (NUTEAIW)<sup>124</sup> as a democratic, workplace-based industrial union (see Dass 1991). NUTEAIW organized all assembly companies in Peninsular Malaysia during this decade, and it extended its range to automobile component and parts firms. To counter the power of the industrial union the managements of the assembly companies formed an employers' association<sup>125</sup>, the Motor Vehicle Assemblers Association, West Malaysia (MVAA) in 1973, and the first collective agreement (CA) was signed for the period 1973-75. At the end of the 1970s the MVAA counted eight members but the association began falling apart from 1981 and the last industry-level CA ran for the period 1982-84. The IR system was decentralized in the 1980s due to employers' resistance to centralized collective bargaining, the emergence of enterprise unions in the wake of National Automotive Projects (Proton, Perodua), and internal union cleavages that translated into new in-house unions from break-away factions supported by management, as happened in OEMs assembling Toyota and Nissan vehicles.

The industrial union focused more on the automotive component and parts sector in the 1990s, and it succeeded in organizing many component and parts suppliers and also several enterprise unions where workers were dissatisfied with the achievements of the in-house union and closed it down. The industrial union failed to organize the National Automobile Projects of the decade, Perodua and INOKOM, but it succeeded organizing the national truck and bus company (MTB) in the early 2000s. After an industrial and legal dispute NUTEAIW was recognized by management and the parties concluded a collective agreement.

Even the two big enterprise unions faced employer obstruction in recent years. PROTON and PERODUA were restructured with new plants and companies being formed, but the existing unions were denied jurisdiction over the new companies. The industrial union has faced fierce resistance by employers when it organizes new workplaces. One recent example is a dispute between the union and a large Malaysian auto component and parts supplier, which erupted when the union aimed to unionize all subsidiaries in the partly organized corporation. Management restructured the corporation into a holding company and supported the formation of an in-house union in this new entity but failed when the union challenged this move with the Registrar of Trade Unions (RTU) of the Ministry of Human Resources (MHR). However, the management succeeded in weakening the membership base of the union in the corporation, according to NUTEAIW.

In sum, the industrial union of the Malaysian automotive industry is a rather influential trade union in the Malaysian IR system of 2009, although enterprise unions have a larger share of union members. Since the early 2000s the general secretary of the NUTEAIW has been heading the IMF-Malaysia Council, numbering in addition to the NUTEAIW the MIEU, the Electrical Industry Workers' Union (EIWU) and other industrial and enterprise unions within the metal industry, and since 2004, the executive secretary of the NUTEAIW has been president of the MTUC. During the early 2000s the industrial union and some larger enterprise unions held talks about forming a federation of automotive unions, but this initiative stalled when the unions could not agree on the power structure and the policy. Enterprise unions count above 60 per cent of total union membership in the industry.

<sup>124</sup> Originally, the name of the industrial union was Transport Equipment and Allied Industries Employees Union, West Malaysia (TEAIEU) from 1971 but the name was changed in 1989 to avoid confusion with another industrial union, the Transport Workers' Union (TWU) (Wad 2004a). For convenience we use the present name across its history.

<sup>125</sup> In Malaysia such an organization is also labeled a "trade union" in official statistics.

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There are no tripartite bodies at the automotive industry level, but institutions for social dialogue exist at the enterprise level and at the national level. Consultative bodies like Labour-Management Councils (LMCs) have been established in Japanese-related OEMs and OES, e.g., in PROTON and in one of its suppliers, PHN Industry, respectively, with union consent and mentioned in the CAs (around 2000). Such a LMC was not mentioned in the CA (2002-04) of PERODUA Manufacturing-PERODUA Union. In the non-national organized sector works committees of NUTEAIW could request meetings with management as it happened at, e.g., AMI where management and the union works committee held regular production meetings. No sector-wide legislation demands that works councils are established, but the general Code for industrial Harmony from the 1970s encourages consultative mechanisms (Jomo & Todd 1994).

MTUC and MEF participate in a number of tripartite agencies, e.g., the National Labour Advisory Council (NLAC), Human Resources Consultative Panel, Social Security Organisation (SOCSO), Employees Provident Fund (EPF), the National Council of Occupational Safety and Health, and Wage Councils. Trade unions are involved in Industrial Relations mediation and arbitration with the Ministry of Human Resources and the Industrial Court.

Contrary to the trade unions and the employers the business associations of motor vehicle makers and dealers united in 2000 when the Malaysian Motor Trades Association (MMTA) merged with the Malaysian Motor Vehicle Assemblers Association (MMVAA) and formed the Malaysian Automotive Association (MAA). The MAA is, however, an industry association, not an employers association. The automobile traders organization goes back to the Federation of Malaya Motor Traders Association (FMMTA) of 1960, shortly after Malaya Federation became independent in 1957 but before the formation of Malaysia in 1963. The centralization of the motor vehicle business associations into one was a response to the Malaysian government calling upon associations from similar trades and sectors to merge, but the association of component and parts supply firms (MACPMA) is not part of the merger.

## **7. Impact of global crisis on Malaysian automotive industry**

The unfolding global crisis since 2008 has had a diverse impact on the global economy. The shrinking exports growth and private investments of Malaysia (as the results of the crisis) have ultimately impacted the industries, labour market and subsequently the earnings. Overall, the industrial production index shows a contraction in all the industries in the first and second quarter of 2009. The transport equipments industries (passenger car, commercial vehicles, motorcycles and components and parts manufacturers) maintain a positive production growth in 2008 but in 2009 production index showed a contraction of 15.9 per cent and 14.3 per cent, in quarter 1 and 2, respectively.

### **7.1. Vehicle Sales**

During the global crisis the passenger vehicle market segments recorded a slow down starting fourth quarter of 2008. The year to year contraction of fourth quarter of 2008 and first quarter of 2009 is 10.5 per cent while greater contraction is seen in second quarter of 2009 (see Table 26). In contrast, the commercial vehicle market segments are still robust in 2008 and 2009 despite the global downturn recording a positive growth for the period of 2008 and 2009. However, the trend shows a decline and in the first quarter of 2009 the growth is only 5.4 per cent while the second quarter of 2009 records a negative growth of 10.6 per cent. MAA expects anyway that a turnaround will happen in the second half of 2009 (Bursa, 2009, 8).

**Table 26: Sales of Passenger and Commercial Vehicles in Malaysia (Annual Percentage Change YOY)**

	2007				2008				2009	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Sales of Passenger Cars	4.1	4.9	25.1	42.4	25.7	27.8	10.4	-10.5	-10.5	-11.6
Sales of Commercial vehicles	-70.9	-60.1	-60.1	-55.3	13.0	20.3	11.2	13.3	5.4	-10.6

Source: Bank Negara Malaysia, 2009.

Comparing the figures during the Asian financial crisis of 1997/98 and the current global crisis, the figures show that the impact was much greater in 1998 where the total sales for the year were only 155,332 units (see Table 27). Despite the slow down in the fourth quarter of 2008, the growth in sales of both passenger and commercial vehicles was positive. In the first half of 2009, the total vehicles sales are more than half of the total sales in 2007. However, it is unlikely that the overall sales will surpass the 2008 sales units; yet, figures for the first half of 2009 are definitely higher than the overall values of 1998.

**Table 27: Comparing Sales during two major crises**

Years	Passenger Vehicles	Commercial Vehicles	Total Vehicles
<b>During Asian Financial Crisis 1997/98</b>			
1997	307,907	70,334	378,241
1998	137,691	17,641	155,332
1999	239,647	26,171	265,818
<b>During Global Financial Crisis 2008/2009</b>			
2007	442,885	44,291	487,176
2008	497,459	50,656	548,115
2009*	228,200	22,892	251,092

Source, MAA, 2009c.

Note: \* Figure for the year 2009 is until June.

## 7.2. Production and employment

Comparing the first half (Jan-June) of 2008 and 2009, production of passenger and commercial vehicle contracted by 13.1 per cent and 8.3 per cent, respectively, while the total vehicle production contracted by 12.7 per cent. The production contraction of 12.7 per cent is higher than 9.7 per cent contraction in sales. This indicates that adjustments take place in stocks to overcome and avoid unnecessary stock position. It is forecasted that for the year 2009 a drop of 8.8 per cent in the total industrial volume<sup>126</sup> (500,000 units) with passenger and commercial vehicles sales dropping about 8.8 per cent and 8.2 per cent, respectively (MAA, 2009a). How this decline in production has affected employment in the industry is not statistically disclosed yet. In comparison, from 1997 to 1998 production fell by 57 per cent in Proton, by 43 per cent in Perodua, and by 85 per cent among non-national auto makers, and employment was reduced by 14 per cent, 11 per cent and 38 per cent respectively (Wad 1999).

<sup>126</sup> It is assumed that improvement in the GDP contraction from 6.2 per cent to 3.7 per cent, stabilizing employment market, introduction of new models and stabilized fuel price to contribute to lower contraction in production.

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### **7.3. Employment and industrial relations during the global financial crisis**

According to NUTEAIW, the Ministry of Human Resources issued a circular to all companies during the crisis, requesting them to remove contract (mainly foreign) workers before reducing the regular (mainly local) employees, and in response to this circular some employers sent back their contract workers. From last December 2008 the overtime for the local workers has been reduced substantially. Instead of conducting retrenchment, some employers offered voluntary separation scheme (VSS), which is less painful compared to retrenchment. Swedish Motor Assembly (SMA) assembling Volvo was the only company to close for 3 months (temporary lay-off), however, the NUTEAIW managed to negotiate for 85 per cent basic salary and full allowance during the lay-off. At least three auto parts manufacturer closed for a longer period after New Year and Chinese New Year Festival.

The total membership of the NUTEAIW was reduced by 10 per cent compared to 2008. However, in the case of electrical industry, the EIWU lost about 40 per cent of their membership, according to NUTEAIW, because it seems the electronics industry has been worst hit. The industrial union points out that all these industries started to grow again from August 2009.

### **7.4. Government counter-cyclical intervention**

The government announced the 2<sup>nd</sup> Stimulus Package, totaling RM 60 billion, to cushion the impact of the crisis. In assisting the private sector in facing the crisis, RM 29 billion has been allocated for various programs. The automotive industry will benefit in the following ways: 1) RM200 million is allocated for the Automotive Development Fund mainly to develop the automotive industry and vendors as well as to establish the Automotive Institute of Malaysia; 2) support for the auto-scraping schemes of Proton and Perodua where RM 5,000 discount is given for cars at least 10 years old (Bursa 2009).

The government's assistance could provide cushioning effects to the auto industry, yet it is unlikely that it can restore the earlier demand. Although the auto-scraping scheme will benefit the industry in the long run, stringent credit facilities with an increase in interest rates (as of second week of April 2009, interest rate for hire purchase increase from 2.35 to 3.35 per cent on average) and lower valuation for second-hand cars will make the auto-scraping scheme less effective currently. This will also consequently reduce the demand and the sales of automotive industry. Loan disbursements for passenger cars recorded 8.2 per cent contraction on year to year basis (Jan-July 2008 and Jan-July 2009) while the total disbursement contracted at 5.6 per cent (Bank Negara Monthly Bulletin July 2009).

## **8. Structural challenges and labour relations issues in the automotive industry**

During the beginning of the 21st century the Malaysian automobile industry faced several constraints, most of which are still valid at the turn of the 2000s although the conjunctures are seemingly different. In 2000 the industry was recovering from the 1998 sales crisis, while it seems to be at the bottom of a crisis right now. But the key structural challenge pertains to questions of the industry's regional and global competitiveness, as acknowledged by the government with special reference to national car manufacturers (MIDA 2006, 2009). This challenge is related to the free trade area of AFTA and the WTO membership, low economies of scale and low levels of modularization and technological innovation, energy and climate crises, and the need for strategic business alliances, mergers and acquisitions. However, transforming the auto industry and related sectors into

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a productive, competitive and sustainable cluster that also delivers more decent jobs and better earnings requires consent and active support from all key stakeholders - not only from the government, managements and business associations, but also from the employees and their trade unions.

Although the industry's employment showed a steady growth in the 2000s and the setback may be less severe this time than during the financial crisis in 1997-98, the industrial union (NUTEAIW) is very concerned about the rising employment of contract workers in the industry during last two decades. This increases numerical flexibility for the employers but it also puts a downward pressure on workers in terms of increased employment insecurity and lower wages, aggravated by low levels of union organization among contract workers due to misinformation and negative attitudes to unionism among immigration authorizes and employers. Retrenchment benefits are also low even in the unionized sector with collective agreements. This raising flexibilization of the labour market without adding social security measures adds to the institutional weakening of trade unions in Malaysia created by tight and tightening labour laws together with employers' anti-union attitudes and practices. The cross pressure spills over into preventing employment improvements from being effectuated during the last growth period for example in terms of reducing working hours from the norm of 44 hours per workweek. And it is testified by the low skilling of the auto industry's workforce.

A sustained long-term expansion of the Malaysian auto industry with improved wages and working conditions can only be based on a thorough upgrading of productivity and international competitiveness of the domestic auto industry cluster. Considering the relatively low capacity utility, low technology level and a low-skilled workforce, such a transformation will require widespread and ongoing benchmarking and investments in critical areas, not least in training, education and mobilization of the rank-and-file workforce. An advanced automotive industry requires a highly and multi-skilled, regular but functionally flexible workforce that is motivated contributing to productivity improving exercises. This includes the sourcing of innovation not only from customers but from the shop-floor which Proton did not undertake (Rasiah 2001). It requires a shift to team-work and delegation of responsibility and accountability instead of top-down commandment of discipline, i.e., some kind of a high-performance work system in an enabling industrial relations environment, including respectful collective bargaining and works councils.

One of the enduring conflicts in the Malaysian industrial relations system has been the issue and dispute over productivity-based wages, and attempts to enact such systems have often failed due to mistrust between the parties. Hence, what is needed, among other things, is a broad and inclusive "productivity alliance" between automakers, auto suppliers, business associations, employees and their trade unions together with government agencies, and assisted with industry and market information by professionals and academia. Such a productivity alliance was formed in South Africa at the end of the 1990s, and it enabled the transition of the South African automobile industry from a protected industry with low productivity towards a highly productive and internationally competitive industry, while employment, wages and working conditions have been improved over time (Barnes and Morris 2008<sup>127</sup>).

A national productivity alliance aiming for "fair growth" requires, as it did in South Africa, that the stakeholders respect core labour rights and improve social dialogues (as stipulated by, e.g., the ILO). However, in 2008 the Malaysian government amended the Industrial Relations and Trade Union Act after tabling the changes in parliament without

<sup>127</sup> One of the successful measures was the establishment of voluntary Benchmarking Clubs among local auto components and parts manufacturers (Barnes and Morris 2008).



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even presenting and discussing the changes with the trade unions directly or in the national Labour Advisory Council (NLAC). NUTEAIW and MTUC interpret these amendments as biased in favor of the employers and against the trade unions. They include reduction of maximum compensation for wrongful dismissal to 24 months only, which enables employers to get rid of experienced trade unionists from the company in a cheaper way; trade union leaders are no longer required to have worked a year in the industry to qualify for trade union positions, making it easier to form in-house unions; terminated trade union leaders can not continue as trade union members from the day of termination in spite of the termination being challenged; and during trade union recognition process the membership verification procedure is now removed and only a secret ballot among employees present is to be applied, including as a base workers that have left the company or have died. Thus, for the formation of a just and fair productivity alliance, the government as well as the employers must change their attitude and respect trade unions as legitimate representative organizations of their employee members. Otherwise, Malaysia will probably again reach an impasse in automotive industrial productivity which can threaten the very survival of the industry.

## **9. Conclusion**

Over the years the Malaysian automotive industry has evolved from an assembly industry towards a manufacturing industry focusing on passenger car manufacturing while generating raising employment and average wages among its workforce. However, the national automotive program has been scaled down, with Proton being the only OEM controlled by Malaysian capital and no longer the market leader. Japanese car makers are again dominating the auto market and industry. Moreover, the industry still lacks the competitive advantage to export into international markets due to its lack of technological upgrading, especially among parts and component suppliers and low levels of skills among employees. Despite the efforts of Proton in developing local suppliers, high dependence on domestic market and technology agreements has limited the performance of these suppliers on a regional and global scale. Although the impact of the current global crisis is moderate because Malaysia's automotive industry is not significantly export oriented, this is only a temporary relief because earning capabilities are shrinking during the crisis, domestic demand is declining, and the lackluster performance of the automotive industry is continuing. The stimulus packages by the government and introduction of new models have to some extent affected the progress of the industry in a positive way, but the stimulus package targets the national automotive sector only, and this discrimination of non-national auto makers turns them away from investing in Malaysia. Not only is an international automotive alliance pertinent for the stand-alone Malaysian auto maker, Proton, to reduce excess capacity through, e.g., contract manufacturing, but a national productivity coalition is a strategic necessity, too, in order to create high-performance work systems and business models. This requires an industrial relations system that secures and furthers core labour rights, collective bargaining and other kinds of social dialogues in order to raise productivity and innovation by mobilizing workers with hands-on knowledge and workplace experience about the state of automotive production.



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**The Brazilian automotive industry:  
Historical background, development,**

**Current crisis and trends**



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## Executive Summary

This paper presents a comprehensive overview of the current situation and trends in the Brazilian automotive industry. It analyzes the structural development regarding companies, supply chain organizations, production and R&D activities in the context of Brazil's political and economic environment. It discusses employment issues, work conditions, industrial relations and trade union activities, as well as the 2008-2009 global financial crisis and the measures implemented by the social partners to deal with it. The final section of the paper discusses possible trends in supply chain, production, employment and industrial relations.

The paper suggests that, despite the financial crisis, Brazil's auto industry is in good shape. Several factors -- government measures, public policies on income distribution, the action of the public banking system to sustain credit, tax reductions for cars, etc -- led to a recovery of the domestic market after a sharp slow-down in automotive production at the end of 2008.

Nevertheless, in spite of some advances in social issues such as schooling and percentage of graduates, wages remained flat during this period when they were expected to increase (at least due to schooling). Instabilities in production until 2004 may have played a key role in embanking wages; since then, there have been signs of a recovery in purchasing power from 2004 to 2007.

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## 1. Introduction to and historical background of the Brazilian auto industry

Domestic production reached 3.22 million vehicles in 2008, propelling Brazil to sixth position globally behind Japan, China, USA, Germany and South Korea. Its domestic production is larger than that of France and similar to that of South Korea. Its relative position is improving: Brazil was in the top seven in 2007 and, since the domestic market kept growing during the current crisis, initial figures indicate that the country reached the top five in early 2009. In the first semester of 2009 a car was sold every 12 seconds. Brazil is also home to strong truck, bus and agricultural machinery industries, some suppliers of which also supply the auto industry.

The main factors that boost the domestic industry are the size of the regional market, economic growth, low motorization level (one car for every 6.4 inhabitants), and an old fleet (13 years on average). The industry expects sales to reach 4 million vehicles in 2015 – currently, domestic sales are about 2.7 million per year. (Exame, 2009:6)

These figures are linked to strong and persistent economic and social development since 2004. Both national production and income per capita have grown, and inequality has been reduced – the Gini index reflects a reduction from 0,575 in 1998 to 0,555 in 2003 and to 0,521 in 2008. In 1998 the poorest 50 per cent received 14 per cent of the income and the richest 10 per cent received 46.5 per cent of the income; in 2008 these figures moved to 17.6 per cent and 42.7 per cent, respectively. Unemployment has also been reduced, from 9.7 per cent in 2003 to 7.2 per cent in 2008.<sup>128</sup>

Credit for customers is a critical issue - credit operations are responsible for more than 50 per cent of domestic sales. The shortage of credit at the beginning of the current crisis slowed down the auto industry and prompted the government to restore credit lines quickly and successfully. Credit to assemblers rose by 12 per cent (July 2008 to July 2009) and the repayment period was extended from the maximum of 72 months (2008) to 80 months (2009). It should be remembered that in the 1990s credit was limited to six months, while leasing was denied to individuals but permitted only to companies (Exame, 2009:6).

These impressive figures conceal a structural weakness: assembly is dominated by transnational companies, few in number, that operate in small niche markets designing and producing bodies but not mechanical core sub-assemblies or systems such as engines, suspensions, etc. This arrangement becomes more complicated because Brazil is home to significant R&D activities of major transnational assemblers and auto parts companies, resulting in a dual situation: decision-making power is located in central headquarters but local subsidiaries exert strong influence and enjoy some autonomy<sup>129</sup> (Dias e Salerno, 2004, 2009; Salerno et al, 2009). Most Brazilian-owned suppliers were acquired by TNCs;

<sup>128</sup> Data from IBGE/PNAD – Pesquisa Nacional por Amostragem de Domicílios (The Brazilian Geographical and Statistical Institute: National Survey by Sampling of Households), published on 18 September 2009.

<sup>129</sup> For instance, Honda Brazil is currently “fighting” against Japan in order to anticipate the local launch of a car aimed at increasing domestic sales (Exame, 2009). There are several cases discussing the influence of subsidiaries on headquarters’ decisions regarding decentralization of R&D and production activities.

some are still in the supply business, while others became multinational global players, such as Sabo, Marcopolo<sup>130</sup> and Busscar.

The country has an integrated value chain, that is, most of a car can be designed and produced locally. This comprises styling, basic design, detailed design, product development and testing.

Brazil produces a significant number of trade marks. Nineteen industrial units are owned by 14 different light vehicle assemblers (Table 28), and 49 plants in 31 cities produce agricultural and construction machines and engines. There are about 500 suppliers<sup>131</sup> and 4,100 dealers, and commercial relations with about 200,000 companies.

**Table 28. Brands produced in Brazil**

Auto & light commercials	Agrale**, Fiat, Ford, GM, Hyundai, Honda, Iveco, Mercedes-Benz, Mitsubishi, Nissan, Peugeot, Renault, Toyota, VW, Troler*	15
Truck and bus assemblers	Agrale**, Ford, International, Iveco, Mercedes, Scania, VW(****), Volvo	8
Bus body building***	Busscar, Ciferal, Comil, Caio Induscar, Irizar, Marcopolo, Mascarello, Metalbus, Neobus San Marino, Volare	10

Source: Anfavea & Sindipeças, 2009.

(\*) National producer of off-roads, recently acquired by Ford.

(\*\*) Brazilian-owned company.

(\*\*\*) Brazilian-owned companies.

(\*\*\*\*) Recently renamed as MAN Latin America.

The auto industry is vital to Brazil's economy. It accounts directly for 5.4 per cent of GNP and 22.1 per cent indirectly, involving 1.3 million people (directly and indirectly). Revenue was US\$71.4 billion in 2007 and increased 10,3% in 2008<sup>132</sup>. Assemblers and parts suppliers invested \$45.1 billion in the last five years, and \$23 billion was declared to be invested until 2012. Brazil exported \$17.2 billion and imported \$14.2 billion from January 2008 to November 2008 – a positive surplus of \$3 billion.<sup>133</sup> The industry is focused on the domestic market, since exports are less than 25 per cent (auto parts less than 16 per cent-20 per cent of revenue in 2007). Imports accounted for 375,000 units, i.e., 13 per cent of the market in 2008 (Anfavea, 2008; 2009)

The capacity of the Brazilian auto industry is about 4 million vehicles per year. Production reached 3.22 million units in 2008 (3.8 per cent of global production in 2007, slightly higher in 2008), plus 69,000 agricultural machines. Domestic sales in 2008 reached 2.671 million autos and 42,500 agricultural machines. Exports of vehicles reached \$13 billion (673,000 units) in 2008.

<sup>130</sup> Marcopolo has plants in Colombia, Mexico, Portugal, South Africa, Russia and India.

<sup>131</sup> This refers only to components/subsystems/module suppliers, which are the main companies categorized as auto suppliers by the National Classification of Economic Activities (CNAE). Companies whose primary business is outside of the auto sector (e.g., steel, chemicals, and some electronics), dealers, independent maintenance company workers, and service workers (finance, insurance, etc) are not considered.

<sup>132</sup> Estimated non official data.

<sup>133</sup> Figures for 2007: \$20.8 billion exports, \$13.7 billion imports, \$7.1 billion surplus.

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Brazil is responsible for important organizational and managerial innovations in this industry, such as modular consortiums, industrial condominiums, and tiering, i.e., a new form of relationship among assemblers and suppliers characterized by risk sharing, variable payment according to effective production, and a special kind of service relationship (Salerno, 2001; Marx et al, 1997).

It is also a major design location. GM, VW and Fiat have large design facilities (employing over 1,000 people); Ford is increasing its own. VW Trucks is able to custom-build its products according to customer needs due to its large engineering team. International bought a company (MWM) that fully designs and produces diesel engines, and supplies to VW, GM and Ford. Large suppliers have developed very innovative products, such as ethanol engines (sustained by an impressive technology of sugar cane and ethanol production with positive energetic – or C -- balance) and multi-fuel injection (utilizing any proportion of pure gasoline or Brazilian gasoline already mixed with 25 per cent of ethanol or natural gas). These innovations have led to the development of sensors, controller chips, software, experimental development, etc.

### **1.1. Historical Perspective, Policy Regime and Trade Union Structure**

According to President Kubitschek's view in the 1950s, the automotive industry was the *leitmotif* for Brazil's effort to catch up with the so-called modern industry of the post-World War II era. Although Ford and GM had facilities in the country since the 1920s for importing vehicles and producing some CKD models, the "real" assembly industry began operating in the late 1950s. In 1956 an economic plan was launched to reduce imports and to oblige foreign assemblers to decide whether to withdraw from the country or begin production with up to 90 per cent of local content within five years. This required substantial effort because up to that point Brazil had a fledgling industrial base and imported virtually all of its vehicles. Steel production had begun only nine years earlier and coffee was responsible for more than 50 per cent of Brazilian exports (Shapiro, 1997). The plan was ultimately successful, however, not only in installing automotive assembly but also in developing an integrated industrial system linked to the metal mechanics industry, including auto parts.

Government policy was to favour foreign capital in assembly by attracting companies such as VW, GM, Ford, Daimler, Willys-Overland/Renault (who withdrew from Brazil in the 1970s but returned in the late 1990s), Toyota, Simca, Scania Vabis, etc. International producers received subsidies, tax exemptions and a whole pack of industrial policy measures, but the same was not offered to Brazilian producers at the time. In that sense, the industry had been internationalized.

The industry grew without major structural changes during the 1960s and 1970s. Struck by the 1979 oil crisis, Brazil endured a period of unstable growth in the 1980s, known as "the lost decade", and lost the impetus that made it the worldwide champion of growth from 1900 to 1980. In the Brazilian automotive sector that meant the reduction of investments and the implementation of defensive strategies such as the joint venture Autolatina (VW and Ford in Brazil and Argentina). The opening of the economy to imports and capital flows in the early 1990s by the Collor Government produced a sharp spike in auto imports. Argentina launched an Automotive Regime aimed at attracting investments to the sector; Brazil reacted promptly by launching a similar regime, and both countries articulated an agreement in the Mercosul region comprising special rules for automotive trade between them. The policy was very successful; all established assemblers decided to invest and newcomers arrived (Honda, Hyundai, Peugeot, Renault, Nissan and Toyota).

The Brazilian Automotive Regime was established in June 1995 and provided a temporary, phased reduction in tariffs on components for assemblers with a minimum of 60 per cent local content, subject to certain export requirements.<sup>134</sup> This meant that tariffs on many components were only 2.4 per cent in 1996 and 4.8 per cent in 1997, returning to their normal level of 16 per cent by the year 2000. The extra-regional tariffs were:

- Vehicles: 35 per cent
- Auto parts: 14 per cent, 16 per cent and 18 per cent, according to the part (“stand alone”, subassembly), to be reached until 2006. Tariffs were different for Argentina and Brazil: 7.5 per cent, 8.5 per cent and 9.5 per cent in the first years for Argentina; 9.1 per cent, 10.4 per cent and 11.7 per cent for Brazil
- Auto parts without production in the region: 2 per cent

The agreement ended on 31 December 2005, but a similar new one was concluded regarding extra-regional trade. The Mercosul Automotive Regime was intended to eliminate restrictions applied to intra-regional trade between the countries but at the end of the agreement Argentina claimed that there were trade imbalances with Brazil. The elimination of restrictions was postponed and a new agreement concluded in June 2008 in terms of which tariffs and quantitative barriers would be removed by 30 June 2014. Current tariffs are depicted in Table 29 below.

**Table 29. Extra-zone (extra-Mercosul) import tariffs**

Cars and light commercials (up to 1500kg capacity); buses, trucks; bodies; chassis with engines	35%
Agricultural machines (with engines)	14%
Components	16% or 2% if not produced in the region

Source: BRASIL, 2008.

## 1.2. Trade Union Structure and Bargain Process

Brazilian union structure has its roots in the Italian Mussolini-era system. Although some improvements occurred after democracy returned to Brazil in the late 1990s, the bargaining process remains the same. The law establishes unions by branch/sector and region – for instance, São Paulo city Metalworkers, Rio de Janeiro city Bank Workers, ABC Metalworkers.<sup>135</sup> The branches are established by a national rule; territorial basis depends on the union – for instance, there is no restriction for a national metalworkers union.

One of the main characteristics of the structure is the so-called union tax. It is compulsory, paid by workers to workers’ unions and by companies to employers’ unions. That is, even if a union has ten associates (affiliates), it receives by law the equivalent of one working day for every worker registered in the companies of the branch in the territorial basis of the union. For instance, some unions in the building sector have a few

<sup>134</sup> Domestic content (origin): regional minimum: 60 per cent. New models: 40 per cent in the 1st year, 50 per cent in the 2nd, 60 per cent from the 3rd year on. Argentinian content during the period: 30 per cent for passenger vehicles and light commercials; 25 per cent for trucks.

<sup>135</sup> Comprising the towns of São Bernardo and Diadema. For some years, it also comprised Santo André, Mauá and Rio Grande da Serra.

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hundred affiliates and many thousands of workers in the territorial basis. Very few unions have a significant number of affiliated workers – ABC Metalworkers, the leading union, is an example. This income independence of union affiliates, activities or workers accordingly leads to a pulverized union structure, reducing bargaining power.

The employers' structure mirrors the unions' to some extent. It is also established by branch and features the union tax (based on companies' income). In the automotive sector, there is a National Union of Assemblers (Sinfavea) and a National Union of Components Makers (Sindipeças). Both negotiate with several metalworker trade unions, often reaching different agreements. For instance, Ford negotiates different agreements with ABC Metalworkers (São Bernardo plant and headquarters), Taubaté Metalworkers (engine and transmission plant), and Salvador-Camaçari Metalworkers (Camaçari plant); VW with ABC Metalworkers (São Bernardo plant and headquarters), Curitiba Metalworkers (São José dos Pinhais plant), São Carlos Metalworkers (engine plant), Taubaté Metalworkers (Taubaté plant) and Volta Redonda Metalworkers (VW truck plant at Resende).

The establishment of factory committees is not a legal right. Such committees exist at the São Bernardo plants (because of agreements with ABC Unions, although most were preceded by strikes), and at VW Resende, Taubaté and São José dos Pinhais. There is no factory committee or workers' representative at Fiat GM, Renault, Peugeot, Volvo, Toyota, Honda, Hyundai, Iveco and Mitsubishi.

There is no collective contract with similar rights as in Europe (France, Germany, Italy, etc.) or in the US. Contracts have a limited period – usually 12 months, after which all conditions must be renegotiated, even those that apply for several years, such as free potable water for the workers. A contract in Brazil has no legal power; a law is valid until repealed by promulgation of a new one, but a contract must be completely renegotiated after its termination. Obviously, this weakens workers' bargaining power.

The result is very different wages and work conditions at assembly and suppliers plants according to the region. In the 1990s a wage at Fiat could be one-half or one-third of that at São Bernardo. Driving a national campaign on these issues is difficult and depends on the political desire of workers' unions. But in practice the Brazilian union movement is fragmented, exacerbated by the union tax.

## **2. Structural development of the automotive supply chain<sup>136</sup>**

Brazil introduced important innovations to the automotive industrial structure regarding the relationship among companies that operate in the chain, in the location of production activities, in engineering and development, and in the organization of productive processes.

At the beginning of the 1990s the flow of commerce and capital on a global scale intensified as a result of the liberalization of both capital markets and consumer goods. In this period, the large automobile corporations sought to expand their productive capacity to regions with a greater potential for growth in demand, given the low rates of growth in the central regions and countries (North America, Western Europe and Japan). The promise of growing demand in the “emerging” countries (among them Brazil, Argentina and Mexico, but also China, Russia and India) led the large companies in the sector to embark on an

<sup>136</sup> This section is based largely on research conducted by the author with Roberto Marx and Mauro Zilbovicius.

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intense and concentrated process of internationalization. Brazil was a primary recipient of industrial assembly units (Humphrey, Lecler & Salerno, 2000; Salerno, Zilbovicius, Arbix & Dias, 1998).

In the 1980s/1990s, there was a strong effort from the industry in Brazil to meet the operating efficiency standards established by the Japanese companies in the sector. Beginning in the 1990s a system of “lean production” was configured, which included all related elements such as “just in time”, team work, total quality (TQC/TQM), certifications of compliance with international quality norms, as well as micro-electronic automation. Even with unequal advances, there is evidence that the large – and even the mid- and small-size – companies restructured their internal production apparatus quickly and intensely, indicated by the absolute and relative reduction in jobs in the sector.<sup>137</sup>

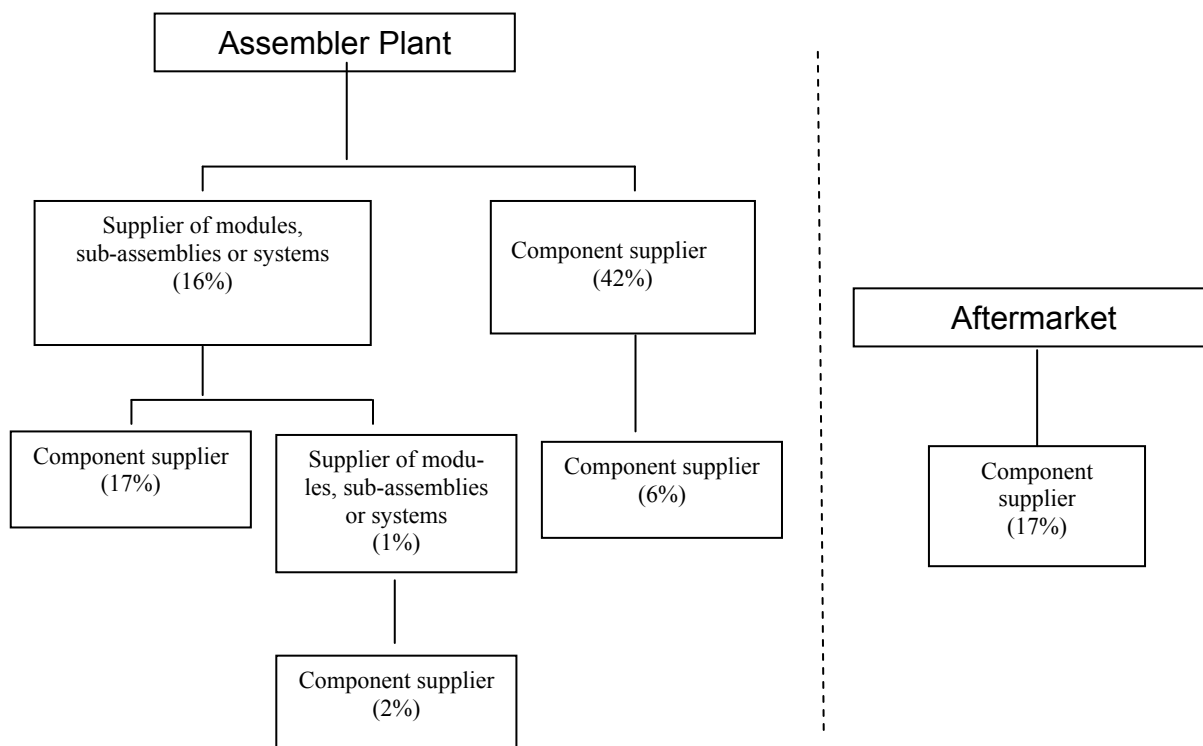
## **2.1. Modularity & Modular Design, Supply and Assembly<sup>138</sup>**

Until the beginning of the 1990s the assembly plants in Brazil had promoted efforts to reduce the number of suppliers, but had not invested in changes to the chain’s structure: reducing the number of suppliers had earlier meant reducing the number of suppliers per piece or part rather than the transformation of pieces/parts into sub-assemblies. This transformation was deepened in the second half of the 1990s with the advent of so-called “modularity”, transforming the relationship between assembler and supplier. The new factories in Brazil were pioneers, making Brazil the priority testing ground for the global automobile industry (Lung et al., 1999). Assembly plants reduced the number of direct suppliers from about 500 to about 150 using the modular scheme, and a new level of hierarchy was created in the chain – the direct supplier, also known as the module supplier. Figure 1 below shows the distribution of class of suppliers along the chain.

<sup>137</sup> Despite vehicle production having grown from less than 1 million in 1990 to 2 million in 1997 and 1.8 million in 2001, there was a continuous reduction in employment: the 117,396 employed in automobile production reached a level of 85,257 in 2001 (Anfavea, 2002).

<sup>138</sup> Based on Salerno, 2001.

**Figure 15. Structure of the chain (tiering) - Brazilian auto industry**



Source: Salerno et al. (2002). Data obtained from survey with 224 companies.

Obs.: The survey minimized the participation of smaller companies.

VW introduced a radical concept to assembly, the modular consortium, in a new plant at Volta Redonda inaugurated in 1996 for truck and bus chassis assembly. All direct manufacturing operations are run by suppliers, with VW workers participating only in indirect and administrative operations (quality control, design, finance, purchasing, sales, etc).<sup>139</sup> Each supplier is responsible for a module and its assembly in the vehicle. To prevent union claims, VW agreed with its suppliers (known as “modulists”) to register all operations in the plant as metal works in order to have the same metalworker union (Metalworkers Trade Union of Volta Redonda). Influenced by ABC (São Bernardo) Trade Union and supported by IG Metall, a factory committee was established.

Although the modular consortium model generated excitement, its growth was limited because of (1) the suppliers’ difficulty in running a passenger car assembly; (2) the product was more difficult to handle than trucks, since it had no chassis and its assembly is much more complex; and (3) volumes were considerably higher.

Ford’s plant at Camaçari, near Salvador, Bahia, which produced the Fiesta and derivatives, is the closest car assembly to the modular consortium model. Ford tried to outsource the stamping and body shop functions but found no suppliers because of onerous investment and price conditions, and was forced to self-invest. But first-tier suppliers assemble their sub-assemblies in the same building inside Ford’s plant, and some “enter” Ford’s final line to perform the assembly of their modules on the cars as part of the final assembly.

<sup>139</sup> For an in-depth analysis see Marx et al (1997).



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The preferred model for vehicle assembly is the industrial condominium. In this model the facility is usually exclusive: the assembler is the owner of both the land and the operation, and defines who will install inside the condominium. The assembler defines the first tier suppliers that will participate in the condominium in the current way of this industry, a Dutch auction<sup>140</sup>. In terms of this contract, these suppliers must deliver sub-assemblies in sequence and at the exact required point in the assembly line. Suppliers invest in the condominium, sharing some utilities and paying a kind of rent.

An industrial condominium is different from an industrial district or a supplier park. In this model, key suppliers are physically installed around the automaker in order to provide it with components and/or systems. It is not established by the government and is completely different from the famous Italian districts, since cooperation and competition among companies inside the condominium are weak, and entrance is restricted – a supplier may only participate if selected by the assembler that established the condominium. Our field research showed that assemblers retain control -- they decide how, where, with whom and to what extent design, investment and assembly will proceed. Moreover, assemblers used to define the main second- or third-tier suppliers and, in many cases, the acquisitions of the “modulists”.

The aim of all assemblers is to pay suppliers according to their own sales. Some assemblers attempted this approach in Brazil prior to modular schemes but failed – a point that was used as a political platform by the suppliers association in the 1980s. Nevertheless, with modularity the payment to suppliers became partly dependent on the production (variable), and partly dependent on the investment made, a novelty in the business. In Gravataí (Blue Macaw project, small entry-level car), GM pays only according to production. Obviously, that exerts pressure on suppliers and their workers.

From the suppliers’ point of view, the strategy is to minimize investments in a condominium, since it is an investment dedicated to a single client. They concentrate mostly on production in central plants that produce for different condominiums, for traditional plants or for other clients (aftermarket, eventually clients outside automotive sector).

Contemporary modularity, i.e., modular consortium, industrial condominium or similar, means the share of risks and investments with first-tier suppliers; they also assume responsibility for technical assistance for the sub-assembly and participate directly in problem-solving on the assembly line, to cope with scheduling changes, small product design changes, and so on. If a supplier can deliver at the last minute, in other words, if an assembler, due to its relationship with suppliers, can postpone its decision on scheduling in order to cope with market fluctuations or process failures, its conditions of activity are transformed. In some cases assembly scheduling can be closed, lasting less than one hour; this means that the supplier has less than one hour to deliver the sub-assembly just in sequence at the exact point in the line where it will be assembled. For instance, if there is a problem with painting cars in black, the assembler reschedules the line to produce non-black cars. If it means no black seats, no black seats will be commanded. This flexibility allows the assembly to cope with events and guarantees a reduction in line stops.

Assemblers use a very similar process for choosing suppliers. Qualifying factors for suppliers are: the certification of quality; financing capability (to reduce the risk of supply discontinuity since there are few parts and sub-assembly suppliers, and to try to guarantee technology updates); qualification of the production process of potential suppliers, analyzed by the assembler’s engineering and quality departments; engineering capability

<sup>140</sup> Method of selling in which the price is reduced until a buyer is found.

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(fitting of graphics software, prototyping and the capacity for product development, which is a decisive factor for vehicles whose design is headquartered in Brazil); and a history of supply.<sup>141</sup>

Price is an important factor in winning orders, i.e., if there is a certain number of suppliers who have quality certification, financing capability, engineering capacity and a good history of supply, and who are ratified as potential suppliers, those that quote better prices for a given bid win the order.

The contracts contain a clause about “maintaining competitiveness”, i.e., the company that wins the supply contract must keep itself competitive for the duration of the contract. Thus, the assemblers get price quotes from competitors during the life of the contract and “renegotiate” with the supplier when they find more advantageous conditions. In these cases, changing suppliers effectively occurs independently of the terms of the contract, since it is considered that the “competitiveness” clause was agreed to in bad faith.

The assemblers as a rule choose from a list of certified suppliers. Exceptions are rare and tend to be ever more remote, due to internet-based purchasing. Only certified suppliers participate in the quote process. Purchasing professionals interviewed at company headquarters and at Brazilian subsidiaries state that internet purchasing tends to concentrate suppliers.<sup>142</sup>

Teams from the purchasing, quality, product engineering and logistics divisions typically participate in the selection process. The finance division also does when its function is separated from purchasing. The quality and engineering divisions also play a decisive role in qualifying the candidates, since they evaluate their capacity for production and product development, i.e., their capacity to produce according to the specifications of the assembler and in the required quantities.

Thus, engineering in practice has veto power over supplier candidates. At all the main assembly plants studied, I found cases where the purchasing director had proposed a less expensive supply option but the engineering division argued that the company did not have the technical conditions for supply, alleging an inability to produce the required tools, e.g., supplying the plastic panels for the most sophisticated vehicle; or it alleged a lack of production capacity, e.g., supplying cable, or the engineering department was unfamiliar with the company and considered an analysis to be of no use, e.g., in a case raised during the quantitative analysis involving the headquarters and a subsidiary of the same company.

In these circumstances, the engineering division that manages and runs the project plays a decisive role in choosing suppliers. The “auction” of prices occurs only after this division has approved the candidates. As a result, the location of the unit where the engineering division analyzes the candidates becomes decisive. This engineering belongs to the unit that *centralizes the vehicle design*, i.e., the unit that commands and decides about the project design (part numbers), its development and modifications.

<sup>141</sup> For details see Zilbovicius, Marx & Salerno, 2002.

<sup>142</sup> At some assembly plants we learned that of 89 electric parts, only three (items such as batteries and speakers) were supplied by domestic companies.

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## 2.2. The location of design activities structures the chain and the employment levels in the country

Contact is made with the key suppliers during the phase of defining the vehicle concept. The unit that develops the project design from the conceptual phase (the initial phase of a vehicle project, which defines its general characteristics) is the unit that will contact suppliers, and those located close to the assembly plant have an advantage. Importation is less viable when the vehicle design is headquartered in Brazil, since in this situation there are pieces and parts that are not designed and/or produced abroad, making the experimental development of parts themselves or of pre-assembled sets of parts for cars easier to do in the country. Further, the engineering department that certifies suppliers' credentials is the local engineering department, which has a different list of suppliers than company headquarters, consisting of local companies that are known to them, whether from the era of a more closed market, or from monitoring the local industry.

In that sense, the location of production activities and therefore the level of employment in Brazil are directly linked to the location of design headquarters in the country (Salerno et al, 2009).

## 2.3. Unions and design activities

Brazilian trade unions, particularly ABC Metalworkers, where most of assemblers' design activities are located<sup>143</sup>, have since the 1980s disputed the location of design activities with the companies. When some companies have entered the mood of "world car" (Ford) and its corollary, the centralization of R&D activities in central locations<sup>144</sup> in the 1980s/early 1990s, the unions have disputed new projects with VW and Mercedes.

But it took a long time for ABC's union to incorporate the dispute of design location and to understand the key role of engineering activities. In late 1970s/early 1980s union activities were centered on wages, working hours and fighting for democracy. But the union has supported some claims of white-collar workers, including organizing a strike in the 1980s. And, at São Bernardo, both blue- and white-collar workers participate in the factory committee, with representatives in the design and engineering sectors.

Unions at São Caetano (location of GM South America-Africa headquarters, perhaps the largest assembler-owned R&D/design facility in Brazil) and at Betim (location of Fiat Brazilian headquarters and R&D/design centre) have not engaged in these disputes with the same intensity either because they lack a long-term strategy or a broad understanding of the implications of design locations, or are simply weaker.

## 2.4. Where is the value added in the modular scheme?

The modular schemes can argue that a great part of the value (the "real" production) is added in the condominium, as if the modular suppliers would produce in the condominium most of its components, parts and subassemblies. But this is not true.

<sup>143</sup> GM in São Caetano; Ford, VW, Mercedes (trucks and buses), Scania (trucks) in São Bernardo. Only Fiat has a design centre outside ABC if we consider the major four assemblers – Fiat, VW, GM, Ford.

<sup>144</sup> Europe/US, since the Japanese and the Koreans assemblers have always centralized design.

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Suppliers try to maintain central locations where most of the production is located in order to obtain gains of scale and to reduce investments in condominiums dedicated to a single client. Salerno et al (2002), in a survey that covered firms responsible for more than two-thirds of the income in the supply chain, have shown that only five per cent of the companies are inside a condominium or similar place. On the other hand, 76 per cent of the auto parts plants are farther than 50 km from the assembler's complex. Although Figure 1 shows that most of the firms continue to supply in the traditional way, the organizational logic of the supply chain was changed to tiering and modularity.

In-depth studies and visits to the greenfields (industrial condominiums) show that only the final manufacturing and sub-assembly activities are carried out there. For instance, exhaust suppliers centralize the manufacturing of the components - except for the final touches, which they perform in the condominium. The same applies to suppliers of seats, instrument panels, tires and wheels, and suspensions and axles, which are the most common sub-assemblies in the condominium. This is because there is an underlying economic aspect to be considered in relation to scale, besides the fact that suppliers are strategic and prefer not to replicate investments or dedicate them to a single client.

In the first years of modular schemes in the auto industry there was a debate on a possible shift of the power in the chain towards large first-tier suppliers. The icon was the "Intel inside syndrome", referred to in the chain as "Siemens inside". But further investigation did not show a strong shift. Assemblers retain control of the chain; most of its management is performed by the assembler and not by first tiers, assemblers buy better since scale is larger, and there is the issue of responsibility: who is responsible for what in case of recall. At any rate, the scheme did not also mean the weakness of suppliers – the large ones became stronger, those in lower positions without direct and constant relations with assemblers became weaker. Salerno, Camargo and Lemos (2008), analyzing economic micro data of the companies in the sector, showed that suppliers performed better than assemblers in the period 1996-2005.

### **3. The evolution of employment, skills, wages (and other social data)**

Employment and employees' characteristics are the focus of this section. Data on employment capture only formal employment regularly registered in firms, since informal employment in assemblers or components makers is unusual. The data also concern the main and direct activities in the chain, i.e., they reflect only workers directly employed by assemblers and components makers, and ignore those who are not registered as assemblers or auto parts suppliers, such as security firms, logistical operators, restaurants, cleaners, etc. Obviously, it is much easier for unions or state agencies (in the case of Brazil, the Ministry of Labour and Employment) to oversee and control decent work in assemblers and first-tier suppliers than in small companies in the countryside. Historically speaking, there are few notices on non-registered employees in the direct automotive chain. In the past there were instances of child work in vegetal coal processers in the chain of iron/steel producers; public pressure and Federal inspections have at least lowered the phenomenon in the automotive chain.<sup>145</sup>

<sup>145</sup> Large companies in Brazil are trying to shed labels such as "I use child work", "I do not respect work laws", etc. This is the result of social movements, including unions, the media, work inspections, consumer associations (such as IDEC), as well as Federal Government policies to induce children to go to school instead of working (such as the programs "Bolsa Família" and "Reduction of Child Work").

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Subcontracting – the hiring of workers employed by a third company or by a “cooperative” of workers – occurs inside the companies. There is no data on the subject, but my own experience and intuition permit me to suggest that subcontracting within companies is confined to non-core activities in the assemblers (cleaning, transport, etc.). The practice is, however, prevalent among small suppliers (mainly in tiers 2 and 3). It is certainly much more limited than in Japan.

Workers’ cooperatives are regulated by a law promulgated under pressure from the MST, originally formed to address the grievances of landless and impoverished farmers<sup>146</sup>. Workers are not employed, so there are no taxes on wages, no contribution to social security and no workers’ rights – actually, there are no employers, only “owners”– better stating, only “cooperators”. Some companies, particularly those who offer part-time workers, began to act as a cooperative, registering candidates as cooperators, and offering them to companies at a low price.<sup>147</sup> After huge opposition from unions, work inspectors and work courts, the practice appears to be under control, that is, marginal.

Immigrant work is very marginal in Brazilian automotive industry and will not be considered.

In order to fully understand the data, tables, charts and figures, further methodological explanation is necessary, since the information was gathered from different sources. Data from Anfavea, Sindipeças and DIEESE ABC Metalworkers Union Section inform total employment in December 31.

Data from RAIS/MTE processed by Ipea has a more sophisticated methodology. RAIS is the Annual Declaration of Social Information collected by the Ministry of Work and Employment (MTE). It comprises all companies that declare themselves as assemblers or auto parts makers, not only those affiliated to Employers’ Associations (Anfavea or Sindipeças) – in that sense, it is broader, but also less checked. Ipea has processed micro data (or data company by company), keeping the secrecy of individual data.<sup>148</sup> Total employment is obtained by summing employees registered/declared at RAIS but weighted by the number of months each employee stayed in the firm. For instance, if an employee was employed for the whole year, the weight is 1.0; if employed for 6 months, the weight is 0.5. This procedure aims at analyzing the effective number of jobs offered by firms during the year.

Table 30 shows general data for the sector from 2000 to 2008. Production has almost doubled in eight years (91 per cent growth) in order to serve an internal market that has more than doubled in the same period (127 per cent). Employment in assemblers has grown by only 24 per cent. Chart 1 shows the index evolution of these indicators.

<sup>146</sup> MST – Movimento dos Trabalhadores Rurais Sem Terra (Movement of Agricultural Workers without Land).

<sup>147</sup> I visited a small company in São Paulo in 2001 that was using this procedure. The workers were gathered by a large multinational company on part time jobs and offered as “cooperators” that would run a part of the plant.

<sup>148</sup> There is a special law on the subject. Official statistical data cannot be published if a company is identified, and cluster analysis can be published only if it involves more than three companies.

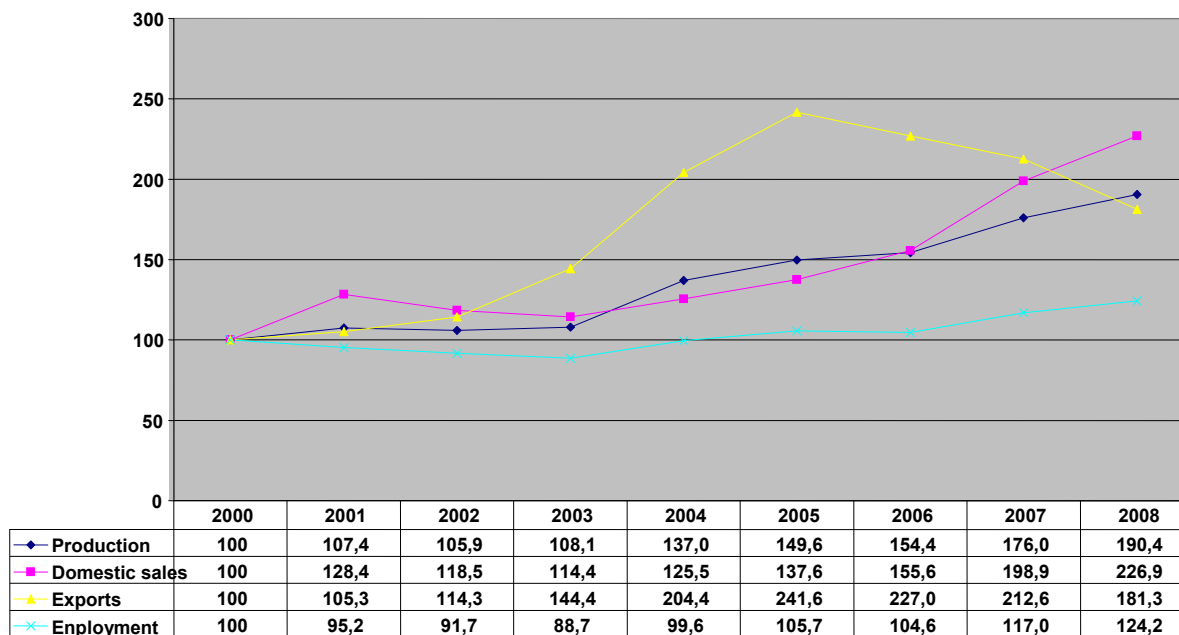
**Table 30. Production, domestic sales, exports and employment (2000 – 2008)**

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Production (1000 units)	1 691.2	1 817.1	1 791.5	1 827.8	2 317.2	2 530.8	2 611	2 977.2	3 224
Domestic Sales (1000 units)	1 177	1 511	1 395	1 346	1 477	1 619	1 831	2 341	2 671
Exports (1000 units, vehicles)	371.3	390.9	424.4	536	758.8	897.1	842.8	789.4	673
Employment (assemblers only)	89 134	84 834	81 737	79 047	88 783	94 206	93 243	104 274	110 745

Sources: Anfavea, CAGED-RAIS/MTE, DIEESE ABC Metalworkers Section.

Obs. See Annex1 for methodological discussion.

**Chart 1. Evolution of main indicators by index – production, sales, exports, employment (2000-8)**



**Table 31. Assemblers General Social Data – Passenger Cars, Light & Commercials (1996-2007)**

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Number of firms	71	58	63	41	50	54	57	55	56	57	53	46
Age of the firm	12.87	14.45	14.95	16.43	16.13	16.83	17.65	18.49	19.07	18.47	19.38	21.83
Employment	112 328	92 854	108 540	91 308	90 851	93 599	87 550	87 062	90 547	99 390	98 547	104 254
Women (%)	6.8	8.3	7.3	5.6	6.2	6.1	6.7	7.2	7.1	7.2	7.4	7.6
Seniority (years)	21.1	19.5	19.3	18.5	16.6	16.6	15.6	16.1	16.4	16.2	15.8	16
Turn over	0.64	0.58	0.59	0.5	0.56	0.7	0.52	0.46	0.49	0.51	0.43	0.42
Wages (mass)*				2 117	2 427	2 733	2 700	3 000	3 596	4 209	4 274	4 768
Average wage*				1 525	1 503	1 513	1 512	1 863	1 944	2 197	2 245	2 616
Schooling (years)	7.18	7.96	8.72	9.51	9.82	9.94	10.16	10.46	10.56	10.18	10.35	10.66
Graduates (%)	11.2	18.2	18.8	21.8	23.4	24.7	28.6	25.9	28.6	27.6	27.6	32.8
Engineers (%)	2.2	2.3	2.5	3.4	3.6	3.7	3.6	4.1	4.1	4.1	4.6	4.9
Up to High School (%)	24.7	27.2	32.1	34.1	37.1	39.2	38.1	49.4	40.6	41.3	43.7	45.9
Elementary School (%)	63.9	54.4	49.1	44.1	39.5	36.1	33.3	24.7	30.8	31	28.6	21.2

Source: RAIS/MTE (Annual Declaration on Social Information from The Ministry of Work and Employment). Processed by Ipea on demand.

Obs.: RAIS is compiled by The Ministry of Work and Employment monthly, based on data sent by companies. It may have some differences with data collected by Anfavea or Sindipeças.

(\*) Millions of Reais (R\$). Monthly average. Due to changes in Brazilian currency, I preferred to omit wages before 1999. Average wages include only the contractual wage. It did not include extra-hours, holidays (30% plus), 13<sup>th</sup> legal wage and other legal or contractual benefits.

**Table 32. Component Suppliers General Social Data (1996-2007)**

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Number of firms	1 723	1 769	1 794	1 829	1 833	1 903	1 982	1 901	2 018	2 143	2 032	1 918
Age of the firm	12.83	12.99	13.19	13.41	13.64	14.04	14.27	14.56	14.4	13.65	14.85	16.04
Employment	154 838	164 162	158 796	155 572	163 627	177 053	183 988	195 708	217 363	246 807	255 165	266 464
Women (%)	15.3	14.6	14.4	16.3	16.4	16.3	16.5	16.8	17	17.2	17.2	17.8
Seniority (years)	17.3	17.1	17	17.2	17	17	16.9	17.2	16.9	16.7	17.2	17.5
Turn over	0.61	0.65	0.58	0.57	0.61	0.61	0.58	0.56	0.58	0.56	0.52	0.54
Wages (mass)*				2 068	2 280	2 656	2 875	3 499	4 317	5 038	5 520	6 003
Average wage*				595	630	715	745	835	906	948	1 042	1 089
Schooling (years)	6.66	7.03	7.33	7.56	7.79	8.02	8.23	8.46	8.71	8.89	9.04	9.17
Graduates (%)	8.9	9.5	10.6	12.4	12.4	12.2	12.7	13.5	13.1	12.6	12.9	12.7
Engineers (%)	1.1	1.3	1.4	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6
Up to High School (%)	23.5	27.5	31.3	34.6	38.6	42.6	45.8	49.5	54.7	58.5	60.4	63
Elementary School (%)	66.2	61.9	57.3	52.4	48.4	44.8	40.8	36.6	31.9	28.7	26.5	24

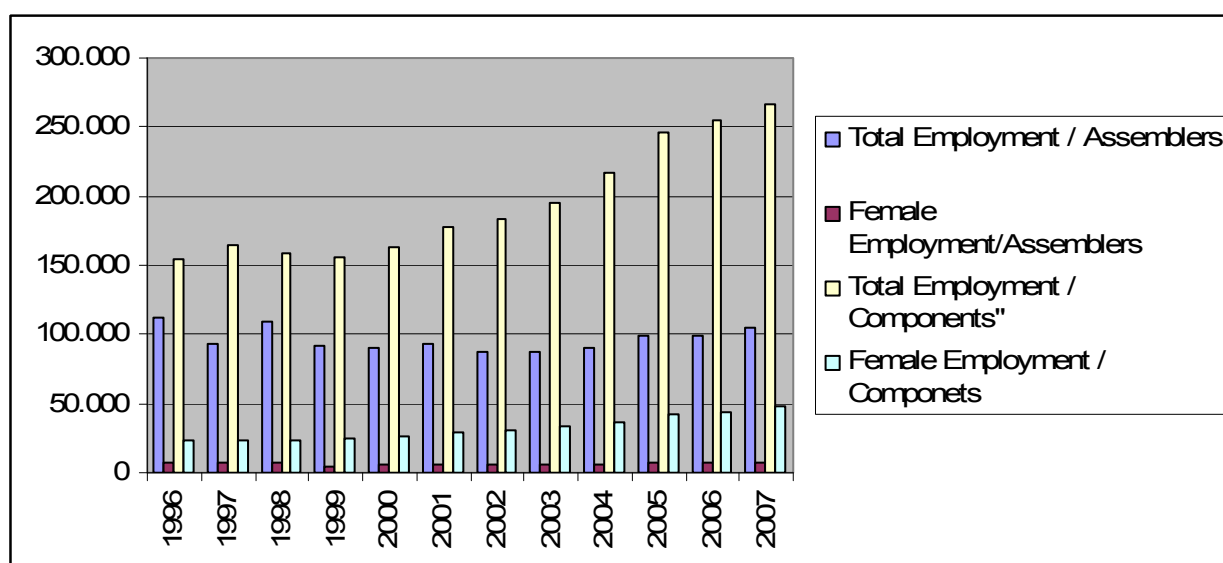
Source: RAIS/MTE (Annual Declaration on Social Information from The Ministry of Work and Employment). Processed by Ipea on demand.

Obs.: RAIS is compiled by The Ministry of Work and Employment monthly, based on data sent by companies. It may have some differences with data collected by Anfavea or Sindipeças.

(\*) Millions of Reais (R\$). Monthly average. Due to changes in Brazilian currency, I preferred to omit wages before 1999. Average wages include only the contractual wage. It did not include extra-hours, holidays (30% plus), 13<sup>th</sup> legal wage and other legal or contractual benefits.

Tables 31 and 32 show the evolution of employment since 1996. The level of employment in assemblers has declined in the 2000s compared to the mid-1990s regardless of growth in production. But employment in suppliers has grown in this period, as can be seen in Chart 2. From 2003 on, when production regained growth, employment in suppliers grew more than in assemblers.

**Chart 2. Evolution of employment by gender**



Source: RAIS/MTE. Microdata processed by Ipea.

The explanation for this is the shift in the structure of the chain towards outsourcing (in the 1980s) and modularity (in the 1990s). Many parts, components and subassemblies produced by assemblers were outsourced.

Female employment in assemblers has never reached more than 8.3 per cent. Table 4 shows a very small increase over the years, from 6.8 per cent in 1996 to 7.6 per cent in 2007. Female participation is higher in suppliers (Table 5), also growing slowly over the years, from 15.3 per cent in 1996 to 17.8 per cent in 2007, almost twice that for assemblers.

Table 33 and Table 34 are related to wages. They show wage mass (total amount of wages paid by the companies) and workers' income (average wage earned by workers) corrected for inflation and also by index in order to make visualization easier.

**Table 33. Evolution of wages in assemblers corrected for inflation, Reais (R\$) and index (basis=1999)**

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Wage mass (correct by IPCA)	2 117	2 290	2 395	2 103	2 138	2 381	2 637	2 596	2 773
Wage mass (1999=100)	100	108	113	99	101	112	125	123	131
Average wage (corrected by IPCA)	1 525	1 418	1 326	1 177	1 328	1 288	1 376	1 364	1 522
Average wage index (1999=100)	100	93	87	77	87	84	90	89	100

Source: RAIS/MTE (Annual Declaration on Social Information from The Ministry of Work and Employment). Processed by Ipea on demand. Deflation by the author using IPCA annual basis.

**Table 34. Evolution of wages in suppliers corrected for inflation, Reais (R\$) and index (basis=1999)**

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Wage mass (correct by IPCA)	2 068	2 152	2 328	2 239	2 493	2 859	3 156	3 353	3 491
Wage mass (1999=100)	100	104	113	108	121	138	153	162	169
Average wage (corrected by IPCA)	595	594	626	580	595	600	594	633	633
Average wage index (1999=100)	100	100	105	97	100	101	100	106	106



It is easy to see that wage mass grew more in suppliers than in assemblers and workers' income is almost stable for the period. A declining tendency can be seen from 1999 to 2004 (2003 for suppliers) and a recovery after 2004, probably linked to the growth of production.

Schooling progressed substantially in the period (see Table and 187). In assemblers, it increased from an average of 7.2 years in 1996 to 10.7 years in 2006 – more than three years. In suppliers, it increased from 6.7 years to 9.2 years. This definitely reflects not only the improvement in public education and schooling levels in Brazil but also the policy of companies to hire more educated people. The proportion of graduates more than doubled in the period, from 11.2 per cent to 32.8 per cent in assemblers, and from 8.9 per cent to 12.7 per cent in suppliers. The schooling data also show a huge decline in the proportion of workers with only elementary school education: from 63.6 per cent to 21.2 per cent in assemblers and from 66.2 per cent to 24 per cent in suppliers.

The elevation of graduates, along with the elevation in the proportion of engineers regarding total employment (from 2.2 per cent to 4.9 per cent in assemblers and from 1.1 per cent to 1.6 per cent in suppliers), may reflect the increase of design and managerial activities. Data on R,D&E (research, development and engineering) employment would provide a more consistent analysis of design activities, but these are unavailable. To cope with this difficulty I considered engineers' employment levels as a proxy of R,D&E activities, but they are not the same because engineers also work on production, acquisitions, quality, finance, etc. The innovation index in the assembly sector is among the highest in the country (71.1 per cent in 2003-5), while suppliers are considered mid-level (45.4 per cent in 2003-5), according to Pintec, a Brazilian survey on industrial innovation compatible with CIS, the Community Innovation Survey (IBGE, 2007). Both assemblers and suppliers indices are largely superior to the industry average (33.3 per cent in 2001-3 and 33.4 per cent in 2003-5). R&D expenditures in assemblers grew from 4.7 per cent in 2001-3 to 5.6 per cent in 2003-5 of net revenue<sup>149</sup>; the same numbers for suppliers are 2.5 per cent and 3 per cent, respectively (IBGE, 2007).

Tables 3 and 4 show a slight improvement in some work conditions. Schooling has improved; turn-over has been reduced, and, since permanence in the company has grown (measured by seniority in the firm), both indicators may suggest that workers have a more stable job.

#### **4. 2008-09: Crisis, recovery and trends**

The financial crisis struck when Brazil's auto industry was booming. In 2008 Brazil's economy grew consistently, real wages increased (workers' average income for the whole economy grew 27.1 per cent over 2007<sup>150</sup>), unemployment and inequality decreased, and 3.8 million people left the poverty line (IBGE/PNAD, 2009).

In 2007 and 2008 assemblers' revenue grew by more than 20 per cent, and by 25 per cent for auto parts. In units, the growth was 14 per cent in 2007 and 8 per cent in 2008 (including the crisis period). Sales in the domestic market were up by 27.8 per cent in 2007 compared to 2006, and by 14.5 per cent in 2008. This growth, verified since 2003, led the

<sup>149</sup> Revenue excluding taxes.

<sup>150</sup> Inflation was 5.9 per cent in 2008.

industry to invest more significantly and to add more capacity in late 2007/early 2008. Evidently, this move came to a halt with the crisis.

**Table 35. Monthly employment & production (Jan 2007-Aug 2009)**

(x 1000)	Jan 07	Feb 07	Mar 07	Apr 07	May 07	Jun 07	Jul 07	Aug 07	Sep 07	Oct 07	Nov 07	Dec 07
Employment - Assemblers	93,8	94,4	94,7	95,413	96,429	98,61	99,859	100,674	102,048	103,079	103,979	104,274
Employment - Auto parts	301,5	303,7	305,6	309,1	312,8	316,1	320,1	323,7	327,2	329,8	332,2	332,4
Employment - Industry	395,3	398,1	400,3	404,513	409,229	414,71	419,959	424,374	429,248	432,879	436,179	436,674
Production - vehicles	205,3	203,8	247,4	223,6	257,4	247	266,1	279	252,5	296,4	271,2	220,6

(x.1000)	Jan 08	Feb 08	Mar 08	Apr 08	May 08	Jun 08	Jul 08	Aug 08	Sep 08	Oct 08	Nov 08	Dec 08
Employment - Assemblers	105,248	105,832	107,29	108,833	109,383	110,385	111,939	112,601	112,804	113,127	112,713	110,745
Employment - Auto parts	336,5	339,3	343,1	346,9	349,8	353,5	357,5	360,6	363,2	361,3	350,8	339,2
Employment - Industry	441,748	445,132	450,39	455,733	459,183	463,885	469,439	473,201	476,004	474,427	463,513	449,945
Production - vehicles	255,2	254	283,7	302,5	293,9	309,4	317,9	311,9	300,6	297,3	197,5	96,6

(x 1000)	Jan 09	Feb 09	Mar 09	Apr 09	May 09	Jun 09	Jul 09	Aug 09
Employment - Assemblers	108,979	108,464	106,934	106,001	106,001	105,5	105,084	105,411
Employment - Auto parts	328,2	320,1						
Employment - Industry	437,179	428,564						
Production - vehicles	184,8	201,7	272,4	256	253,7	268,9	284,4	282

Sources: Anfavea, CAGED-RAIS/MTE, DIEESE ABC Metalworkers Section. Elaborated by the author.

OBS.: Monthly data are subject to revision by data producers. It is frequent some adjusts. Employment in suppliers is not available after February 2009.

But even during the hardest period of the crisis, and mainly in the present recovery, companies have announced new investments. For instance, GM, despite its difficulties in the US and other locations, is profitable in Brazil and has announced a \$1 billion investment to add more capacity in its Gravataí (RS) plant, and \$1 billion for general improvements, including the expansion of its R&D centre.<sup>151</sup> Hyundai, represented in Brazil by a local firm that invested in a large plant and produces under license, has announced a new plant and new products. Toyota is building a new plant, and Honda is expanding to produce the Civic locally.

Table 35 above depicts the sharp reduction in production that occurred in November-December 2008 because of the crisis. Production in November was 62 per cent of the July level (the peak), and only 30 per cent of December.

<sup>151</sup> The Centre – known as Technological Centre -- has its main location in São Caetano, on the outskirts of São Paulo, and a ground-testing proof at Cruz Alta. It employs more than 2,000 people in São Caetano, and comprises a Design Centre (7,150 m<sup>2</sup>) with 200 employees.

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In order to make a comparison, I have drawn on data for the Mexican automotive industry based on Alvarez (2009). The Mexican auto industry is structurally different from Brazil's, since it mainly exports directly to the US; most of the models exported have no relevant sales in the domestic market. Under the Mercosul – Mexico free trade agreement for automobiles, Mercosul (mainly Brazil) exports more vehicles to Mexico than it imports from Mexico. In 2007 Mexico's production peaked at slightly more than 2 million units, domestic sales at about 1.1 million (about 700,000 imported). Comparing January-February 2008 to January-February 2009, Mexican production fell by 44.4 per cent, while domestic sales declined by 40 per cent in May 2009 (Alvarez, 2009). In Brazil, production declined by 22 per cent in the same period, but subsequently recovered.

The Brazilian government acted promptly to restore credit levels. Under direct orders from the President, public commercial banks *Banco do Brasil* and *Caixa* and investment bank *BNDES* reduced interest rates and provided easier access to credit. Although there was no bank crisis in Brazil<sup>152</sup>, private banks cut credit as a preventative measure. Most companies who secured credit from abroad in the past have turned to Brazilian public banks since international credit has become difficult to access.<sup>153</sup> Federal measures were fundamental to keep a minimum level of credit in the country for both companies and customers. Additionally, taxes on vehicles (and other items such as refrigerators) were reduced.<sup>154</sup>

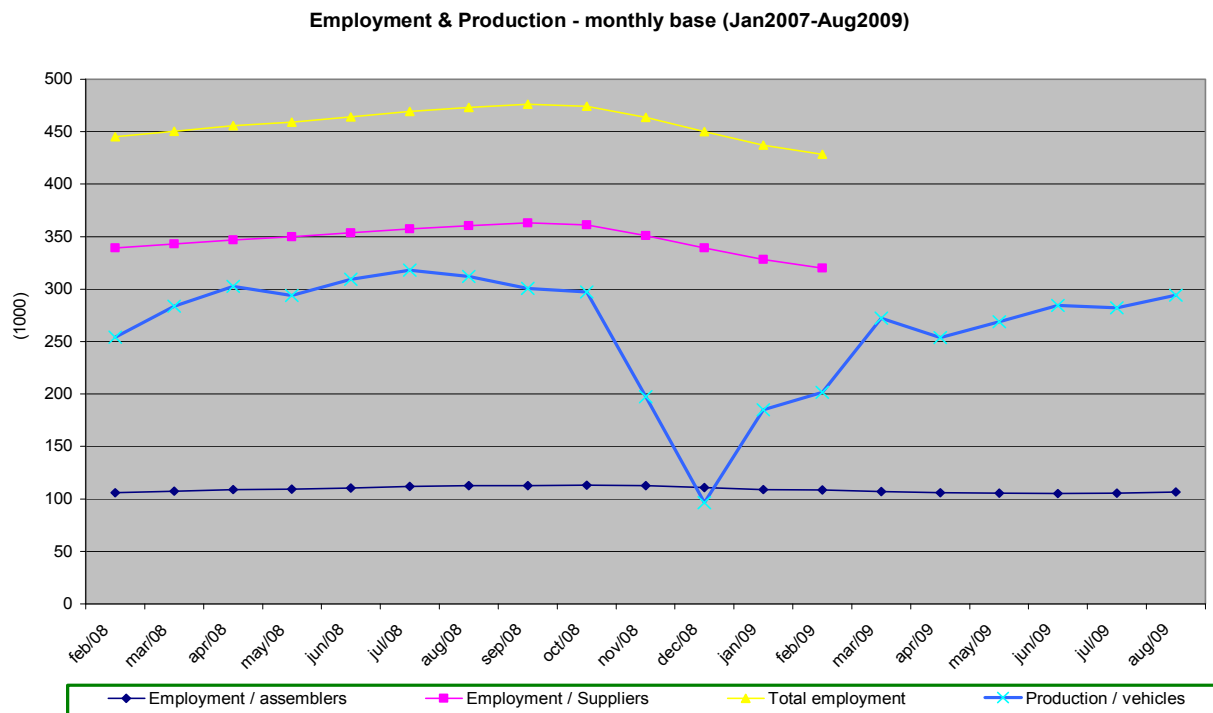
Recovery commenced in early 2009, reaching 85 and 80 per cent of the peak in March and April, respectively. Production levels for August 2009 were similar to March 2008, about 35,000 units fewer than in July 2008 (peak level) – see Table and Chart 4. The government is studying the cancellation of some measures that were implemented to cope with the crisis. For instance, taxes may return to previous levels in the short term.

<sup>152</sup> The Brazilian banking system is much more regulated than others and requires greater capital to reach the same level of lending (11 per cent against an overall average of 8 per cent in other countries).

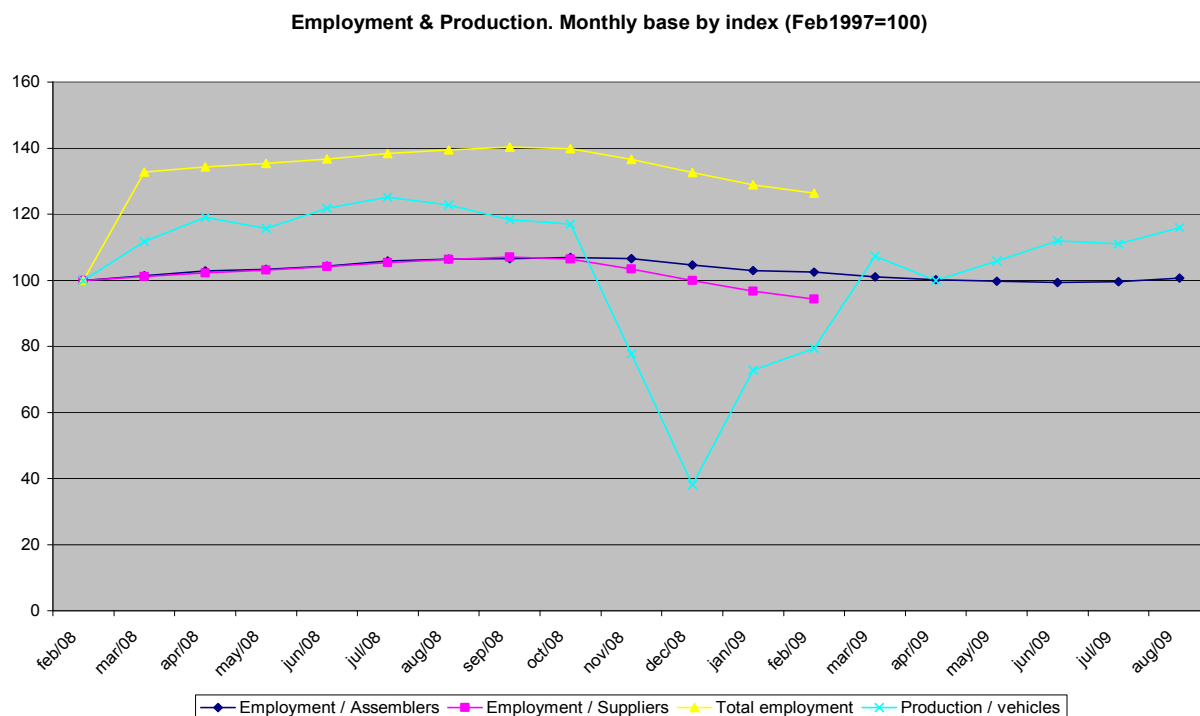
<sup>153</sup> Even Petrobras, the largest Brazilian company and one of the most solid in the world, was denied credit overseas and borrowed from Caixa.

<sup>154</sup> Only federal taxes. Most taxes are from the states, and such taxes remained the same. Tax reductions are planned to end on 30 October 2009 – if confirmed, a slow-down in sales in the next few months is possible.

**Chart 3. Evolution of employment and production (Jan 2007 – Aug 2009)**



**Chart 4. Index of evolution of employment and production (Feb 2007=100)**



This recovery shows that: 1) the industry provoked the slow-down in order to reduce inventories, but more than was necessary; 2) governmental measures to increase credit and reduce taxes had a positive effect on sales. The slow-down was provoked by cuts in extra work hours, third shifts and employment, and by bargains that anticipated collective holidays. Some companies that made heavy dismissals had to recall workers in February 2009 to cope with new demand levels.

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## 4.1. Old Problems, Future Possibilities

The recovery of production levels is fully due to the growth of the domestic market, which also favored production in countries like Argentina and Mexico because of free trade agreements between them.<sup>155</sup> Exports have declined.

It is unclear which investments have been postponed and which have not. For instance, GM, Toyota and Hyundai are investing, as discussed before. There are also investments in raw materials producers such as steel (by local players, e.g., Usiminas, CSN) and by newcomers, e.g., Thyssen. Partial information, based on loose, unconfirmed conversations, indicates that the components sector reduced or postponed investments more significantly in the second half of 2008 – but this was to be expected. At the current time, the main issue affecting both assemblers and suppliers is exports. Since governmental measures have been successful to induce domestic demand, at least in the short term, exports depend on the recovery of external markets. The Brazilian automotive industry has gained relative positions in worldwide production ranking since the crisis, suggesting that it has been less affected than others: in 2008 the industry was ranked among the top six; in 2009, among top five.

The observations made above suggest a favourable outcome for the industry, employment and work conditions. Actually, Brazilian unions have already foreseen it: they promoted strikes in September in Paraná State (where Renault, one of VW's plants, and Volvo Trucks are located) and in São Paulo State (GM at São José dos Campos<sup>156</sup> and São Caetano<sup>157</sup>, assemblers at São Bernardo), including suppliers. As an example of the good moment Brazilian auto business is living, 41 suppliers have made agreements with ABC unions almost immediately after the declaration of strike – they did not wait for the general agreement of the sector, preferring agreements by company, more favorable for workers (Amato, 2009).

The favourable situation in the industry and the mobility of the unions may conceal some structural problems in the work relations systems and workers' rights in Brazil. It is clear that, at least in the automotive chain, work conditions and work relations are fairly similar to those in advanced economies. There are rights to establish unions and to strike; there are social rights such as a public retirement system, public health system, labor courts, etc. But the union structure is still based on Mussolini's chart. Collective bargaining is not universal, in the sense that work contracts are individual. Collective contracts are of limited duration (usually one year), after which the bargain must resume from zero.<sup>158</sup> There is no right to appoint workers' representatives in the workplace, although some unions have succeeded after lengthy dispute, for example, the factory committees at some plants in São Bernardo (Ford, VW, Mercedes and others), but this situation is not uniform across the country. For instance, there is no factory committee at Fiat Betim.

<sup>155</sup> Actually, between Mercosul and Mexico for some goods, including automobiles.

<sup>156</sup> According to the local union 5,000 vehicles were not produced in São José. Workers received an 8.3 per cent raise (inflation = 5.9 per cent) + R\$1,950 (about \$1,000). The initial offer was 6.53 per cent.

<sup>157</sup> São Caetano Union does not usually sustain strikes.

<sup>158</sup> In some countries, the collective contract is like a law - its duration depends on the agreement of a new contract.

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That situation leads to huge differences in wages and work conditions in the country, even if only assemblers are considered. This is a legitimate question, since most advanced industries and unions are permanently menaced by plant relocations. It is a question regarding social development, reduction of regional inequalities, and democracy in a broad sense.

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