Submission to the Productivity Commission Review of Post 2005 Assistance Arrangements for the Australian Automotive Industry

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Executive Summary

The Australian automotive industry is continually re-engineering itself.

In an increasingly competitive global automotive market, the Australian automotive industry is undertaking massive changes in the way it does business. It is supporting production volumes by expanding into export markets and improving operating efficiency by removing unnecessary costs. The adjustment process affects every company throughout the supply chain.

The forces of change in the Australian automotive industry are many and varied.

Trade liberalisation, globalisation, microeconomic reform, advances in vehicle technology, consumer preferences, greater external and internal integration of firms through web-based technologies, higher standards of manufacturing excellence, recognition of customer value and growth through innovation are all driving the automotive industry. To its credit, the Australian industry has embraced these changes and recognised the opportunities they offer.

The industry's response to these changes will take time to work through.

This involves extensive reorganisation of business relationships and supply chain management; substantial investment in capital, innovation capability and marketing; and upgrading of skills.

Forces of Change	Industry Response
• Trade liberalisation • Globalisation • Microeconomic reform • Advances in vehicle technology • Changes in consumer preferences • Web based technologies • Lean manufacturing • Product innovation	• Re-organisation of business relationships and supply chain management • Capital investment • Investment in innovation capability • Investment in marketing • Upgrading of skills

The automotive industry in every developed country is going through similar changes.

Unprecedented international mergers, partnerships and joint ventures are now commonplace in one of the most competitive industries in the world. Companies are positioning themselves to extend their markets beyond the relatively saturated automotive markets of North America and Western Europe. Eastern Europe, India, China and South America are expected to contribute most to world automotive market growth over the next decade.

While the Australian automotive industry is small by world standards, it remains a key manufacturing industry.

Automotive component manufacturing provides substantial employment, inter-industry linkages, R&D and innovation capability, investment and exports and has a strong regional presence. The industry is improving competitiveness by building on its considerable strengths as evidenced by a rapidly growing export performance. Its major weakness is the relatively low volume constraint imposed by the size of the domestic market. But this weakness is ameliorated by an impressive export performance over recent years and the emerging opportunities in niche markets for differentiated vehicles such as Holden's Monaro.

The future of the automotive components sector is inextricably tied to the future of local vehicle assembly.

While export markets can be developed independently of the four local assemblers and a significant domestic after-market exists for automotive components, vehicle production provides the base that underpins component manufacturing. With most of the Australian production value of automotive components being supplied to the assemblers, there is a strong causal link between the fortunes of the assemblers and those of their suppliers.

A key milestone date is 2005 when the tariff rate is scheduled to fall another 5%.

This is likely to further erode the domestic industry's share of the local market. However, if present export successes can be maintained, this adverse effect can be offset. But there is little doubt that pressure on prices from import competition is expected to continue unabated and will intensify in 2005. Production volumes can only be maintained in such a domestic market structure by exporting – and that requires world-class production efficiency and integration of every supplier in the automotive chain. It also requires external access into world markets unfettered by high import barriers.

The next potential milestone for the industry is 2010 when the APEC Bogor Goals are intended to take effect.

However, whether the goal of "Free Trade" between the developed countries of APEC is actually translated into tariff reductions is far from certain at this stage. The recent US decision on steel tariffs gives the FAPM little confidence that the US will be willing to forgo its 25% tariff rate on imported light trucks in 2010. That tariff has also been a major factor in encouraging recent new investments in domestic US production of special vehicles (import replacement), notably by Mercedes Benz.

Automotive investment decisions have long time horizons.

The time required to develop new products from concept to commercial sales volumes can take up to a decade. It also takes time for companies to develop export markets. For vehicles, adjustments may have to be made to suit particular markets and consumer preferences, and distribution outlets established. For components, at least a regional platform contract may have to be secured and timing may have to wait for the next model. This can be a protracted process.

Most developed and developing countries support their automotive industry.

This occurs through a variety of specific and general assistance measures including import tariffs, non-tariff barriers, investment incentives, R&D assistance, education and training support, regional aid, trade blocs, and corporate tax breaks and holidays. Investment attraction and retention is now the key automotive policy objective of developed countries rather than industry protection. To be competitive, Australian automotive industry policy must have a similar primary objective.

By far the single biggest policy issue for the industry is the ACIS Scheme.

ACIS is underpinning the industry's transition to international competitiveness. For the components sector, the assistance provided by ACIS is being reinvested in improving the industry's competitiveness by substantial new investments in plant and equipment and R&D. Without ACIS, it is extremely doubtful whether the industry's relatively low return on funds employed would be sufficient to finance the change required over the next decade.

Government policy must continue to support structural and market change in Australia's automotive industry.

ACIS should stay in place unaltered until 2005. Although modulation has reduced expected ACIS benefits for each recipient, investment decisions have been made on the basis that this scheme will be in place until 2005 and that the total funding will be $2 billion.

The Australian automotive industry has demonstrated its ability to improve efficiency.

This has been achieved through rationalisation of plants and models, adoption and development of new technologies, changed management and work practices, and supply chain integration. While there has been substantial progress on the supply side there remains a way to go.

Australian automotive companies are working hard to expand their sales in world markets.

The larger local component companies have been able to secure supply contracts beyond the four local assemblers by spending heavily on R&D and improving manufacturing efficiency. Some have expanded into offshore production to be close to their overseas customers. Others have ceased producing technologically simple components where costs are particularly volume sensitive. But again much more needs to be achieved to build and secure the necessary scale of operation for international competitiveness.

Policy stability and certainty is vital when planning decisions have long time horizons.

The tariff rate on imported automotive products remains an important element of the Australian industry's competitive position and is vital to investment attraction decisions for Multi-National Corporations (MNCs) which favour Australia over alternative locations. While other countries (especially those within APEC) maintain higher tariffs on imported automotive products, the Australian industry would be severely disadvantaged by a unilateral tariff reduction which is lower than the 2005 legislated rate of 10%.

Continued efforts are required to open up world markets for automotive products.

This involves efforts at a number of levels including - continuation of the proven success of more targeted efforts along the lines of the Automotive Market Access and Development Strategy; continued trade negotiations, especially bilaterally; ensuring protection of intellectual property rights; and working to develop common technical standards.

This is the first time that the industry has been reviewed when the prospect of continued long term future success is within our grasp.

We have an industry that is making substantial supply-side changes combined with increasing international market opportunities that has not occurred before. That combination will forge an internationally competitive industry if the right industry policy mix is available to what is now a global industry with 'footloose' investment.

The automotive industry is one of the most competitive industries in the world.

Most developed countries see merit in supporting the industry because of its sheer size and linkages within the manufacturing sector. These conditions mean that international supply contracts for automotive components are very tough to win for Australian suppliers unless the products are differentiated by superior design or function, can meet the quality specifications, and can be reliably supplied at the right price.

The role models for the future of Australian components sector are those companies which are meeting these requirements. Without exception, these companies have made long-term commitments to high and continuing Research and Development (R&D) expenditure, have successfully developed innovative products from concept to commercialisation, and are investing continuously to achieve manufacturing excellence. This process was started under the Export Facilitation Scheme (EFS) and continues under the ACIS scheme.

Without such policies, the key elements of competitiveness for the Australian automotive industry - R&D and capital - will not be attracted to Australia and our local component companies will be unable to develop the innovative leading-edge components on which its future depends.

Key Policy Recommendations

There are four key areas of automotive policy:

- Automotive Competitiveness Investment Scheme (ACIS)
- Tariff Rates on Automotive Imports
- Market Access
- General Government Policies

Taken together, these four areas will help determine Australia's attractiveness as an automotive investment location.

1. Automotive Competitiveness Investment Scheme (ACIS)

- Continuation of the current ACIS scheme as scheduled, without change, until its legislated expiry on 31 December 2005.

- Introduction of annual ACIS impact monitoring and measurement of key performance indicators.

- Development of an ACIS Mark II along similar lines to ACIS Mark I to run from 2006 to 2010.

- The level of funding for ACIS Mark II to be determined in consultation with the Australian automotive industry.

2. Tariff Rates for Automotive Products

- No change in the current legislated tariff rates on imports of automotive products at least until the degree and extent of firm commitments by all APEC members in response to the Bogor Goals are clear.

- Any consideration of changes to the Australian automotive tariff rate should be predicated on an unequivocal commitment to a rate of Free across all automotive products by the other industrialised members of APEC and a commitment by the non-industrialised members to further substantially reduce their tariff and non-tariff barriers to automotive imports.

3. Market Access

- Continuation of industry-specific and targeted market access programs for the automotive industry along the lines of the Automotive Market Access and Development Strategy (AMADS) to be developed within the framework of the Automotive Council.

- Continuation of the processes of bilateral negotiations with important trading partners seeking accession to the WTO.

- Continuation of Australian Government efforts to reduce barriers such as import-specific mandatory standards and conformity assessment requirements through negotiation of mutual recognition agreements and by participation in the APEC program on standards and conformity assessment.

- Continuation of efforts to encourage developing automotive-producing countries to fully establish intellectual property rules in accordance with the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs).

- Continuation of efforts to secure international standardisation of technical regulations, minimum vehicle safety and emission requirements, and rules of origin at minimum cost to industry and the community.

4. General Government Policies

- Continuing the processes of micro-economic reform particularly in the areas of labour market reform, infrastructure and taxation.

- Maintaining adequate public and/or private investment in roads.

- Ensuring that Australia's education and training infrastructure provides industry with access to people with the required set of skills and that those people have access to lifelong learning to cope with changes in skill requirements over time.

- Supporting public R&D and innovation and promoting effective linkages between the automotive industry and public research institutions.

Chapter One

The Australian Automotive Components Industry

Overview

The Australian automotive industry is a key growth driver of Australian manufacturing - in investment, skilled jobs, design, engineering, manufacturing technology, production and management techniques, chip technology, innovation and R&D. There are around 200 local component, tooling, and design and engineering firms providing products and services to the four Australian vehicle assemblers, to exports and to the after-market.

Automotive components manufacturing directly employs around an estimated 30,000 people. It is an important industry in a number of regional centres across Australia including Albury, Geelong, Ballarat, Taree and Launceston. It is also a significant employer in parts of Melbourne, Adelaide and Sydney.

Total annual sales of automotive components are around $5 billion. Many of the world's leading automotive components suppliers are manufacturing in Australia. Four of the top five, seven of the top 10 and 11 of the top 30 component suppliers by world turnover are represented in Australia.

Automotive components supply in Australia is fairly highly concentrated – the four largest companies account for around 40% of turnover.

The Australian components sector manufactures the full range of automotive components, a capability recently demonstrated in the *aXcess Australia* concept car which was completely designed and built in Australia. The industry is fully QS-9000 rated - a supply requirement of each Australian-based automotive manufacturers. Manufacturers are well supported by a number of design and tool making firms.

A wide range of components is exported including engines, electronics, braking equipment, wheels, driveline components, seating, transmissions, air conditioning equipment and friction material. Total exports by the whole automotive industry in 2000-01 were valued at $4.94 billion. Around 50% of the total Australian market for automotive parts and accessories is provided by imports, mainly from Japan and the US.

The automotive industry is one of the highest spenders on business R&D in Australia. It is a leader in engineering design and production technologies and organisation methodologies. The industry invests heavily in workforce skills reflecting the need to continually improve quality and price performance. The result is that cars in Australia are increasingly becoming more affordable relative to average weekly earnings.

Companies have developed close relationships with universities and with the CSIRO on collaborative R&D and participate in a number of Co-operative Research Centres.

Up to 100,000 jobs in other industries are directly or indirectly dependent on automotive manufacturing – jobs in industries such as steel, glass, plastics, textiles and services. Overall, the automotive industry contributes around 6% of manufacturing value added and about 1% of GDP. Without the automotive industry, there would be a negative impact on Australia's balance of payments of between $7 - $9 billion.[1]

The Australian automotive industry has worked hard over recent years to improve its competitive position by removing inefficiencies in the supply chain and by developing export markets. But there remains a way to go. The successful future of the Australian automotive components sector depends to a large degree on being able to further develop its innovation capability, to increase its capitalisation and to reduce its market reliance on the local assemblers.

Earlier this year, the FCAI and FAPM jointly commissioned a report from the Allen Consulting Group and Deloitte Touche Tohmatsu titled *The Automotive Industry's Contribution to the Australian Economy: A Modern Perspective.* It covers in detail the current position of the industry within the Australian economy and its potential to further contribute to the economy's growth. In this submission, the FAPM has concentrated on the automotive components sector of the industry.

General Note on ABS Industry Classifications

The Australian Bureau of Statistics (ABS) publishes industry statistics on the basis of the primary activity of the business according to the Australian and New Zealand Standard Industrial Classification (ANZSIC). Some ANZSIC codes match automotive component supply activities well (although not perfectly) such as:

ANZSIC 2183 – Automotive Electrical and Instrument Manufacturing

ANZSIC 2819 – Automotive Component Manufacturing n.e.c.

There are some other ANZSIC codes which mostly cover automotive components but include significant non-automotive component activities such as ANZSIC 2813 – Battery Manufacturing (which includes manufacture of dry cell batteries) and ANZSIC 2551 – Rubber Tyre Manufacturing (which includes tyre retreading activities). There is also a wide range of automotive component manufacturing activities which are part of broader ANZSIC activities. These include automotive seats which are part of the ANZSIC Furniture Manufacturing activities; fabrics and trims which are part of the ANZSIC Textile Product Manufacturing; and components made completely of plastic which are part of the ANZSIC Plastic Product Manufacturing.

For the purposes of this submission, the FAPM has used ANZSIC 2183 and 2819 to represent automotive components manufacturing in Australia. However, it must be noted that the sum of the activities of these two ANZSICs is less than the total activity of manufacturing automotive components in Australia. Although it is difficult to assess what that total activity might be, it could be up to 10% more than the sum of ANZSIC 2183 and 2819.

[1] The Allen Consulting Group and Deloitte Touche Tohmatsu, *The Automotive Industry's Contribution to the Australian Economy: A Modern Perspective*, February 2002

Employment in Automotive Component Manufacturing

Employment in automotive component manufacturing fell between 1995-96 to 1998-99, but rose by nearly 9% in 1999-2000. Current employment is around 27,700 but, taking into account other automotive component manufacturing activities not represented in these figures, it could be as high as 30,000. The employment trend in component manufacturing over the last few years reflects increased outsourcing by the OEMs.

Table 1.1: Employment in Automotive Component Manufacturing, Australia

	1995-96	1996-97	1997-98	1998-99	1999-2000
Automotive electrical and instrument manufacturing	5,176	5,420	4,734	5,189	5,287
Automotive component manufacturing nec	22,086	21,868	22,262	20,322	22,422
TOTAL	**27,262**	**27,288**	**26,996**	**25,511**	**27,709**

Source: ABS

Victoria currently accounts for around 54% of total employment in automotive components manufacturing; South Australia around 19%; and New South Wales around 17%.

Table 1.2: Employment in Automotive Component Manufacturing, By State, Australia

	1996-97	1997-98	1998-99	1999-2000
Victoria	13,360	15,148	13,323	14,825
South Australia	5,283	5,284a	5,278	5,337
New South Wales	4,939	4,014	4,105	4,768
Other States	3,706	2,550	2,805	2,779
TOTAL	**27,288**	**26,996**	**25,511**	**27,709**

Figure for South Australia not published by ABS in this year. Estimated by FAPM.
Source: ABS

Wages and Salaries Generated in Automotive Component Manufacturing

In 1999-2000, automotive component manufacturing generated well over $1 billion in wages and salaries.

Table 1.3: Wages and Salaries Generated in Automotive Component Manufacturing, Australia ($ million)

	1996-97	1997-98	1998-99	1999-2000
Automotive electrical and instrument manufacturing	202.7	196.7	221.0	230.3
Automotive component manufacturing nec	734.3	792.5	756.9	834.0
TOTAL	**937.0**	**989.2**	**977.9**	**1,064.3**

Source: ABS

Nearly 58% of total wages and salaries in automotive component manufacturing is generated in Victoria and 16% in New South Wales. The ABS does not publish separate data for other States.

Table 1.4: Wages and Salaries Generated in Automotive Component Manufacturing, by State, Australia ($ million)

	1999-2000
Victoria	616
South Australia	NP
New South Wales	170
Other States	278
TOTAL	**1,064**

NP: Figure not published separately by the ABS. Included in "Other States".
Source: ABS

Turnover of Automotive Component Manufacturing

In 1999-2000, turnover in automotive component manufacturing was well over $5 billion and probably exceeds $5.5 billion if all activities were included.

Table 1.5: Turnover of Automotive Component Manufacturing, Australia ($ million)

	1996-97	1997-98	1998-99	1999-2000
Automotive electrical and instrument manufacturing	955.1	1,018.5	1,163.3	1,285.5
Automotive component manufacturing nec	3253.9	3,385.3	3,461.2	3,852.1
TOTAL	**4,209.0**	**4,403.8**	**4,624.5**	**5,137.6**

Source: ABS

Nearly 57% of turnover in automotive component manufacturing is generated in Victoria and 17% in New South Wales. The ABS does not publish separate data for other States.

Table 1.6: Turnover of Automotive Component Manufacturing, By State, Australia ($ million)

	1999-2000
Victoria	2,915
South Australia	NP
New South Wales	896
Other States	1,327
TOTAL	**5,138**

NP: Figure not published separately by the ABS. Included in "Other States".
Source: ABS

Sales of Automotive Components

The annual survey of member sales by FAPM shows that total sales of automotive components was nearly $6.45 billion in 2000 confirming that the ABS turnover figure for ANZSIC 2813 and 2819 substantially understates the size of the industry.

The export share of total sales has almost doubled since 1994 increasing from 11.6% to 22.2%.

Table 1.7: Sales of Automotive Components by FAPM Member Companies

	Domestic Sales $ billion	Export Sales $ billion	Total Sales $ billion	Annual Growth %	Export Share of Total Sales %
1994	4.14	0.48	**4.62**	-	11.6
1995	4.72	0.51	**5.23**	13.1	10.8
1996	4.88	0.67	**5.55**	6.2	13.7
1997	4.98	0.72	**5.70**	2.7	14.5
1998	5.10	0.75	**5.85**	2.6	14.7
1999	5.69	1.05	**6.74**	15.3	18.5
2000	5.28	1.17	**6.45**	-4.3	22.2

Sales figures are in current prices.
Source: FAPM

Value Added of Automotive Component Manufacturing

In 1999-2000, value added of the automotive component manufacturing was over $1.7 billion and probably closer to $2 billion if all activities were included.

Table 1.8: Value Added of Automotive Component Manufacturing, Australia ($ million)

	1997-98	1998-99	1999-2000
Automotive electrical and instrument manufacturing	355	299	349
Automotive component manufacturing nec	1,364	1,314	1,390
TOTAL	**1,719**	**1,613**	**1,739**

Source: ABS

Nearly 55% of value added in automotive component manufacturing is generated in Victoria and 17% in New South Wales. The ABS does not publish separate data for other States.

Table 1.9: Value Added of Automotive Component Manufacturing, By State, Australia ($ million)

	1999-2000
Victoria	955
South Australia	np
New South Wales	303
Other States	481
TOTAL	**1,739**

NP: Figure not published separately by the ABS. Included in "Other States".
Source: ABS

Exports

The value of exports of automotive products increased 23% in 2000-01 to be worth over $4.6 billion. Vehicle exports increased by 41% in 2000-01. More than $1.2 billion worth of vehicles were sold into the Middle East making that the number one export destination. The US is the main destination for component exports at $488 million in 2000-01.

Table 1.10: Exports of Automotive Products

	Vehicle Exports $ billion	Component Export $ billion	Annual Growth %	Total Exports $ billion
1994	0.59	0.94	-	1.54
1995	0.66	1.11	15.5	1.78
1996	1.02	1.24	27.5	2.26
1997	1.27	1.45	20.0	2.72
1998	1.30	1.28	-5.3	2.57
1999	1.76	1.49	26.3	3.25
2000	2.42	1.80	29.9	4.22

Export values are in current prices.
Source: ABS

FAPM estimates that around 75% of the Australian value of production of passenger motor vehicles is made up from the value of production of components and other purchased-in materials. On this basis, commodity exports of components (including embodied exports) in 2000 were valued at more like $3.6 billion rather than the $1.8 billion indicated by the official statistics.

In addition to direct exporting, many Australian component suppliers have established operations and joint ventures offshore to better service overseas markets, particularly those involving supply to OEMs. For example, Air International has joint ventures and wholly owned subsidiaries in China, India, Malaysia, Thailand, US and UK with offices in Japan, Indonesia, Thailand and Korea. PBR International has operations in Michigan, Tennessee, South Carolina, Malaysia and Thailand. Forgecast Australia established manufacturing in Mexico in 1999 to support its growing market in North America. Trico Products has R&D facilities in the both the UK and the US.

Over time, such operations, which are part of the globalisation of the Australian automotive industry, can be expected to dampen the value of commodity exports of automotive components as recorded by the ABS. The financial inflow into Australia still occurs however in the form of increased revenue from royalties earned overseas, from exports of services, and from dividends earned from overseas operations.

Export markets developed by Australian automotive component manufacturers include:

The **Air International Group** – one of Australia's largest systems providers and one of the few companies in the world experienced in fully integrated automotive heating, ventilation and air conditioning. Export markets in China, Korea, Malaysia, Thailand, UK and US.

Autoliv Australia – manufacturer of occupant restraint systems and air bags. Export markets, which account for about 30% of sales, are mainly in Korea and South-East Asia.

Bendix Mintex – Australia's largest manufacturer of automotive friction material. Exports to around 40 countries.

Robert Bosch (Australia) – an extensive export business in body electronics, diodes, steering wheel angle sensors and throttle bodies for fuel injection to companies such as VW, Opel, DCX, Fiat Volvo and Ferrari. Export markets in Germany, Italy, UK, Sweden, Netherlands, US, Japan, Korea, China, Indonesia, Malaysia, Thailand, Taiwan and New Zealand. Bosch airfreights over 4 tonnes of electronics to Europe every day.

BTR Automotive – designs, develops, manufactures and supplies manual and automatic transmission systems. Export markets in Indonesia, Italy and Korea.

Castalloy – manufacturer of cast-aluminium automotive components. Supplier to Borg-Warner (OE exports to Proton and Peugeot) and to Harley-Davidson in the US (motor cycle wheels). Around 70% of Castalloy's output is currently exported.

Clyde-Apac Automotive Products – manufacturer of OEM jack assemblies. Export markets in Japan, New Zealand, South Africa, Israel, Europe, US, Taiwan, Thailand and Malaysia.

Delphi Automotive Systems Australia – manufacturer of catalytic converters, exhaust catalysts, fuel pumps and filters, fuel tanks, rack and pinion gears. Export markets in Japan, US, Europe, Asia, ASEAN.

Empire Rubber – manufacturer of vehicle sealing systems, anti-vibration components, moulded products and metal components. Export markets in Germany, US, New Zealand.

Forgecast Australia – manufacturer of non-ferrous forgings. Export markets in North America, New Zealand, Asia and Europe.

Gibbens Industries – manufacturer of various types of automotive springs, hose clamps and multisided applications. Export markets in Hong Kong, Singapore, New Zealand, China, Malaysia, US and Japan.

Intercast & Forge – manufacturer of ductile iron castings, cold and warm forge components and sintered metal products. An extensive exporter of Automotive and Railtrack components to USA, Asia, Japan and Europe. Supplier of components to all four car companies directly or indirectly through other major component suppliers.

Mackay Consolidated Industries – manufacturer of hoses, moulded and metal-to-rubber bonded products and metal-engineered components. Export markets in Indonesia, New Zealand, US, UK, Singapore, Thailand, West Indies and Japan.

Monroe Australia – manufacturer of ride control products including shock absorbers, strut assemblies and cartridges, gas springs. Around 20% of its revenues are generated from exports to the US, Europe, South-East Asia and the Western Pacific.

Monroe Springs (Australia) – manufacturer of coil and leaf springs. Around 30% of its revenue is generated from export sales to the US, Asia and Europe.

Mullins Wheels – manufacturer of alloy wheels. Export markets in US, Canada, Japan, South Korea, South-East Asia, Germany, Portugal, UK, Italy, New Zealand, Norway, Sweden, Belgium, Malaysia and India.

PBR International – designers and manufacturers of complete brake and clutch systems. Exporting to more than 50 countries. PBR braking systems are supplied to a number of OE customers in the Americas including Chevrolet, Pontiac, Ford, Oldsmobile, Buick and GMC.

ROH Wheels Australia – Australia's largest manufacturer of steel and alloy wheels. Export markets in Japan, Canada, US, South America, New Zealand, Singapore, Thailand, Hong Kong, Belgium, Germany, France, UK, Saudi Arabia, Bahrain, the United Arab Emirates, South Korea, Taiwan, Malaysia and Indonesia.

Schefenacker International Australia – designer and manufacturer of interior and external rear view mirrors, electric actuators, memory and power fold systems. Export markets in US, Canada, Japan, Korea, China, UK, France, India, Turkey and Brazil.

Spicer Axle Australia Pty Ltd - design and manufacture of drive axle assemblies with export markets in United Kingdom, Thailand, Malaysia, Indonesia and South Africa. Spicer Axle Australia is part of Dana Corporation, which is one of the world's largest suppliers of components, modules and complete systems to global vehicle manufacturers and their related aftermarkets. Dana operates some 300 major facilities in 34 countries and employs approximately 70,000 people.

TI Automotive – manufacturer of automotive fluid storage and delivery systems for fuel, brake and powertrain applications. Export markets in Thailand, Malaysia, Hong Kong, India, New Zealand, Philippines, Singapore and Sri Lanka.

Trico Products – manufacturer of windscreen wiper arms and blades. Export markets in New Zealand, US and UK.

Tristar Steering and Suspension Australia – manufacturer of power steering gears and suspension components. Export markets in North America, Canada and Europe.

VOA Webco – manufacturer of seat belt webbings. Export markets in Malaysia, India, New Zealand, UK, Indonesia, Netherlands and Germany.

Imports

The value of imports of all automotive products increased substantially over the last half of the 1990s from $8.9 billion in 1994 to $16.9 billion in 2000. Over that time, vehicle imports more than doubled from $5.4 billion to $11.1 billion. Imports of components rose from $3.5 billion to $5.8 billion.

Table 1.11: Value and Growth of Automotive Imports

	Vehicle Imports $ billion	Components Imports $ billion	Total Imports $ billion	Annual Growth %
1994	5.35	3.53	8.88	-
1995	5.61	3.61	9.23	3.9
1996	6.43	4.26	10.69	15.9
1997	7.61	4.44	12.05	12.7
1998	9.38	5.11	14.49	20.2
1999	9.92	5.05	14.96	3.3
2000	11.17	5.77	16.4	13.2

Import values are in current prices.
Source: ABS

International Affiliations

There are a number of component suppliers in Australia who are part of multinational automotive supply companies including:

- Autoliv Australia – part of Autoliv which has 60 manufacturing plants in 26 countries
- Boge Australia – a subsidiary of Mannesmann Boge GmbH
- Robert Bosch (Australia) – part of the global Bosch Group
- Bridgestone Australia Ltd – part of the Bridgestone Corporation
- Delphi Automotive Systems Australia – part of the Michigan-based Delphi Automotive Systems; DENSO International Australia and Flexdrive Industries – part of the DENSO Group of Companies
- Gates South Pacific – part of the US-based Gates Rubber Company
- Hella Australia – part of Hella's world-wide production network based in Lippstadt Germany
- Johnson Controls Australia – part of US-based Johnson Controls
- Monroe Australia and Walker Australia – part of Tenneco Automotive
- Norma Pacific – part of the Norma group of companies based in Frankfurt
- Schefenacker International Australia – part of Schefenacker International AC based in Germany
- TI Automotive in Australia – a wholly owned subsidiary of the global automotive company TI Automotive based in the UK.

Other component suppliers have affiliations that provide for sharing and access to the latest available technologies often through various forms of royalty type arrangements. For example, Bendix Mintex has affiliations with two of the world's largest friction material manufacturers – Honeywell Friction Material in the US and TMD in the UK.

Advanced Engineering

Australian automotive component manufacturers are investing heavily in advanced engineering technologies such as three dimensional CAD systems, CAM, CAE tools, CFD analysis, mould flow analysis, rapid prototyping, kanban, electronic data interchange, JIT, TQM, CNC machining centres and robotic welding.

Research and Development, Testing, Product Development

The Australian automotive industry is one of the largest spenders on business R&D in Australia and plays an important part in the wider innovation system. The industry has significant linkages to university researchers and public sector researchers in the CSIRO. Automotive companies have formed individual research partnerships with these organisations and participate in a number of collaborative Co-operative Research Centres.

In 2001, Australian automotive component producers spent nearly $300 million on R&D with the majority of that expenditure targeted at new product and process design and development.

Table 1.12: Actual and Expected R&D Expenditure by Automotive Component Producers, Australia ($ million)

Year	R&D Expenditure
1999	262
2000	289
2001	296
2002	294
2003	302
2004	322
2005	331

R&D expenditure is the value of R&D claimed under ACIS.
Source: AusIndustry

The automotive industry is at the cutting edge of technology in an environment that is placing increasingly complex demands on all products. Given the massive resources required to support first tier systems supply to the motor industry, most design capable suppliers are divisions of large multinationals. Without the presence of these companies, it is unlikely that Australia would be able to maintain its capability in vehicle production.

The enormous R&D investment in a new model requires large production volumes - much larger than can be satisfied by domestic demand in Australia alone. Consequently, vehicle assemblers and component manufacturers are actively seeking export markets to justify their research operations in Australia.

All of the vehicle assemblers in Australia are part of global organisations. Globalisation of model design and production gives assemblers greater choice in component sourcing.

Predominantly, R&D carried out by the assemblers and by component manufacturers is targeted at:

- making cars more comfortable
- increasing performance
- increasing efficiency in production and manufacture
- maximising safety
- reducing environmental impacts
- making cars more affordable
- meeting the specific needs and aspirations of the end user.

R&D undertaken in Australia has promoted the manufacture of products not only suited to exacting road conditions common in Australia, but also to overseas market conditions.

The R&D process from initial concept to final production can take as a decade and sometimes longer. The initial concept is usually based on an identified need or opportunity. After the concept is developed, the next phase is proving the concept by introducing it into a vehicle. The third phase is presentation to the vehicle producers. Whether the concept is commercialised depends on how the incremental technological advantages and performance requirements match the customer's perceptions of the value added in the market. International acceptance of new products usually requires the establishment of engineering support overseas close to the vehicle design source.

Some examples of FAPM members undertaking substantial R&D include:

The Air International Group spends more than four times the Australian company average on R&D. It recently announced a $44 million investment plan for a new Global Engineering and Technical Centre in Melbourne to support the company's growing global operations.

Autoliv Australia Pty Ltd has developed safety systems including seat belts, air bags and child safety seats and restraints.

Robert Bosch Australia operates one of two autonomous diode manufacturing facilities within the global Robert Bosch network and supplies 150 million diodes annually. The company has responsibility with Robert Bosch global for the development of electronics and body networks and has sole responsibility for the development and production of steering wheel angle sensors.

PBR Australia Pty Ltd designed and manufactures the light-weight Auriga braking system and Banksia park brake both protected by world-wide patents. It also manufactures leading edge brake rotors, master cylinder assemblies, aluminium and cast iron calipers, and brake modules.

Exacto Plastics in Adelaide has developed a unique plastic fuel tank for General Motors. Using blow moulding technology the tank is effectively formed by inflating the heated plastic like a balloon. This system replaces the heavy and complex steel fuel tank.

Schefenacker Vision Systems Australia Pty Ltd from Lonsdale in Adelaide sells over 1.5 million mirrors in 10 countries. Schefenacker has reduced the number of parts in a rear view mirror from 41 to 21. In so doing the product is not only more reliable but weight has been cut from 1426 grams to 825 grams.

ROH Wheel Company, part of the Arrowcrest Group from Adelaide, designed and builds a revolutionary cross member based on a single light weight aluminium casting for Mitsubishi's Magna and Verada. This innovative construction replaced a complex and costly steel assembly.

Plant and Equipment Expenditure

In 2001, the automotive component industry spent $476 million on ACIS eligible plant and equipment.

Table 1.13: Actual and Expected Plant & Equipment Expenditure by Automotive Component Producers, Australia ($ million)

Year	Plant and Equipment Expenditure
1999	289
2000	297
2001	476
2002	408
2003	324
2004	297
2005	288

P&E expenditure is the value of P&E claimed under ACIS.
Source: AusIndustry

Business Performance

The business performance (operating profit margin and return on assets) of both vehicle production and component manufacture slipped in the four years up to and including 1999-2000 reflecting the intense price pressure in the Australian market and export discounting in overseas markets.

Automotive component manufacturing generally performed better than vehicle production.

Table 1.14: Operating Profit Margin - (Percent)

	1996-97	1997-98	1998-99	1999-2000
All Manufacturing (ANZSIC 21 – 29)	6.1	5.6	5.9	6.5
Machinery and Equipment Manufacturing (ANZSIC 28)	5.9	4.6	4.2	4.0
Motor Vehicles and Parts Manufacturing (ANZSIC 281)	5.3	4.4	4.2	2.4
Automotive Component Manufacturing (ANZSIC 2819)	**6.4**	**6.0**	**5.8**	**5.3**

Source: ABS unpublished manufacturing survey data.

Table 1.15: Return on Assets - (Percent)

	1996-97	1997-98	1998-99	1999-2000
All manufacturing (ANZSIC 21 – 29)	7.1	6.5	6.5	7.3
Machinery and equipment manufacturing (ANZSIC 28)	9.2	7.0	6.8	6.8
Motor vehicles and parts manufacturing (ANZSIC 281)	9.2	7.7	7.7	4.6
Automotive Component Manufacturing (ANZSIC 2819)	**8.8**	**7.5**	**8.0**	**7.6**

Source: ABS unpublished manufacturing survey data

Industry Concentration

The automotive component industry is relatively concentrated. In 1996 (the latest available year), the ABS estimated that the four largest enterprises in the industry by turnover accounted for:

- 29% of the industry's total employment
- 33% of wages and salaries
- 40% of turnover
- 37% of gross product.

Price Indices and Affordability Index

The data in Table 1.11 show that over the last half of the 1990s, the purchase of motor vehicles became more affordable for Australian consumers. While average weekly earnings increased, motor vehicle prices fell.

Table 1.16: Quarterly Index of Motor Vehicle Prices, CPI and Average Weekly Earnings (1989-90 = 100)

Year	Quarter	CPI (all groups) [1]	CPI (motor vehicles) [2]	Average weekly earnings [3]	Affordability index [4]
1995	March	114.7	117.3	121.9	103.9
	June	116.2	119.9	122.5	102.2
	September	117.6	121.8	124.6	102.3
	December	118.5	121.9	125.3	102.8
1996	March	119.0	121.7	126.7	104.1
	June	119.8	121.7	127.1	104.4
	September	120.1	119.4	129.4	108.4
	December	120.3	118.6	129.9	109.5
1997	March	120.5	116.3	130.6	112.3
	June	120.2	112.9	132.2	117.1
	September	119.7	114.1	133.5	117.0
	December	120.0	110.5	135.0	122.2
1998	March	120.3	111.4	136.1	122.1
	June	121.0	109.1	137.5	126.0
	September	121.3	106.9	139.1	130.1
	December	121.9	106.0	138.9	131.0
1999	March	121.8	105.5	140.1	132.8
	June	122.3	105.1	139.9	133.1
	September	123.4	105.8	142.6	134.8
	December	124.1	104.1	143.7	138.1
2000	March	125.2	104.6	145.6	139.2
	June	126.2	104.6	148.3	141.8
	September	130.9	102.0	148.7	145.8
	December	131.3	101.6	149.6	147.2

Sources:
[1] CPI all groups, Australian Bureau of Statistics
[2] CPI motor vehicle expenditure class, Australian Bureau of Statistics
[3] Average weekly earnings (full-time adults total earnings), Australian Bureau of Statistics
[4] Average weekly earnings / CPI (motor vehicles)

Key Competitiveness Drivers

The automotive industry has always been a leader in efficient manufacturing. Henry Ford was the first to apply the principles of the assembly line on a large scale. The Ford approach marked the transition from craft manufacture to mass production. This remained very much the dominant automotive production paradigm right through to the 1970s.

Through the 1970s and 1980s, Japanese automotive manufacturers were able to introduce high quality, low priced cars onto world markets with another quantum leap in manufacturing technique. This was based on particular cost saving methods such as just-in-time, statistical process control and total quality management. These methods were combined with reorganisation of the workforce into quality circles and flexible work categories.

These methods have now been developed further into 'lean' manufacturing which is one of the key competitiveness drivers of the automotive industry worldwide, including in Australia. For local automotive component suppliers, it means that a basic pre-requisite to supply any of the Australian-based automotive manufacturers is to be fully QS-9000 rated.

But more than being quality approved, lean manufacturing involves a complete enterprise approach with linked functions each affecting the other:

- **Close relationships between purchasers and suppliers** – suppliers are involved in the design of automotive products; suppliers and purchasers are linked digitally with CAD, delivery schedules, invoices and payment; suppliers know what components purchasers require and when they require them;

- **Design and development integration** – there is close integration between product and process development and between product teams; computer-aided design is common; design is for assembly and production and for lean tooling; value is determined by specific components with specific capabilities offered at specific prices;

- **Manufacturing is a process for continuous improvement** – inventories are reduced; first-time quality is paramount; set-up and change-over times are minimised; the emphasis is on value flow through the plant; and

- **Human resources are empowered** – the workforce is well-trained and flexible; team participation is valued.

Over the last decade, the Australian automotive industry has worked hard to reduce inefficiencies in the supply chain – from under-utilisation of plant or small scale production; from waiting time; from transportation; from design and manufacture; from inventory holding costs; from less than optimum product quality; and from under-utilisation of the skills and capabilities of the industry's workforce. This has involved changes right through the supply chain from raw material suppliers to final assembly. That process of adjustment is still underway as companies continually review the economics of global production. Only recently, TI Automotive announced the closure of its tubemaking operation in Australia due principally to low utilisation of what is now a commodity product. It will now import tube from TI Automotive in Europe in order to benefit from better economies of scale.

Lean manufacturing alone is no match for volatile demand, shorter and shorter product cycles and more open competition from lower tariffs and the forces of globalisation. The combination of these forces has brought relatively high uncertainty to world automotive manufacturing and markets. Automotive suppliers are responding with unprecedented strategic alliances, joint ventures and consolidations both nationally and across regions as the major players seek to expand their global market presence.

Strengths of Australian Automotive Products Manufacturing

The key strengths of the Australian automotive component industry include:

1. The presence of the operations of the four local OEMs and their global parents. This provides not only a base volume for component companies but supports product development and investment in manufacturing excellence which in turn underpins efforts to secure global business.

2. A strong innovation and design capability with links into a similarly strong public innovation network.

3. Expertise in flexible, small volume manufacturing.

4. The local manufacturing presence of some of the world's major automotive component companies.

5. A demonstrated capacity to effectively and efficiently supply to the exacting requirements of the world's leading automotive producers.

6. An increasing propensity and ability to secure export sales.

7. A capacity to supply a wide range of automotive components.

8. A highly skilled and flexible workforce.

Weaknesses of Australian Automotive Products Manufacturing

The key weaknesses of the Australian automotive components industry include:

1. The limited range of vehicles produced in Australia.

2. An inability to secure, in the domestic market alone, cost economies associated with larger scale of operation and longer production runs.

3. The long and difficult process involved in securing a world platform, even for an innovative product.

4. Exposure to expected higher import penetration as a consequence of future tariff rate cuts.

5. The derived demand nature of the business and its reliance on the continued commitment of the four local vehicle producers to assembly in Australia.

6. Market access restrictions in emerging developing markets such as India and China and the relative disadvantage in accessing the major developed markets because of regional agreements such as the EU and NAFTA.

7. The cyclical effect on suppliers to the assemblers caused by alignment of the timing of model redsigns. Toolers for example, often find themselves having to operate at 150% capacity to meet demand at peak times which is then followed by long periods of relatively slack demand.

Opportunities for Australian Automotive Products Manufacturing

The key opportunities for the Australian automotive component industry include:

1. The potential removal of many market access restrictions in developing countries over the next 3 to 5 years under the WTO framework (if realised).

2. Niche component markets expected to arise out of changes in the nature of consumer preferences for vehicles with more models and more options.

3. The positive future export plans for the four local vehicle producers which, if they continue to be realised, will have substantial benefits for Australian automotive component suppliers.

4. The increasing sophistication and complexity of vehicle technology which favours the technical and innovative capability of the Australian automotive component industry compared with other similar automotive producing countries such as South Africa and most of the less developed Asian countries.

5. Being a potential global supplier of light metal components.

Chapter Two

International Trends in Automotive Manufacturing

Current State of the World Passenger Vehicle Market

The market for cars is one of the most dynamic of all world markets. General economic conditions are the major influence of automotive demand in the short-term. In the longer term, changes in consumer preferences, demand from emerging markets, new technologies and government assistance regimes all impact on the direction of the market.

In 2000, there was a general view among world automotive market analysts that global new passenger car sales had reached an unsustainable level. The market showed signs of leveling off in early 2001 but the events of September 11 are expected to sharply depress 2002 sales in most markets but especially in the US supported by 0% finance. Only the Asia-Pacific and Eastern European markets are expected to grow in 2002. This could put more import market pressure on the Australian market. The world market for cars is expected to recover in 2003 as world economic conditions improve.

Table 2.1: World New Registrations of Passenger Cars by Region (million)

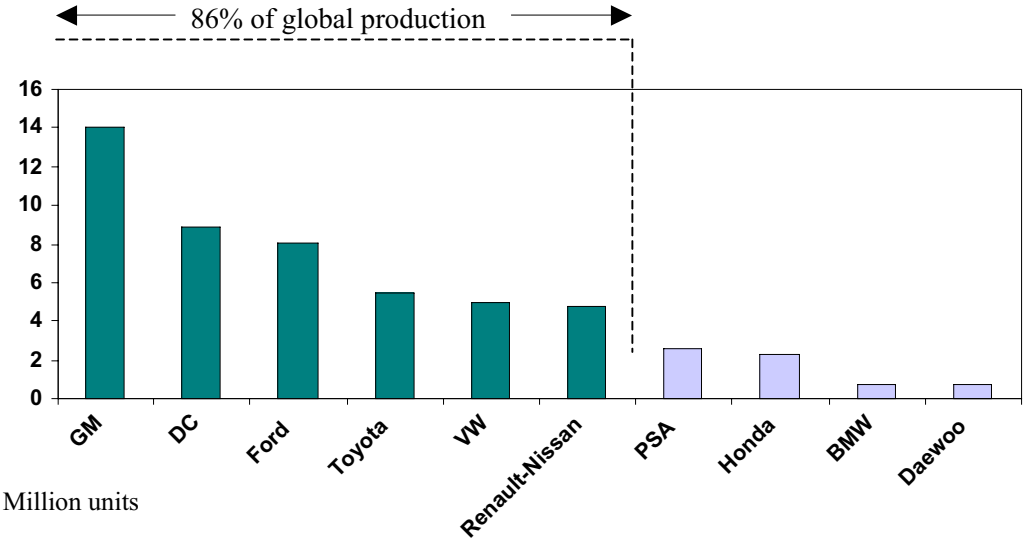
	2000	2001	2002	2003
Western Europe	14.7	14.1	13.1	14.2
NAFTA	10.5	9.5	9.0	9.8
Asia-Pacific	8.0	8.0	7.9	8.5
Central/Eastern Europe	1.9	1.8	1.8	1.9
South America	1.5	1.5	1.4	1.6
Middle East	0.5	0.3	0.3	0.4
Africa	0.3	0.3	0.3	0.3
TOTAL	**37.2**	**35.6**	**33.8**	**36.7**

Source: World Markets Research Centre

The emerging markets over the next decade are expected to be in the Asia-Pacific, Eastern Europe and Central and Southern America. The markets in China and India in particular will be driven by the sheer size of their population. Some predict China will become the largest single market automotive market within 25 years. Both markets at the moment are of a similar size to Australia's. According to already-signed WTO bilateral agreements, China's heavily protected automotive market will face significant changes now that it has obtained WTO membership. Tariffs will be reduced from the current 80-100% levels to 25% by 2006. Import quotas will be phased out by 2005, and prevailing technology transfer and local content requirements imposed upon foreign automakers will be eliminated.

Changing Structures of World Passenger Vehicle Assembly

The companies producing vehicles in Australia are part of global networks which represent a new world order of vehicle production characterised by mergers, acquisitions and takeovers. Six automotive conglomerates now control around 86% of total world production.



Source: autoPOLIS 2002

It has been suggested that by 2010, six global super major automotive OEMs will dominate the world scene.

2000

Super Majors
- GM-Saab-Isuzu, Suzuki
- Ford-Jaguar, Volvo
- Toyota-Lexus-Daihatsu
- VW-Audi-Seat-Skoda

Majors
- Renault, Nissan-Infiniti
- Daimler, Chrysler
- Honda
- PSA
- Fiat
- Mitsubishi
- Hyundai
- Daewoo

2010

Super Majors
- GM-Saab-Isuzu-Suzuki-Fiat-Daewoo/BMW
- Ford-Jaguar-Volvo
- Toyota-Lexus-Daihatsu/PSA?
- Renault-Nissan-Infiniti-Dacia-Samsung
- Daimler-Chrysler-Mitsubishi-Hyundai?
- VW-Audi-Seat-Skoda

Majors
- Honda?

Source: Based on autoPOLIS 2002

Transnational mergers offer OEMs immediate market expansion, cost reductions through shared research and development, access to possibly patented technology and expertise, and lower production costs if platforms are shared. The current trend towards larger, fewer OEMs has profound implications for vehicle manufacture but also for component suppliers.

Changing Nature of World Automotive Supply Relationships

The internationalisation of the world's automotive industry means that survival depends upon being able to deliver the best quality product on time and at the best possible price. By placing themselves at the top of the supply chain through the divestiture of their component manufacturing arms, the OEMs are increasingly placing cost cutting pressure on their tier one suppliers.

In the new globalised automotive industry, OEMs are able to bargain with, and choose from, a number of different companies to acquire automotive components. There is increasing pressure on component manufacturers to provide more for less. Component supply companies must offer more technical innovations while meeting demands from carmakers for ever lower purchasing costs.

In its 'Turnaround Plan' announced in early 2001, the US arm of DaimlerChrysler announced that it was enforcing price cuts of 5% a year for the next three years. Tier one suppliers, in order to maintain their own competitiveness, put similar pressure on their supplying companies; and so it goes down the chain. Each tier is being pressured from above to lower their selling cost and absorb the cost rises from the tier below. In a non-protected, global market there is no escaping this pressure.

Component suppliers in developed countries, with relatively higher labour costs will come under competitive strain from developing countries where labour costs are smaller. If OEMs transfer their assembling operations to these cheaper locations (such as Poland and Brazil) other entities in the supply chain will almost certainly be forced to follow.

The internet is also changing the way OEMs and suppliers are doing business. Rather than ordering from stock inventories, the internet is beginning to allow OEMs to demand 'made-to-order' components and modules as they require them. The flow of information has become an integral support and controlling influence in the flow of modules, parts and materials.

Automotive business to business electronic commerce has established itself in both the US and Europe. The prime US example is Covisint[2], created by Ford, GM and DaimlerChrysler to help automakers and suppliers cut costs and waste. Covisint is essentially an exchange which offers a variety of online tools to support everything from buying parts to managing supplier relationships to collaborating in real-time on engineering work.

The Australian automotive industry has also identified that supply chain management through electronic integration utilising a dedicated communications network, significantly reduces transactional operating costs, offers a higher level of security, and delivers an overall increase in levels of productivity through efficiency gains.

The recently deployed 'Australian Automotive Network eXchange' (AANX) is the security network for all tier one manufacturers of the Australian automotive industry. It offers a secure closed network, enabling transactions amongst the relevant automotive industry trading partners.

[2] 'Co'-connectivity, collaboration and comunication. 'Vis'-visibility and vision. 'Int"- international integrated solutions.

AANX is an industry driven initiative to provide an IP based Extranet for the automotive industry in Australia. This activity was sponsored by the FCAI Executive Committee on behalf of automotive manufacturers and importers, with support by the FAPM and MTAA as the respective industry organisations for the supplier, dealer and after-market industries. The FCAI AANX Committee is spearheading the development of the AANX. This committee comprises nominees of the four Australian car manufacturers Ford, Holden, Mitsubishi and Toyota, the FAPM, FCAI, MTAA, importers and suppliers.

While there are a number of increasing pressures on component manufacturers, one of the emerging changes in the supply chain relationship that offers real opportunities is the move to platform rationalisation. The merging of OEMs has allowed them to use common platforms for vehicles models within their enlarged corporate structures. This process reduces the level of inventory required and the lead-time to respond to just-in-time requirements.

In North America, for example, industry projections suggest that over the next five years, DaimlerChrysler, Ford, and General Motors will reduce their combined regional platform total from 65 to 57. An example is the new Ford Thunderbird that shares the same basic platform used on the Lincoln LS and the small Jaguar. The VW A4 platform is used for the VW Bora/Jetta, Golf and New Beetle, the Seat Leon and Toledo, the Skoda Octavia, and the Audi A3, S3 and TT models. Nissan has plans to rationalise its platforms from 27 to 12, to be shared with Renault. These will allow for different vehicle types with differing widths and powertrains, using a flexible concept with common attachment points.

The highest volume common platform is the VW A4 at around 1.9 million units. However, most common platforms (particularly those used in North America and Europe) still remain at less than global volumes at between 500,000 and 800,000 units annually.

Component manufacturers are also adopting the concept of 'platforms'. For instance, all tyre manufacturers have various modular systems based on blank casings. The casings can be shipped to satellite plants, where the tread, sidewall, and belt packaging are added to distinguish the final tyre product.

A worldwide market of similar platforms carrying different badges provides niche market opportunities for innovative manufacturers. Component suppliers have the opportunity to concentrate on a small aspect of the platform if they can design and produce a superior product. There are numerous success stories of Australian component suppliers in this area as indicated in the 'Exports' section in Chapter 1 of this submission.

Allied to the concept of platform rationalisation is modularity. A module is a structure of components that performs a specific function in a vehicle and is delivered complete to the assembly line. By 2005, system and module sourcing is estimated to grow to 40% of the value of a vehicle.

Modularity provides OEMs with increased flexibility to respond to customer demand by sourcing from any tier one supplier the module that best suits the model they are developing. The OEM will indicate the specifications and the module assemblers will deliver the product. New vehicle products will be able to be rapidly brought on line through the innovative use of existing modules.

Module assembling is value added and offers the opportunity for innovative and efficient companies to establish stronger positions in the market. The module assemblers will have to adopt similar cost driven relationships with suppliers as the OEMs have with them.

The tiered structure with an emphasis on modular construction is also devolving responsibility for research and development and warrantees down the chain. The OEMs will be able to choose the best subsystem or component from competing companies. Those supplying companies, if they are to survive in the global market, will need to undertake the research and development required to ensure that they have a superior product to offer. With assembly of complete systems comes additional responsibilities for a major part of the vehicle building process. Automotive components sourcing decisions are also dictated by the nature of the component.

Component sourcing is increasingly becoming rationally, rather than nationally, dependent.

• Large scale dependent components • High technology IC intensive components • Components with little product variability • Light/compact components	⇨	Global Sourcing
• Volume dependent components such as starter motors and alternators • Components with moderate product variability such as heat exchangers • Components of moderate weight or bulk such as hub units	⇨	Sourcing from within a 2,000 km radius
• Modules and systems assemblies • Components with moderate product variability such as heating, ventilation and air-conditioning • Components of moderate weight or bulk such as fuel tanks	⇨	Sourcing from within a 300 – 400 km radius
• Modules and systems assemblies such as dashboards and alarms • Components requiring exact in-line sequencing • Heavy/bulky items such has seats and bumpers	⇨	Sourcing from within a 20 – 30 km radius

Source: autoPOLIS 2002

Increasing Sophistication of Automotive Components

Not only is the automotive components industry faced with the need to react to quickly changing markets and restructuring of the supply chain, it also has to accommodate new technologies – in electronics and information and alternative fuel sources.

While the tiered structure of the automotive supply chain has devolved much of the R&D to component suppliers, it is the OEMs that ultimately choose the technology for their cars. Even if new technology were shown to be more proficient, there is no guarantee that its efficacy alone will overcome the inertia of incumbent technologies. The history of technology provides instances of products that promised great improvements in performance but failed to be implemented.

Currently approximately 20% of a vehicle's cost is associated with electronic components, electrical controllers and sensors, and electrical equipment. Not only have the traditional car electrics undergone an electronic makeover, the classical mechanics of steering braking and shifting gears can now be achieved through electronically controlled processes.

Engine management has been shown to be much more efficient if it is computer controlled. An engine management system provides accurate control of fuel and ignition, to increase power, torque and driveability, while reducing fuel consumption and undesirable emissions. Systems are now used to control more and more, such as traction control, Turbo anti-lag systems, and variable length intake systems. The key is that on-board computers can adjust the engine settings moment-by-moment allowing electronic engines to get 5-10% better fuel economy than mechanical systems. Emissions are also significantly lower. The engine management system is connected to a number of sensors and the data these sensors provide can be stored.

With the use of electronic sensors, information can not only be fed to a mechanic with a laptop but logically they can be utilised to feed real-time information to the driver. This kind of technology is used extensively in the air transport industry where all information about flight and systems parameters are fed to the pilots on screens and the pilot chooses what information is to be displayed. With the design of cars, it is not a matter of what is possible but more a matter of what information is desirable and useful. Obviously all present dashboard indications can be computer delivered. Some future possibilities include enhanced night vision systems and head up displays where the information is displayed on the windscreen so that the driver's eyes need not be averted. Also being tested is an innovative ranging sensor that calculates the distance between vehicles and acts as a collision warning device.

The technology that allows steering, braking and gear shifting to be done electronically is known as steer-by-wire, brake-by-wire and shift-by-wire. By-wire technology has interesting implications for drivers. The technology has been most rapidly taken up in the gearshift domain. This is probably because steering and braking are not purely a matter of hand-eye coordination. Drivers rely of the 'feel' of the mechanical feedback from the machine and the road to their hands and feet to maximise the control they have over the car. The more advanced steer-by-wire and brake-by-wire systems have servomotors that use sensors to activate them and provide the driver with virtual feed back.

Shift-by-wire is more straightforward as all that is desired is the most efficient gear change. Constant mesh gears took the skill and feel out of gear changing long ago. The new technology allows driver controlled gear changes without the need for a clutch. An example of this is the Ferrari gear change mechanism. To shift gears, the Ferrari gearbox utilises a computer-controlled electronic clutch and a high-pressure hydraulic shift actuator. When the driver flicks the gear change paddle, the transmission instantaneously shifts to the appropriate gear. Because there is no clutch pedal, the shift is essentially immediate. When the driver requests a downshift, engine electronics automatically raise the rpm to match engine speed with wheel speed.

Steer-by-Wire eliminates the mechanical connection between the steering wheel and the front wheels. Actuators steer the front wheels, and an additional steering wheel actuator provides feedback to the driver. Steer-by-Wire features independent actuators for each steered road wheel, active force feedback steering wheel or joystick and a system control module. The benefits of steer-by-wire include: enhanced tuning flexibility, increased engine compartment packaging flexibility, modular design can be used for both left-hand-drive and right-hand-drive variants, improved vehicle handling and control and integration with other vehicle control systems.

In a brake-by-wire system, the driver hits the brake pedal and a computer starts slowing the car in milliseconds. On uneven surfaces, the wheels with the most traction do the most work. The computer orders up extra stopping power if the foot is moved to the brake quickly. When the driver presses the brake pedal, sensors in the master cylinder measure pedal travel, force and rate of application. An electronic controller commands an electro-hydraulic actuator to generate boosted pressure proportional to the pedal force. At the same time a tunable pedal-feel emulator pushes back against the driver's foot, providing the feel of conventional brakes. If electrical power is lost, the isolation solenoids stay open, allowing hydraulic 'push through' to apply the brakes the conventional way. Brake-by-wire minimises brake wear by evenly spreading the load across all wheels, increasing brake lining life by as much as 20 percent. Since all brake linings wear at the same rate, can be replaced at the same interval, saving on down time for maintenance. More importantly, brake response time is much quicker with electronic braking, shortening the stopping distance of the vehicle.

Parallel to the various 'by-wire technologies' will be the trend towards miniaturisation. Not only will current technology benefit from being made smaller, but new components will require new machinery. Smaller components add to the efficiency of the vehicle by taking less space, reducing overall weight and using less energy. This can particularly be seen in drive and power-train technology. Miniaturisation of gearbox components results in less vibration and a saving of energy.

The use of innovative electronics has in the past concentrated on producing the best engine performance and having a great sound system. The driver receives the benefit of the performance and the occupants appreciate the quality of the sound but apart from choosing the CD or the radio station there has been little interactivity. This is about to change and the harbinger of that change is the concept of telematics. Telematics refers to the consumer products, services and supporting systems that deliver information, communications and entertainment to in-vehicle and mobile devices. There will be huge amounts of information delivered to the vehicle and the driver and/or passengers will be able to assess the information and act upon it.

An example is Delphi's Communiport Mobile Productivity System, which provides the electronic platform to use subscription services to access real time traffic information, driving directions and voice mail. Also available will be the ability for the in-car system to connect with a lap top and have voice activated hands free operations including access to personal information and hands free cell phone use. General Motors has its OnStar system that allows for weather information at the vehicle location, dynamic map service, automatic notification of airbag deployment, roadside assistance notification, stolen vehicle tracking service and multifunction multimedia systems. 'Holden Assist' will soon offer a range of similar features. It is estimated that by 2007 more than half the cars manufactured in the western world will have telematics terminals.

Not only are electronics causing a revolution in automotive design and the way cars are viewed by their drivers, the internal combustion engine is facing severe competition. This is a response to the search for efficiency, the need to limit emissions and the search for alternative fuels.

Toyota has manufactured a hybrid petrol-electrical drive that is for sale in Australia as the Prius model. The petrol engine is connected to a generator that supplies electrical energy to a battery. This has the advantage of the internal combustion engine, when it is required, being able to operate at its most efficient speed. The batteries supply electricity to electric motors that drive the wheels. The advantage of an electric motor is that it delivers high torque at all speeds and so does not need gearing and it can use the braking process to regenerate electricity. The hybrid system has been shown to offer fuels savings of up to 20% and relies on a trade off between the extra weight of the batteries and electric motors and the efficiency of both engines and the fact that no gearbox is required.

Beyond the hybrid engine lies the fuel cell, which many commentators believe to be the power for future cars. Fuel cells work like batteries, in that they generate electricity from a chemical reaction. As long as they are supplied with fuel, they will run indefinitely. Hydrogen fuel cells are highly attractive energy converters because their only waste product is water, and they can achieve efficiencies of 45 to 60% compared with the internal combustion's best efficiency of 30%. The only drawback is that hydrogen is not plentiful in its pure state and it has a lower energy density than petrol. There are two main ways of producing hydrogen. The first is electrolysis, passing an electric current through water to split it into hydrogen and oxygen. This requires large amounts of electricity, most of which is generated by burning fossil fuels such as coal or oil. Secondly hydrogen can be liberated from hydrocarbons through a catalytic process. Both of these processes still produce carbon dioxide. The great advantage of the fuel cell technology is that it breaks the nexus between the auto industry and the need for oil. The technology is in its infancy but offers great benefits to innovative companies who can further refine the processes.

The technological explosion will have the effect of offering more 'gadgets' with more functions that can be possibly incorporated into a model or number of models. Techno-aware consumers may well demand cars with specifications of their own choosing and vehicle producers will find ways to respond. In a customised market, the OEMs will have to respond to the pull of consumer specifications. The trend towards common platforms and modularity certainly makes meeting consumer demands more attainable.

The implications of technological change for component suppliers is that a traditionally well performing product may not be a guarantee of corporate success in the emerging flexible, demand driven market. However indications are that the increasing sophistication and emerging technologies offer opportunities to component suppliers who are aware of market trends, are willing to invest in research and development to bring about technologically superior products and who form alliances with companies that can match the strengths of the OEMs.

Chapter Three

Policies Promoting the Competitiveness of Automotive Components Manufacturing

General Tariff Arrangements

In December 2000, following the Productivity Commission's *Review of Australia's General Tariff Arrangements,* the Government announced that the general tariff rate of 5% and the 3% import duty on business inputs under the Tariff Concession Scheme would remain in place.

In announcing the decision, Ministers Costello and Minchin jointly stated that the Government:

> *"...accepts the Productivity Commission's view that there are benefits to be obtained from the removal of the general tariff, but that such benefits would be relatively small.*
>
> *...We consider there would be benefit in holding these current arrangements for the present and moving to withdraw them at a time consistent with trade and fiscal objectives."*
>
> Costello. P. (Treasurer) and Minchin, N. (Minister for Industry, Science and Resources) 2000, 'Government Response to the Productivity Commission Report on Australia's General Tariff Arrangements', *Media Release*, T00/116PC, 19 December.

In its response on this issue, the Government clearly established two important policy principles of its approach to setting future tariff rates:

1. There are only small benefits from removing low tariff rates; and

2. Trade and fiscal objectives are important considerations in the timing of any decision to lower existing tariff rates.

If the first principle were applicable across all industries, then it should also be applicable when applied to particular industry sectors with a low absolute tariff rate such as the motor vehicle and parts industry (see next section).

Because tariffs on imports raise revenue for the Government, fiscal considerations will always be important. But it is the Government's expression of the significance of trade objectives which is of particular relevance in the context of this inquiry. Indeed, that consideration has been specifically highlighted in the Terms of Reference.

Nominal and Effective Tariff Rates

Tariff rates applying to imports of automotive products have fallen substantially since the mid-1980s. In the then Government's 1991 *Building a Competitive Australia* statement, the tariff rate was phased down from 35% in 1992 to 15% on 1 January 2000. In 1997, the Government announced that the tariff rate on most automotive products would remain at 15% until January 2005, when it would fall to 10%. A significant number of locally manufactured automotive components are, when imported, dutiable at 5% or Free.

Average nominal rates of tariff assistance across Australian manufacturing are shown in Table 3.1. By 2005-06, the average nominal rate for motor vehicles and parts will be 5.2%, only 2.4 percentage points above the average for the manufacturing sector as a whole.

Table 3.1: Average Nominal Rates of Tariff Assistance on Outputs (%)

ANZIC Industry Grouping	1989-90	1996-97	1997-98	1998-99	1999-00	2000-01	2005-06
Motor vehicles and parts	**28.0**	**9.5**	**8.5**	**7.6**	**7.1**	**6.8**	**5.2**
Food, beverages and tobacco	5.0	2.2	2.2	2.2	2.2	2.2	2.2
Textiles, clothing and footwear	37.6	14.7	13.8	12.8	11.8	10.7	8.0
Wood and paper products	9.5	3.9	3.9	3.8	3.8	3.7	3.7
Printing, publishing and recorded media	5.8	1.3	1.3	1.3	1.3	1.3	1.3
Petroleum, coal, chemicals	6.4	2.3	2.3	2.3	2.3	2.3	2.2
Non-metallic mineral products	3.0	1.8	1.8	1.8	1.8	1.8	1.7
Basic metal products	4.0	1.9	1.9	1.9	1.9	1.9	1.9
Fabricated metal products	13.3	3.8	3.8	3.8	3.8	3.7	3.7
Other vehicles	10.0	1.0	1.0	1.0	1.0	1.0	1.0
Other machinery and equipment	14.9	2.6	2.6	2.4	2.3	2.1	2.1
Other manufacturing	16.3	3.9	3.9	3.9	3.8	3.8	3.8
Total Manufacturing	**10.5**	**3.5**	**3.4**	**3.3**	**3.2**	**3.1**	**2.8**

Source: Productivity Commission 2001, *Trade and Assistance Review 2000-01*, Annual Report Series 2000-01, AusInfo, Canberra, December, Page 15

The nominal rate is the rate of assistance provided to the industry's outputs provided by way of tariffs. It is calculated as the percentage change in gross returns per unit of output relative to the (hypothetical) situation of no assistance. It provides an indication of the extent to which consumers may pay higher prices to support local output. It assumes that the full tax impact of the tariff rate on automotive products is passed on to consumers. That is, domestic prices for automotive products are higher due to the full 'protection' afforded by the tariff.

Average effective rates of tariff assistance across Australian manufacturing are shown in Table 3.2. By 2005-06, the average effective rate for motor vehicles and parts will be 10.2%, only 5.9 percentage points above the average for the manufacturing sector as a whole. The dispersion in effective rates is often used as an indication of the extent to which one sector is advantaged by the assistance structure in bidding productive resources away from other sectors in the economy. Since 1989-90, the difference in the effective rate of tariff assistance between the motor vehicle and parts industry and other industries has narrowed substantially.

To the extent that such dispersion is a measure of the potential for distortions in resource allocation within the manufacturing sector, the current and expected distribution of average effective rates in 2005-06 would be unlikely to be having any significant resource misallocation costs. Any costs of such resource misallocation would be insignificant when compared with the costs of under-utilisation of resources in the economy generally.

This is particularly the case when there is 7% unemployment and interest rates are historically low. Neither labour nor capital is scarce. The problem for Australia is not that one manufacturing industry is able to bid resources away from other industries because of disparities in relative effective rates of assistance but rather there are not enough industries bidding for under-employed resources.

Table 3.2: Average Effective Rates[3] of Tariff Assistance on Outputs (%)

ANZIC Industry Grouping	1989-90	1996-97	1997-98	1998-99	1999-00	2000-01	2005-06
Motor vehicles and parts	**54.9**	**21.3**	**18.4**	**16.4**	**14.9**	**14.1**	**10.2**
Food, beverages and tobacco	4.5	4.4	4.5	4.6	4.5	4.6	4.6
Textiles, clothing and footwear	85.5	32.2	30.1	27.9	25.6	23.2	16.9
Wood and paper products	13.9	5.5	5.5	5.5	5.5	5.6	5.6
Printing, publishing and recorded media	6.5	0.9	0.9	0.9	0.9	0.9	0.9
Petroleum, coal, chemicals	11.0	3.9	3.9	3.9	3.9	3.9	3.7
Basic metal products	4.1	2.7	2.8	2.7	2.7	2.7	2.6
Non-metallic mineral products	7.5	3.0	3.0	3.0	3.0	3.0	3.0
Fabricated metal products	20.0	4.6	4.6	4.6	4.7	4.6	4.5
Other vehicles	10.0	-0.7	-0.7	-0.7	-0.6	-0.6	10.2
Other machinery and equipment	19.8	2.7	2.6	2.3	2.2	2.1	2.0
Other manufacturing	24.7	4.8	4.6	4.6	4.7	4.7	4.7
Total Manufacturing	**16.3**	**5.6**	**5.4**	**5.2**	**5.0**	**4.8**	**4.3**

Source: Productivity Commission 2001, *Trade and Assistance Review 2000-01*, Annual Report Series 2000-01, AusInfo, Canberra, December, Page 16

The Commission's effective rate estimates are based on the tariff rate available not the tariff rate actually paid by importers. That is, the estimates assume that producers are able to increase their price up to the full amount of the substantive tariff that, in the case of most automotive components, is currently 15%. Although the situation would vary across components, it is unlikely that each component producer supplying the four vehicle producers in Australia can increase their price by the full extent of the tariff.

[3] The effective rate of assistance is the percentage change in returns per unit of output to an activity's value-adding factors due to the assistance structure.

First, automotive component producers are selling into an oligopolistic market or in some cases a monopsony if a contract is held with a single vehicle producer. Under these conditions, vehicle producers have considerable bargaining power in the price setting process and it unlikely that component producers can appropriate the full producer 'surplus' afforded by the 15% tariff.

Second, the legal liability to pay import duty on dutiable components is not affected by ACIS import credits (see later). ACIS credits are effectively treated as cash and, if redeemed to pay import duty, are credited to the importer's account with the Australian Customs Service. Thus in terms of statistical recording, the Australian Customs Service (ACS) would record the duty as being paid at the full rate. However, the actual protective impact of assistance available to automotive component producers is quite different. The existence of ACIS credits can effectively reduce the tariff assistance available to zero. However the imports are still recorded in official import statistics as having occurred at the full duty rate.

Even if vehicle producers choose to use import credits to offset duties on vehicles, the option of using the credits to meet import duty liabilities on components remains. Also, components imported by vehicle producers and subsequently exported in assembled vehicles can be imported duty free under drawback provisions. Thus the actual tariff rate for automotive components compared with the notional tariff rate available (or that shown in official statistics) is considerably less than the average substantive rate in the Tariff Schedule.

The automotive components industry is unique in this regard. It is the only industry in Australia where its customers have the option of using import credits to import otherwise dutiable and directly competing products at a duty rate of Free, even where the final product is destined for local sale.

The potential impact on the effective rate of assistance for automotive component manufacturing of using duty available rather than actual duty paid is demonstrated in the following hypothetical examples.

The effective rate formula is:

Effective rate (ER) = (Df - X.Dm) / (1-X)

Where

Df = the average weighted tariff rate available on outputs

Dm = the average weighted tariff rate available on inputs

X = the materials to output ratio

Consider two hypothetical cases for automotive components where:

Case 1		Case 2	
Df	= 10%	Df	= 5%
Dm	= 3%	Dm	= 3%
X	= 0.3	X	= 0.3
ER	= 13.0%	ER	= 5.8%

In Case 1, the average tariff rate on outputs is assumed to be 10%; that takes into account those automotive components at a substantive rate of Free but assumes the tariff is fully passed on to the customer. In Case 2, it is assumed that not all component producers can pass on the full tariff to the car producers and takes into account duty offsets on components due to the import credit scheme and drawback on exports. In this case, the average duty actually paid on outputs is assumed to be 5%. In both cases, it is assumed the average tariff rate on inputs is 3% and the materials to output ratio is 0.3.

In Case 1, the effective rate of assistance is 13.0% and in Case 2 it is 5.8%. This illustrates how sensitive the effective rate formula is to changes in the nominal rate on output.

The FAPM does not have the required information to calculate effective rates of tariff assistance based on assistance used rather than assistance available. However, we suggest that the Commission takes this into account if it wishes to use effective rates as a relative measure of tariff assistance to the automotive components industry.

Such considerations are probably relevant also for vehicle assembly. Local producers have been losing market share consistently as tariff rates have declined. As the relative price of imported vehicles decline, it is doubtful whether the full 'producer surplus' could be passed on to consumers of locally assembled vehicles. It is more likely that the falling tariffs have contributed to declining margins. Certainly the profitability of the Australian automotive industry is hardly indicative of an industry which is able to capture significant economic rent as a direct result of the assistance structure.

It has sometimes been suggested that the competitive position of vehicle production would be improved if import duties on automotive components were to be reduced or even removed. However, the impact of such an approach would be to substantially increase the effective tariff rate for the vehicle producers and result in a negative effective rate for component producers. Assuming an average materials to output ratio for vehicle producers of 0.7, a rate of 10% on output and Free on components would increase the effective tariff rate on vehicle production to around 33%. To avoid the potential for resource misallocation associated with such a dispersion in effective rates, it is important that the tariff rate across the whole automotive sector be uniform.

Automotive Competitiveness and Investment Scheme (ACIS)

ACIS is an industry assistance scheme for the Australian automotive industry administered by the Department of Industry, Tourism and Resources. AusIndustry has responsibility for the program's delivery. The scheme commenced on 1 January 2001 and expires on 31 December 2005. It replaced the previous Export Facilitation Scheme.

As the title of the scheme suggests, the purpose of ACIS is to improve the automotive industry's investment and competitiveness in the lead-up to the planned implementation of free trade under the APEC Bogor Goal in 2010.

Firms eligible for assistance under ACIS include:

- Motor vehicle producers (called MVPs)
- Automotive component producers (called ACPs)
- Automotive machine tools and tooling producers (called AMTPs)
- Automotive service providers (called ASPs).

Assistance is delivered in the form of a dollar value (called a duty credit).

There are two types of credits:

- **Production credits** which can be earned only by MVPs (that is, the four car assemblers).
- **Investment credits** which are based on plant and equipment investment and expenditure on R&D. Investment credits can be earned by MVPs, ACPs, AMTPs and ASPs.

Duty credits can be used only to offset an import duty liability with the Australian Customs Service on eligible vehicles and automotive components. As an import duty liability arises, a holder of a duty credit can use that credit in lieu of cash to meet that liability. Duty credits can also be transferred (sold) to any person but the restriction on its use (offsetting an eligible import duty liability) remains.

ACIS has a total fixed budget for capped duty credits of $2 billion (called the fiscal cap). MVPs also have access to uncapped productions credits which over the course of ACIS are expected to cost around $800 million.

In addition to the overall fiscal cap, the total value of all duty credits (capped plus uncapped) which any registered ACIS participant can earn in any one calendar year of ACIS is limited to 5% of the value of the participant's automotive products sales in the previous calendar year.

An ACP is eligible for ACIS benefits in the relevant ACIS year if:

> the ACP's annual production value in Australia of automotive components for incorporation as original equipment in the assembly of motor vehicles or engines in Australia or elsewhere is at least 50% of the ACP's total annual value of production in Australia of all automotive components and has a minimum annual value of at least $500,000

or

> any single automotive component produced in Australia by that ACP is incorporated as original equipment in the annual assembly in Australia or elsewhere of at least 30,000 motor vehicles or at least 30,000 engines and the annual production value of that component is at least $500,000.

The key terms in these eligibility tests are automotive components, original equipment, production value and produced in Australia.

An **automotive component** means any component (whether its construction or assembly has been completed or not):

- that is for use in any type of vehicle that, if imported, would be classified to Chapter 87 of the Tariff (Chapter 87 includes all sorts of vehicles including passenger cars, buses, tractors, trucks, motor cycles, etc); or
- that has the essential character of a component for use in any type of vehicle that, if imported, would be classified to Chapter 87 of the Tariff.

Raw materials and goods in bulk such as paint, steel or electrical cable on rolls, goods that require cutting to length or shape and non-purpose built automotive components such as non-automotive specific fasteners or electrical components are excluded from the definition of automotive components.

Original equipment means:

- an automotive component for use in the production of a motor vehicle or an engine by a motor vehicle producer; or

- an automotive component designed to the specifications of a motor vehicle producer and purchased by that producer for post assembly fitment to a motor vehicle.

Production value is the revenue (net of any indirect taxes) received from sales of automotive components. A sale is deemed to have taken place when it has been posted to the company's books of account.

An automotive component is **produced in Australia** if:

- the company carries out in Australia at least one substantial process in the manufacture of the automotive component; and

- the automotive component has passed final quality control at the end of the production line in Australia.

Once registered, an ACP can claim import duty credits equal to:

- 25% of the quarterly value of new investment in plant and equipment used to produce either automotive components, automotive machine tools, automotive machine tooling, or automotive services (called type D investment); and

- 45% of the quarterly value of R&D expenditure directed at production of automotive components, automotive machine tools, automotive machine tooling, or automotive services (called type E investment).

Credit calculations are subject to a twelve quarter moving average.

Automotive Industry Response to ACIS

Components Sector

The Australian components sector has responded well to the ACIS incentives. In the two years immediately prior to ACIS being introduced, total expenditure on eligible ACIS plant and equipment by ACPs averaged $293 million. In the first two years of ACIS, total annual expenditure on eligible ACIS plant and equipment by ACPs is expected to average $442 million – an average annual increase of just over 50%.

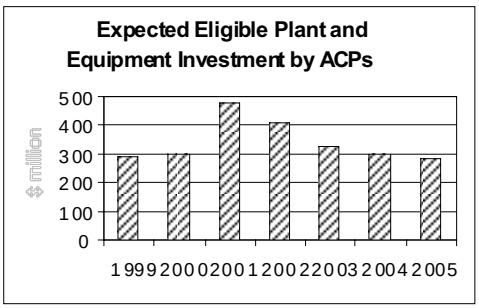
In the two years immediately prior to ACIS being introduced, total expenditure on eligible ACIS R&D by ACPs averaged $276 million. In the first two years of ACIS, total annual expenditure on eligible ACIS R&D by ACPs is expected to average $295 million – an average annual increase of just under 7%.

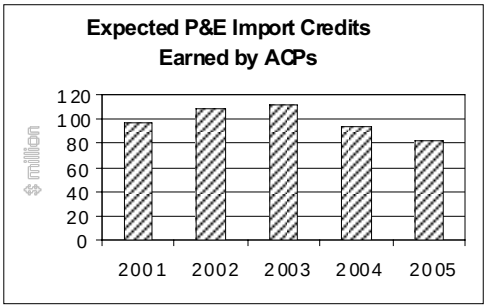
Table 3.3: ACIS Import Credits Earned by ACPs

Calendar Year	Expected Eligible ACIS Plant and Equipment Investment by ACPs	Expected ACIS P&E Credits Earned by ACPs	Expected Eligible ACIS R&D Expenditure by ACPs	Expected ACIS R&D Credits Earned by ACPs	Total Expected ACIS Credits Earned by ACPs
	$ million	$ million	$ million	$ million	$ million
1999	289	0	262	0	0
2000	297	0	289	0	0
2001	476	**126**	296	**97**	**223**
2002	408	**132**	294	**108**	**240**
2003	324	**134**	302	**111**	**245**
2004	297	**138**	322	**94**	**232**
2005	288	**143**	331	**83**	**226**

Source: AusIndustry

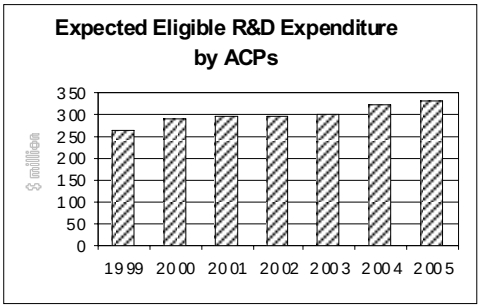
Figure 3.1: Expected Eligible ACIS Plant & Equipment Investment and Import Credits Earned by ACPs

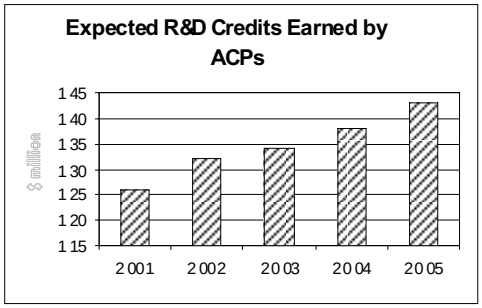




Source: AusIndustry

Figure 3.2: Expected Eligible ACIS R&D Expenditure and Import Credits Earned by ACPs





Source: AusIndustry

Vehicle Assemblers

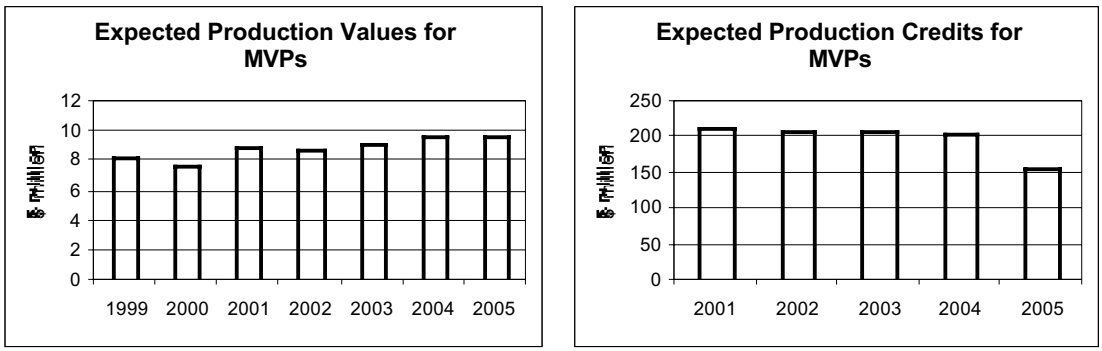
The value of ACIS eligible production by the four vehicle producers is expected to increase from $8.9 billion in 2001 to $9.7 billion in 2005. Expected ACIS credits earned by MVPs is expected to increase up to 2004 and then fall in 2005. This is due mostly to the fall in the tariff rate from 15% to 10% on 1 January 2005 which directly affects the production credits available and to a lesser extent, the impact of the moving average formula.

Table 3.3: ACIS Import Credits Earned by MVPs

Calendar Year	Expected Eligible ACIS Production Values for MVPs	Expected ACIS Production Credits Earned by MVPs	Expected Eligible ACIS Plant and Equipment Investment by MVPs	Expected ACIS P&E Credits Earned by MVPs	Total Expected ACIS Credits Earned by MVPs
	$ billion	$ million	$ million	$ million	$ million
1999	8.2	0	227	0	0
2000	7.7	0	262	0	0
2001	8.9	**213**	457	**34**	**247**
2002	8.7	**210**	628	**48**	**258**
2003	9.1	**210**	554	**61**	**271**
2004	9.7	**206**	848	**64**	**270**
2005	9.7	**156**	397	**55**	**211**

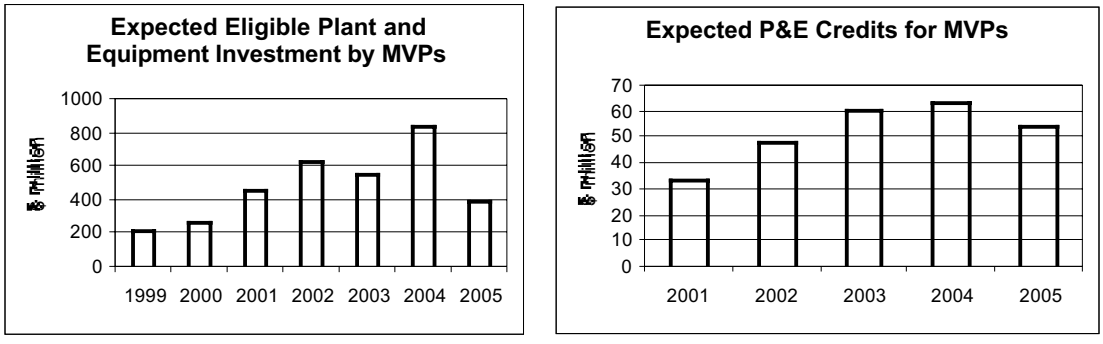
Source: AusIndustry

Figure 3.4 Expected ACIS Eligible Production Values and Credits Earned by MVPs



Source: AusIndustry

Figure 3.4: Eligible ACIS Plant & Equipment Expenditure and Import Credits Earned by MVPs



Operational and Competitive Impact of ACIS on Components Sector

The preliminary results from a recent ACIS impact study[4] carried out by Deloitte Touche Tohmatsu on behalf of the FCAI and FAPM, has concluded that ACIS is:

- Assisting Australian subsidiaries of automotive MNCs to secure approval for new investments in plant and equipment and for the development of new products.
- Improving company productivity and technical efficiency by supporting investments in new state-of-the-art capital equipment and encouraging manufacturing process improvements.
- Creating a pool of 'patient' capital to fund R&D activity.
- Improving dynamic efficiency within the Australian automotive industry by assisting its capability to respond to global market opportunities, particularly through R&D and product innovation.

Key ACIS Impacts - MVPs

- ACIS was seen as critical to MVPs winning global mandates from their respective overseas head offices to undertake major new investments in Australia for two key reasons:
  - Because a prerequisite for the decision to invest is supportive government policy settings in the country concerned; and
  - To help Australian bids for project mandates to compete with other countries' bids that often factor in government assistance.
- MVPs' ACIS benefits were being used to undertake both 'own use' and 'not for own use' R&D, even though 'own use' R&D does not receive its own specific R&D incentive in the case of MVPs. It was also reported that ACIS had a substantial impact on MVPs forming collaborative technical linkages overseas. This substantial product development activity was a crucial driver of growth opportunities for the MVPs, particularly through the development of new vehicle lines predominantly for the domestic market and engines for local and export markets.
- MVP investment programs, which are themselves highly sensitive to ACIS, were found to drive substantial flow-on investments further down the supply chain.
- MVPs reported that their growth opportunities, and hence some of the potential benefits of ACIS, were being frustrated by a lack of access to foreign markets, particularly the AFTA region.
- ACIS was aiding the industry's transition to a freer regional trade environment, and the companies expressed confidence that they would be able to further increase exports and operate at more economic volumes as markets opened up.

[4] Deloitte Touche Tohmatsu, *The Impact of ACIS on the Australian Automotive Industry*, 4 May 2002.

- ACIS is having a significant impact on the technical efficiency of MVPs, by enhancing their production capabilities. This found form in a number of areas, including:
  - The range of products offered
  - The introduction of new production technologies sourced locally or from overseas
  - Productivity gains
  - Improvement in manufacturing costs
  - Process efficiency gains
  - Process flexibility gains
  - Improvements in process organisation/innovation
  - Quality improvements
  - Introduction of new technology
  - Development of a skilled workforce.

Key ACIS Impacts - ACPs

- ACIS helped ACPs to invest in new plant and equipment in three distinct ways:
  - Derived investment demand generated by large MVP investments which were themselves ACIS-induced.
  - ACIS benefits helping win approval for new capital expenditure.
  - ACIS R&D benefits helping win approval for expenditure on new product development, which in turn, supports the ACPs' bids for the subsequent Australian production of that new product.
- Introduction of new capital equipment by ACPs generally brought with it significant and accelerated advancements in production capabilities and technical efficiency – as well as sustainable commercial opportunities, many involving export.
- Commercial and efficiency gains coming from new ACIS-induced capital investment were not limited to metropolitan areas. Many automotive companies located in Australia's regional areas also shared in the benefits of ACIS.
- Process improvement R&D was a key driver of enhanced production productivity and manufacturing efficiency. This sort of R&D is supported by ACIS, but not by the R&D Tax Concession.
- Many multinational ACPs used their ACIS R&D benefits to help win global product development mandates from head office. The commercial experience was that once the product development mandate had been won for Australia, the production mandate would often follow. This was an important area where ACIS was having a significant impact on the dynamic efficiency of the ACPs in responding to new market opportunities.

- Many ACPs used the pool of 'patient' R&D capital to help meet the cost of performing costly product development work for new and innovative products. When a new product was successfully developed, this gave the companies ownership of a unique product or know-how that provided them with a competitive edge in the market place. The sustainability of these kinds of ACPs depends to an ever decreasing degree on protective measures such as the automotive tariff, and to an ever increasing degree on the 'natural' competitive advantages which the ownership of unique intellectual property brings.

- Case studies provided evidence that the automotive industry is an engineering and technology 'leader' in the manufacturing sector, generating significant spillover benefits to other industries, with flow-on gains in technical and dynamic efficiency for the rest of the economy. Many ACIS-induced projects were shown to be generating these kinds of spillover effects in one of two possible ways:

    1. A diverse manufacturing company applying what it has learned in the automotive side of its business to other lines of manufacture; or

    2. An automotive company collaborating with research bodies (eg universities, CSIRO, TAFE or CRCs) in developing new technologies or know-how, and this knowledge being diffused back into other industries through these more broadly based research organisations.

Other Assistance

Firm-specific and Project-specific Assistance

Australian Governments, State and Federal, have provided firm-specific or project-specific assistance to local automotive assemblers over recent years:

- In December 2000, Holden announced it would build a new engine plant in Victoria. Senator Minchin acknowledged at the time that the Victorian State Government had offered a special package to secure the investment but the amount and nature of that assistance was not revealed.[5] The Commonwealth Government later announced that it had provided Holden with a Strategic Investment Incentive of $12.5 million for the project.[6]

- In March 2001, the South Australian Government announced that Mitsubishi had accepted a State-funded loan package worth $20 million.

- In May 2001, the Senator Minchin announced a grant of $500,000 to Mitsubishi to assist in the development of feasibility plans for future production in Australia. The grant was to be matched by the South Australian Government and Mitsubishi.[7]

- In November 2001, the Victorian State Government announced that Ford would invest over $500 million to produce a new four-wheel-drive vehicle. The Premier said the State Government would provide assistance to the project in the form of payroll tax relief, infrastructure funding, training and R&D.[8]

[5] *Media Release*, ISR00/587NM, 19 December 2000.
[6] *Media Release*, ISR01/156NM, 24 April 2001.
[7] *Media Release*, ISR01/217NM, 17 May 2001.
[8] Bracks, S. 2001, *Media Release*, 13 December 2001.

- In April 2002, the Federal and South Australian State governments announced the joint provision of an $85m assistance package to Mitsubishi Motors Australia Limited linked to the investment of $900m by that company.

Other Budgetary Assistance

In its *Trade and Assistance Review, 2000-01*[9], the Commission estimates other Commonwealth budgetary assistance to the motor vehicle and parts industry as follows:

Table 3.4: Commonwealth Budgetary Assistance, Motor Vehicle and Parts Industry, 2001-02

Assistance Type	$ million
Automotive Market Access and Development Scheme	1
Austrade Export Promotion	6
Export Market Development Grants Scheme	2
R&D Tax Concession	31
Innovation Investment Fund	3
R&D Start	<1
Development Allowance	15
TRADEX	62

Source: Productivity Commission 2001, Trade and Assistance Review 2000-01, Canberra, December 2001, Page 86

Automotive Market Access and Development and Austrade Promotion

The Government's Automotive Market Access and Development Strategy was announced by the Prime Minister, the Treasurer and the Minister for Industry, Science and Tourism on 5 June 1997 and is due to end at 30 June this year. The Scheme's objective was to improve trade prospects for the automotive industry by pursuing trade liberalisation and market access in key markets. The strategy involved market access, industry and technological collaboration, and market development in priority markets.

Activities to be undertaken from this Strategy have included:

- Establishment of an Automotive Trade Council. The Council is co-chaired by the Minister for Trade and the Minister for Industry, Tourism and Resources, and comprises senior industry executives.

- Appointment of the Prime Minister's special automotive envoy.

- Appointment of an automotive market access facilitator in the Department of Foreign Affairs and Trade to pursue market access issues in multilateral, regional and bilateral fora.

- Establishment by Austrade of a four year programme of strategic and targeted market development activities, including placement of specialist automotive representatives in key overseas markets.

[9] Productivity Commission 2001, Trade and Assistance Review 2000-01, Canberra, December 2001, p 86.

Twenty million dollars has been provided over four years to support the operations of the strategy, including special projects such as the *aXcess Australia* concept car. This has been one of the most practical and successful efforts to promote the Australian automotive industry internationally. This vehicle was constructed by 130 component manufacturers with $5.6 million of Federal and State Government support. It was a strong statement of the Australian automotive industry's capability and capacity. Roadshows were staged at premier automotive forums in the USA, South East Asia, North East Asia, India and Europe.

Export Market Development Grants Scheme (EMDG)

The automotive industry is not a major user of the EMDG Scheme. In 2001-02, the industry is expected to receive only around $2 million of the $57 million in EMDG grants to be allocated across the Australian manufacturing sector.

R&D Tax Concession

It is estimated by the Commission that in 2001-02, the automotive industry will claim around $31 million in concessions under the 125% R&D tax concession.

FAPM expects that all of this assistance will be attributable to the four vehicle assemblers rather than component producers. For the assemblers, an R&D credit under ACIS is payable only if the expenditure is "other than for the MVP's own use". Thus it can be expected that any eligible R&D undertaken on an MVP's own behalf will be claimed under the 125% tax concession.

For component producers, all eligible R&D is claimable as a Type E investment credit at 45%. At a company tax rate of 30%, the 125% tax concession is worth 7.5 cents in the dollar compared with 45 cents under ACIS. Even at the current modulation rate of 0.75, component producers would still claim eligible R&D under ACIS and not under the 125% tax concession. Also the provision to disallow double-dipping under both the tax concession and ACIS would prevent component producers claiming under both schemes.

So in assessing the total assistance available to the automotive industry, it is important for the Commission to take into account that the incidence of the claims for the 125% tax concession are expected to fall entirely to the assemblers and not to component producers.

Innovation Investment Fund

It is estimated by the Commission that in 2001-02, the automotive industry will receive $3 million is assistance from the Innovation Investment Fund.

This Fund was announced by the Prime Minister in the Small Business Statement of March 1997. It is designed to promote the commercialisation of Australian R&D, through the injection of venture capital into small, high-tech companies at the seed, start up or early expansion stages of their development.

FAPM is not aware of any automotive companies in receipt of assistance through the Innovation Investment Fund but such assistance, by its nature, would most likely be accorded to either a components producer or to an automotive service provider – not an assembler.

R&D Start and Related Programs

The automotive industry is not a major user of these programs. It is estimated by the Commission that in 2001-02, the automotive industry will receive less than $1 million in assistance from R&D Start and Related Programs (Core Start, Start Plus, Start Premium, Start Graduate and Support for Commercialisation).

Development Allowance

It is estimated by the Commission that in 2001-02, the automotive industry will claim around $15 million in Development Allowances under the *Income Tax Assessment Act 1936*. The 10% Development Allowance applies to certain capital expenditure and is in addition to normal depreciation.

FAPM doubts whether any assistance afforded by the Development Allowance can be attributable to the automotive industry. Under the *Development Allowance Authority Act 1992*, eligible industries include "…an industry which already benefits from government assistance at a rate of more than 10%, other than the motor vehicle industry or associated activity." Perhaps the Commission has allocated the total Development Allowance paid across all industries on the basis of relative capital expenditure given that the Development Allowance is a non-targeted form of industry assistance. If this were the case, it would appear that an amount has been incorrectly allocated to the motor vehicle and parts industry.

If the automotive industry is currently a recipient of the Development Allowance then, as with the 125% tax concession, most if not all of the amount would be attributable to assemblers and not to component producers.

For component producers, all eligible plant and equipment is claimable as a Type D investment credit. At a company tax rate of 30%, plant and equipment expenditure under the 10% Development Allowance is worth 3 cents in the dollar compared with 25 cents under ACIS. Even at the current modulation rate of 0.75, component producers would still claim eligible plant and equipment expenditure under ACIS and not the Development Allowance (even if they were eligible). Also double-dipping provisions would prevent component producers claiming under both schemes. The fact that only projects with a capital cost of $50 million or more are eligible for Development Allowance would also suggest that only assemblers might qualify.

So in assessing the total assistance available to the automotive industry, it is important for the Commission to take into account that the incidence of any claims for the Development Allowance (if they occur at all) are mostly likely to fall entirely to the assemblers and not to component producers.

TRADEX

It is estimated by the Commission that in 2001-02, the automotive industry will receive $62 million is assistance from the TRADEX Scheme.

TRADEX provides relief to exporting companies via an up-front exemption from Customs duty and GST on imported goods intended for re-export or to be used as inputs to exports. The Scheme removes the need to 'drawback' these taxes after export.

FAPM is of the opinion that TRADEX does not confer any 'assistance' on the automotive industry or any other exporting industry. Consistent with international convention[10], Australia's import duties and GST are based on the destination principle, that is, such taxes are levied only on goods sold into the domestic market. Goods exported are exempt from such taxes as they are in all other countries. Drawback is therefore an entitlement rather than a concession or form of 'assistance'. Classifying TRADEX as budgetary 'assistance' is incorrect because the duty and GST was always going to be subject to drawback – it was never the Government's revenue to forgo.

The assistance treatment of tax exemptions for exports is quite different from import concessional arrangements such as ACIS credits or tariff concession orders where the Government clearly makes a deliberate policy choice to forgo an otherwise payable duty liability by the importer.

GST Input Tax Credits for Fleet Vehicles

In the May 2001 Budget, it was announced that GST registered businesses could claim full GST input tax credits on fleet vehicles. This simply corrected an anomaly for businesses operating fleet vehicles which were not entitled to claim the GST credit for those vehicles. While that reduced the cost of the vehicles to those businesses by around 9%, the decision merely transferred the GST credit from the fleet companies to the operators of the vehicles. The decision did not result in any increase in assistance and did not discriminate between locally produced and overseas sourced vehicles. Nor did it provide any exemption from the GST.

Regulations for Imported Used Cars

In July 2001, the Government announced changes to the *Motor Vehicles Standards Amendment Bill 2001* including:

- A new Low Volume Scheme restricting imports of used vehicles (except used motor cycles); and
- A new scheme to regulate registered automotive workshops authorised to modify imported used vehicles to comply with relevant national vehicle standards.

FAPM supports these measures. Unfettered importation of used vehicles has the potential to substantially disrupt the local market. Unregulated entry of vehicles which are non-compliant with Australian standards may pose safety risks for the Australian public. It would also create warranty risks, maintenance problems and impose costs on the dealer network.

[10] Annex E.4 to the *International Convention on the Simplification and Harmonisation of Customs Procedures*, 18 May 1973.

Chapter Four

The Global Automotive Policy Environment

International Competition for Investment

The Australian automotive industry will grow only if it continues to attract investment capital and is able to expand its markets beyond the limitations of the local economy. Both the markets for capital investment and for automotive products have been substantially opened up over the last decade under the forces of globalisation.

Prior to the relatively rapid falls in international tariff and non-tariff barriers over the 1990s and other reforms within the WTO framework (particularly the prohibitions on local content requirements), firms were 'forced' to establish production facilities in target markets. Investment continued until domestic manufacturing reached a saturation level often equivalent to about the size of the domestic market. World-wide industry protection regimes, particularly for automotive, meant export markets were limited and manufacturing investment was often either less than optimum or suffered the disadvantages of having to operate with excess plant capacity.

That situation has changed substantially. Developed countries, with some exceptions, have largely open markets for automotive products and, where they existed, local content schemes and similar arrangements have been dismantled. The result is that markets in most developed countries are, in theory at least, capable of being supplied from production anywhere in the world[11].

In the light of a more footloose market for global investment funds, governments have moved from policies of protecting existing domestic automotive manufacturing investment to attraction of new investment. Not only is there competition between national governments in this market but also between regions within national jurisdictions (in the US, for example) and within groups of countries covered by Regional or Free Trade Agreements (such as in the EU).

Global investment decisions in the automotive industry are dependent on three separate but inter-dependent sets of factors. The first set might be called the institutional prerequisites which determine the attractiveness or otherwise of the general investment climate. The second set is related to how easy it is to do business with a country's supply of economic and human resources and its available markets. The third set is the country's relative competitiveness in providing investment incentives. For suppliers of some particular types of components, it is also driven by the logistical and economic requirements of being located close to the customer as shown in Chapter 2 of this submission.

Institutional Prerequisites for Investment

The efficiency of a country's institutional framework and procedures are major determinants of investment location decisions. There are a number of prerequisites for that efficiency including:

[11] By contrast, some developing countries (including passenger vehicle producers such as Mexico) have certain exemptions and extensions from the WTO rules, including those on subsidies and TRIMS. This issue is covered later in this Section of our submission.

Political and macroeconomic stability: Investment returns, particularly from manufacturing and from R&D with long lead times, need to be able to be evaluated over a medium to long-term period with some certainty. Relative political and macroeconomic stability reduces uncertainty associated with risk.

A regulatory and legal environment which is transparent, stable, and non-discriminatory: Foreign investment laws or codes, including those established in the WTO TRIMs Agreement are general prerequisites for investment attraction in automotive manufacturing. So is an efficient, non-corrupt judicial system in the event of disputes.

No excessive bureaucratic procedures and institutional rigidities: Global investment strategies are intolerant of bureaucratic procedures and negotiations involving different and uncoordinated services and agencies. In the past, when global automotive investors followed "multi-domestic" strategies as a way around high tariff barriers, excessive bureaucratic procedures and institutional rigidities were seen as a necessary 'buy-in' cost – but not anymore. Transaction costs in dealing with the bureaucracy and institutions also have to be as low as possible, otherwise global investors may prefer to move to other locations.

Economic and Social Attributes

There are five main groups of economic and social factors that are prerequisites for global investment attraction:

Available market size: When high import tariffs were common, automotive investors required a reasonably sized domestic market to justify major capital expenditure. With globalisation, investors now look for large regional markets with solid growth prospects. The size or saturation of the domestic market is of lesser significance. Good examples of this process are Ireland and Portugal. Both have a small domestic market but have attracted a huge amount of foreign investment because they have favourable access to the large EU regional market. For similar reasons, NAFTA increased Mexico's attractiveness as a location for foreign investment. Also Poland's proximity to the markets of Germany and Russia, combined with investment attraction policies, has encouraged substantial investment in the Polish automotive industry.

Efficient communication and transport systems: Subsidiaries need access to world best information and telecommunications technologies. They also need proper transportation links both within the country and with the outside world.

Skilled labour: When most international companies were following vertical outsourcing strategies as late as the 1980s, cheap labour was a primary factor determining investment location decisions. Now availability of skilled labour, particularly for middle-ranking and senior technical positions is more critical. This is because most subsidiaries are using the same sophisticated technology as that employed in the home country plants. Often, technology used abroad is often more sophisticated than in the home country because plants are more recent.

Efficient local support industries: Efficient local support industries are a prerequisite in terms of technical specification, quality, and delivery time. In the automotive industries, the growing outsorcing of assembly requires an efficient network of local support industries providing systems and components, tooling, design and engineering services.

Australia generally has relatively strong economic and social attributes in terms of investment attraction in automotive industries.

Relative Competitiveness in Providing Investment Incentives

Institutional, economic and social factors are the primary factors determining investment decisions for global companies. But a country's relative competitiveness in providing fiscal investment incentives can be a determining factor. Passenger motor vehicles are now produced in at least 20 countries, many of which have a more or less efficient institutional framework and favourable long-term economic and social factors – including Australia. These countries are often in direct competition in terms of attracting automotive investment. With other factors being equal, relative fiscal incentives will determine the location of the investment. Automotive incentives in place in a selected group of countries are discussed in the next Section.

Automotive Industry Support Policies Overseas

Most countries provide substantial levels of public support to their automotive industries. In developed countries, the nature of that support has shifted over the last decade away from market protection measures (high tariff and non-tariff barriers, minimum local content requirements, etc) to subsidies of various forms (investment attraction, designated regional development zones, innovation and R&D, skills development, tax concessions, etc). As discussed in the following section of this report, this shift was encouraged through new WTO Agreements aimed at liberalising trade and investment. Developing countries, granted time extensions under the WTO to dismantle non-compliant automotive industry policies, generally maintain more restrictive trade policies. However, most of these will be eliminated (or at least substantially diminished) over the next couple of years.

Automotive support policies internationally can be broadly classified into eight types:

- Import tariffs
- Non-tariff import barriers
- Investment incentives
- R&D assistance
- Education and training support
- Regional aid
- Trade blocs
- Corporate tax rates.

These types of assistance measures for a range of countries producing passenger motor vehicles are listed below. Tier 1 countries are drawn from a selected list of automotive-producing developed countries and Tier 2 countries from a selected list of automotive-producing developing countries.

Automotive Import Tariff Rates

Automotive import tariff rates are generally low in Tier 1 automotive manufacturing countries (except for light trucks imported into the US) and relatively high in Tier 2 automotive manufacturing countries.

Box 4.1 Automotive Import Tariff Rates in Selected Countries

Tier 1 Automotive Manufacturing Countries	Tier 2 Automotive Manufacturing Countries
Canada – 6% on vehicles and automotive components; NAFTA rate Free in 2003. **Germany** – Free for goods originating from other EU members, common external tariff rate of 10% on passenger vehicles and 3.5% to 4.5% on automotive components. **Japan** – Free for vehicles and automotive components. **Sweden** – Free for goods originating from other EU members, common external tariff rate of 10% on passenger vehicles and 3.5% to 4.5% on automotive components. **UK** – Free for goods originating from other EU members, common external tariff rate of 10% on passenger vehicles and 3.5% to 4.5% on automotive components. **US** – 2.5% on passenger vehicles and automotive components; 25% on light trucks (70% of US production).	**Korea** – 8% for passenger vehicles and 10% to 13% for components. **Malaysia** – 140% to 300% for passenger vehicles; 60% to 200% for 4WD; 25% to 42% on components. **Poland** – complex rate structure ranging from Free to 293% depending on vehicle type and country of origin; Free for goods originating from EU members. **South Africa** – 23% to 40% dependent on vehicle size; 30% on automotive components due to fall to 25% in 2007. **Thailand** – 60% to 80% on vehicles; 10% to 46% on automotive components.

Source: The Allen Consulting Group and Deloitte Touche Tohmatsu*, Benchmarking the Automotive Industry Policy Environment*, February 2002

Automotive Non-Tariff Import Barriers

With the exception of Japan, automotive non-tariff import barriers are insignificant in Tier 1 automotive manufacturing countries. Other than in South Africa, the Tier 2 automotive manufacturing countries generally have significant automotive non-tariff import barriers in a variety of forms.

Box 4.2 Automotive Non-tariff Barriers in Selected Countries

Tier 1 Automotive Manufacturing Countries	Tier 2 Automotive Manufacturing Countries
Canada – No significant non-tariff barriers. **Germany** – No significant non-tariff barriers. **Japan** – Significant non-tariff barriers including the Vehicle Type Approval system; design rules; environmental and safety standards; a complex and rigid vehicle distribution system. **Sweden** – No significant non-tariff barriers. **UK** – No significant non-tariff barriers. **US** – No significant non-tariff barriers.	**Korea** – variety of Customs delays and indirect taxes on automotive imports. **Malaysia** – quotas on imported vehicles; restrictive and discretionally applied import licences; local content scheme requiring 45% to 60% local sourcing. **Poland** – Lack of transparency in Customs procedures; Customs clearance fees; higher excise tax on imported vehicles. **South Africa** – No significant non-tariff barriers. **Thailand** - Lack of transparency in Customs procedures; excise duties of 35% to 48% on imported vehicles.

Source: The Allen Consulting Group and Deloitte Touche Tohmatsu, *Benchmarking the Automotive Industry Policy Environment*, February 2002

The existence of non-tariff barriers is a difficult issue for the WTO to deal with but which nevertheless has a stifling effect on market liberalisation. In some cases, the barriers are reasonably overt such as Japan's vehicle distribution system and the EU's tightly controlled franchised and dedicated dealership arrangements.[12] In other cases, the barriers are more covert such as in the case of Korea where until recently, it was generally believed that owners of foreign built vehicles were more than likely to attract a tax audit than buyers of locally produced vehicles.

Automotive Investment Incentives

Generally the Tier 1 group of countries (particularly the US) rely upon State and regional investment incentives rather than national incentives to attract automotive capital. By contrast, the Tier 2 countries offer very generous investment incentives, the impact of which has been dramatic in some cases.

[12] The current Block Exemption legislation in the EU is due to expire in September this year.

Take the example of Poland. Over the 1990s, Fiat, Daewoo, General Motors and VW all established production facilities in Poland. Investment by international first and second tier component manufacturers followed – by Fiat and Daewoo subsidiaries along with other component groups such as Delphi, Visteon and Piast. This investment transformed the domestic industry, raising manufacturing standards, productivity and service levels to meet the demands of international customers. Most of the new investment was established in the Special Economic Zones (see below). Poland now manufactures around 1 million vehicles annually and has a strong export base.

Box 4.3 Automotive Investment Incentives in Selected Countries

Tier 1 Automotive Manufacturing Countries	Tier 2 Automotive Manufacturing Countries
Canada – individual Provinces provide a range of investment incentives mainly in the form of tax holidays. The US-Canada Auto Pact guarantees significant US investment in Canada. **Germany** – significant use made of the Regional Aid allowance under EU State rules. Incentives include cash grants, accelerated depreciation allowances, labour cost support and loan guarantees. **Japan** – no significant investment incentives. **Sweden** – no significant investment incentives. **UK** – significant use made of the Regional Aid allowance under EU State rules. Investments in the South West and the Midlands regions received grants at around 15% of project expenditure through the Regional Selective Assistance Program. **US** – significant use of investment incentives made by individual States including State tax concessions, cash grants, and site improvement grants.	**Korea** – substantial investment incentives including seven year corporate tax exemption from the first year of profits followed by a further three year concession at 50%; Customs duty and excise tax exemptions for certain capital investment goods; 8 to 15 year exemption on local taxes, planning approval waivers, rent reductions and education support in investment in Foreign Investment Zones. **Malaysia** – substantial investment incentives including tax paid on 30% of income for first five years; Investment Tax Allowance of 60% for first five years on new capital expenditure; Reinvestment Allowance at 60% of capital expenditure by existing Malaysian corporations; Accelerated Capital Allowance of 40% in year 1 and 20% in each of years 2 and 3. **Poland** – a range of incentives are available in 13 Special Economic Zones including corporate and personal tax exemptions and Customs duty exemptions. **South Africa** – a range of investment incentives are provided under a number of different programs including capped investment credits of between 50% and 100% of the investment amount which can be offset against taxable income; various cash grants and duty rebates. **Thailand** - automotive is a targeted industry and as such enjoys an eight-year corporate tax exemption and import duty waiver on new machinery. Additional incentives including a further 3 to 8 year extension of the tax exemption and a further five year extension of the import duty waiver are available if investment is undertaken in an Investment Promotion Zone.

Source: The Allen Consulting Group and Deloitte Touche Tohmatsu, *Benchmarking the Automotive Industry Policy Environment,* February 2002

R&D Assistance

Nearly all countries provide government support for R&D at various levels and in various forms. Mainly the R&D support is either in the indirect provision of R&D public infrastructure or it is aimed at directly encouraging firms to undertake R&D themselves. The direct support can be firm, industry or project specific; debt or equity involvement; loans repayable on concessional terms or grants; subsidies; and tax concessions.

Generally, Tier 1 countries have higher levels of support for R&D compared with Tier 2 countries.

Box 4.4 R&D Assistance in Selected Countries

Tier 1 Automotive Manufacturing Countries	Tier 2 Automotive Manufacturing Countries
Canada – offers substantial R&D support up to between 50 to 66 cents in the dollar through tax credits linked to company size; strong support also given to syndicated automotive R&D such as that for the AUTO21 project. **Germany** – strong public commitment to R&D. R&D grants available to SMEs and for R&D undertaken in the New Lander States; low interest loans and venture capital for R&D also available. **Japan** – tax credit of 15% of value of incremental R&D expenditure compared with the higher of the previous two-year's expenditure; tax incentives and R&D subsidies for development of "eco-friendly' cars. **Sweden** – strong public infrastructure support for R&D and grants and generous loan terms available for companies engaging in collaborative R&D with institutes such as Chalmers University. **UK** – generous direct grants particularly for SMEs; specific automotive industry support through the Foresight Vehicle Program. **US** – federally the US offers a tax credit of 20% for incremental R&D expenditure over historical levels of expenditure. Fifteen individual States offer further R&D incentives.	**Korea** – SMEs supported through Industrial Technology Support Grants; tax credits based on company size. **Malaysia** – 200% tax deduction for eligible R&D; funding for 50% to 70% of eligible R&D expenditure for any Malaysian majority owned company. **Poland** – subsidies and credit guarantees for companies launching innovative products, processes or technologies. **South Africa** – support provided through the government funded Automotive Development Centre. **Thailand** – no specific R&D support.

Source: The Allen Consulting Group and Deloitte Touche Tohmatsu, *Benchmarking the Automotive Industry Policy Environment*, February 2002

Education and Training Support

The existence of specific measures for education and training support varies across countries but most provide some kind of support either nationally or at the regional level. Tier 1 countries which do not provide specific national support, for example, Canada, Germany and Japan have high levels of public support for education generally. The 2000 Global Competitiveness Report ranks Canada and Germany in the top three countries in terms of the availability of skilled labour.

Box 4.5 Education and Training Support in Selected Countries

Tier 1 Automotive Manufacturing Countries	Tier 2 Automotive Manufacturing Countries
Canada – no specific support measures. **Germany** – education and training grants offered as part of the incentives in the New Lander States. **Japan** – no specific support measures. **Sweden** – education and training grants of up to A$10,300 per employee over two years. **UK** – US$65 million training grants provided to Ford to upgrade its Halewood facility. **US** – Southern States in particular (Kentucky, North Carolina, West Virginia, Tennessee and Alabama) offer education and training grants, course tailoring, and tax credits as part of investment attraction measures.	**Korea** – no specific support measures. **Malaysia** – grants to companies of up to 95% of training expenditure and double tax deductions for a range of training expenditures. **Poland** – support for employment of unemployed persons and graduates for up to 12 months. **South Africa** – cash grants of up to 50% of training costs through the Automotive Industry Development Centre and Skills Development Program. **Thailand** - no specific support measures.

Source: The Allen Consulting Group and Deloitte Touche Tohmatsu, *Benchmarking the Automotive Industry Policy Environment*, February 2002

Regional Aid

Regional aid is common among Tier 2 countries. It is increasingly becoming common among Tier 1 countries as particular regions within these countries look for new or expanded economic activities and employment opportunities.

Box 4.6 Regional Aid in Selected Countries

Tier 1 Automotive Manufacturing Countries	Tier 2 Automotive Manufacturing Countries
Canada – no national policy but some Provinces are active in offering regional incentives. **Germany** – combined federal, state and local incentives for investment in the six New Lander States can be up to 35% of investment costs. **Japan** – no specific support measures. **Sweden** – development grants for particular regions such as Norrbotten and Vasterbotten. **UK** – regional aid available in the South West and Midlands area. **US** – considerable assistance in some States. Alabama provided US$120 m to DaimlerChrysler to secure a $600 m expansion of its Tuscaloosa plant. Virginia provided Volvo with US$60 m over 10 years to support a US$148 m expansion of its operations.	**Korea** – exemptions from local taxes for new investment in South-West Korea. **Malaysia** – additional Investment Tax Allowance up to 80% and lower taxes in designated regions. **Poland** – incentives for investment in Special Economic Zones. **South Africa** – additional training assistance for designated Industrial Development Zones. **Thailand** – additional five year tax exemption over and above generally available incentives for investment in designated regions.

Source: The Allen Consulting Group and Deloitte Touche Tohmatsu, *Benchmarking the Automotive Industry Policy Environment*, February 2002

Trade Blocs

Trade within regional trading arrangements such as NAFTA, AFTA, the expanding EU and Mercosur are increasingly dominating the volume of world trade. Countries such as Korea, Japan and South Africa, while not members of formal trade blocs, have in place bilateral, de facto trade bloc agreements.

Box 4.7 Trade Blocs in Selected Countries

Tier 1 Automotive Manufacturing Countries	Tier 2 Automotive Manufacturing Countries
Canada – member of NAFTA. **Germany** – member of the EU. **Japan** – not a member of any trade bloc. **Sweden** – member of the EU. **UK** – member of the EU. **US** – member of NAFTA.	**Korea** – not a member of any trade bloc but has entered into a number of bilateral agreements. **Malaysia** – member of AFTA. **Poland** – not currently a member of any trade bloc but is expected to have future EU membership. **South Africa** – not a member of any trade bloc but has a Free Trade Agreement with the EU. **Thailand** - member of AFTA.

Source: The Allen Consulting Group and Deloitte Touche Tohmatsu, *Benchmarking the Automotive Industry Policy Environment*, February 2002

Corporate Tax Rates

With the exception of Canada, Germany and the US, corporate tax rates for both Tier 1 and Tier 2 countries are mostly around 30% or lower.

Box 4.8 Corporate Tax Rates in Selected Countries

Tier 1 Automotive Manufacturing Countries	Tier 2 Automotive Manufacturing Countries
Canada – federal tax on manufacturing firms of 21% plus Provincial rates of between 5% and 17%. **Germany** – effective combined federal and municipal corporate tax rate of between 36% and 41%. **Japan** – corporate tax rate of 30%. **Sweden** – corporate tax rate of 28%. **UK** – corporate tax rate of 30%. **US** – federal corporate tax rate of 35% plus State rates of between 0% and 12%.	**Korea** – corporate tax rate of 28%. **Malaysia** – corporate tax rate of 28%. **Poland** – corporate tax rate of 28% due to fall to 22% in 2004. **South Africa** – corporate tax rate of 30% plus a secondary company tax of 12.5% introduced in 1996. **Thailand** – corporate tax rate of 30%.

Source: The Allen Consulting Group and Deloitte Touche Tohmatsu, *Benchmarking the Automotive Industry Policy Environment,* February 2002

Competitiveness of Australian Government Automotive Support Policies

Without ACIS, Australia would be uncompetitive against both Tier 1 and Tier 2 countries in terms of providing support for automotive investment. FAPM reaches this conclusion based on the following:

Import barriers: The legislated Australian tariff rate on most imported automotive products of 10% in 2005 is not high compared with Tier 1 automotive producing countries. This is equivalent to the current common external EU tariff rate on motor vehicles; only slightly above the Canadian tariff rate on vehicles and parts of 6%; and well below the 25% covering 70% of the US's production of vehicles – light trucks. While some other developed countries such as Japan have a Free rate on automotive imports, non-tariff barriers have kept automotive import penetration in that country at less than 5%. Most tariff rates for Tier 2 countries, with the exception of Korea, are well above those of Australia. However, these rates will decline significantly over the next two years as WTO time extensions for trade liberalisation for developing countries expire. In the case of Korea, as with Japan, substantial non-tariff barriers have kept automotive import penetration at less than 1%.

Investment incentives and regional aid: Most Tier 1 countries provide little in the way of direct Federal investment incentives preferring, as in the case of the US and the UK, to target such incentives at particular States and regions. Most Tier 2 countries offer substantial investment incentives aimed at attracting new investment.

Australian Governments, State and Federal, have provided company-specific (or project-specific) assistance to local automotive assemblers over recent years. The Commonwealth Government's Strategic Investment Incentive program is designed to attract direct investment to Australia by providing assistance to particular projects (but the $50 million threshold excludes components producers). Whether such direct support is competitive with direct support provided overseas say, in the Southern States of the US, or with the tax holidays provided in some of the Tier 2 Asian automotive producing countries, is difficult to assess. Certainly, without ACIS, the direct support provided in Australia is rather piecemeal and either company or project-specific.

R&D support: Without ACIS, there is little doubt that relying solely on the 125% tax concession and accompanying definition of R&D would make the Australian automotive industry very uncompetitive in global decisions to locate and undertake automotive R&D. With an Australian corporate tax rate of 30%, the effective subsidy of the 125% R&D tax concession is around 7.5%. This is well below R&D support available for the automotive industry in most of the Tier 1 countries. Also the narrow definition of R&D for the purposes of the Australian Tax Act precludes much of the R&D undertaken in the local automotive industry - and companies have to be profitable in order to claim a tax concession.

Education and training support: It is difficult to rate Australia's relative competitiveness on education and training support for the automotive industry when most countries provide assistance through various levels of support for public education generally. Certainly Australia does not face any automotive skills shortage which, in part, is attributable to considerable company investment in the development of the skills of the industry's workforce.

Trade blocs: The world's largest automotive producers all operate within trade blocs in which Australia does not have membership. Countries within these trade blocs (for example, North America and Europe) also currently account for the majority of the world's demand for automotive products. Exports from Australia thus face a common external tariff when selling to those markets. While the FAPM believes progress within APEC in further opening up automotive markets will be slow and hard-fought, it does offer prospects for Australian automotive manufacturers. Our main concern is that Australia ensures that adequate reciprocal offers are made in return for the Bogor Goal of free trade for industrialised APEC members by 2010.

Corporate tax rate: Australia's corporate tax rate of 30% is not out of line with most international rates.

Without ACIS, the two areas of relative policy uncompetitiveness for the Australian automotive components industry would be the investment and R&D incentives. These two areas are strategically the most important for the automotive components industry. The loss of such incentives would make it extremely difficult, if not impossible, to attract the global funds necessary for continued capital investment and for maintaining and growing Australia's R&D skills base in automotive design and engineering. Such an outcome would adversely affect the efficiency and international competitiveness of the local assemblers.

WTO Considerations

There are no specific WTO rules relating to automotive industry assistance or trade measures, other than particular tariff rates and services concessions made by individual WTO members. However, the general WTO rules applying to industry assistance apply to automotive in the same way as they apply to other industries.

The treaty establishing the WTO came into force on 1 January 1995 following the Uruguay Round of negotiations (1986-94). It extended the previous GATT agreement with a range of additional agreements on, among other things, trade in goods, services and intellectual property – all of which are of relevance to the automotive industry. Each member of the WTO is required to ensure that their legal and industry assistance regimes are in compliance with these agreements.

The main WTO rules affecting automotive trade are discussed below.

Tariff Bindings

Under the WTO, maximum or 'bound' tariff rates are included in the tariff schedules for each member country. These are the rates that are re-negotiated at each multilateral round. Tariff bindings are set on an individual country basis and differ widely between countries for any tariff item. While bindings establish a ceiling, the actual rate in the tariff may be lower than the bound rate.

Many Australian tariffs are generally set well below the bound rate, including those for automotive products.

Box 4.9 Australian Tariff Bindings for Imports of Automotive Products

New passenger motor vehicles	40%
Diesel and semi-diesel motor vehicles for the transport of less than 10 people	10%
Other motor vehicles for the transport of 10 or more people	15%
Other vehicles	15%
Automotive parts	
For use in the assembly of passenger motor vehicles:	
. Chassis fitted with engines	25%
. Bodies	25%
. Gear boxes	25%
. Drive axles with differential	25%
. Clutches	25%
. Other parts	mostly 15% or 25%
Other	mostly 15%
Used or second-hand passenger motor vehicles	not bound

Most-Favoured-Nation (MFN) Rule for Goods

The MFN rule precludes a WTO member applying different tariff rates on the same goods according to the country in which the goods were produced.

The only exceptions to the MFN rule are the application of more favourable tariff rates in respect of developing countries and trade under WTO compliant Regional Trade Agreements such as the CER or APEC. Australia affords preferential tariff treatment on imported motor vehicles and automotive components as follows:

Box 4.10 Australian Preferential Tariff Rates on Imported Motor Vehicles and Automotive Components

Developing countries and Forum Island countries	10%
Canada	7.5%
New Zealand	Free

Preferential tariffs on automotive imports from Forum Island countries and developing countries will be further reduced by 5 percentage points to 5% from 1 January 2005.

National Treatment Rule for Goods

The WTO national treatment rule for goods prohibits a country from adversely affecting the competitive position of imported goods in favour of domestic production. Examples include a higher sales tax on imported goods or regulations requiring purchasers to give preferences to domestically produced goods.

There are two exceptions to the national treatment rule – government procurement and the payment of subsidies to domestic producers providing such subsidies do not have conditions which result in preferences being given to other domestically produced goods. For example, the national treatment rule would prevent a subsidy being paid to assembly of passenger motor vehicles on the condition that a minimum proportion of material inputs to that assembly were sourced locally.

Subsidies

WTO rules relating to subsidies affecting trade in goods are set out in the Agreement on Subsidies and Countervailing Measures (Subsidies Agreement). A subsidy is defined to include all measures by government or any public body that could be construed as providing a financial contribution (cash; subsidised loans and loan guarantees; cheap infrastructure costs; forgone revenue such as company tax, direct taxes or import duties; etc) to the recipient of the subsidy.

A subsidy is prohibited under the Subsidies Agreement (at least for developed countries such as Australia) if it is either contingent in law or in fact upon exports or upon the use of domestic over imported goods. Non-prohibited subsidies are still actionable under the Agreement either unilaterally (for example, under domestic anti-dumping/countervailing duty legislation) or multilaterally under the 'serious prejudice' provisions. For serious prejudice cases, consideration is given to the adverse effect on trade on all subsidies being received which impact on product concerned. There are many subsidies provided by governments which do not affect the competitive situation between companies and consequently are not actionable under the WTO. An example of such subsidies would be the general depreciation provisions for company tax purposes.

Trade-Related Investment Measure (TRIMs)

The WTO TRIMs Agreement establishes rules for ensuring member countries may only receive advantages if all restrictions on trade (other than import tariffs and export taxes) are removed. TRIMs requirements cover a wide range of undertakings from procedures for investment approval to subsidies to access to foreign exchange. The Agreement limits the scope for Governments to impose onerous conditions or performance targets on investment approvals, including local content and trade balancing requirements.

States and Territories

Australia's obligations under the WTO cover not just the Commonwealth Government, but also the State and Territory Governments as well as local governments.

Developing Countries

Developing countries have certain exemptions from the WTO rules, including those on subsidies and TRIMs. These exemptions are being generally phased out but there has been a recent push by developing countries to weaken their obligations and to seek extensions of time.

Eight developing countries have received extensions of the transition period under the TRIMs Agreement for eliminating investment-related measures inconsistent with the TRIMs rules. Six of the requests for additional time related to investment rules relating to the automotive sector – Argentina, Malaysia, Mexico, Pakistan, the Philippines and Romania.

There is no doubt that at least some of the automotive assistance arrangements in these countries are in breach of the TRIMs rules. For example, the Motor Vehicle Development Program (MVDP) in the Philippines allows local manufacturers to import automotive components and finished vehicles at preferential tariff rates if they meet local content requirements and earn a minimum percentage of foreign exchange (to pay for imported components) by exporting finished vehicles. While the Philippines Government has committed to aligning its MFN tariff rates on imported vehicles and components with the preferential rates under the MVDP, it has to date declined to make that commitment binding. The main beneficiaries from the MVDP in the Philippines are Ford, which opened a new assembly plant in September 1999 and DaimlerChrysler which has a Philippine joint venture partner producing vehicles under the Chrysler name. By contrast, all potential automotive exporters to that market are disadvantaged and will continue to be disadvantaged until 30 June 2003 which is the extended WTO deadline for the elimination of the MVDP.

Regional Arrangements

Regional arrangements are the major exception to the MFN arrangements within the WTO. For developed countries, these take the form of Free Trade Agreements (FTAs) or Customs Unions (CU). Developing countries are given more latitude to extend reciprocal preferential treatment to each other such as through ASEAN. Australia's participation in such arrangements includes the CER with New Zealand and APEC.

The largest FTA, and one which has a significant impact on the automotive industry, is the North America Free Trade Agreement (NAFTA) involving the US, Canada and Mexico. Such arrangements can result in dramatic transformations. In 1994 when NAFTA was formed, Mexico's automotive sector was highly protected with a high cost, relatively inefficient production base. It is now a world-class industry closely integrated with the large automotive markets of North America. The largest CU, the European Union, also affects Australia's opportunities in automotive trade by affording preferential treatment to member countries supplying the world's largest automotive markets outside North America.

Since 1995, over 100 FTAs have been notified to the WTO. The main reason for the growth in these arrangements is that, other than the economic benefits, they allow for flexibility of the rules within the WTO general framework. Special treatment can be provided in respect of such arrangements including dumping/countervailing action, safeguards and subsidies. For example, under CER, Australia and New Zealand do not apply anti-dumping duties to each other, provided the products satisfy the CER rules of origin. Similarly an FTA can have provisions that subsidies will not be paid on products exported to other members.

Automotive Trade Disputes Under the WTO

There have been a number of recent trade disputes involving automotive products. Mostly they have involved either discriminatory favouring of domestic production (such as local content schemes) or export subsidies.

Box 4.11 Australia - Exports of Automotive Leather

While the original case in 1996 concerned the ICS and EFS under the TCF and PMV Plans, the actual Panel case over 1998-2000 was about a replacement grant and loan provided to Australian Leather Holdings and its subsidiary Howe Leather. A WTO Panel found that the grant was contingent in fact upon export performance and so was prohibited under the Subsidies Agreement. The basis of the finding was that the performance targets for production and investment were set out in the grant deed.

Box 4.12 Canada – Automotive Duty Exemptions for the Auto Pact Manufacturers

In 1999, Canada's automotive duty exemptions under the US-Canada Auto Pact was challenged by the EC and Japan. These arrangements gave a select list of manufacturers duty exemption for parts and CBUs subject to the manufacturers achieving minimum ratios of production and sales for domestic consumption in Canada and exports. A WTO Panel found that the measures breached the MFN and national treatment provision and the export subsidy rules of the Subsidies Agreement. The dispute went to the WTO Appellate Body which upheld the Panel's conclusions with some minor modifications. As a result, the AutoPact was discontinued and US-Canada autotrade is now conducted under the auspices of both the NAFTA agreement and WTO rules.

Box 4.13 India – Trade and Investment Measures

The Panel for this case, brought by the EC and the US, was due to report in December 2001. The complaint concerns India's automotive assistance arrangements that require manufacturers to maintain specified levels of local content; balance imports and exports over a specified period; and limit imports to the value of exports in the previous year. The case against the arrangements was on the basis that they breach the WTO provisions on national treatment, the prohibition on quantitative import restrictions and the TRIMs Agreement.

Box 4.14 Indonesia – Various Measures

This complaint, brought by the EC, Japan and the US, was in respect of various automotive assistance measures – concessions on tariff rates and sales tax and a loan for a 'national car'. The concessions were linked to local content provisions for domestic manufacture but applied also to imports of CBUs from Korea with minimum levels of Indonesian local content. The WTO Panel found that the local content provisions were in breach of the national treatment provision and the TRIMs Agreement. The concession in respect of imports of CBUs from Korea was found to be in breach of the MFN clause.

Asia-Pacific Economic Co-operation (APEC)

In 1989, APEC was established as a consultative forum of 12 members with a modest program of business and trade liberalisation. It now has 21 members and is the primary organisation promoting open trade and economic cooperation in the Asia-Pacific region. Its members include Australia; Brunei Darussalam; Canada; Chile; People's Republic of China; Hong Kong, China; Indonesia; Japan; Republic of Korea; Malaysia; Mexico; New Zealand; Papua New Guinea; Peru; Republic of the Philippines; Russia; Singapore; Chinese Taipei; Thailand; USA; Vietnam. Unlike the WTO which is a rules-based organisation with trade dispute enforcement powers, APEC policies are developed through annual meetings and their adoption by members is voluntary.

Membership of APEC allows Australian business favourable access to over 2.5 billion consumers and around 60% of global income. These economies purchase around three-quarters of Australia's merchandise exports. Over the last decade, APEC exports have more than doubled to nearly AUS$5 trillion, and APEC economies accounted for around 70% of the increase in the world's economic growth. APEC economies reduced average tariff levels by one third, from 12% in 1995 to 8% in 2000. In 2000, 69% of goods imported in APEC were subject to tariffs of only 5% or less.

In 1994 APEC member countries adopted the Bogor Goal of free and open trade and investment in the Asia-Pacific region (by 2010 in industrialised economies and 2020 in developing economies). Thus, the tariff rate on imports of motor vehicles and parts from the developed member countries of APEC will fall from 10% to Free and for developing countries will fall from 5% to Free.

APEC measures the progress on trade and investment liberalisation using Individual Action Plans (IAPs) and Collective Action Plans. IAPs detail the steps taken by each member country to progress the Bogor Goals during the preceding year and include proposed measures for the year ahead. They address 15 areas specified in the 1995 Osaka Action Agenda, which sets out the general principles and framework for implementing the Bogor Goals. These areas include tariffs, non-tariff measures, services, investment, standards and conformance, customs procedures, intellectual property, competition policy, government procurement, deregulation/regulatory review, WTO obligations, rules of origin, dispute mediation, mobility of business people and information gathering and analysis.

The Automotive Dialogue group within APEC meets regularly to address automotive issues of interest to APEC members. These issues include – increased access to markets of all APEC economies, including the removal of non-tariff barriers; simplification of regulations on vehicle safety, compliance, and environmental standards; customs and distribution processes; e-commerce and other electronic networking; alternative fuel technology; and infringement of intellectual property rights including copies of automotive parts.

FAPM is a participant in the APEC Automotive Dialogue group and will continue to support its work.

Future Global Automotive Policies

The next five years will see substantial changes in international markets as the processes of trade and investment liberalisation gather pace, particularly within developing countries. The strengthened WTO dispute settlement system makes it more difficult for members to block potentially unfavourable findings. This can only speed up the process of global economic integration for the automotive industry.

Australia has replaced the WTO non-compliant EFS with ACIS which meets the requirements of the Agreement on Subsidies and Countervailing Measures (Subsidies Agreement) and the TRIMs Agreement. The support measures in ACIS are non-discriminatory, both against imports or in favour of exports.

While the WTO provides a mutilateral rules-based framework for the conduct of international trade, FAPM expects the trend for countries to negotiate regional free trade agreements will continue. The reason for the growth in FTAs is related to the first article (MFN) of the General Agreement of the WTO Treaty. Clearly, most countries consider that FTAs and bilateral trade agreements offer particular trade flexibility while remaining within the general rules of the WTO. They prefer to work within the MFN tariff bindings agreed to at the WTO Rounds but leave the door open for further liberalisation in FTA negotiations.

Australia has supported plurilateral regional agreements such as APEC. It has also been active in pursuing bilateral agreements with several Asia Pacific countries and active in negotiating China's market access commitments as part of its WTO accession. This has included arrangements on imports of passenger cars and parts such as phasing out an import quota in 2005 and a tariff rate cut to 25% in 2006.

These trade negotiation efforts by the Australian Government are vital to the interests of the Australian automotive industry and are strongly supported by the FAPM.

Chapter Five

Vehicle Design, Safety and Emission Standards and Regulation

The Regulation Process

Improving standards for motor vehicles has been seen as a means of reducing exposure to risk of accidents, contributing to improved air quality and reducing health and environmental risks from vehicle use.

Before a road vehicle can be registered for the first time in Australia it must comply with the Commonwealth's *Motor Vehicle Standards Act 1989*. This applies to new and used imported vehicles and locally manufactured vehicles. The Act defines 'vehicle standard' as a standard for road vehicles or vehicle components that is designed to:

- Make road vehicles safe to use.
- Control the emission of gas, particles or noise from road vehicles.
- Secure road vehicles from theft.

The *Motor Vehicle Standards Act 1989* requires vehicles to meet the national standards covering safety and emission requirements. The national standards are currently the Australian Design Rules (ADRs) and are made by the Minister for Transport and Regional Services. When a vehicle has been certified as meeting the ADRs it can be fitted with a compliance plate. The fitment of a compliance plate is mandatory under the Act. It indicates to the registering authority that the vehicle is eligible for registration.

The process of obtaining approval to fit a Compliance Plate is called vehicle certification. The certification process in Australia is administered by the Vehicle Safety Standards Branch (VSS) of the Department of Transport and Regional Services. State and Territory registering authorities administer registration and use of vehicles, roadworthiness of vehicles in service, and approval of modifications to vehicles in service.

The Australian vehicle certification system is a type approval system. A vehicle representing the design of that make-model (the 'type' of vehicle) is tested to demonstrate compliance with the safety and emissions standard. If the vehicle tested complies, then all others of the same design (ie the same 'type') will also comply.

Vehicle Safety Standards does not test vehicles itself for certification purposes. The manufacturer is responsible for ensuring compliance with the ADRs. The Australian certification process allows the vehicle manufacturer to conduct the tests required by the various ADRs. The manufacturer can conduct those tests wherever is convenient to the manufacturer providing, of course, that the tests are conducted properly. In order to demonstrate compliance with all the applicable ADRs several test vehicles are usually required, especially for passenger cars and light commercials.

Having conducted all the appropriate tests, the manufacturer must then submit an application for approval to fit Compliance Plates to the particular make/model of vehicle that has been tested. In order to demonstrate that the testing has been done correctly and that the vehicle passed, the manufacturer is required to submit the key results from the testing process; that is, a summary of the evidence of compliance to the applicable ADRs.

For some vehicle categories, a sample of each of the model variants must also be made available for inspection. This inspection also satisfies the registration inspection requirements of the States and Territory registration authorities.

When VSS is satisfied that the vehicle complies, the Administrator of Vehicle Standards issues a document known as a Compliance Plate Approval. This is the authority to allow the manufacturer to fit compliance plates to vehicles of the specified make/model.

The information provided by a manufacturer is subject to checking using quality assurance audits of the manufacturing facilities and inspections of the test facilities. Together these ensure that the vehicles (or parts of vehicles) tested were constructed to the production design, that the tests were carried out correctly, that the tests showed that the vehicle (or parts) passed the tests, and that all the vehicles being produced are to the same design. Thus, if the design is known to comply, and all of the production is to the design, then all the vehicles produced also comply.

Design and Safety Standards

Generally, FAPM supports minimum design and safety standards for vehicles and components and the type approval process. There is little doubt that consumers want such a system and that the public benefits of intervention outweigh the public costs of non-intervention. But there are potential private costs involved here also. Some consumers may not value the reduction of externalities as much as other consumers and may not be willing to pay the extra cost associated with reducing the externality. The relatively old average age of the vehicle fleet in Australia (half the vehicles have been registered for more than 10 years) suggests this may be the case. These consumers may then decide to buy from a competitor who has not incurred the cost of reducing the externality and whose prices are lower. Without intervention, this would result in cars with different safety standards.

From the manufacturers' viewpoint, a system of uniform Australian standards applied equally to all road vehicles prior to first use is clearly preferred over a plethora of different States-based systems. However, as with all forms of regulation, it is important that regulatory authorities and procedures recognise that meeting minimum standards comes at a cost which manufacturers will try to pass on to consumers.

One issue of particular concern to FAPM is the time it takes to secure a mandatory standard even when there are apparently clear safety reasons for doing so.

Because motor vehicle registration processes are State based, national standards established under the *Motor Vehicle Standards Act 1989* require passage of State and Territory legislation to gain national effect. While the national standards apply prior to the first use of a vehicle, the same or different standards may be imposed on vehicles once they enter the market under State legislation. National integration of uniform design and safety rules in Australia thus requires considerable cooperation between the States and Territories.

There is a further harmonisation issue at the international level. Virtually every country has its own vehicle regulations design and safety, often with little regard to the rules applying elsewhere. The procedures for approval also vary widely. The US for example has a self-certification process for minimum safety standards while Japan has a statutory requirement for every new vehicle to be inspected before initial use. Differences in standards between countries can be a significant impediment to automotive trade.

Considerable progress has been made over the last decade in improving the international harmonisation of vehicle standards. Australia has supported harmonisation activities within the Asia Pacific Economic Cooperation Forum (APEC) and has participated in discussions with the European Union (EU) with New Zealand and with Indonesia.

In 1995, US and European automotive manufacturers made a commitment to adopt the United Nations Economic Commission for Europe (UN/ECE) framework for the development of internationally harmonised vehicle safety and emissions standards. Japan followed suit and plans to progressively adopt UN/ECE standards. Many of Australia's ADRs already align with the regulations established in the UN/ECE standards.

FAPM fully supports moves for international harmonisation of vehicle standards and will continue to play its part in working towards their achievement.

Emission Standards and Greenhouse

Australia's first controls on vehicle emissions were introduced in the 1970s. The current Australian national standard for emissions for petrol engined vehicles is based on the US 1981-93 standards.

In 1997, an Environmental Strategy for the Motor Vehicle Industry (ESMVI) was announced by the Prime Minister. The centerpiece of the Strategy was 15 per cent improvement in the fuel efficiency of new passenger vehicles by 2010. Other measures included:

- All new cars to carry fuel efficiency labeling to allow consumers an immediate and simple guide on the fuel consumption of their vehicles.

- Emission standards to be tightened so that from 2006 Australian cars will conform to international emission standards.

- Extension of fuel consumption targets to include, for the first time, light commercial vehicles and four wheel drives.

- Bringing forward the phase-out of leaded fuel, with details of implementation to address social equity issues.

The Australian automotive industry has made a substantial commitment on these issues. Two hybrid vehicles have been produced in Austraia over recent years both of which emit much lower greenhouse gases compared with conventional cars. CSIRO and more than 80 industry collaborators developed the *aXcess Australia* concept car, which is powered by an electric motor and has a fuel-efficient motor to drive the generator that charges the batteries. The Holden ECOmmodore includes state-of-the art CSIRO battery technology. As well as offering air pollution benefits, *aXcess Australia* generates just 80g of the greenhouse gas carbon dioxide for each kilometre travelled compared with approximately 270g per kilometre released for conventional cars.

The Australian automotive industry has also been a major participant in the Greenhouse Challenge program run by the Australian Greenhouse Office. This program, launched in 1995, works through cooperative agreements between industry and government to reduce Australia's greenhouse gas emissions. Participating organisations sign agreements with the Government that provide a framework for undertaking and reporting on actions to abate emissions. An independent evaluation of the program has demonstrated that the Challenge has been highly effective in achieving greenhouse gas emissions abatement, and in building the capacity of both Government and industry to identify, monitor, manage and report greenhouse gas emissions.

Both Holden and Ford are participants in the program. Holden's initiatives under the program are aimed at optimising the operation of its plant and equipment to minimise energy consumption and related emissions. Both of Holden's manufacturing facilities are ISO 14001 certified - the global standards system for environmental management. Ford committed to developing an LPG vehicle.

In addition to Holden and Ford, a large number of FAPM members have committed to the Greenhouse Challenge program including:

AI Automotive Pty Ltd
Air International Group Ltd
Australian Arrow Pty Ltd
Autoliv Australia Pty Ltd
Automatic Springs - John While & Sons Pty Ltd
Automotive Components Limited
BASF Australia Ltd
Bendix Mintex Pty Ltd
BHP
Boge Australia Pty Ltd
Bostik Findley Australia Pty Ltd
BTR Automotive
Calsonic Australia Pty Ltd
Castalloy Manufacturing Pty Ltd
Coghlan-Russell Engineering Pty Ltd
Cooper-Standard Automotive (Australia) Pty Ltd
CPC Auto Components
Dana Australia Pty Ltd
Delphi Automotive Systems Australia Ltd
Denso Manufacturing Australia Pty Ltd
Diver Consolidated Industries
Dolphin Products Pty Ltd
Eaton Pty Ltd
Empire Rubber
Exide Technologies
Finlay Engineering Co Pty Ltd
Flexdrive Industries Limited
GE Plastics Australia Pty Ltd
Hella Australia Pty Ltd
Henderson's Automotive Group
Hook Plastics
INC Corporation Pty Ltd
Intercast & Forge Pty Ltd
ITW Deltar
Kemalex Plastics
Mark IV Automotive Pty Ltd
Marsden & McGain Pty Ltd
Melba Industries
Meritor Light Vehicle Systems Pty Ltd
Miric Industries Pty Ltd
Monroe Australia Pty Ltd
MSX International Australia Pty Ltd
MTM Pty Ltd
Mullins Wheels Pty Ltd
Nylex Industrial Products Pty Ltd
Palm Plastics
PBR Automotive
Plexicor Australia
Robert Bosch (Australia) pty Ltd
ROH Automotive
Schefenacker Lighting Systems Australia Pty Ltd
Siemens VDO Automotive Pty Ltd
Socobell O.E.M. Pty Ltd
South Pacific Tyres
Suspension Components Australia Pty Ltd
Tenneco Automotive
Teson Trims
TI Group Automotive Systems
Trico Pty Ltd
Tripac International Pty Ltd
Viscount Plastics

Taken together, the automotive components sector probably has the largest participation of any industry in the Greenhouse Challenge program.

Chapter Six

Government Policy Considerations

The Re-Badging of the Australian Automotive Industry

In the mid to late 1980s, the Australian automotive industry was at the crossroads. It was faced with greatly increased competition induced by a dismantling of import quotas and much lower levels of tariff assistance. It responded to this challenge by rationalising the industry structure, increasing specialisation, introducing new product and process technologies, investing in research and development, changing management and work practices, increasing capital investment and improving product quality.

The catalyst of the re-badging of the industry was a change in the management culture. The industry recognised that it only had a future in Australia if it were part of the global automotive industry selling into world markets. This was reinforced by the Government's 1988 and 1992 assistance schemes and more recently with the 1997 decision to further reduce tariff assistance to the industry.

In 1985, there were five local car makers in eight plants around Australia. There are now four vehicle assemblers each operating one assembly plant. All local manufacturers have withdrawn from the small end of the market. The industry has invested heavily in new manufacturing technology and improved average production throughput per plant. Regional automotive R&D centers have been established in Australia by some of the multinational automotive firms while many independent Australian companies now sell engineering design and R&D services to the international market. Lean manufacturing organisational techniques such as *kanban* (demand driven, just-in-time production) and *kaizen* (quest for continuous improvement) are now commonplace across the industry. Improvements have been made to workplace design and industrial relations. Enterprise bargaining has led to more flexible work practices. The amount of training to support skills development is one of the highest in Australia's manufacturing sector. Net capital stock growth is well above the manufacturing sector average. The annual number of vehicles produced per employee has grown from around 10 in the early 1990s to nearly 18 by 2000. Labour productivity has grown over the last decade at an annual rate of 6% plus.

These changes have transformed the Australian automotive industry. Although it has worked hard to establish a position as a participant in the global automotive network, it remains constrained by the relatively small size of the domestic market.

While the industry has made substantial improvements in its efficiency, competitive producers overseas have not stood still. The process of change in the Australian industry must continue apace, especially in the areas of capital investment and product and process innovation. If the major industrialised countries within APEC implement in full the Bogor Goals, the local industry must have achieved world best practice right across the whole supply chain by 2010 in order to meet the challenges and the opportunities offered by Australia's membership of APEC.

Government Intervention Issues

The automotive industry is without doubt the industrial success story of the 20th century. Its economic and social impact has been extraordinary and continues to grow. The whole of industry network is a complex interaction between raw material suppliers, specialised component producers, vehicle manufacturers, sales and service agents and a wide range of related activities such as fuel distributors and road infrastructure builders. The Government is also part of this network being a major fiscal beneficiary from the automotive industry. But there are also well-recognized social costs arising out of vehicle use including environmental pollution, accidents and road congestion.

The Australian automotive industry is a major contributor to the economy in many ways:

- It generates relatively high numbers of jobs, substantial output and investment.
- It is a leading edge customer for many industries such as steel, glass, plastics, paints and tooling.
- It is important to the future of particular regions such as parts of Melbourne, Adelaide and Sydney and particular areas of regional Australia including Albury, Ballarat, Geelong, Taree, Toowoomba and Launceston.
- It contributes substantially to skills formation in Australian manufacturing.
- It is a major innovator in product design and process engineering.
- It is a leader in best practice manufacturing methods and technology.
- It has substantial linkages to the services sector.
- It has developed a large and growing export market.

Despite those achievements, and a significant improvement in productivity performance especially over the last half of the 1990s, the business performance of automotive manufacturing over recent years has been modest. The return on the substantial funds invested in Australian automotive manufacturing has been only slightly better than manufacturing as a whole while the operating profit margin has been significantly below the manufacturing average. But such statistics are available only up to the end of 2000. They relate to a time when the industry was still adjusting to substantial falls in import tariffs and its consequential intense price competition, especially from the lower end of the market.

Although the automotive industry is a major contributor to the economy's overall activity levels, it is also a significant user of Australia's productive resources of land, labour and capital. In terms of public policy, an important consideration is the relative efficiency with which those resources are used by the automotive industry.

The Commission has estimated that the effective rate of tariff assistance to the automotive industry will be only 5.2% when the tariff rate of most automotive products is cut to 10% in 2005. For the reasons expressed earlier, the FAPM believes that the actual effective rate of tariff assistance would be substantially lower than 5.2% if the assistance that was used, rather than that which was available, were taken into account. The dispersions in tariff assistance between the automotive industry and other industries in 2005 would be so small as to have an insignificant effect of resource misallocation. But there is no doubt that the automotive industry is the recipient of a substantial annual transfer of public funds via the ACIS Scheme.

As described earlier in this submission, world automotive production is going through a period of sustained technological development and re-alignment brought about by the forces of globalisation and market change. The Australian automotive industry is part of that process and must respond or risk falling behind in the race to capture the necessary market share to justify the continued high levels of investment required to manufacture cars.

Passenger car demand in the mature developed markets, including Australia, will continue to slightly increase in the medium-term with fluctuations around a longer term trend closely linked to general economic conditions. Significant future growth for the Australian automotive industry must derive from continued overseas sales success, particularly in emerging markets.

For local component producers, such success can come in one of two ways:

- Substantially improving the production efficiency in Australia by accelerating the rate of investment in product and process innovation and taking advantage of improved market access through trade liberalisation either jointly, or in parallel with, the local car producers; and/or

- Establishing new production facilities or joint ventures in emerging markets.

Establishing production overseas, especially in emerging markets can be a sobering experience as a number of component suppliers in China have discovered. Delphi for example has set up numerous joint ventures there with Chinese automotive components companies. Most of these joint ventures make low-technology components. Although Volkswagen in China does source a high proportion of its parts locally, most are at least 20 years behind Western technology.

Australia's public policy is better targeted at improving the efficiency with which the automotive industry uses its resources locally. As demonstrated earlier in this submission, it is a large user of the community's resources and its productivity performance has been significant. FAPM expects that the advent of ACIS, with its assistance tied to plant and equipment expenditure and R&D, will have a dramatic impact on further productivity improvement of the automotive component sector. But because the Scheme has only been in operation for five quarters out of its life of 20 quarters, the impact of ACIS is still working through the industry.

The question however remains as to whether the community's resources are best employed in the automotive industry or some other alternative activity. There can be no doubt that, without the automotive industry, the composition and size of Australian manufacturing would be very different. Automotive manufacturing is a large and pervasive industry on which many other industries depend. It does generate substantial externalities in terms of training and technological leadership. But it has received much higher levels of Government support than other manufacturing industries.

The Government has stated in the Terms of Reference to this Review that it "is committed to a viable automotive manufacturing sector and the supply of competitively priced, quality vehicles to Australian consumers". The industry has demonstrated remarkable resilience over the last 15 years in response to the dismantling of protective tariffs and enormous import penetration of the domestic market. It has 're-engineered' itself into one of Australia's largest export industries. It must continue that process. The long lead times for model planning and investment, payoffs from R&D and obtaining global mandates for innovative products means this industry works to 10 year horizons.

ACIS is playing a major part in the process of efficiency adjustment in this period of globalisation and trade liberalisation. But there remains a long way to go. Whether that process of adjustment is abandoned and decisions made that some or all of the resources employed in the automotive industry would be more efficiently employed elsewhere in the economy, only the Government can make. Certainly the automotive components industry believes that the right incentive structure is now in place to ensure that this sector of the industry will be viable and supplying competitively priced, quality components not only to Australian consumers but around the world.

FAPM believes that the future of the Australian automotive industry will not be decided solely by supply-side policies, vital though they are. Issues on the demand side must be tackled as well. This includes continuation of existing efforts on improving market access overseas.

Automotive Competitiveness Investment Scheme (ACIS)

The purpose of the ACIS Scheme as set out in the *ACIS Administration Bill 1999* is "…to promote competitiveness, and encourage investment, in the automotive industry…".

Competitiveness is not an easy concept to unambiguously define and it depends on the point at which it is being considered. For an individual firm, being competitive may simply mean that it can make enough profit to grow the business over time. But each firm is different. One may already possess or can acquire superior technological knowledge that gives it a competitive edge in the market. Another might be better suited to the given social and economic infrastructure in which it operates.

The competitiveness of the Australian automotive industry can be gauged by:

- The extent to which firms which make up the automotive industry, and firms which provide products and services to, or receive products and services from, the industry are open to competitive market forces, both domestically and internationally, and

- The extent to which the industry can increase its share of the world market for automotive products and services.

At the retail end, the automotive market is one of the most competitive markets both in Australia and internationally. There are many suppliers and many consumers. Within the automotive supply chain, there is a range of competitive positions. Generally, the market power along the automotive supply chain rests predominantly with buyers rather than with sellers. For example, OEMs are in a strong competitive position relative to their suppliers but in turn the OEMs have numerous competitors in the market for vehicles. So on this criterion, the automotive industry would have to be regarded as a competitive industry right along the supply chain.

The local industry's ability to capture an increased share of the world market is more difficult to assess because of the difficulties of accurately measuring the size of that market. But an indication can be gauged by the rate of increase in Australian automotive exports which in 2000-01 was 23% compared with a decline in the world's registration of new passenger vehicles. This suggests that the Australian industry is capturing an increasing share of the world market.

The OECD[13] has argued that competitiveness depends further on inherent structural factors related to:

- The strength and efficiency of an economy's productive structure.
- Long-term trends in the rate and structure of capital investment.
- Technical infrastructure.

The strength and efficiency of the Australian economy's productive structure is determined by many factors which go well beyond the scope of this review and for the purposes of the review must be taken as given. However, what is significant for this review is the OECD's emphasis on the rate and structure of capital investment and technical infrastructure as essential pre-requisites for competitiveness. For automotive component producers, these are precisely the targets for the ACIS incentives.

The automotive components sector of the industry has responded well to the ACIS incentives. Plant and equipment and R&D expenditure are set to expand considerably over the next four years. The impact that ACIS is expected to have on the components sector shows that the incremental spending attributable to ACIS will be predominantly aimed at productivity and competitive improving measures. These are precisely the areas that must be targeted.

Accurate assessment of the impact of ACIS is difficult for two reasons. First, the Scheme has been in operation for only one of a scheduled five years. Second, the effects of ACIS are mixed up with a whole range of other factors which affect performance such as technological change, general economic conditions, exchange rates, improved skill levels, and so on. There are complex interactions between all these factors which make the impact of ACIS difficult to isolate.

Higher growth is only possible by using more labour, capital and natural resources or by increasing the productivity of existing employed resources. For automotive component producers, ACIS is about improving productivity – the major driver of growth in Australia's market sector.

But it takes time for firms to respond to changes in Government policies which directly affect their operating environment. At the end of 2000, import credits were uncoupled from export performance and tied to either production or expenditure on R&D and plant and equipment. Time is required to identify new opportunities, to plan for new capital expenditure, to innovate to meet market demand and to find better ways of working and allocating capital.

ACIS is absolutely critical to carrying the automotive components industry to the next level required for competitively positioning the industry in 2010.

[13] OECD, Technology and the Economy, The Key Relationships, Technology/Economy Programme, OECD, Paris, 1992, p. 243

FAPM Supports:

Continuation of the current ACIS Scheme as scheduled, without change, until its legislated expiry on 31 December 2005. Component companies have taken investment decisions on both plant and equipment and R&D on the basis of the current arrangements being in place for five years. Modulation has already eroded business plans based on expected assistance. Further changes now would increase the uncertainty. Extensive consultation took place prior to the current scheme's commencement on 1 January 2001. Its introduction in its current form had broad support across the whole industry and across both major political parties. ACIS is also WTO compliant. On the basis of that broad support and the need for some policy certainty, FAPM is strongly of the view that the basic elements of ACIS must remain unchanged.

In relation to both the present scheme and any successor scheme, therefore:

- FAPM is opposed to any suggestion that ACIS effectively be split into four separate schemes by partitioning the funding for each category within the total ACIS budget. Under the present ACIS provisions, all firms within the automotive industry have to compete for the limited capped funding (only MVPs have access to uncapped funding under ACIS). Those non-MVPs undertaking the highest levels of plant and equipment investment and R&D spending receive a higher share of the available funds – as it should be in a competitive market. Non-MVPs have to also compete for that funding with MVPs who receive most of their credits based on the value of the vehicles they produce. Around 75% of that value is made up from the value of components and other services supplied by non-MVP participants in the scheme. If partitioning were to be favoured by Government, FAPM suggests that the amounts available to each participant group should be based on a sound economic rationale such as relative contribution to industry value added rather than on some historical assistance allocation that is unrelated to economic efficiency.

- FAPM would not oppose enhanced support for MVP plant and equipment and R&D expenditure provided it was not at the expense of other participants. Any enhanced support in these areas must be financed within the fiscal cap by commensurately reducing either the uncapped or capped production credits available to MVPs.

- FAPM would also oppose any changes to the current ACIS R&D provisions that would shift the reward from the entity which undertakes the R&D to the entity which commissions the R&D. That would be akin to paying ACIS production credits to purchasers of locally-made vehicles rather than to the entities which build them. Such a fundamental change would be a sure recipe for moving Australian automotive R&D offshore. In principle, regulations that dictate the way in which R&D benefits flow, should not get in the way of the market trend to increasingly devolve R&D to component manufacturers in recognition of the efficiencies to be gained in the supply chain as a result of component companies' greater closeness to developments in their respective spheres of technological expertise.

Introduction of annual ACIS impact monitoring and measurement of key performance indicators. Currently, there is no information available on the efficacy of ACIS other than information relating to claims made. ACIS is effectively an untied cash subsidy that can be used in a myriad of ways to improve a company's competitive position. Performance monitoring would seem to be a basic pre-requisite to improved policy administration. Any ACIS monitoring should be designed in close consultation with the industry.

Development of an ACIS Mark II along similar lines to ACIS Mark I to run from 2006 to 2010. The design of ACIS Mark II would have regard to the key performance indicators of ACIS Mark I and progress towards the local industry achieving international competitiveness. The level of funding for ACIS Mark II would also be determined having regard to the key performance indicators established for ACIS Mark I.

Tariff Assistance for Automotive Products

Tariff rates applying to imports of automotive products have fallen substantially since the mid-1980s. On 1 January 2005, the rate on most automotive products will fall to 10%. A significant number of automotive components are dutiable at 5% or Free. These rates were legislated less than five years ago.

There has been a long, and at times difficult, process of adjustment to the dismantling of tariff assistance provided to the automotive industry. The current rates are now not out of line with other Tier 1 automotive producing countries and are substantially below that of most Tier 2 countries. The Government has stated that there is little to be gained from generally removing relatively low rates of tariff assistance. At the 2005 tariff rate, the effective rate of assistance will be also low. Also, the WTO tariff bindings for Australian automotive imports are well above the current duty rates.

Australian consumers and users of automotive products will be the main beneficiaries from the scheduled reduction in the tariff rate to 10% in 2005. The lower tariff will mean lower prices for both domestically produced and imported vehicles and parts. It is doubtful whether Australian consumers will also benefit from a wider choice of imports because the Australian market is already open and offers a broad diversity of automotive products.

The relative openness of the Australian market is demonstrated from data compiled by the WTO and shown in Table 6.1. Australia's average annual import growth in automotive products over the last decade exceeds that of all countries and, with the exception of Hong Kong which has no local vehicle assembly industry, exceeded that of all Asia-Pacific countries.

Table 6.1: Imports of Automotive Products, 1990 and 2000

	1990 ($US mill)	2000 ($US mill)	Average Annual Growth (%)
Asia Pacific			
Australia	**3,794**	**8,017**	**8.7**
Japan	7,315	9,957	3.5
Hong Kong	994	2,270	9.6
Of which, retained imports	666	1,510	14.6
Malaysia	1,312	1,351 ('99)	0.4
South Korea	929	1,393 ('99)	5.2
New Zealand	1,012	1,480	4.3
Taiwan	2,565	2,692	0.5
Thailand	2,651	2,319	-1.5
Indonesia	1,523	1,870	2.3
All countries	**318,940**	**571,320**	**6.7**

Source: WTO

The extent of import penetration in the Australian market and the improvements in the local industry's cost competitiveness means that Australians have access to a wide choice of vehicles at some of the world's cheapest prices in what is a fiercely competitive market. As the data in Table 1.11 of this submission shows, the Australian CPI for motor vehicles between 1995 and 2000 fell by around 20 points at the same time as general consumer prices rose by around 13 points.

It is sometimes argued that the devaluation of the Australian dollar over the last five years, particularly against the US dollar, has meant that the tariff has become less relevant as assistance to the Australian automotive industry.

For major traded commodities, changes in the exchange rate are a mixed blessing. The general devaluation of the Australian dollar has reduced the price (in foreign currency) of Australian automotive products and so encouraged exports while at the same time putting price pressure on most imported vehicles. However, it has increased the price of some imported components and thus increased the costs of production. The situation is more confused because the Australian dollar has actually appreciated against some of the currencies of those countries which are most competitive in the Australian market for automotive products, South Korea for example:

Units of the South Korean Won per A$

June 1996	640.1
June 1997	661.7
June 1998	843.7
June 1999	763.7
June 2000	667.6
June 2001	704.4

Source: Reserve Bank of Australia

The tariff is a long term assistance measure which should not be confused in a policy sense with short to medium term changes in fluctuating exchange rates. To argue that the tariff should be reduced when the Australian dollar is down is to suggest that it should be increased when the Australian dollar is strong. This would not be good policy and would create enormous uncertainty for industry.

The current legislated tariff rates have provided increased certainty and stability in the Australian automotive industry. The industry has long lead times for investment planning and has benefited from time to adjust its production and investment activities to the long-term rate of 10%. With that certainty and stability, however, will come increased competitive price pressure in 2005. Industry profits, which are already modest, will be put under even more pressure as imports become more competitive. Small margins will be cut further and additional effort will need to be made to reduce unit costs. The ACIS incentives for automotive component producers to invest in plant and equipment and R&D are vital in this regard.

It is difficult to predict the revenue impact on Government of the legislated tariff cut in 2005. It depends on the growth of the market between now and 2005, consumer preferences, the exchange rate and the price impact on demand (elasticity) of the lower duty on imported vehicles. FAPM expects the revenue forgone to the Government to be of the order of $500 million.

FAPM Supports:

No change in the current legislated tariff rates at least until the degree and extent of firm commitments by all APEC members in response to the Bogor Goals are clear. Any consideration of changes to the Australian automotive tariff rate should be predicated on an unequivocal commitment to a rate of Free across all automotive products by the other industrialised members of APEC and a commitment by the non-industrialised members to further substantially reduce their tariff and non-tariff barriers to automotive imports.

General R&D Support Measures

Firms undertake R&D for a number of reasons but mostly to gain a competitive advantage from lowering costs, being more productive or producing a superior product. If followed through to commercialisation, such R&D has a positive impact on GDP and the country's rate of growth. All the evidence suggests that:

- Although returns from R&D vary greatly between projects, firms and industries, generally the pay-off from investment in R&D exceeds the pay-off from increased expenditure on plant and equipment.

- R&D has a significant positive effect on an economy's factor productivity.

- There can be substantial spill-over effects from undertaking R&D. That is, there are unpaid benefits (or unrecompensed costs) arising from R&D that can flow to other firms and individuals other than those undertaking the R&D - net private benefits may not match net public benefits. An example in the automotive industry would be R&D aimed at improved braking or steering (which may lower private and public health costs) or car security (which may lower insurance premiums generally).

Without ACIS, the only support for automotive R&D would be the 125% tax concession and the various R&D Start programs. As indicated earlier, the automotive industry has been an insignificant user of the R&D Start programs.

While the 125% tax concession has some administrative and compliance advantages over ACIS, the benefit for component producers is much less than ACIS. Also, the scope of R&D for the purposes of the 125% tax concession is far narrower than the ACIS definition of R&D.

To obtain the 125% tax concession, the R&D activity must, among other things, involve:

> *"systematic, investigative and experimental activities that involve innovation or high levels of technical risk, and are carried on for the purpose of:*
>
> *(i) acquiring new knowledge, or*
>
> (ii) *creating new or improved materials, products, devices, processes or services…"*

Much of the R&D undertaken in the Australian automotive industry is concerned with incremental changes and improvements to existing products through re-engineering and would not meet the requirement of innovation (involving an appreciable element of novelty) for the purposes of the 125% tax concession. However, such R&D is vital to improving the competitive position of the Australian automotive industry.

There are some other limitations of the 125% tax concession including:

- The assistance it provides varies with changes in the corporate tax rate.
- The benefit depends on company decisions about dividend distribution and imputation.
- Companies in a tax loss situation receive no benefit from a tax concession.

The best future for the Australian components industry is not in the production of commodity components. The industry's comparative advantage lies in continuing to develop a reputation for world class innovation in automotive componentry and being one of the preferred locations for that activity.

FAPM is firmly of the view that general R&D measures such as the 125% tax concession are totally inadequate for developing the technical infrastructure of the Australian automotive industry to the level required for world-class automotive innovation.

Market Access

ACIS is a supply-side measure aimed at improving the automotive industry's competitiveness. But with the limited size of the Australian market and with increased domestic competition from imports as a result of lower import tariffs, demand-side measures aimed at building overseas markets is an essential complement to ACIS.

Despite the progress towards lower world-wide trade and investment liberalisation over the last decade, Australian automotive exporters still face many market access barriers. Continued and sustained efforts are required by the Australian Government on a number of fronts to:

- Force lower tariffs and removal of non-tariff barriers on exports of Australian automotive products, particularly in emerging markets. **FAPM supports the Government's work in seeking to reduce barriers such as import-specific mandatory standards and conformity assessment requirements through negotiation of mutual recognition agreements and by participation in the APEC program on standards and conformity assessment**.
- Secure improved rules for offshore investment by Australian automotive producers and better protection of intellectual property. Services access barriers can include regulations which restrict or require particular types of commercial presence, limits on foreign equity participation and lack of recognition of professional qualifications. But it is the absence of adequate intellectual property protection, particularly in Asia-Pacific, which is of most concern to the Australian automotive industry. **FAPM supports any efforts made to encourage developing automotive-producing countries to fully establish intellectual property rules in accordance with the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIP).**

International trade reform is a long and complicated process which involves both multi-lateral processes of negotiation at WTO Rounds and bilateral negotiations. As WTO membership increases, additional trading opportunities follow. There are currently more than 20 countries and customs territories seeking WTO membership. By far, the most significant country to recently acquire WTO membership has been the Peoples' Republic of China but there are other applicants which are important trading partners of Australia including Taiwan, Russia, Saudi Arabia and Vietnam. The process of accession to the WTO provides the opportunity for existing WTO members to engage in bilateral market access negotiations with the applicant. Under the most favoured nation requirement, the results of market access negotiations must be extended to all WTO members.

Automotive Market Access and Development Strategy

The strategy has been aimed directly at improving automotive market access, industry and technological collaboration, and market development in priority markets.

According to Austrade, the *aXcess Australia* car promotion has earned the Australian automotive industry in excess of $530 million in exports and outwards investment.

The primary success of *aXcess Australia* was that it focused the world's attention on local design and manufacturing capability.

FAPM supports industry-specific and targeted market access programs for the automotive industry along the lines of the Automotive Market Access and Development Strategy.

Such programs are able to better co-ordinate and more effectively use the resources and expertise of the various areas of the bureaucracy with market access responsibilities including the Department of Foreign Affairs and Trade, Austrade and the Department of Industry, Tourism and Resources.

Creating the Right General Conditions for Industry

There are a number of elements of Government policies, in addition to sound fiscal and monetary policy, which are conducive to wealth creation, job generation and rising living standards which are important to the automotive industry as they are to any other industry.

These include:

- Ensuring that Australia's education and training infrastructure provides industry with access to people with the required set of skills and that those people have access to lifelong learning to cope with changes in skill requirements over time.

- Supporting public R&D and innovation and promoting effective linkages between industry and public research institutions.

- Fostering a taxation system which meets the revenue requirements to fund government activities without penalising production, trade, decisions to work or indirect taxes which favour one type of vehicle over another type (eg the so-called luxury vehicle tax).

- Having flexible and responsive labour supply conditions which match the requirement for companies to be able to respond quickly to rapid changes in market dynamics.

- Providing efficient infrastructure for transport, telecommunications and energy.

- Facilitating access to internationally competitive debt and equity through an efficient capital market.

There are limits to what governments can do to ensure economic growth because in the end it is the private sector which must respond and drive the growth process. It is private sector competition, risk taking and investment which sustain growth. But that process works best when governments set the broad institutional, regulatory and policy framework in accordance with the elements described above.

Attachment 1

List of FAPM Member Companies

3M Australia Pty Limited
Automotive Industry Centre

AI Automotive (formerly Bliss Automotive Pty Ltd)

Air International Group Limited
Australian Automotive Division
- HVAC Division
- Hose and Pipe Division
- Aim Metals
- Steering Systems Australia

Agility

Ajax Fasteners

Arrowcrest Group Pty Ltd

Aspect Packaging

Austral Gaskets Pty Ltd

Australian Arrow Pty Ltd

Australian Automotive Air Pty Ltd

Australian Electronic Manufacturing Services

Australian Controls

Austrim Nylex Limited

Austrim Textiles

Autocaps (Australia) Pty Ltd

Autofab Australia Pty Ltd

Autoliv Australia Pty Ltd

Automatic Springs - John While & Sons Pty Ltd

Automotive Components Limited
ACL Head Office
ACL Bearing Company
ACL Comcork
ACL Gasket Company
MAHLE-ACL Piston Products
Automotive Components NZ Ltd
ACL Automotive America Inc

BASF Australia Ltd
Performance Polymers
Styrenics & Polyurethanes
Performance Chemicals

BHP Steel
Coated Steel Australia

BTR Automotive
Albury, New South Wales

Backwell IXL Pty Ltd

Bendix Mintex Pty Ltd

Robert Bosch (Australia) Pty Ltd

Bostik Findley Australia Pty Ltd

Brice Metals Trading

Bridgestone Australia Ltd

Bridgestone TG Australia Pty Ltd

Bywater McLean Pty Ltd

CPC Auto Components

Calsonic Australia Pty Ltd

Castalloy Limited
Castalloy Manufacturing Pty Ltd

Clyde-Apac
Automotive Products Division

Coghlan-Russell Engineering Pty Ltd

CMI Operations Pty Ltd
Ballarat, Victoria
Campbellfield, Victoria
Kensington, Victoria

AN Cooke Manufacturing Co Pty Ltd

Celtin Pty Ltd Trading As New Age International Export

Cevol Industries Pty Ltd

Chep Equipment Pooling Systems
- New South Wales Branch
- South Australia Branch
- Victoria Branch

Deloitte Touche Tohmatsu

Cooper-Standard Automotive (Australia) Pty Ltd (Tecalemit (A/Asia) Pty Ltd)

Delphi Automotive Systems Australia Ltd

Denso International Australia Pty Ltd

Denso Manufacturing Australia Pty Ltd

Diver Consolidated Industries

Dolphin Products Pty Ltd

Eaton Pty Ltd
Automotive Products Group

EGR (Oakmore Pty Ltd trading as EGR)

Empire Rubber

Excellent Plating Works Pty Ltd

Exide Australia Pty Ltd

Fairchild Fasteners Melbourne Pty (formerly Recoil Pty)

Flexdrive Industries Limited

Finlay Engineering Co Pty Ltd

Flexible Drive Agencies Pty Ltd

Fuchs Lubricants (Australasia) Pty Ltd

The Gates Rubber Co. (NSW) Pty Ltd

Gibbens Industries Pty Ltd

Green Bros Patternmakers

John Hart Pty Ltd
John Hart Automotive & Robotics

G A & L Harrington Pty Ltd

Hella Australia Pty Ltd

Hendersons Automotive

HPG Engineering & Associates Pty Ltd

Hook Plastics

D M Hull & Co Pty Ltd

INC Corporation Pty Ltd

Intelematics Australia Pty Limited

Intercast & Forge Pty Limited
Seven Hills, New South Wales
Wingfield, South Australia

Industrial Research Technology Pty Ltd

Irons Engineering Pty Ltd

ITW Deltar

KBA – Methode Electronics, Inc.

Kemalex Plastics

Kenmar Corporation
Asia Pacific Region

Kozma Industries Pty Ltd

Lasslett Rubber and Plastics Pty Ltd

Lear-Air International Pty Ltd

MHG Plastic Industries (VIC) Pty Ltd

MTM Pty Ltd

MSX International Australia Pty Ltd
Engineering Services Division

Macam Rubber Pty Ltd

Marand Precision Engineering Pty Ltd

Mark IV Automotive Pty Ltd

Marplex Australia Pty Limited

Marsden & McGain Pty Ltd

Meritor Light Vehicle Systems Australia Pty Ltd

Milford Industries

Miric Industries Pty Ltd

Mullins Wheels Pty Ltd

Monroe Australia Pty Ltd

Monroe Springs (Australia) Pty Ltd

National Forge Limited
National Forge (Operations) Pty Ltd

National Parts Pty Ltd

National Starch and Chemical Pty Ltd

Nissan Casting Australia Pty Ltd

Norma Pacific Pty Ltd

Nornda Pty Ltd
JP Engineering Products
JP Pistons
JP Performance Products

Numetric Manufacturing Pty Ltd

Nylex Industrial Products
- Nylex Frankston/Huntingdale
- Exacto Plastics/Nylex Wingfield
- Melded Fabrics/Kennon

Nylex Polymers

Richard Oliver & Co Pty Ltd

OneSteel Market Mills

OneSteeel Sheet & Coil
- Melbourne, Victoria
- Adelaide, South Australia

Pacifica Group Limited

PBR Australia Pty Ltd

Pacific Access Pty Ltd

Palm Plastics and Palm Tooling

Paratus Industries Pty Ltd

Parish Engineering Co Pty Ltd

Performance Industries Pty Ltd

Pilkington (Australia) Limited, Automotive

Plexicor Australia

Pressfast Industries Pty Ltd

PricewaterhouseCoopers Services Pty Ltd

Qenos Pty Ltd (formerly Kemcor Australia)
Qenos Engineering Plastics

RMAX Rigid Cellular Plastics
RMAX – Victoria
RMAX – South Australia

ROH Automotive

ROH Wheels Australia

Schefenacker International Australia Pty Ltd

Schefenacker Vision Systems Australia Pty Ltd

Schefenacker Lighting Systems Australia Pty Ltd

Siemens VDO Automotive Pty Ltd

Silcraft Pty Ltd

Simmons Components Pty Ltd

Smith Family Industries - A Division of The Smith Family

Smorgan Sheet Metal Supplies

Socobell OEM Pty Ltd

South Pacific Tyres

Spicer Axle Australia Pty Ltd
Fairfield - New South Wales
Cheltenham - Victoria

Suspension Components (Australia) Pty Ltd (Administrators Appointed)

Sverdrup Technology Australia

Tenneco Automotive

tesa tape Australia Pty Ltd (Formerly Beiersdorf Australia Ltd *tesa* Division)

Teson Trims (Victoria Quilt Mfg Co Pty Ltd trading as Teson Trims)
Euroa, Victoria
Mitcham, Victoria

Textron Fastening Systems Pty Ltd

TI Group Automotive Systems
Kilburn, South Australia
Dandenong, Victoria

Torrington Ingersoll-Rand

TJM Products Pty Ltd

TNT Automotive Logistics

TSD Asia Pacific Pty Ltd

Toll Logistics - Automotive Division

Toyo Tyre & Rubber Australia Limited
Automotive Parts Division
- Enfield, New South Wales
- Sunshine, Victoria

Trico Products Pty Ltd

Tripac International Pty Ltd

Tristar Steering & Suspension Australia Ltd

Tubalco Manufacturing Pty Ltd

Tubemakers Steel

Tyco Electronics Pty Limited
Everco Wiring Systems (Tyco Lambda trading as)
Burtons

Unbrako Pty Limited

Unicast Diecastings Pty Ltd

Utilux – A Division of tyco electronics Pty Ltd

Venture Industries Australia Pty Ltd
Metro Tool and Die Pty Ltd

Vipac Engineers and Scientists Limited
Automotive Division

Viscount Plastics Automotive & Industrial
- Viscount Plastics (Victoria) Pty Ltd
- Viscount Plastics (South Australia) Pty Ltd

VOA Webco Pty Ltd

Walker Australia Pty Ltd

Webb Conveyor Company of Australia Pty Ltd

Wesupply Limited

Wilcox Metal Finishing (Snellco Pty Ltd, trading as Wilcox Metal Finishing)

Woodbridge Hendersons

Attachment 2

Acronyms

AANX	Australian Automotive Network eXchange
ABS	Australian Bureau of Statistics
ACIS	Automotive Competitiveness and Investment Scheme
ACP	Automotive Component Producer
ACS	Australian Customs Service
ADR	Australian Design Rule
AFTA	Asian Free Trade Agreement
AMADS	Automotive Market Access and Development Strategy
AMTP	Automotive Machine Tool Producer
ANZSIC	Australian & New Zealand Standard Industrial Classification
APEC	The Asia Pacific Economic Cooperation Forum
ASEAN	Association of South East Asian Nations
ASP	Automotive Service Provider
CAD	Computer Aided Design
CAE	Computer Aided Engineering
CAM	Computer Aided Manufacturing
CBU	Completely Built Up
CD	Compact Disc
CER	Closer Economic Relations (between Australia and New Zealand)
CNC	Computer Numerical Control
CPI	Consumer Price Index
CRC	Co-operative Research Centre
CSIRO	Commonwealth Scientific & Industrial Research Organisation
CU	Customs Union
DCX	DaimlerChrysler
EC	European Community
EFS	Export Facilitation Scheme
EMDG	Export Market Development Grants Scheme
ESMVI	Environmental Strategy for the Motor Vehicle industry
EU	European Union
FAPM	Federation of Automotive Products Manufacturers
FCAI	Federal Chamber of Automotive Industries
FTA	Free Trade Agreement
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GM	General Motors
GMC	General Motors Corporation (Truck Division of General Motors)
GST	Good and Services Tax
HVAC	Heating, Ventilation, Air-Conditioning
IAP	Individual Action Plan (under APEC)
IP	Internet Protocol
JIT	Just-in-Time
Kaizen	Quest for continual improvement
Kanban	Demand driven, JIT production
LPG	Liquid Petroleum Gas
MFN	Most Favoured Nation

MNC	Multi-National Corporation
MTAA	Motor Trades Association of Australia
MVDP	Motor Vehicle Development Program (in the Philippines)
MVP	Motor Vehicle Producer
NAFTA	North American Free Trade Agreement
OECD	Organisation for Economic Co-operation and Development
OEM	Original Equipment Manufacturer
P&E	Plant and Equipment
PMV	Passenger Motor Vehicle
R&D	Research and Development
SME	Small-Medium Enterprise
TAFE	Technical & Further Education Commission
TCF	Textiles, Clothing and Footwear
TQM	Total Quality Management
TRIM	Trade Related Investment Measure
TRIPS	Trade-Related Aspects of Intellectual Property Services
UK	United Kingdom
UN/ECE	United National Economic Commission for Europe
US	United States of America
VSS	Vehicle Safety Standards Branch (Dept of Transport and Regional Services)
VW	Volkswagen
WTO	World Trade Organization