



# Victorian Government Submission

Productivity  
Commission Inquiry:  
Review of the  
Australian Automotive  
Manufacturing  
Industry 2013

November 2013

## TABLE OF CONTENTS

Executive summary .....	5
Introduction.....	6
The automotive industry creates <u>significant</u> and <u>unique</u> value, both private and public, for Australia .....	7
Value added contribution .....	7
National footprint.....	8
Importance to regions.....	8
Exports and investment .....	12
Exports.....	12
Investment .....	13
Intensive investment in R&D.....	14
The automotive innovation network .....	15
Technology spillovers .....	16
International linkages.....	16
Labour Productivity .....	16
Industry dependencies.....	18
Intra-industry dependencies .....	18
Cross-industry dependencies/knock-on effects.....	19
The industry faces challenges but there is significant scope to improve competitiveness .....	21
High Australian dollar .....	22
Effect on exports .....	23
Emerging economies.....	23
Changing consumer preferences.....	24
Structural limitations reduce the competitiveness of the automotive industry .....	25
International trade conditions .....	25
Workplace relations and labour costs.....	25
Business costs.....	26
Regulation reform .....	27
The costs of withdrawing support cannot be underestimated .....	28
The effectiveness of current assistance .....	28
Impacts of withdrawal of support .....	29
Sub-regional impact of the loss of manufacturing jobs .....	29
Labour market adjustments are costly .....	30
Modelling the impact of reduced automotive activity .....	31
Microeconomic and funding reform is needed to improve the competitiveness of the industry	33
The industry can adapt .....	34
The industry can compete globally .....	34
A reform agenda is needed to improve competitiveness .....	34
Trade agreements and diplomacy.....	34

Workplace relations .....	35
Tax .....	35
Public sector procurement .....	35
Regulatory reform .....	36
<b>Businesses should assist with these efforts.....</b>	<b>36</b>
Collaboration .....	36
Innovation and research and development .....	37
<b>Victoria's existing policy and productivity reform will assist reform efforts .....</b>	<b>37</b>
Red tape .....	37
Ports .....	37
Roads.....	37
VET Reforms .....	38
Procurement of Australian-made cars .....	38
Trade missions.....	38
<b>Support must continue at current levels to fully address competitiveness issues .....</b>	<b>39</b>
Supporting the industry's transition to a globally competitive industry .....	39
Withdrawing or reducing funding will force parts of the industry to exit .....	39
Large fiscal impact from a reduction in the industry size .....	40
Withdrawing support does not constitute good policy .....	40
Joint collaboration is required .....	41
Recommended public support design .....	41
<b>Appendix 1: DSDBI Automotive Supply Chain Survey .....</b>	<b>42</b>
<b>Appendix: 2 Victorian Automotive and Manufacturing innovation .....</b>	<b>43</b>
Importance of networks to innovation .....	44
Collaboration .....	44
<b>Appendix 3: Victorian Government support for productivity and competitiveness .....</b>	<b>47</b>
Productivity and innovation .....	47
Procurement support.....	47
Business engagement.....	47
<b>Appendix 4: Unique contribution of manufacturing .....</b>	<b>49</b>
Manufacturing as a supplier of intermediate (business-to-business) inputs .....	49
Manufacturing as a consumer of intermediate (business-to-business) inputs .....	50
 <b>CHARTS</b>	
Chart 1 Australian exports of road motor vehicles .....	13
Chart 2 Australia, Motor vehicle and motor vehicle parts manufacturing, Real IVA per hour worked	17
Chart 3 Australia, Motor vehicle and motor vehicle parts manufacturing, Real IVA per hour worked	17
Chart 4 Australian motor vehicle and motor vehicle parts manufacturing, Component share of IVA	18
Chart 5 Manufacturing output and the Australian dollar .....	22
Chart 6 Sales of passenger vehicles in Australia .....	24
Chart 7 Respondents reporting an increase in business performance compared to previous year, by type of activity, 2009-10 .....	45

<b>Chart 8 Access to sources of information and proportion of businesses introducing an innovation, 2010-11 .....</b>	<b>45</b>
<b>Chart 9 Joint research and development by business size, 2010–11 .....</b>	<b>46</b>
<b>Chart 10 Importance of Australian industries including contribution to intermediate inputs, 2009-10 .....</b>	<b>49</b>
<b>Chart 11 Economy wide impact of Australian industries including consumption of intermediate inputs, 2009-10 .....</b>	<b>50</b>

## **MAPS**

<b>Map 1 Metropolitan Melbourne, Motor vehicle and motor vehicle parts manufacturing business establishments, 2011-12 .....</b>	<b>9</b>
<b>Map 2 Metropolitan Melbourne, Advanced manufacturing business establishments, 2011-12 .....</b>	<b>11</b>
<b>Map 3 Victoria, Motor vehicle and motor vehicle parts manufacturing business establishments, 2011-12 .....</b>	<b>12</b>

## **TABLES**

<b>Table 1 Australian motor vehicle and motor vehicle parts industry, businesses and employment .....</b>	<b>9</b>
<b>Table 2 Metropolitan Melbourne, top ten locations for motor vehicle and motor vehicle parts manufacturing business establishments .....</b>	<b>10</b>
<b>Table 3 Location and activity of major car assemblers .....</b>	<b>10</b>
<b>Table 4 Australian manufacturing subdivisions, Business investment in R&amp;D, 2011-12 .....</b>	<b>15</b>
<b>Table 5 Employment in the southern metropolitan region of Melbourne .....</b>	<b>30</b>
<b>Table 6 Impact of a negative shock to automotive manufacturing in Melbourne, Scenario 1 (\$m) .....</b>	<b>32</b>
<b>Table 7 A decline in automotive manufacturing in Victoria, Scenario 2 (\$m) .....</b>	<b>32</b>
<b>Table 8 Tier 1 and Tier 2 suppliers to Australian automotive assemblers .....</b>	<b>42</b>

## EXECUTIVE SUMMARY

The Commonwealth Government seeks an internationally competitive and globally integrated automotive sector. It has tasked the Productivity Commission to examine the best way that the Australian Government and the Australian economy can ensure the long-term sustainability of the sector. The Victorian Government welcomes the Productivity Commission's Inquiry, and shares the Commonwealth's vision for the Australian automotive sector.

The automotive industry is a source of significant value to the Australian economy. This stems from the combination of its size and its significant contribution to exports, investment attraction, research and development (R&D) technology adoption, skills development, productivity growth and connections to other industries, including aerospace, defence, other transport and mining. These public benefits are economy wide, distributed through the regional footprint of the industry and strong national networks.

Support is critical to the industry during a time of weaker global and domestic growth, while we await an exchange rate adjustment to boost competitiveness. Concurrently, national microeconomic reform is needed. Business costs, relative to our competitors, must be addressed.

Investment certainty is also needed. Continuation of support at current levels is required to assist the industry to move to a profitable and sustainable footing. The assurance of a Commonwealth commitment over a period of at least 10 years is essential for sustained investment.

Successive Commonwealth and State Governments have sought to increase public benefit and support to industry transition. The Australian automotive industry has made progress adapting to a more open and competitive global market.

However, the most recent transition arrangements (2008) did not foresee the magnitude of the impact of the rise of the Australian dollar and the dramatic changes in global market dynamics brought about by the global financial crisis, the emergence of new car manufacturing nations, changing consumer preferences, and the pace of the shift to global production platforms. The process of transition for the Australian automotive sector is not yet complete.

The costs of withdrawing Commonwealth support now needs to be clearly understood and should not be underestimated.

The challenges of the past five years have led to a dramatic decline in domestic and export demand. Global benchmarking of automotive parts manufacturing by country saw Australia fall from 2<sup>nd</sup> in 2008 to 13<sup>th</sup> in 2012. Increasing production volumes is vital. Lifting exports is essential.

Commonwealth funding should be contingent on the industry being an accountable co-investor in its own future. In return for continued support the automotive companies should ensure:

- Australian automotive supply chain businesses are integrated into automotive companies' global operations; and
- Automotive companies make no further requests for financial assistance for individual automotive manufacturing projects.

Support should focus on completing the transition to a profitable, globally integrated, sophisticated domestic industry. It must be accompanied by a reform agenda encompassing better market access for exporters, workplace reform, tax, infrastructure and procurement.

## INTRODUCTION

The Victorian Government joins the Commonwealth in its commitment to ensure the ongoing viability of the automotive industry, and welcomes this Productivity Commission Inquiry. Over the past 30 years there has been much scrutiny over the performance of Australia's automotive industry, and government efforts to support it. On the one hand, it has been widely recognised that the automotive industry is the source of immense economic value for Australia. On the other hand, industry and government have been targets for criticism around the levels of long-term taxpayer support. Criticism has been loudest when funding is provided in response to car maker demands. Indeed, the Productivity Commission itself has previously advised that public funding for the industry is excessive.

In reality, an automotive industry is a key asset to any developed economy. In Australia, the industry annually creates over \$5 billion in value add, exports nearly \$3 billion in sales, and is increasingly integrated into global supply chains. It is a unique source of intellectual capital, products and skills for other industries. It supports entire regions and provides a livelihood for over 45,000 people.

It is also true that the industry faces challenges. The high dollar has hurt the industry. The industry has also faced difficulty adapting to changing consumer preferences. Domestic sales and exports are declining, impacting the critical issue of volumes; relative competitiveness has diminished; and Ford has announced it will cease manufacturing operations in Australia in 2016. Despite the value provided by the automotive industry, this decline has led some to claim that continuing funding is "throwing good money after bad".

*To ensure the ongoing viability of the automotive industry, the Victorian Government calls on the Commonwealth Government to continue funding the industry at current levels over a 10 year period. This is needed to assist the industry to become profitable and sustainable as manufacturers, employees and the broader supply chain adjust to changing global conditions. Such assistance should be contingent on receiving commitments from automotive companies that will ensure Australian automotive supply chain businesses are integrated into automotive companies' global operations; and that automotive companies make no further requests for financial assistance during this period.*

*Further, Victoria encourages the Productivity Commission to – again – take a close look at the policy reform effort needed to assist the automotive industry to become competitive. Victoria believes that this work should culminate in recommendations for a new national microeconomic reform agenda, accounting for the challenges faced by this important industry. This agenda should benefit manufacturing and industry in general by improving the competitiveness of the business environment.*

In particular, today the industry faces challenges that relate to international market access, labour and multi-factor productivity and business costs. Addressing these challenges requires a comprehensive microeconomic reform agenda that spans industrial relations, R&D and innovation policy, tax, red-tape, infrastructure, and public sector procurement. Trade agreements and diplomacy are additional levers to improve market access.

The Commonwealth should work with the states to embark on microeconomic reform efforts while maintaining appropriate support arrangements. This is necessary for two key reasons:

- The automotive industry provides significant and unique value to the Australian economy. If Commonwealth support is reduced or withdrawn before a reform agenda is implemented, the industry may deteriorate substantially. Further, because of the unique nature of the value provided by the industry, there is nothing to take its place in the near term.
- Withdrawal of Commonwealth support would cause dislocation for businesses and employees, and harm regions. These costs would be borne by governments around Australia for which the Commonwealth should bear over-arching responsibility.



## THE AUTOMOTIVE INDUSTRY CREATES SIGNIFICANT AND UNIQUE VALUE, BOTH PRIVATE AND PUBLIC, FOR AUSTRALIA

***The automotive industry has a significant national footprint in both metropolitan and regional areas.***

***Its importance to the Australian economy stems not only from its size, but also its significant contribution to exports, investment attraction, and innovation ‘spill overs’ through well-established links between the industry and other sectors.***

Irrespective of the global headwinds it now faces, the automotive industry helps to position Australia’s economy at the leading edge of global industry. Its importance to the Australian economy stems not only from its size, but also its significant contribution to exports, investment attraction, R&D, technology adoption, skills development, productivity growth and connections to other industries, including aerospace, defence, other transport and mining.

The industry generates private benefits to businesses and employees participating in the industry, and public benefits that are economy wide. These benefits are nationally distributed through the regional footprint of the industry and strong national networks.

The combination of large multinational car manufacturers with associated design and engineering centres, local and multinational parts component manufacturing, and strong networks that include advanced manufacturing capabilities, globally advanced and connected research organisations, skills and training, and R&D infrastructure is unique and provides broader spillovers for Australia’s manufacturing capabilities.

The automotive sector is a key contributor to Australian manufacturing research and development, providing business and employees with capabilities and skills that are transferred to other advanced and complex manufacturing processes (including design, metallurgy, machining, electronics, software, robotics and chemicals), as well as engineering, technical, organisational and logistical skills.

### Value added contribution

The automotive industry makes a significant contribution to the national economy. The industry generated \$5.4 billion in industry value added in 2011-12, of which \$2.19 billion was generated through motor vehicle manufacturing (40 per cent) and \$3.22 billion through motor vehicle parts and component manufacturing (60 per cent)<sup>1</sup>.

Like other manufacturing sectors, the automotive industry supports activity across the economy as a downstream consumer of intermediate goods and services. Each dollar of value added generated by motor vehicles and parts and other transport equipment manufacturing is estimated to use around \$2.6 of inputs from industries across the economy (not including additional multiplier effects)<sup>2</sup>. Modelling of the Victorian economy indicates that a dollar increase in final demand for total manufacturing output in Victoria generates an additional \$3.62 of output in the Victorian economy (and \$1.32 increase in gross state product). Modelling of other automotive industries suggests the impact from an additional job in the automotive industry could be as high as five additional jobs elsewhere in the broader economy.

<sup>1</sup> ABS 8155.0

<sup>2</sup> Based on national input-output relationships, 2009-10, source: ABS 5209.0.55.001

## National footprint

The automotive industry has a national footprint, contributing to manufacturing activity in all states and territories in regional and metro areas of Australia (Table 1).

In total, 3,140 businesses were active in the industry in 2011-12, including 1,024 businesses (33 per cent) in Victoria. Victoria hosts 20 large businesses<sup>3</sup> (58 per cent of the national total) including all three car assemblers (Holden, Toyota and Ford) and large component manufacturers such as Denso, Venture, Toyota Boshoku, Hella and Futuris.

The industry employed around 45,030 workers in 2012-13, of which 25,100 (56 per cent) were employed in Victoria<sup>4</sup>. Nationally, the three car makers employed 10,750 people or around 24 per cent of the industry workforce, mostly located in Victoria and South Australia<sup>5</sup>.

## Importance to regions

A relatively large share of industry employment occurs outside major capital cities, with 20 per cent of the national workforce employed in regional locations. The importance of regional employment varies by state with over a third of employment in New South Wales (37 per cent), Queensland (38 per cent) and Tasmania (80 per cent) in non-metro areas. The smaller proportion in Victoria (14 per cent) is due to the presence of the three car assemblers in metropolitan Melbourne (Table 1).

As an example, in Victoria, the industry is concentrated at the sub-regional level in metropolitan and regional locations. This strong concentration of activity in locally defined areas means the employment impact of the industry is localised. Co-location of automotive with other manufacturing industries, related services such as engineering and public sector research enables inter-industry interaction for collaborative R&D and diffusion of technology and innovative practices.

Map 1 identifies motor vehicle and parts business establishments at the suburb level within metropolitan Melbourne. Business establishments are concentrated in four distinct precincts. The two largest precincts, in the municipalities of Hume (focussed on the suburb of Campbellfield) and Greater Dandenong accommodated 38 per cent of business establishments in 2011-12. In the decade from 2001-02 to 2011-12, growth was focused in the Hume local government area (LGA) where there was a net increase of 48 business establishments or 72 per cent (Table 2). The increased concentration of activity in areas like Hume suggests these areas would be most affected by a sharp decline in activity in the industry in metropolitan Melbourne.

---

<sup>3</sup>Businesses with 200+ employees

<sup>4</sup>ABS 8165.0, ABS 6291.0.55.003

<sup>5</sup>DSDBI estimates



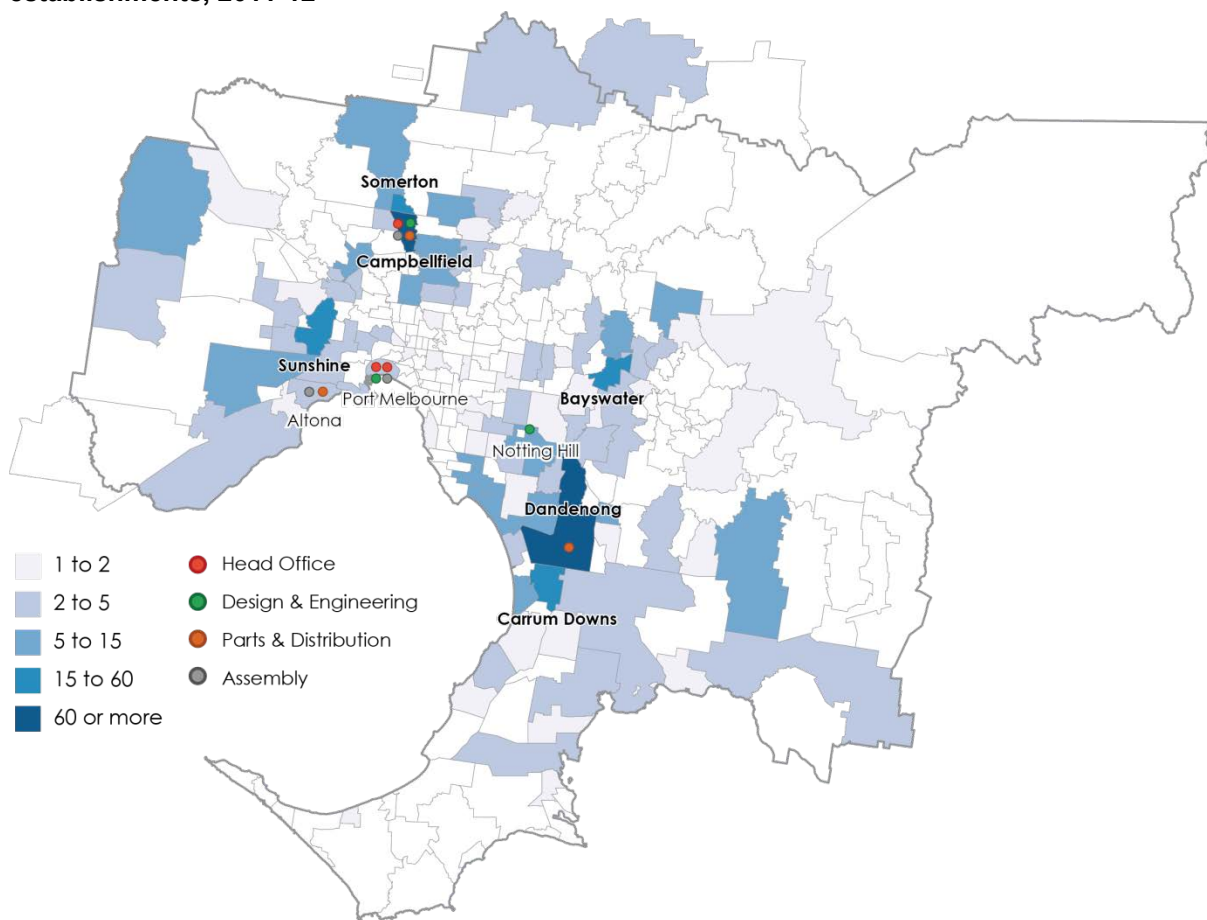
**Table 1 Australian motor vehicle and motor vehicle parts industry, businesses and employment**

State/Territory	Businesses <sup>1</sup>			Employment	
	Major car assemblers <sup>2</sup>	Other motor vehicle manufacturer	Body, parts & Component manufacturer	Total <sup>3</sup>	Regional share <sup>4</sup>
Victoria	3	167	854	25,100	14%
New South Wales		132	616	6,320	37%
Queensland		118	613	5,710	38%
South Australia	1	34	217	4,930	4%
Western Australia		60	251	2,350	10%
Tasmania		6	32	420	80%
Australian Capital Territory		0	12	150	0%
Northern Territory		3	18	140	5%
<b>Total<sup>5</sup></b>	<b>3</b>	<b>523</b>	<b>2,616</b>	<b>45,030</b>	<b>20%</b>

Notes: 1. As at June 2012. 2. Holden, Ford and Toyota (Holden in both Vic and SA). 3. Average employment for year ending August 2013. 4. From 2011 census, ignores unspecified. 5. Includes unspecified.

Source: ABS 8165.0, ABS 6291.0.55.003, Census (2011).

**Map 1 Metropolitan Melbourne, Motor vehicle and motor vehicle parts manufacturing business establishments, 2011-12**



Source: Worksafe Victoria, unpublished data

**Table 2 Metropolitan Melbourne, top ten locations for motor vehicle and motor vehicle parts manufacturing business establishments**

LGA	Business establishments, 2011-12		Net change, 2001-02 to 2011-12	
	Number	Share of total	Number	Per cent
Hume	115	22%	48	72%
Greater Dandenong	81	16%	0	0%
Kingston	39	8%	-2	-5%
Knox	35	7%	-6	-15%
Whittlesea	23	4%	-4	-15%
Frankston	23	4%	1	5%
Brimbank	22	4%	2	10%
Monash	19	4%	7	58%
Casey	18	3%	0	0%
Wyndham	14	3%	7	100%
Subtotal	389	76%	53	16%
Remainder	126	24%	-32	-20%
Total	515	100%	21	4%

Source: Worksafe Victoria, unpublished data.

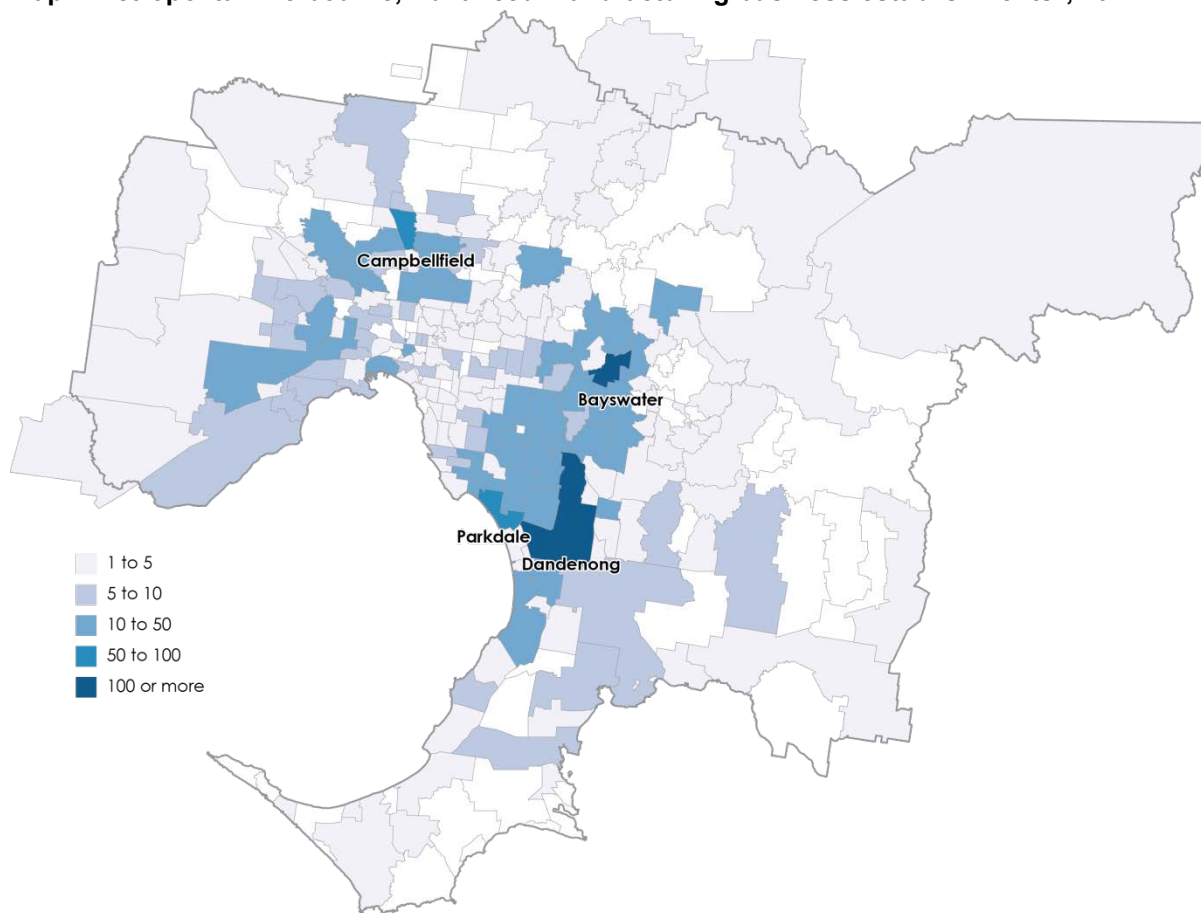
The clustering of motor vehicle parts businesses only weakly aligns with the location of car assemblers, but they are more closely located with other advanced manufacturing business establishments, as shown in Map 2. This co-location has made the Greater Dandenong area a national focus for public sector collaborative research and infrastructure investment (see Appendix 2 for details). The car assemblers are located as in Table 3.

**Table 3 Location and activity of major car assemblers**

Company	Location	Current staff	Production volume (2012)
Holden	Port Melbourne	1,900	76,900 engines
	South Australia	1,700	82,000 vehicles
Ford	Campbellfield & Geelong	2,750	37,000 vehicles 23,500 engines
Toyota	Altona	3,220	101,500 vehicles 108,000 engines
	Port Melbourne	400	
	Notting Hill	200	
	Sydney	580	

Source: DSDBI

**Map 2 Metropolitan Melbourne, Advanced manufacturing business establishments<sup>6</sup>, 2011-12**



Source: Worksafe Victoria, unpublished data

#### Australian automotive industry design and engineering capability

Victoria is the headquarters to the design, engineering and technology centres for Holden, Ford and Toyota. These centres employ more than 2,000 highly qualified professionals and draw talent from around Australia and the world. The industry has designed and engineered vehicles for global markets. These include the:

Ford *Ranger*, light commercial vehicle sold in over 180 countries around the world.

Ford *Figo*, small car for India (India's '2011 Car of the Year').

Ford *Everest*, sport utility vehicle (SUV).

Chevrolet *Camaro*, designed by Holden and manufactured in Canada for the US market.

Buick *Park Avenue*, sedan designed by Holden and assembled in China for China.

Toyota *Premium Camry (Aurion)* sedan for South East Asia.

Toyota *Fortuner*, to be manufactured in Thailand and possibly Indonesia in 2015.

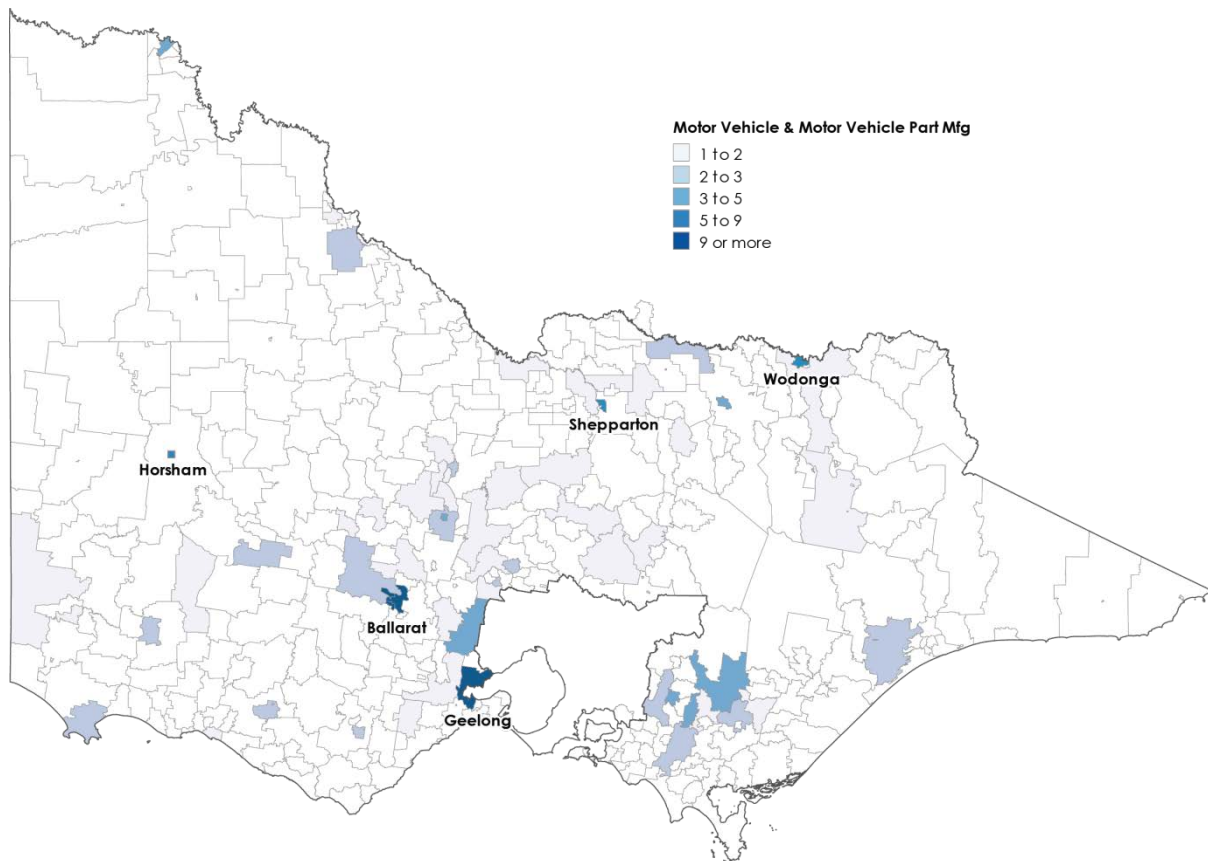
In rural regions of Victoria, the industry is concentrated in specific regional centres that include Geelong, Ballarat, Shepparton, Wodonga and Horsham, contributing to local economic activity in these cities through their demand for local inputs and services (refer to Map 3).

<sup>6</sup> Advanced manufacturing technology is defined as computer-controlled or micro-electronics-based equipment used in the design, manufacture or handling of a product (Source: OECD Glossary of Statistical Terms).

The Geelong region contains 12 automotive business establishments in addition to Ford. The industry is clustered with other advanced manufacturing businesses many of which work closely with Deakin University, CSIRO, and the Victorian Centre for Advanced Materials Manufacturing (VCAMM). The precinct supports world-class advanced materials collaborative research spanning automotive, aerospace, composite, fibre and textiles.

***Changes in Commonwealth Government policy could bring about a sharp decline in automotive industry activity. The loss of automotive business in regional locations would have strong negative local impacts. In regional locations where alternative employment may not exist, loss of manufacturing jobs can have much broader economic implications relative to larger urban areas. These dislocation costs would have to be borne by the Commonwealth.***

**Map 3 Victoria, Motor vehicle and motor vehicle parts manufacturing business establishments, 2011-12**



Source: Worksafe data, unpublished.

## Exports and investment

### Exports

Automotive exports, including motor vehicles and parts, totalled \$2.61 billion in 2011-12, comprising \$1.87 billion of motor vehicles and \$747 million of parts and accessories<sup>7</sup>. The Middle East was Australia's largest export market (46 per cent), followed by New Zealand (15 per cent) and North America (9 per cent). The

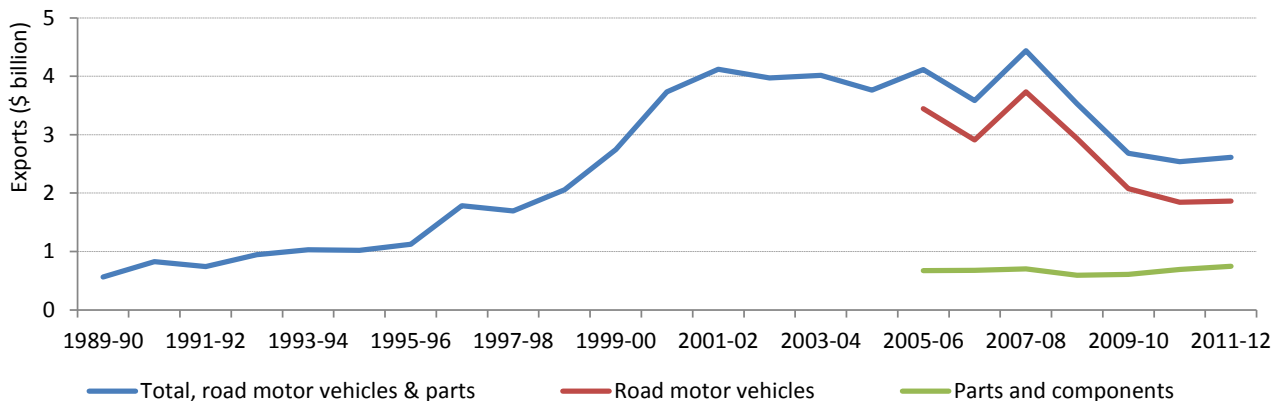
<sup>7</sup> Department of Foreign Affairs and Trade (DFAT)

latest data shows that 40 per cent (89,420) of the 221,254 vehicles produced domestically in 2012 were exported<sup>8</sup>.

While the value of automotive vehicle and parts exports is down from a peak \$4.4 billion achieved in 2007-08, this decline has occurred recently and during a period in which most developed economies experienced a prolonged recession (Chart 1). Also, the competitiveness of Australian exports was eroded by strong appreciation of the Australian dollar and rising domestic business costs.

Motor vehicle exports continue to make up the bulk of automotive industry exports, although the proportion has decreased as motor vehicle exports have declined. The sharp decline since 2007-08 has been due to significantly reduced demand in the three major exports markets of the Middle East, New Zealand and North America, as a result of the global financial crisis (GFC). Strategic decisions from the global headquarters of Toyota, Holden and Ford may also have influenced export volumes. For example, the GFC prompted General Motors to close its Pontiac brand in the US market. This meant the end of exports of the Holden Commodore to the US, which had been exported badged as the Pontiac G8. Australian subsidiaries also compete within their global corporate groups for export markets.

**Chart 1 Australian exports of road motor vehicles**



Note: Data corresponds to TRIEC 781, 782, 783 & 784.

Source: DFAT, nominal values.

## Investment

The automotive industry is also an important attractor of investment from globally advanced manufacturers, which contribute capital, employment and technology as well as management skills and links to international distribution networks. The Victorian Government investment body, Invest Assist, has assisted 38 automotive businesses invest a total of \$1.69 billion within the industry in Victoria since June 2008<sup>9</sup>. The value of total inward foreign direct investment (FDI) attracted to the Australian automotive industry is not available, however, is likely to be well above the Victorian assisted investment figure.

The Australian industry has also begun to successfully invest in automotive industries in other economies. For example, Futuris Automotive, which designs and manufactures automotive seating and interior systems for emerging markets, as well as 'high value-add' products for customers in developed markets, is now a global business with operations in four other economies including China, Thailand, the US and South Africa. This global presence provides national benefits in the form of high value head office and R&D jobs and enables the company to overcome trade barriers in a number of these high growth markets.

<sup>8</sup> Commonwealth Government Department of Industry Survey.

<sup>9</sup> DSDBI.

## Intensive investment in R&D

The Australian motor vehicle and parts manufacturing industry is an intensive investor in R&D. In total, \$693 million was invested in R&D in 2011-12, accounting for 81 per cent of transport equipment manufacturing subdivision and 15.5 per cent of manufacturing R&D investment. Motor vehicle and part manufacturing invested \$128 in R&D per \$1,000 of industry value added (IVA), three times as much as the average for the manufacturing industry as a whole (Table 4).

The transport equipment manufacturing subdivision used 4,032 (person year equivalents) devoted to R&D in 2011-12. No further breakdown was available into either the automotive industry or to the State level. Given motor vehicle and motor vehicle parts manufacturing accounts for the bulk of R&D investment in transport equipment manufacturing, it is estimated to account for around 80 per cent of this total.

ABS data indicates that of the total human resources devoted to R&D, 58 per cent were researchers, 29 per cent were technicians, and 13 per cent were other supporting staff directly involved in R&D. This use of researchers was the highest proportion across all sub-divisions of manufacturing.

The Victorian Department of State Development, Business and Innovation's (DSDBI) 2013 survey of 118 Victorian supply chain firms also identified 924 design engineers dedicated to the automotive industry out of 1,272 total design engineers engaged in these firms. This is in addition to an estimated 2,000 design engineers employed by the three motor vehicle producers<sup>10</sup>.

Over the past 10 years, there has been a refocus of public support for the automotive industry from general assistance to tax concessions focused on commercialisation of innovations, or tied to institutions such as the CSIRO. Commonwealth budgetary measures such as the Automotive Transformation Scheme and the former Green Car Innovation Fund have also had a strong R&D focus. Over the 10 years to 2011-12, general R&D tax concessions averaged around \$32 million per year in nominal dollars<sup>11</sup>.

The majority of R&D invested by the automotive industry nationally (around 70 per cent) is undertaken by motor vehicle manufacturers, with only 30 per cent of R&D invested by automotive part manufacturers<sup>12</sup>.

---

<sup>10</sup> DSDBI business survey 2013 (see Appendix 1).

<sup>11</sup> By comparison, the average value of general R&D tax assistance provided by the Commonwealth government to other industries included: mining industry (\$302 million); metal manufacturing (\$77 million); and food & beverage manufacturing (\$63 million), Productivity Commission Trade & Assistance Review data

<sup>12</sup> A full split of motor vehicle and parts manufacturing R&D expenditure was not published in 2009-10 or 2011-12 (ABS cat. no.8104.0).



**Table 4 Australian manufacturing subdivisions, Business investment in R&D, 2011-12**

Manufacturing subdivision	R&D expenditure	Industry value added (IVA)	Sales & services income	Ratio of R&D to IVA	Ratio of R&D to Sales
Food product	463.6	17,919	74,389	25.9	6.2
Beverage and tobacco product	84.6	7,059	17,639	12.0	4.8
Textile, leather, clothing and footwear	52.8	2,768	8,513	19.1	6.2
Wood product	38.2	3,854	11,695	9.9	3.3
Pulp and paper product	48.3	2,508	9,638	19.2	5.0
Printing	17.3	3,713	9,006	4.7	1.9
Petroleum and coal product	90.5	1,784	36,023	50.7	2.5
Basic chemical and chemical product	735.7	8,956	32,192	82.1	22.9
Polymer product and rubber product	148.9	5,218	15,308	28.5	9.7
Non-metallic mineral product	102.1	5,643	17,147	18.1	6.0
Primary metal and metal product	505.4	7,873	62,753	64.2	8.1
Fabricated metal product	223.8	10,790	30,079	20.7	7.4
<b>Total transport equipment</b>	<b>853.3</b>	<b>9,572</b>	<b>30,632</b>	<b>89.1</b>	<b>27.9</b>
<b>Motor vehicle and parts*</b>	<b>692.8</b>	<b>5,409</b>	<b>19,615</b>	<b>128.1</b>	<b>35.3</b>
Machinery and equipment	1,062.9	12,006	36,158	88.5	29.4
Furniture and other	46.4	2,483	6,533	18.7	7.1
<b>Total manufacturing</b>	<b>4,473.9</b>	<b>102,146</b>	<b>397,705</b>	<b>43.8</b>	<b>11.2</b>

Note: Ratios multiplied by 1000. Motor vehicle and parts refers to the automotive industry.

Source: ABS 8104.0 and ABS 8155.0

## The automotive innovation network

Innovation is a key driver of productivity growth, and the industry benefits from shared R&D infrastructure, links with research centres and universities, and networks of industry participants. The networks facilitate knowledge spillovers, including through international linkages that have developed through, for example, the Automotive Co-operative Research Centre (AutoCRC).

Access to new-to-market innovation moves Australian automotive businesses closer to the global technological frontier, increasing their competitiveness and resilience to global competition. Innovation has led to greater capital intensity within the industry and contributed to skills development and productivity growth, with economy-wide benefits.

The benefit of collaboration and the degree to which the Victorian manufacturing industry is engaged in networks is discussed further in Appendix 2.

Victorian based research and training organisations with strong links to the automotive industry include:

- The Commonwealth Scientific and Industrial Research Organisation (CSIRO)
- Cooperative Research Centre for Advanced Automotive Technology (AutoCRC)
- Victorian Centre for Advanced Materials Manufacturing (VCAMM)
- CAST Cooperative Research Centre (CAST CRC)
- Advanced Centre for Automotive Research and Testing (ACART)
- Australian Future Fibres Innovation Research Centre (AFFRIC)
- CSIRO- Victorian Direct Manufacturing Centre
- Kangan Institute Automotive Centre of Excellence

## Technology spillovers

Globally, the industry is an early adopter of technology. Toyota developed just-in-time manufacturing and has become an important collaborator with local parts and component suppliers. Strong global competition means the automotive industry is likely to be an early adopter of advanced manufacturing concepts such as additive manufacturing (for example, 3-D printing) and has integrated high performance computing in vehicle and parts engineering, design and testing. Globally, the industry is gradually shifting to hybrid and electric vehicle production and adopting technologies ranging from external sensors to integrated telecommunications systems.

Empirical studies demonstrate a strong link between spending on R&D and productivity growth, both for the business that undertakes the R&D as well as in surrounding businesses<sup>13</sup>. Studies conducted for the 2008 Automotive Inquiry examined patent citations as a measure of inter-firm spillovers and case studies. The case studies identified common spillovers, including transfer of labour and skills, transfer of high-tech engineering and design capabilities and the uptake of lean management principles<sup>14</sup>.

These and other studies have shown that the benefits of automotive industry spillovers extend beyond technology transfer and include skills and training, production processes, and the general business process discipline that arises from working to tight margins.

***Commonwealth and State policies aimed at improving industry competitiveness and diversification, through increased innovation, will have already increased the likelihood and extent of automotive spillovers. Research is needed to determine current levels and inform future policy priorities.***

## International linkages

As well as contributing to innovation in the Australian automotive manufacturing industry, Australia's network of research centres collaborate with their overseas counterparts, facilitating the transfer of knowledge from other global centres of innovation.

The AutoCRC has developed international linkages with the Malaysian Automotive Institute and multi-national automotive mirror manufacturer SMR, and is currently undertaking collaborative projects in India, China and other countries. The raft of innovation and R&D activity being undertaken by the AutoCRC, CSIRO and universities related to automotive manufacturing would not be taking place without the presence of automotive manufacturing of sufficient critical mass.

## Labour Productivity

The industry has been a strong contributor to overall national productivity growth. Chart 2 shows cumulative growth in industry value added of motor vehicle and parts manufacturing per hours worked (a proxy for labour productivity). It is important to note that this is a partial indicator of productivity, given it ignores the importance of capital in the production process.

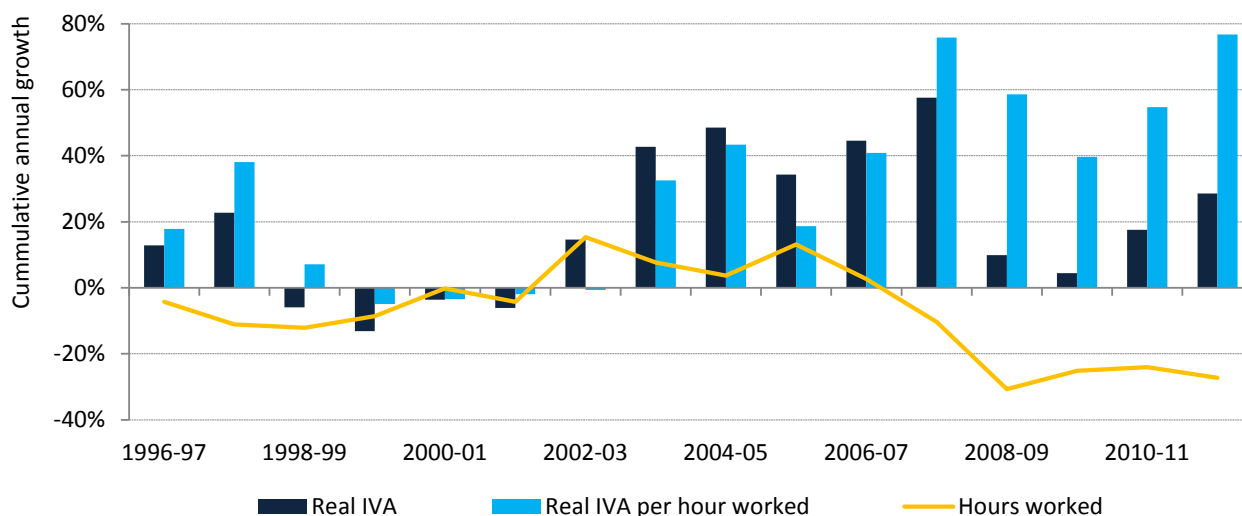
Since 1995-96, real industry value added (IVA) in the automotive industry has increased by 29 per cent and real IVA per hour employed by 77 per cent. The industry achieved labour productivity gains during the early 2000s as employment in the industry grew. Post 2005-06, the industry appears to have focused on reducing labour input.

---

<sup>13</sup> Hall B. and Rosenbery N. (2010), chapter 24, Measuring the Returns to R&D

<sup>14</sup> Review of Australia's Automotive Industry, 2008

**Chart 2 Australia, Motor vehicle and motor vehicle parts manufacturing, Real IVA per hour worked**

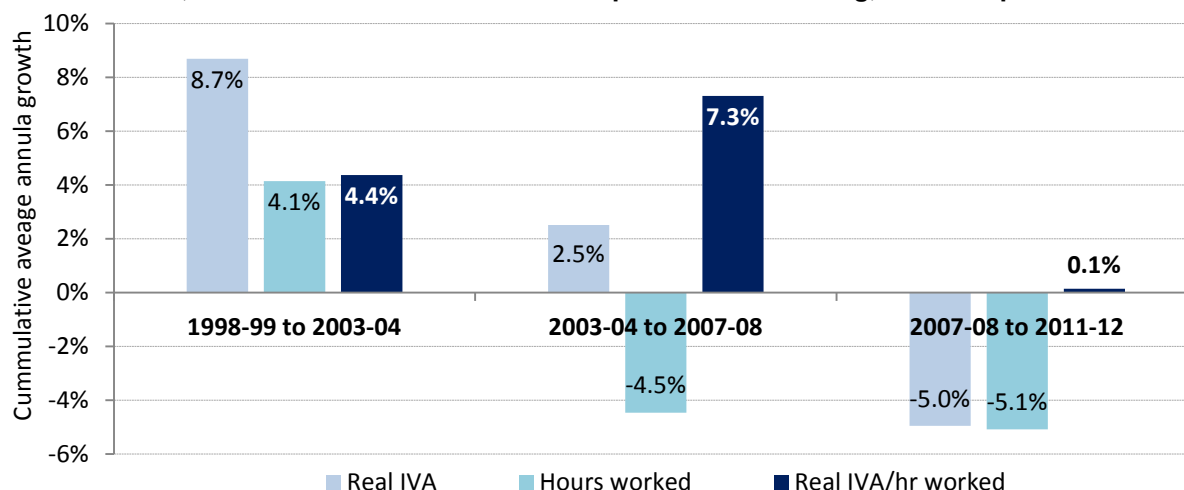


Source: ABS 8221.0, ABS 8159.0, ABS 8155.0 and ABS 6427.0, adjusted to real values using PPI (inputs used in motor vehicle and motor parts manufacturing) to 2011-12 prices.

An alternative representation of labour productivity growth is shown in Chart 3, which illustrates cumulative average annual growth in industry value added per hour worked over recent business cycles, highlighting strong labour productivity growth experienced in the sector over the previous two productivity cycles (1998-99 to 2003-04 and 2003-04 to 2007-08). A fall in hours worked led to a surge in average annual productivity growth over the period 2003-04 to 2007-08.

Growth in the latest incomplete productivity cycle, however, has been broadly flat increasing by only 0.1 per cent per year over the four years to 2011-12 as an even larger drop in hours worked was matched by a decline in output. Importantly, the decline in this sector also aligns with the economy wide trends experienced both in Victoria and nationally.

**Chart 3 Australia, Motor vehicle and motor vehicle parts manufacturing, Real IVA per hour worked**



Source: ABS 8221.0, ABS 8159.0, ABS 8155.0 and ABS 6427.0, adjusted to real values using PPI (inputs used in motor vehicle and motor parts manufacturing) to 2011-12 prices.

The recent decline in output suggests that factors affecting the industry's competitiveness need to be better understood, including those affecting vehicle export growth. An understanding of productivity performance relative to competitors is also needed for context.

## Industry dependencies

The industry has become increasingly interdependent, as domestic supply chains have lengthened and more of the value added generated by the industry has shifted outside car assembly plants. Diversification by suppliers has also generated strong links and interdependencies with other industries.

### Intra-industry dependencies

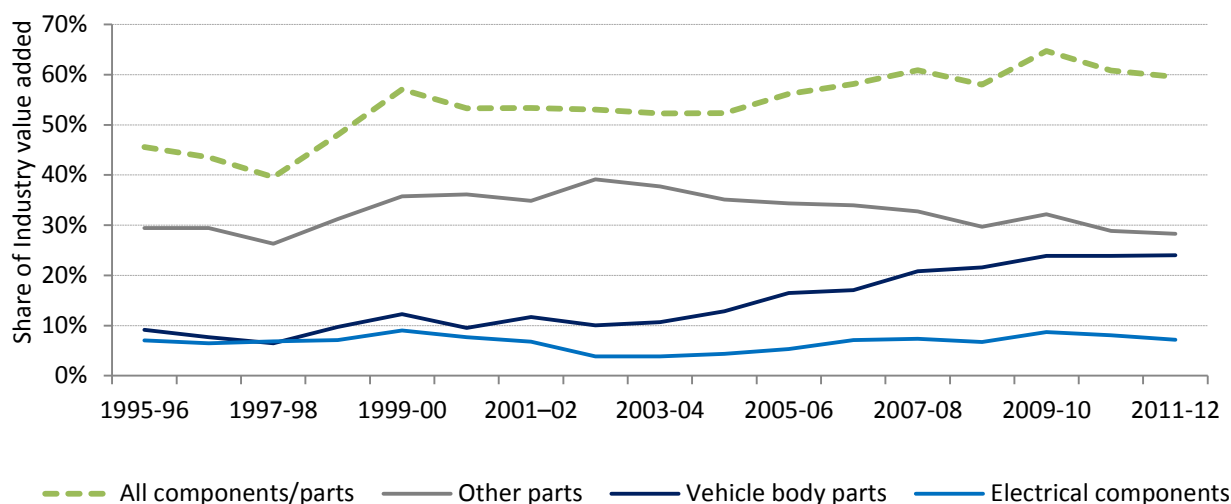
There has been a global shift within the automotive industry in employment and production from car assemblers to motor vehicle parts suppliers<sup>15</sup>. There is evidence of this change within the Australian industry, with the contribution of component manufacturers to IVA increasing from 40 per cent in 1997-98, to as high as 65 per cent in 2009-10 (see Chart 3).

Factors contributing to specialisation and the outsourcing of motor vehicle part manufacturing include:

- a switch in operations management to just-in-time assembly;
- minimal standardisation of platforms even across models within car maker brands;
- increasingly sophisticated car technology; and
- growth in number of parts and components.

Within the Australian industry, the rise in motor vehicle parts manufacturing is largely due to the growing contribution to IVA of outsourced vehicle body part production; from 9 per cent in 1995-96 to 24 per cent in 2011-12 (Chart 3). The use of just-in-time car assembly may favour local production of bulkier parts such as chassis, panels and seats. Australia has also developed new advanced materials capabilities associated with automotive production and this may be contributing to this increase in local outsourcing.

**Chart 4 Australian motor vehicle and motor vehicle parts manufacturing, Component share of IVA**



Source: ABS 8221.0, ABS 8159.0 and ABS 8155.0.

DSDBI has identified 145 Victorian automotive original equipment manufacturing businesses (OEMs), of which 58 are direct suppliers (tier one) to the three local car manufacturers in Victoria. There has been speculation, that given the partial dependence of local car manufacturers on common OEM suppliers, if Holden or Toyota were to join Ford to wind down their local manufacturing operations, the remaining company may be forced to exit Australia as the number of viable suppliers would fall below the minimum efficient scale and therefore viability.

<sup>15</sup> Sturgeon et al. (2008), MIT working paper series.

### Cross-industry dependencies/knock-on effects

Many component producers, design and engineering companies provide goods and services to a range of other industries and sectors, including defence, aerospace, and other transport including rail, truck, buses and trams, providing cross-industry spillovers of knowledge, product innovation, and production and business process design.

A survey of Victorian automotive suppliers by DSDBI has revealed a significant degree of dependency of automotive suppliers on other manufacturing sectors and industries<sup>16</sup>. Overall, 119 firms employing over 12,500 workers self-identified as involved in supplying the automotive industry. Around 48 per cent of firms surveyed were small (less than 50 employees), 52 per cent were medium or large sized businesses (over 50 employees).

The survey identified that 7,386 employees or 59 per cent of employees are directly involved in manufacturing and supply of original equipment to the automotive industry.

The survey showed broad reliance on the performance of the automotive industry across the supply chain. 32 per cent of businesses relied on the automotive industry for 95 per cent of their sales and 63 per cent of businesses rely on automotive for at least 50 per cent of their sales. The remaining sales were to firms across a range of sectors.

***The overwhelming feedback from both this survey and the supply chain more generally is that while diversification is a growing theme and an area of opportunity, under current circumstances, if automotive manufacturing was to cease domestically in the near term, many of these businesses would be at risk of failure. There would be a significant adjustment to the broader manufacturing sector from the loss of these businesses. This would create substantial dislocation to a range of manufacturing customers (for example, Thales, Boeing and others) who would need to source replacement supply, probably from offshore.***

#### Special case: automotive and defence industry interdependencies

DSDBI business intelligence indicates that 50 per cent of Victoria's defence manufacturing industry uses automotive manufacturing as its base industry to fill defence manufacturing demand troughs. It is estimated that 20 per cent of Victoria's defence manufacturers would be adversely affected by a contraction in the automotive industry. In 2012, Victoria's total defence manufacturing industry employed 6,000 people with annual revenue of \$1.56 billion and exports of \$170 million. Presumably such close interconnection between the automotive and defence industries leaves these firms and their employees at risk.

***In May 2013, Ford Australia announced its plan to cease local (Geelong and Broadmeadows) manufacturing operations in 2016, as a result of the high costs of manufacturing a relatively small number of cars in Australia. This announcement has highlighted the need for the local industry and stakeholders to consider the implications of Ford car assembly leaving Australia and its impact on the dynamics of the State's automotive manufacturing industry.***

***With substantial uncertainty surrounding whether Holden will continue its manufacturing operations in the country, it is important for domestic automotive component manufacturers to diversify their operations into other markets to remain viable, a trend already observed within many local manufacturers. As the current state of the industry demonstrates, however, diversification and***

<sup>16</sup> DSDBI business survey 2013 (see Appendix 1)

***transition of the industry takes time and the Victorian Government considers this should be eased over a 10 year period. As the next chapter shows, the industry has been constrained by a number of factors, some of which can, and should, be addressed by government policy.***



## THE INDUSTRY FACES CHALLENGES BUT THERE IS SIGNIFICANT SCOPE TO IMPROVE COMPETITIVENESS

***Notwithstanding the significant value contributed by Australia's automotive industry to the national economy, the industry has had to confront challenges including the high Australian dollar, lower costs in emerging economies, and changes in the preferences of domestic purchasers of vehicles.***

***The industry is constrained by a number of factors that have limited its ability to adapt to these challenges.***

***Increasing production volume is vital for car makers to remain economically viable, so exports must rise.***

***Business costs must also be globally competitive.***

***Many of these factors can be addressed by government policy, creating the impetus for national microeconomic reform and thereby support greater competitiveness of Australia's automotive industry.***

The industry composition of both Australia and Victoria's economy is constantly changing. In Victoria, over recent decades, the production of goods has been decreasing as a share of Victoria's output whilst service-based industries have grown strongly. The nation's increasing integration with the global economy is a significant driver of this structural change.

The macroeconomic reforms beginning in the 1980s helped open up Australia to international markets. The floating of the Australian dollar in 1983 allowed market forces to dictate the exchange rate, affecting the local prices of imports and the international prices of Australia's exports. Government reforms to reduce tariffs exposed local industries to greater competition. The trade-weighted average of tariffs across all products was 18.6 per cent in 1991; falling to 1.8 per cent in 2011.

Meanwhile, emerging economies in the Asia-Pacific region have grown remarkably quickly, providing a source of cheap imports and strengthening demand for Australian exports. China's growth has been particularly impressive. Since 1982, China's GDP per capita (adjusted for purchasing power) has grown 28-fold whereas Australian GDP per capita has grown four-fold.

Trade has become an increasingly important part of the Australian and Victorian economies. From 1989-90 to 2011-12 the average real annual growth of Victorian exports was 4.9 per cent. The equivalent growth rate for imports into Victoria was 5.5 per cent. This compares with 3.0 per cent average real annual growth in Victorian demand for goods and services produced within the State.

These developments have affected not only the size but also the composition of Victoria's economy. Neighbouring countries have capitalised on low wage costs and developed a competitive advantage in areas such as manufacturing.

In Victoria this has seen some industries, notably manufacturing, decline as a share of the State's output whilst other sectors have grown more strongly. From 1989-90 to 2011-12, manufacturing's share of total industry gross value added decreased by 7.5 percentage points. On the other hand, business services (including financial and insurance services, and professional, scientific and technical services) increased its share by 13.1 percentage points, growing on average 5.2 per cent a year in real terms.

Although structural change has been occurring in Victoria for some time, this process has been accelerated by Australia's mining boom. Rapidly increasing demand from China for natural resources led to higher commodity prices and a sharp rise in Australia's terms of trade. This was followed by a surge in mining investment and an appreciation of the Australian dollar.

Victoria has benefited indirectly from the mining boom, for example, through increased demand for business services and new opportunities for diversification into mining products for local manufacturers (e.g. Hella has developed mining lighting products). However, the higher dollar has put additional pressure on trade-exposed industries. Imported products are made relatively cheaper compared with local products, and at the same time Victoria's exports become relatively more expensive and less competitive overseas.

Further, trade exposed industries, such as the automotive manufacturing industries are constrained in their competitiveness by high costs in non-trade exposed sectors of the economy that supply inputs (refer Appendix 4 for the relative importance of consumption of intermediate inputs by manufacturing).

For the automotive industry, this changing economic context has created a number of challenges. The high Australian dollar, lower costs for emerging economies, and changing consumer preferences are explored in more detail below.

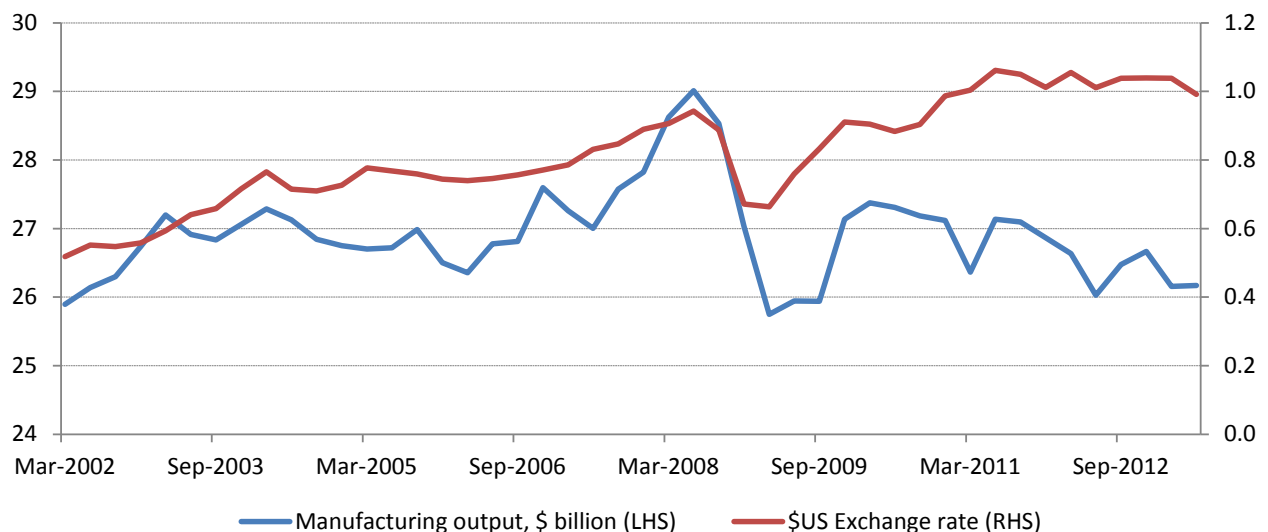
## High Australian dollar

The resources boom has contributed to strong growth in the Australian economy over the past decade but has had a significant impact on the international competitiveness of trade exposed industries. Demand for Australia's resources resulted in a strong appreciation of the Australian dollar, and a rise in labour and business costs as resources were drawn to resource-related activities.

After having traded at US\$0.50 to 0.55 in 2002 (at the time of the last Productivity Commission Inquiry), the Australian dollar peaked at US \$1.10 in 2011. At the writing of this submission in November 2013, it currently sits at US\$0.91.

Chart 5 graphs the exchange rate and manufacturing output over the last decade. While a range of factors influence manufacturing production, from 2010 onwards the dollar has had a clear negative impact. Even though the high dollar provides benefits in the form of lower prices for imported intermediate inputs, it also raises the price of the final product. This is likely to exhibit 'tipping points' at which the benefits of a high exchange rate are outweighed by the additional costs it imposes on trade exposed industries.

**Chart 5 Manufacturing output and the Australian dollar**



Source: ABS 5206.0 and ABS 5302.0

As well as increasing the cost of Australian-made automotive goods in export markets, the strong dollar reduced the cost of imported cars (and parts) as strong domestic income growth encouraged the entry of competing brands and models by overseas manufacturers caught with excess production and rapidly declining domestic demand in their own markets post GFC. Unsurprisingly, local producers have struggled to compete with the lower costs of many competitors and Australian-made vehicle sales have been falling.

The impact of a high dollar extends to motor vehicle parts manufacturers, and is likely to be contributing to weak growth in exports. While the value of automotive vehicle and parts exports is down from a peak \$4.4 billion achieved in 2007-08, this decline occurred during a period in which the global economy experienced the worst recession since the Great Depression and the competitiveness of Australian exports was eroded by strong appreciation of the Australian dollar and rising domestic business costs. These pressures are apparent in international competitive cost benchmarking for the automotive parts manufacturing sector, which saw Australia fall from 1<sup>st</sup> in 2004 to 2<sup>nd</sup> four years later in 2008 (behind only Mexico), to 13<sup>th</sup> out of 14 countries in 2012<sup>17</sup>.

### Effect on exports

Motor vehicle exports continue to make up the bulk of industry exports, despite being a much larger contributor to industry activity locally, although the export gap has narrowed recently as the value of parts and component exports has been sustained. In an industry in which supply networks are increasingly global, enhanced international engagement by parts and component manufacturers potentially offers the industry a more sustainable increase in export income.

Increasing production volume is vital for car makers to remain economically viable, so exports must rise. By international standards, Australian plants are small and only Toyota has been able to achieve the estimated viability benchmark of 100,000 units output per annum. Automotive manufacturers need increased volumes to become more cost competitive and also compete beyond costs.

Despite the apparent linkage between a high dollar and export performance, there are likely to be other factors impacting export performance. Exports held up well in the mid-2000s until 2007-08, despite a relatively high and increasing exchange rate (see Chart 1).

The KPMG international business location cost benchmarking studies suggest that labour and benefits, transport, utilities, leasing and interest and depreciation costs should all be looked at in assessing relative competitiveness of the domestic supply chain<sup>18</sup>.

### Emerging economies

The international automotive industry has become more competitive for long-established manufacturers based in advanced economies, with vehicle manufacturers in low cost, emerging economies entering export markets, including affiliates of the three local motor vehicle producers. This is resulting in greater competition for domestic motor vehicle and part manufacturers. The ten countries whose share of the world's total automotive exports grew the most between 1995 and 2011 (i.e. from 6 per cent to 24 per cent) are all emerging economies<sup>19</sup>.

The rise of automotive manufacturing in developing economies, often encouraged by lower taxation levels and less stringent regulation regimes relative to those existing in Australia, means that these economies have started to capture a greater share of the international demand for vehicles, particularly price-sensitive

---

<sup>17</sup> Competitive Alternatives: KPMG's guide to international business location costs. (2004), (2008) and (2012) editions.

<sup>18</sup> Competitive Alternatives: KPMG's guide to international business location costs, (2012).

<sup>19</sup> They included South Korea, Thailand, China, Slovakia, Mexico, Hungary, Czech Republic, Turkey, Poland and India. World Economic Forum and Deloitte (2013), volume 3.

segments. While advanced economies like Australia still need to be cost-competitive, competition needs to go beyond cost and also focus on competing in new ways, for example engineering excellence, process innovation and high value production.

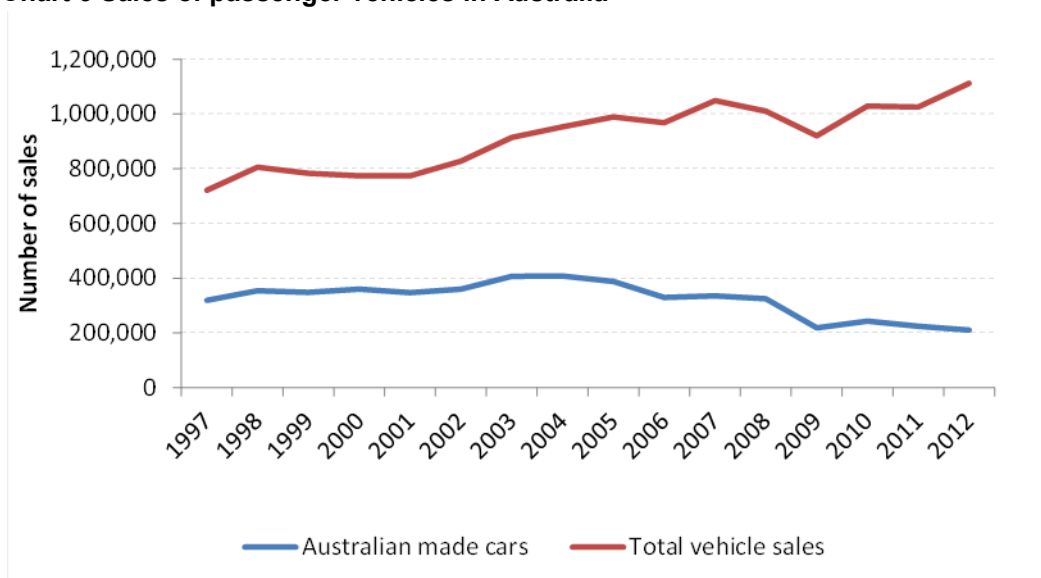
Demand for leading design and engineering services, and technologically advanced parts and components, is also being driven by the emergence of motor vehicle brands and models and the increasing sophistication of vehicles produced in emerging economies. There is an opportunity for Australian automotive suppliers to target emerging economies with growing car assembly capabilities. For example, annual vehicle production in China was 15.5 million in 2012<sup>20</sup>. Market access to China through the Free Trade Agreement (the Australia-China FTA is currently being negotiated) will be critical in taking advantage of the growing demand for vehicles in this emerging economy.

### Changing consumer preferences

Consumer preferences for vehicles are changing in Australia (and also globally), with strong demand for imported SUVs and small vehicles, away from traditional large family sedans. In the Year-to-October 2013 sales for small vehicles and SUVs represent 30 per cent and 37 per cent respectively of total passenger vehicles sold in Australia, with Year-to-October 2013 SUVs sales 8.1 per cent higher compared to the same period in 2012, according to the Federal Chamber of Automotive Industries.

Chart 6 shows that sales of Australian-made vehicles have decreased over time, from 2004 in particular. This has occurred despite increased Australian domestic motor vehicle sales (approximately 50,000 units per year) since 2010-11.

**Chart 6 Sales of passenger vehicles in Australia**



Source: ABS 9341.0, DSDBI

The Australian automotive car market is one of the most open and competitive in the world. It now comprises about 65 brands and 365 models competing for a total market of approximately 1.1 million new cars sales per annum (up from 175 models in 2002), comprising passenger, SUV and Light Commercial Vehicles. This level of consumer choice is comparable to that of the much larger markets of China and the US.

<sup>20</sup> Source: The Allen Consulting Group, 2013, The Strategic role of the Australian Automotive Manufacturing Industry, prepared for the Federal Chamber of Automotive Industries, page 3.

## Structural limitations reduce the competitiveness of the automotive industry

The ability of the industry to compete globally in the face of a high dollar, competition from low-cost countries, and the changing tastes of domestic consumers can be influenced significantly by policy reform, as outlined below.

### International trade conditions

Australian automotive businesses confront many overseas competitors who are supported by significant financial contributions from host governments. Assistance packages vary from tariff protection measures, non-tariff barriers, incentives for consumers to buy locally made vehicles, and direct financial assistance to attract investment and develop new automotive technologies.

The presence of FTAs does not necessarily provide the market access anticipated prior to an agreement as they do not prevent trading partners implementing non-tariff barriers to trade not covered by the FTA. For example, subsequent to the signing of a FTA, Thailand restructured the excise on motor vehicles according to engine size, which disadvantaged Australian car exporters particularly Ford.

In other cases, governments provide industry assistance in the form of repayable loans to automotive manufacturers to secure local investment in large-scale R&D projects. In January 2013, for example, the Canadian Government renewed its five-year C\$250 million Automotive Innovation Fund with a further C\$250 million over five years. In 2009-13, the Canadian fund provided repayable loans to Toyota Canada, Ford Canada, Linamar Corporation and Magna International.

The Federal Chamber of Automotive Industries (FCAI) provides examples of non-tariffs barriers that countries use to protect their auto industries: the maintenance of a discriminatory tax structure, the frequent introduction of new technical barriers, non-World Trade Organisation (WTO)-compliant customs valuation methodologies, currency manipulation and direct/indirect actions that reinforce anti-import bias against imported cars such as subsidised interest rates on the purchase of domestically produced vehicles.

### Workplace relations and labour costs

Workplace relations laws that enable responsive and flexible markets to promote labour productivity and competitive practices are key to improving economic growth and well-being. Flexible markets allow businesses to make necessary adjustments in order to weather challenging economic circumstances. They allow businesses to adapt and, where necessary, adjust their capacity to changing demand conditions. This is particularly important given the current uncertain business environment facing the Australian automotive industry.

Both Holden and Toyota have pointed to the importance of a modern industrial relations framework for securing their global competitiveness. In public statements, Toyota has recently called on the support of its employees “to modernise the work practices at our plant to increase productivity and improve our competitiveness.” While following its recently negotiated EBA variation, Holden called for “clear, consistent and globally competitive government policy.” In addition, Ford has attributed relative labour and overhead costs as a contributing factor in their decision to wind down manufacturing in Australia<sup>21</sup>.

The Victorian Government welcomes common sense changes to Commonwealth workplace regulation to drive productivity and investment. In this respect, the Victorian Government notes the Commonwealth Government’s commitment to make a number of amendments to the *Fair Work Act 2009*, and to establish a Productivity Commission review of the Fair Work laws. The Victorian Government welcomes changes to the Fair Work laws that will address their impact on businesses’ capacity to respond to productivity and competition challenges, whilst maintaining a fair and relevant safety net of employment terms and conditions.

<sup>21</sup> Interview with Ford Australia President Bob Graziano, Australian Broadcasting Corporation 23 March 2013, Available at: <http://www.abc.net.au/7.30/content/2013/s3766251.htm>.

The automotive industry and its workforce also have a role in this process to bargain in good faith for outcomes that promote the continued viability of the industry.

## Business costs

### Tax

It is imperative that Australia's tax system is efficient and supports business investment and growth. Competitive taxation is also critical for attracting foreign investment. The automotive industry is subject to a number of tax measures including company tax, payroll tax, GST and the Luxury Car tax. Given that the automotive sector is particularly trade exposed, efficient tax design is vital.

The Victorian Government welcomes the Commonwealth Government's commitment to reverse the previous Commonwealth Government's decision to make changes to the calculation of the Fringe Benefits Tax for vehicles and to repeal the carbon tax.

More can be done. While Victoria continues to undertake important state-based tax reform, the broadest and most efficient tax bases lie with the Commonwealth. Therefore, effective reform can best be achieved if the Commonwealth works collaboratively with the states and territories.

### Infrastructure

High quality economic infrastructure including ports, airports, and interstate freight terminals is critical for economic growth in terms of ensuring businesses are able to trade freely and efficiently in the global marketplace. Investment in infrastructure will provide the automotive industry with greater capacity to cope with global engagement and underpin productivity improvements, by reducing transaction costs and enhancing business capabilities and competitiveness.

Freight and energy costs in Australia are generally competitive, although energy costs have risen and are expected to rise further.

Benchmarking of freight costs commissioned by DSDBI in 2012 found:

- Coastal shipping: Victorian coastal freight costs are generally about 20 per cent higher than US, Europe and Canada.
- Port productivity: Victorian crane and ship loading/unloading rates are similar to Canada, but significantly lower than in USA, Europe and the UK.
- Road freight: Victorian metro pickup and delivery costs are broadly similar to Canada and Europe but about 10 per cent less than in the UK. For long haul, Australia benefits from the use of significantly larger vehicles than used in New Zealand, Europe or the UK.

Infrastructure provision can take a number of forms:

- Expanding freight networks between industry clusters and through key transport gateways such as ports and airports.
- Expanding and adapting utilities to industry needs (water, gas, electricity, waste).
- Enhancing services and technology which complement R&D investment such as investments in ICT and joint research facilities.
- Adapting and enhancing education facilities to better cater for the changing needs of the industry's workforce, and encourage greater skills and knowledge development.

The Victorian Government recognises the importance of continual investment in infrastructure to ensure appropriate linkages to external and internal transport and distribution networks are maintained. This includes keeping pace with population growth and removing bottlenecks to provide reliable freight services.



As the Commonwealth retains the majority of revenue raising powers, the states are heavily reliant on the Commonwealth to fund transformational new infrastructure investment.

There are positive signs that some price pressures may begin to ease into the future. Repeal of the carbon tax will reduce pressure on energy prices. Lower growth in demand for electricity may defer some of the projected investment need until current capacity is fully utilised. Proposed changes to market rules, a key driver of recent price rises, will also assist in more efficiently targeting network investment to consumer needs. Many of the underlying factors driving price rises, however, are likely to continue into the future<sup>22</sup>.

The Victorian Government is delivering world-class infrastructure to improve Victoria's connectivity and productivity, for example, through the East West Link, Port of Hastings, Melbourne Metro and Regional Rail Link, and by leveraging private sector investment. The Victorian Government is delivering a record \$6.1 billion infrastructure investment program in 2013-14, and acknowledges the critical role of Commonwealth funding transformational infrastructure investment.

### Regulation reform

Red tape impacts on the automotive industry are both direct and indirect through burdens on input suppliers. Excessive or poorly designed and administered regulation can also restrict competition and innovation businesses and across the economy. Care must be taken to ensure that compliance costs are not unnecessarily onerous or disadvantage particular groups. Regulation can be both broad in its application and impact on the economy as well as specific to particular industries, businesses and goods and services.

For example, the Victorian Government has not adopted the proposed national occupational health and safety laws because they would increase costs on Victorian businesses, and in the case of small business, there will not be any compensating gains from harmonisation for national companies.

***This section has highlighted that recent challenges have tested the competitiveness of Australia's automotive industry. It has also highlighted that the competitiveness of the industry, and its ability to adapt in the face of these challenges, is influenced by business conditions that governments can significantly influence. If the objective is for a competitive and sustainable automotive manufacturing industry, then the onus falls on government to make the changes necessary to better assist industry to meet these challenges. A further impetus for reform is the danger inherent in doing nothing, which is explored in the next section.***

---

<sup>22</sup> Commonwealth Government, Department of Resources, Energy and Tourism, Energy White Paper 2012

## THE COSTS OF WITHDRAWING SUPPORT CANNOT BE UNDERESTIMATED

*The automotive industry provides unique value to the Australian economy. Without action the industry may deteriorate substantially, and because of the unique nature of the value provided by the industry, there is nothing to take its place in the near term.*

*Commonwealth Government assistance has supported the industry to adapt to a more open and competitive global automotive market. Without it, the industry would have been less resilient in the face of the appreciation of the Australian dollar and other negative impacts associated with the mining boom and the increase in global competition.*

*The Commonwealth needs to provide certainty around support for business investment.*

*Doing nothing (including allowing existing funding to expire) will cause withdrawal of investment, dislocation among businesses and workers, and harm regions. These dislocation costs would have to be borne by the Commonwealth.*

### The effectiveness of current assistance

While some of the current challenges facing the industry are likely to abate, including the high Australian dollar, other challenges will remain. These include high domestic labour costs, export market access, competition from emerging economies, and the strong subsidies from competing governments for their own domestic car industries.

The value generated by the industry, including both private and wider economic benefits, would be substantially at risk if current funding arrangements were allowed to expire following this inquiry. The impact of industry failure is likely to be rapid.

***Ford is ceasing to manufacture vehicles in Australia from 2016. While the industry has begun to acquire global customers, the support of one or more car assembly operations in Australia is probably necessary over the short to medium term given the share of domestic demand generated by Holden and Toyota.***

The industry has become increasingly interdependent, as domestic supply chains have lengthened and more of the value added generated by the industry has shifted outside car assembly plants. While interdependencies provide the basis for greater collaboration and gains from innovation, they raise the risk that a loss in either supply or demand will lead to industry failure.

Without a strong automotive innovation system operating in Australia, the potential for individual businesses to generate products at the global technological frontier is greatly reduced, and the ability of the Australian industry to attract investment from globally advanced automotive manufacturers is diminished.

Businesses that supply the automotive industry also operate in other markets, so the impact of failure is not likely to be contained to motor vehicle and parts manufacturing. Other industries would also lose the spillover benefits generated by the industry's investment in R&D resulting in further reduction in the Australian manufacturing industry's ability to compete in an increasingly competitive global economy.

## Impacts of withdrawal of support

The industry is likely to contract before expiration of current funding arrangements. There is a substantial risk that without further support, Holden will depart resulting in a drop in domestic demand for parts, components and other goods and services.

Further, the industry is characterised by long investment cycles and the current investment cycle extends beyond the expiry of existing Commonwealth assistance. This means that the Commonwealth needs to provide certainty for car makers to invest in the next iteration of car models. This certainty is also required for investment by motor vehicle parts manufacturers.

The steep reduction in demand for domestically produced cars (within Australia and in exports markets like the Middle East) means many parts and component manufacturers have few reserves to draw on in the event of a further shock.

The inability of parts and component suppliers to adjust to rising average costs associated with a reduction in demand and declining economies of scale, or scope in the case of design and engineering services is also a significant flow-on risk.

For parts and component manufacturers which supply both Holden and Toyota, the abrupt loss of Holden will increase average costs that they are unlikely to be able to pass on to Toyota. Their ability to contain or absorb costs, or find other markets for their components, is limited in the short term.

## Sub-regional impact of the loss of manufacturing jobs

These impacts also mean potentially significant consequences for businesses, employees, communities and local regions.

While generally displaced workers tend to be absorbed by growth in other industries, labour markets take time to adjust, in part due to the need for workers to re-skill and because the impact of larger scale job losses at a sub-metropolitan level depend on local resources and the diversity of local economies.

*The Productivity Commission needs to consider the localised impact of mass job losses in the automotive industry, particularly in regions that currently have high concentrations of automotive business establishments (Victorian examples identified in Map 1 and Map 3).*

For example, the Southern metropolitan region of Melbourne contained 189 motor vehicle parts manufacturing business establishments in 2011-12, most concentrated in Greater Dandenong. There is a risk that if the majority of these businesses fail, the unemployment generated would not be absorbed by other manufacturing businesses or other industries in the region because of skills mismatches with demand or mobility issues.

Manufacturing employment in Melbourne's southern metropolitan region has declined by 10,790 workers since 2008, while overall employment has risen by 32,820 workers. The loss of manufacturing employment is representative of other regions in Australia, reflecting pressure to reduce costs to remain competitive and a shift to more capital-intensive activity. The ability of other manufacturing businesses in the region to absorb displaced automotive workers therefore may require a strong improvement in outlook for the industry generally.

While displaced automotive employees may find manufacturing work outside the region, this represents a loss of skills and knowledge locally. Furthermore, the impact on the workforce is not uniform, with less skilled and older workers less qualified to find jobs and with less capacity to relocate or commute. The proportion of workers aged 55 years or older in the manufacturing industry in Australia has increased over the past two decades from 9 per cent to 19 per cent.

Retrenched workers are likely to require retraining, whether they remain in manufacturing or move to another industry.

If we examine the Southern metropolitan region again, for example, the majority of employment growth that occurred between 2008-13 was concentrated in three industries (health, construction and education), all requiring substantially different skill sets to manufacturing (Table 5). As a result, there was an overall deterioration in unemployment and participation rates, implying not all workers wanting to work were succeeding in doing so.

***The data suggests that most automotive workers in the Southern metropolitan region that become unemployed would need to find manufacturing work elsewhere or, to remain employed locally, would need to re-skill.***

**Table 5 Employment in the southern metropolitan region of Melbourne**

	Manufacturing	Health	Constructi on	Education	Other industries	All industries	Unemploy ment	Participati on
2008	90,550	51,700	45,850	36,220	340,290	564,610	5.0	65.9
2009	74,050	60,090	56,370	38,690	335,560	564,760	5.9	65.1
2010	73,720	65,980	57,180	41,280	339,180	577,340	5.2	65.3
2011	79,880	71,200	57,450	40,330	341,280	590,140	5.0	65.2
2012	79,670	64,500	58,010	49,370	351,640	603,190	5.4	65.7
2013	79,760	70,000	58,210	46,050	343,410	597,430	6.1	64.6
<b>Change 2008-2013</b>								
No.	-10,790	18,300	12,360	9,830	3,120	32,820	1.1	-1.3

Notes: Figures are average for year ending August. Unemployment and participation rate for 2008 based on nine months.

Source: ABS 6291.0.55.003,

### Labour market adjustments are costly

While labour market adjustments can result in a better distribution of employment (reflecting changed economic conditions), they are not costless to individuals, communities or government. Workers that wish to remain employed locally may have to accept reduced pay and/or invest in acquiring new qualifications, affecting income and spending power. Transition can be managed appropriately but it does require well-resourced and targeted programs.

Often state governments step in to provide support for regions and workers affected. The Victorian Government is already focussed on providing support to workers in transition, including workers previously employed in Victoria's automotive industry:

- Since October 2011, the Victorian Government has funded the Workers in Transition program to help retrain retrenched workers. Affected workers are offered a range of support services including career advice, skills recognition assessments, and entry to a range of training opportunities.
- The Victorian Government also established Skilling the Bay in 2011, providing immediate support to Ford workers and a mechanism for developing actions to support the Greater Geelong region to transition.
- In the 2012, the Victorian Government introduced the Industry in Transition and Specialist Training Initiative. A fund of \$24 million provides training places for workers in the Geelong and Broadmeadows regions anticipated to lose their jobs following the departure of Ford.

### Supporting transition - Structural Adjustment Funds

In recognition of the economic and social impact that the closure of Ford will cause in the Geelong region and Melbourne's north, the Victorian and Australian Governments and Ford Australia have established two funds consisting of \$24.5 million each, which will encourage new investment to create new or additional business capacity that results in sustainable jobs. These are:

#### ***Geelong Region Innovation and Investment Fund (GRIIF)***

Funding over the three financial years from 2013-14 to 2015-16 will be provided to the Geelong region in recognition of the economic and social impact of Ford Australia's announcement on those communities. The fund will support investment by businesses leading directly to new sustainable jobs in the Geelong region to assist the region to diversify its economic base. Eligible projects will focus on encouraging new investment to create new or additional business capacity that results in sustainable jobs.

A total of \$24.5 million in funding is available. The minimum grant under the GRIIF will be \$50,000 with no maximum grant limit within the total grant funding available under the GRIIF. Grants will be up to 50 per cent of eligible expenditure.

#### ***Melbourne's North Region Innovation and Investment Fund (MNIIF)***

Funding over the three financial years from 2013-14 to 2015-16 will be provided to the Melbourne's North region (Hume, Whittlesea, Moreland and Darebin), in recognition of the economic and social impact of Ford Australia's announcement on those communities. MNIIF will support investment by businesses leading directly to new sustainable jobs in Melbourne's North to assist the region to diversify its economic base. Eligible projects will focus on encouraging new investment to create new or additional business capacity that results in sustainable jobs.

A total of \$24.5 million in funding is available. The minimum grant under the MNIIF will be \$50,000 with no maximum grant limit within the total grant funding available under the MNIIF. Grants will be up to 50 per cent of eligible expenditure.

### Modelling the impact of reduced automotive activity

In the interests of providing all available data to this Inquiry, the following modelling results are supplied. It is noted that the model below used multipliers when calculating the impact of output from a decline in the automotive industry, and that this method has been compared less favourably than Computable General Equilibrium (CGE) models to accurately estimate the economic impacts from a shock to the automotive industry.

In 2011, as part of a review of Victorian manufacturing policy, Price Waterhouse Coopers (PwC) was commissioned with Victoria University's Centre for Strategic and Economic Studies (CSES) to model 'shocks' to the Victorian manufacturing industry, including a negative shock to the automotive industry in Victoria. The modelling was undertaken to determine the impact (in terms of output<sup>23</sup> and employment income) of a loss of demand on:

- The importance of sectors at a regional level (rather than whole of state) i.e. what are the opportunities and vulnerabilities of regions.
- The flow-on impacts of changes in one sector on others, as the region as a whole i.e. what sectors have the greatest flow-on impacts to other sectors and the region.
- Interdependencies and inter-linkages i.e. what are the opportunities or vulnerabilities of one sector in relation to others.

<sup>23</sup> 'Output' refers to Type II Output (multiplier).

Scenario 1: A reduction in final demand for automotive manufacturing output in Melbourne worth \$248.75 million was modelled, identifying a total impact on the Melbourne region of \$342.5 million, including substantial reductions in the output of services and mining industries.

**Table 6 Impact of a negative shock to automotive manufacturing in Melbourne, Scenario 1 (\$m)**

The long run impact on...	Output <sup>1</sup>	Employment income <sup>2</sup>
Melbourne region	-342.5	-171.1
Other related sectors in Melbourne:		
Other services	-29.1	-20.3
Mining	-27.2	-9.1
Dwelling	-20.1	-1.3

Source: PwC and CSES

Scenario 2: A reduction in final demand for automotive manufacturing output in Melbourne worth \$497.5 million was modelled, identifying a total impact on the Melbourne region of \$676.4 million, including substantial reductions in the output of services and mining industries.

**Table 7 A decline in automotive manufacturing in Victoria, Scenario 2 (\$m)**

The long run impact on...	Output <sup>1</sup>	Employment income <sup>2</sup>
Victoria region	-676.4	-330.3
Other related sectors in Melbourne:		
Other services	-56.8	-17.4
Mining	-55.1	-38.4
Dwelling	-39.1	-2.4

Source: PwC and CSES

It is essential that further work is done to ascertain other regional impacts of an abrupt shock to automotive manufacturing (including using the preferred CGE methodology). Considering the complexity of interactions with other industries and sectors and the spatial location of much of the auto sector, which will likely result in highly localised impacts, this will be a challenging exercise.

***Notwithstanding the limitations of the methodology, the modelling by PwC and CSES suggests that the impact of a reduction in demand for automotive manufacturing will not be confined to the industry. Based on the scale of impact modelled, the effect on overall economic output in the region was between 1.36 and 1.38 times higher than on the automotive industry alone.***



## MICROECONOMIC AND FUNDING REFORM IS NEEDED TO IMPROVE THE COMPETITIVENESS OF THE INDUSTRY

***Public financial assistance, and non-financial enabling reform has directly contributed to significant and unique public value creation from the automotive industry. Microeconomic reform and assistance has had a proven impact on innovation and productivity growth and both are needed to improve industry competitiveness.***

***The industry can adapt and improve its competitiveness. This would be greatly assisted by a depreciating dollar, but that alone is insufficient.***

***Policy and funding reform is in the public interest, supported by assessment of balancing costs of inaction with benefits of action.***

The obvious next step to improve the competitiveness of the industry is another comprehensive policy reform effort, to achieve maximum benefits from government funding support. It is important that there is a partnership between government and the automotive industry aimed at eliciting and understanding business opportunities, strengths and needs and identifying areas where policy reform should focus.

Policy reform should be tailored to the specific competitive pressures facing the industry in the context of two important factors:

1. The global economy appears to be in the tail end of the global financial crisis, and global growth, though weak, is expected to slowly improve in the future.
2. The Australian dollar appears to be gradually depreciating<sup>24</sup>.

These two factors are very significant. Increasing global growth should bring rising global demand for consumables, including automotive products and services. Expected depreciation in the dollar will translate in Australia to lower export costs for automobiles, components and automotive services. In the context of these improving conditions, economic reform that improves industry competitiveness should be expected to have greater impact.

Public policy must enhance the long-term sustainability of the automotive industry, so that it is globally competitive in the future and continues to provide significant economic and social benefits to Australians. The design must provide the correct incentives to recipients to achieve the sought goals underpinning the suite of government programs to be provided to the industry and be accompanied by reforms to support competitiveness. Assistance should also be contingent on contributions and industry support from the automotive industry.

There is also an opportunity to shift more of the benefits derived from Commonwealth Government support for the automotive industry from private to public benefits by strengthening innovation networks, and raising the level of collaboration within the industry, so that a larger proportion of manufacturing businesses (within and outside the automotive industry) benefit from innovation-led improvements in capabilities.

<sup>24</sup>P. Lowe. Investment and the Australian economy. Address to the CPA Investment Conference, Melbourne, 24 October 2013. See: <http://www.rba.gov.au/speeches/2013/sp-dg-241013.html>

## The industry can adapt

While our automotive industry is operating in a challenging business environment, there is evidence that the industry may be able to adapt and continue to operate under different structures or business models. Ford's decision to retain one of three global engineering centres in Australia after car assembly ceases in 2016 suggests the car maker identifies value in the engineering solutions being developed in Australia.

Engineering is a recognised strength with Holden having one of eight global engineering centres and Toyota, one of five. The high cost of production means increasingly that value needs to be generated through design and engineering of more advanced parts and components, or using advanced materials that add to quality, safety or other characteristics desired by car makers.

## The industry can compete globally

As a result of a difficult external environment, activity within the industry has declined recently, but there is potential for future growth. Some factors that have strongly reduced the competitiveness of the industry are likely to abate. Construction and investment activity is declining in the resources sector, and is expected to reduce sharply over the next five years<sup>25</sup>. The adverse impacts of the mining boom on trade exposed sectors of the national economy, such as the high exchange rate and high labour costs, and the impact of the carbon tax have begun to ease and/or will likely to ease further in coming years. This should help support a recovery in automotive exports as well as Australian manufacturing exports more generally.

The industry can adapt to the higher levels of global competition that have emerged over the past decade by having a stronger export focus and competing on factors other than just cost. Exports are critical for reaching the volume needed for sustainability. Rising vehicle complexity and the global dispersion of the automotive value chains means that, while domestic suppliers are facing rising import competition, there are also growing opportunities for global component design and manufacturing with export capabilities, particularly in the Asian region.

The use of computer modelling, and the existence of advanced capabilities in design and engineering in Australia, suggests a growing export opportunity for these services to international automotive clients.

## A reform agenda is needed to improve competitiveness

The Productivity Commission should use the opportunity of this review to consider a comprehensive reform agenda that seeks to improve the competitiveness of Australia's automotive industry. The agenda should be conditioned on the challenges the industry faces including competition from low-cost countries, changing consumer preferences, and movements in the exchange rate (though expected to depreciate). It should seek to get the best outcomes from automotive businesses in international trade, improve the flexibility of work practices, lower the costs of doing business, reform procurement sensibly, and engage business as a partner in reform, ensuring it remains accountable for performance.

## Trade agreements and diplomacy

Australia derives significant benefits from trade liberalisation. To pursue greater and fairer free trade, the Commonwealth Government needs to negotiate genuine equivalent access to overseas markets with trading partners. This would provide a more level playing field in the global marketplace, creating more opportunities in overseas markets for the Australian automotive industry. Feedback from both the motor vehicle manufacturers and suppliers has indicated that their export strategies are being impeded by tariff and non-tariff barriers, including in markets with which Australia has an FTA. These barriers are impeding efforts to generate production efficiencies through enhanced export volumes.

---

<sup>25</sup> Commonwealth Treasury, Pre-Election Economic and Fiscal Outlook, 2013.

In the past, FTAs have not always delivered real meaningful access to automotive exports for example in the case of the Thailand and Malaysia where behind the border restrictions stifle access to these automotive markets despite the existence of FTAs with both countries.

***The Victorian Government requests that the Productivity Commission provides guidance to the Commonwealth Government on how to ensure Australian automotive firms have fair and open access to overseas markets, including through negotiation on tariff and non-tariff measures.***

### **Workplace relations**

As production platforms globalise, the workplaces of automotive companies must be more flexible to compete. Relatively high labour costs currently do put Australia at a competitive disadvantage and it is not clear that that this is purely an exchange rate effect<sup>26</sup>. The Victorian Government is committed to reforming workforce practices to drive productivity and investment in Victoria. In this respect, the Victorian Government notes the Commonwealth Government's commitment to make a number of amendments to the Fair Work Act 2009, and to establish a Productivity Commission review of the Fair Work laws. The Victorian Government welcomes changes to the Fair Work laws that will address their impact on businesses' capacity to respond to productivity and competition challenges.

***The Victorian Government requests that the Productivity Commission reports on options to ensure the automotive industry can manage their workforce to improve productivity, while maintaining fair and relevant employment terms and conditions.***

### **Tax**

It is important that Australia's tax system is designed so that taxes are efficient, not overly burdensome and do not discourage businesses from investing.

The Victorian Government welcomes the Commonwealth Government's commitment to undo the previous Commonwealth Government's decision to make changes to the calculation of the Fringe Benefits Tax for vehicles. In addition, the Victorian Government welcomes the repeal of the carbon tax at the end of 2013-14. Together, these decisions by the Commonwealth Government will improve sales, and reduce costs, across the automotive industry.

However, more can be done. While Victoria continues to undertake important State-based tax reform, the broadest tax bases lie with the Commonwealth. Therefore, effective reform can best be achieved if the Commonwealth works collaboratively with the States and Territories. Victoria intends to engage with the Commonwealth on the proposal to develop a White Paper investigating Australian tax reform.

***The Victorian Government requests that the Productivity Commission advise on a Commonwealth-state tax reform agenda to improve the business environment.***

### **Public sector procurement**

Government procurement of goods and services can fulfil a function in terms of improving and enhancing productivity, innovation and networks for local manufactures. It also can be a significant contributor to economic development more broadly by facilitating the participation of local, small and medium size enterprises in government contracts.

The Victorian Government believes in giving Victorian manufacturers a full, fair and reasonable opportunity to participate in private and public sector projects. Government procurement policies should recognise the importance of the local automotive manufacturing industry as a vital driver for investment and jobs.

---

<sup>26</sup> Competitive Alternatives: KPMG's guide to international business location costs, (2012).

Victoria currently abides by the **Victorian Government Standard Motor Vehicle Policy**; this is obligatory for all Victorian Government departments and agencies. In April 2013, the Victorian and South Australian governments raised at COAG that all states, territories and local government should consider a similar approach to local procurement for government fleets. Currently Victoria, South Australia and the Commonwealth are the only jurisdictions to have a policy favouring Australian vehicle manufacturers.

***In recognition of the national importance of the industry, Australia-wide procurement support is needed. All states and the Commonwealth should support locally produced fleet procurement, which can provide an opportunity to increase sales of domestic made cars by 8,000 to 10,000 units per annum.***

### Regulatory reform

The interdependency of the automotive sector with other sectors of the economy highlights the potential for a broad regulation reform agenda to be shaped around contributors to productivity labour and land regulation as well as regulation of intermediate goods used in the supply chain. To address this broader interdependency, the regulation reform agenda would need to be applied across the economy in the first instance and with a particular focus on manufacturing and the automotive industry. The Productivity Commission could potentially assist in identifying and refining priority areas for review and reform.

Regulation that affects workplace practices and labour productivity can include areas such as occupational health and safety regulation and the application of registered qualifications to particular types of work extending in some cases to licensed occupations. Where regulation is poorly designed and administered it can limit adoption of innovative workplace practices or impose a barrier to entry in particular occupations.

The Seamless National Economy Agreement includes national harmonisation of occupational health and safety legislation and harmonisation of licensed occupations. While promising potential benefits for businesses operating nationally there is also the risk of increased regulation in Victoria. In the case of occupational health and safety the Victorian Government has declined to adopt the proposed national law.

Land based regulation affecting development approvals are currently under consideration by the states and the Commonwealth. Delay in gaining approval is the biggest cost to business in context of approvals for major projects and facilities that support or supply downstream business.

Goods regulation can impose significant costs, including for example, chemicals regulation, which suffers from fragmented governance with a number of portfolios sharing responsibility for different areas of regulation. Registration of chemicals and the lack of recognition of overseas testing for the purpose of registration can undermine the cost effectiveness of adopting more modern chemicals because of the small scale of the domestic market.

### Businesses should assist with these efforts

A commitment to reform by governments should be matched by a commitment by the automotive industry to participate in reform, and to seek reform opportunities of its own.

### Collaboration

While governments can support business collaboration through support for industry events, by facilitating networks and investing in research facilities, the benefits of collaboration mean businesses within the automotive industry must be actively seeking out ways to interact.

Opportunities for collaboration can include more open engagement within industry networks, collaborating on joint R&D projects to share the risks and gains of innovation, making use of university and public sector researchers and R&D facilities, or seeking out business partnerships and more formal relationships.

Innovation should be the shared goal of Commonwealth and State governments, car makers, components and parts manufacturers, industry organisations, research centres, universities and unions which is maximised by greater collaboration at all levels of industry engagement.

***The Victorian Government requests that the Productivity Commission investigate ways in which businesses, researchers and government can better collaborate to improve outcomes for the automotive industry.***

### **Innovation and research and development**

Constant innovation and improvement is essential in a globally competitive industry. The automotive industry already invests in R&D to the benefit of Australia's manufacturing and broader economy. Continued investment will help to maintain competitiveness by ensuring that the industry keeps pace with global technology improvements.

The need for innovation applies to the full spectrum of the automotive supply chain. Car makers can assist local component designers and manufacturers to internationalise through access to training facilities and introduction to global networks. Car makers and component manufacturers mutually benefit through innovation and skills transfers that lead to improvements in productivity and design.

For example, Toyota's supplier development program works to help its key suppliers have stable, lean and efficient businesses. This program is supported by the Commonwealth Government and provides a good example of the type of co-investment that contributes to the efficiency and sustainability of the automotive industry.

***The Victorian Government requests that the Productivity Commission investigate new ways that industry and Government can collaborate and partner to further improve innovation performance for the industry.***

## **Victoria's existing policy and productivity reform will assist reform efforts**

### **Red tape**

The Victorian Government has a strong focus on reforming the State's regulatory environment to reduce costs for society and business. The Government has a comprehensive program to reduce red tape by 25 per cent by 1 July 2014. To date, the Red Tape Reduction Program has identified over \$500 million a year in red tape savings. The Government also appointed the Hon. John Lloyd, PSM as Victoria's first Red Tape Commissioner in January 2013. The Commissioner's engagement with business is informing a further priority list of actions to eliminate unnecessary red tape.

### **Ports**

A key example is the Victorian government's \$1.6 billion expansion of the Port of Melbourne. While currently Australia's largest automotive port, handling more than 370,000 new motor vehicles (over 100,000 exports) in 2012-13, the expansion provides for a new automotive hub that will increase the capacity of the dock to handle over 600,000 motor vehicles annually.

### **Roads**

The East West Link will be one of the largest infrastructure projects ever constructed in Melbourne. The East West Link is an 18 kilometre cross-city road connection extending across Melbourne from the Eastern Freeway to the Western Ring Road. The Victorian Government has committed to building the East West Link Stage One, between the Eastern Freeway and CityLink. The formal planning study currently underway also includes a connection from CityLink to the Port of Melbourne area.

## **VET Reforms**

Recent Vocational Education and Training reforms in Victoria aim to stimulate demand for skills training in areas that lead to jobs and a stronger economy. The 2013 Victorian Training Market Report revealed that training industry reforms were giving students a greater chance of gaining future employment. These reforms have been responsible for an increase from 49 to 69 per cent of government-funded enrolments in courses of a higher public value and areas of skills shortages.

## **Procurement of Australian-made cars**

The Victorian Government supports the Australian vehicle manufacturing industry through the Standard Motor Vehicle Policy, which provides a consistent direction for the management of the government vehicle fleet. The policy requires that only passenger vehicles that are substantially manufactured in Australia be permitted for lease or purchase under the government's motor vehicle acquisition policy. Recent examples in the automotive industry include the Victorian Government commitment to purchase 2000 hybrid Camry sedans for its car fleet. Victoria continues to purchase Australian made cars both to support the industry, but also in recognition that Australian-made cars provide good value for money.

## **Trade missions**

Since December 2010, the Victorian Government has supported more than 2600 local businesses and organisations on 65 trade missions, including six Super Trade Missions, which have generated estimated additional exports worth over \$3.7 billion. The partnership deal between Victorian – based lighting supplier Hella and Malaysia's Proton Cars is a direct result of Hella joining a Victorian Government trade mission to India where they were able to meet with international buyers and secure the deal.

At the recent trade mission to the United States, for instance, where some of our most advanced manufacturers met with leading defence and automotive companies, discussion were held on how to strengthen Australian automotive manufacturers' involvement in some of the world's most complex manufacturing projects like the Joint Strike Fighter program.



## SUPPORT MUST CONTINUE AT CURRENT LEVELS TO FULLY ADDRESS COMPETITIVENESS ISSUES

***The automotive industry generates unique value for Australia. Continued Commonwealth industry support is needed to avoid putting this value at risk. Further, the significant dislocation costs for businesses, employees, communities and regions associated with doing nothing must be well understood.***

***The industry can and should do more to move towards profitability and sustainability and needs to be an accountable partner in its own future.***

***Support is needed to further industry reform – without assistance to support reform in the near term, we may lose the industry.***

***The rationale to withdraw funding is therefore weak: Commonwealth support ought to continue at current levels over the next decade, aligned with policy efforts, to avoid bearing significant costs, and to allow competitiveness reform to work.***

### Supporting the industry's transition to a globally competitive industry

In addition to microeconomic policy reform, Commonwealth support to the automotive industry must continue at current levels to support the industry's transition to a more competitive business environment and to enable economic sustainability, through complementing market dynamics in the changing global economy.

Support must provide the industry with adequate time to reinforce and further develop their competitive advantages, and unlock new business opportunities. The Victorian Government seeks for the Commonwealth to continue funding for a period of 10 years.

Because almost all features in a vehicle are dependent on innovation, support that has a strong focus on fostering innovation in the industry is likely to get the best outcomes for Australia and be successful. Overall, 89 per cent of Australian manufacturing businesses that innovated in 2010-11 reported some form of benefit as a result of the introduction of new or significantly improved goods, service, processes or methods<sup>27</sup>.

### Withdrawing or reducing funding will force parts of the industry to exit

The automotive industry generates unique value for Australia and any significant decline in public support will put this value at risk.

Australia is one of the few locations in the world that can take a vehicle through the entire development spectrum, from concept to delivery. The nation possesses a highly skilled automotive workforce with world-class automotive R&D facilities, with specialist capabilities in design, engineering, materials applications and manufacturing.

The industry generates private and public benefit for Australia, due to a combination of large multinational car manufacturers, local and multinational parts component manufacturing, and strong networks that include globally advanced research organisations.

<sup>27</sup> ABS cat. no. 8158.0, Innovation in Australian Businesses, 2010-11



Many component producers, design and engineering companies provide goods and services to a range of other industries and sectors, including defence, aerospace, and other transport including rail and trams, providing cross-industry spillovers of knowledge, product innovation, and production and business process design.

If Commonwealth support is withdrawn or radically changed in the short term, significant parts of the industry will be forced to exit, with a rise in unemployment, a decline of economic activity and the loss of the industry's unique capacities – including the skills and expertise in the industry and dependent areas with unwanted impacts for Australia.

### **Large fiscal impact from a reduction in the industry size**

Any consequent dislocation costs for business, workers and regions will be borne by government, which will be required to provide structural adjustment assistance to regions ranking in the hundreds of millions of dollars. The adjustment phase will take time, and the social impacts will be considerable because of the strong concentration of activity in locally defined areas.

In Victoria, the automotive industry is concentrated at the sub-regional level in metropolitan and regional locations. Business establishments are concentrated in four distinct precincts with the two largest – focussed in the municipalities of Hume and Greater Dandenong, accommodating 38 per cent of business establishments in 2011-12, suggesting these areas would be most affected by a sharp decline in activity in the industry in metropolitan Melbourne<sup>28</sup>.

In regional Victoria, the industry is concentrated in specific regional centres that include Geelong, Ballarat, Shepparton, Wodonga and Horsham. The loss of business in regional locations from a sharp decline in activity in the industry would therefore have strong negative local impacts. In regional locations where alternative employment may not exist, loss of manufacturing jobs can have broader economic implications relative to larger urban areas.

CGE modelling is needed to model the local economic impacts on these and other parts of Australia. Available modelling data suggests substantial impacts<sup>29</sup>. The potential social costs also need to be identified.

### **Withdrawing support does not constitute good policy**

The rationale to withdraw support, accordingly, is weak when considering its consequences on Australia's community and economy.

Reductions in the level of support may also undermine investor confidence in Australia, with undesirable ramifications on future investment and impacts on economic development.

Support ought to continue at existing levels over the next decade, aligned with reform across various areas of government policy to enable the industry to become more competitive and economically viable.

Government funding at levels that are appropriate and that can gradually be adapted to effectively support the industry's long term transition to a more competitive industry will provide the industry with the necessary time and resources to develop their competitiveness advantages.

Providing public support certainty to the industry will be a fundamental factor impacting automotive companies' decisions to remain in Australia today. The current business environment is characterised by uncertainty and the Commonwealth, hence, should help to reduce some of this instability by clearly communicating to the industry how the government will support the sector in the future.

---

<sup>28</sup> Worksafe Victoria, unpublished data.

<sup>29</sup> PWC and the Centre for Strategic and Economic Studies, Victoria University, 2011.

Policy design must provide the correct incentives to the industry to achieve the goals or outcomes underpinning public assistance measures, and must be additional or complementary to the industry's own efforts to become more competitive.

### Joint collaboration is required

As such, while public support plays a decisive role in the future of the industry, the industry must show strong commitment to identifying strategies to improve their productivity and uptake of innovation (and technology) across the industry, to improve their long-term competitiveness.

### Recommended public support design

In view of the above, assistance should be contingent on co-investment from the automotive industry.

Preferred public support measures design includes:

- Providing financial assistance against agreed benchmarks of private investment.

Any significant assistance provided to car makers should be conditional on significant investment by those companies in domestic operations, increasing their incentive to remain in Australia. This practice is increasingly the global norm, acknowledging the capacity for multinational car makers active in multiple global locations to shift production.

- Providing assistance with specific focus: for example enhancing their integration into global supply chains

Car makers can assist local component designers and manufacturers internationalise through access to training facilities and introduction to global networks. Car makers and component manufacturers mutually benefit through innovation and skills transfer that lead to improvements in productivity and design.

***In summary, to ensure the ongoing viability of the automotive industry, the Victorian Government calls on the Commonwealth Government to continue funding the industry at current levels over a 10 year period. This is needed to assist the industry to become profitable and sustainable as manufacturers, employees and the broader supply chain adjust to changing global conditions. Such assistance should be contingent on receiving commitments from automotive companies that will ensure Australian automotive supply chain businesses are integrated into automotive companies' global operations; and that automotive companies make no further requests for financial assistance during this period.***

***Further, Victoria encourages the Productivity Commission to – again – take a close look at the policy reform effort needed to assist the automotive industry to become competitive. Victoria believes that this work should culminate in recommendations for a new national microeconomic reform agenda, accounting for the challenges faced by this important industry. This agenda should benefit manufacturing and industry in general by improving the competitiveness of the business environment.***

## APPENDIX 1: DSDBI AUTOMOTIVE SUPPLY CHAIN SURVEY

The following data come from a 2013 DSDBI survey of firms that identify as being part of the automotive industry supply chain. These firms are the tier 1 and tier 2 suppliers to the automotive assemblers – Ford, Holden and Toyota.

**Table 8 Tier 1 and Tier 2 suppliers to Australian automotive assemblers**

Share of sales dependent on automotive	Total employed Total	Number of Business			
		< 50 employees	>50 employees	Total	Share
95% and higher	4,057	17	21	38	32%
between 75% and 94%	2,421	6	10	16	13%
between 50% and 74%	1,081	14	7	21	18%
between 25% and 49%	1,480	9	5	14	12%
less than 25%	3,465	10	19	29	25%
<b>Total</b>	<b>12,504</b>	<b>56</b>	<b>62</b>	<b>118</b>	<b>100%</b>
		48%	52%	100%	

Source: DSDBI survey 2013

Around 48 per cent of firms surveyed were small (less than 50 employees) so that 52 per cent were medium or large sized businesses (over 50 employees).

The survey identified that 7,386 employees or 59 per cent of employees are directly involved in manufacturing and supply of original equipment to the automotive industry.

The survey showed varying dependency on automotive: 32 per cent of businesses relied on the automotive industry for 95 per cent of their sales or 63 per cent of businesses rely on automotive for at least 50 per cent of their sales, suggesting broad reliance on the performance of the automotive industry across the supply chain.

These figures point to one of the main challenges facing firms in the supply chain. Businesses can reduce the risk of a reduction in demand from Holden, Ford or Toyota by diversifying their supply, however the data indicates that a considerable share of employment remains tied to the performance of the industry.

Ideally, some businesses will be able to shift supply of automotive to integration into global supply chains – meaning continuing to supply the major automotive assemblers in the event the existing operations within Australia cease.

So while diversification is a growing theme and area of opportunity, as market access currently stands, if automotive assembly was to cease in the near term most of these businesses would fail. There would be significant adjustment to the broader manufacturing sector from the loss of these businesses. This would cause substantial dislocation to a range of manufacturing customers (for example Thales, Boeing) who would need to source replacement supply (probably from offshore).

## APPENDIX: 2 VICTORIAN AUTOMOTIVE AND MANUFACTURING INNOVATION

### Victorian Manufacturing Networks

**Bremer and Co., Innovation Collaborative Networks. Department of Business and Innovation, Victoria, 2012**

Research for by Bremer and Co for DSDBI identified 160 industry associations and networks relevant to the manufacturing sector in Victoria (more than any other sector). Most of the networks had national reach, with a small proportion with identified global links.

The majority of the manufacturing networks had focus around technical, R&D, and know-how issues. A list of networks and industry associations relevant to manufacturing follows:

#### Networks

- Victorian Centre for Advanced Materials Manufacturing (VCAMM)
- Northlink/NIETL
- South East Business Networks
- Toyota Supplier Productivity Network
- South East Melbourne Innovation Precinct
- Australian Defence Industry Network
- Victorian Organic Solar Consortium
- Defence Science Access Network
- Australian TCF Technology Network
- Small Technologies Cluster
- Hume Lean Network (Albury/Wodonga)
- Manufacturing Excellence Consortium Victoria
- Team Automotive Australia
- High Performance Consortium
- Advanced Manufacturing CRC
- Automotive CRC
- Defence Materials Technology Centre
- Defence Science and Technology Organisation
- Advanced Composites CRC
- Polymer CRC
- CRC Rail
- CRC for Advanced Composite Structures
- South East Melbourne Manufacturers Alliance
- Victorian Direct Manufacturing Centre (CSIRO)

#### Associations

- Australian Industry Group, and particularly its interest groups such as the Defence Council, Sustainable Business Group, Technology Industry Development Council,
- AiG Federation of Automotive Parts Manufacturers
- Geelong Manufacturing Council/Engineering Network Geelong
- South East Melbourne Manufacturers Alliance
- Association for Manufacturing Excellence Australia
- Some professional groups such as the Society of Automotive Engineers and Materials Australia may be relevant to this exercise
- Tractor and Machinery Association of Australia
- Recreational Vehicle Manufacturers Association
- Australian Rail Industry Corporation
- Australian Rail Manufacturers (ARM)

### **Institutions**

- Australian Future Fibre Research and Innovation Centre
- CSIRO – Materials Science and Engineering: Biosciences, Fibre Sciences, Polymeric Materials, Superconducting devices and systems, Surfaces and nanosciences
- CSIRO – Process Science and Engineering: High Temperature Processing, Hydrometallurgy alumina, Materials characterization, Metals and ceramics design and processing, Mineral processing and agglomeration, Process Engineering
- CSIRO – Future Manufacturing Flagship: Agile manufacturing, Sustainable high performance materials, Titanium technologies, Flexible electronics, Manufacturing technologies for transport and mining
- Synchrotron
- University of Melbourne - Melbourne School of Engineering, Advanced Centre for Automotive Research and Testing
- Monash University – Department of Materials Engineering,
- LaTrobe University – Centre for Materials and Surface Science
- Deakin University – Institute for Frontier Materials
- RMIT – Micro/Nanomedical Research Centre, Platform Technologies Research Institute, Sir Lawrence Wackett Centre for Aerospace Design Technology, Advanced Manufacturing Precinct, Centre for Advanced Electronics and Sensors, Centre for Advanced Materials and Performance Textiles
- Swinburne University of Technology – Australian Advanced Manufacturing Research Centre, Victoria Suntech Advanced Solar Facility, Industrial Research Institute Swinburne
- University of Melbourne – Particulate Fluids Processing Centre, Melbourne Energy Institute, Bio21 Molecular Science and Biotechnology Institute, Melbourne Materials Institute
- TAFES such as Chisholm Institute
- Kangan Institute's Automotive Centre of Excellence

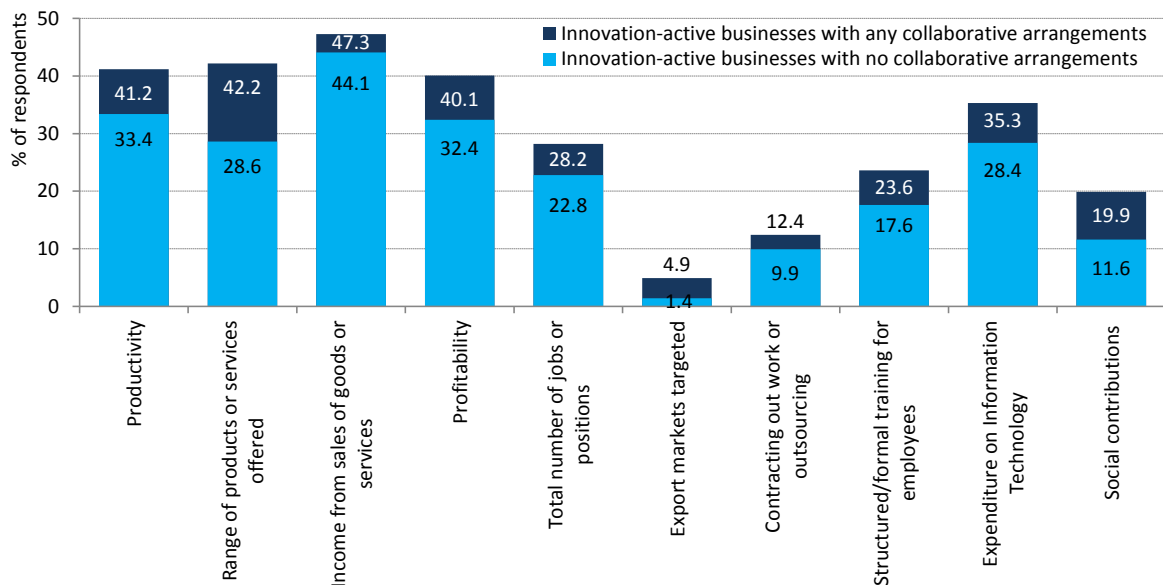
## **Importance of networks to innovation**

### **Collaboration**

Levels of effective collaboration are an important indicator of overall innovation performance. Australia compares poorly with the rest of the OECD on overall business-business collaboration and on the level of large business-research collaboration. Australia ranks with the OECD average on the levels of small business-research collaboration.

Collaboration enhances the capacity of innovation-active businesses across a broad range of indicators. For example, innovation active businesses which collaborate, compared to those that do not collaborate, are more likely to report an increase in productivity (41 per cent to 33 per cent), an increase in the range of products or services offered (42 per cent to 29 per cent) and an increase in income (47 per cent to 44 per cent) - refer to Chart 7.

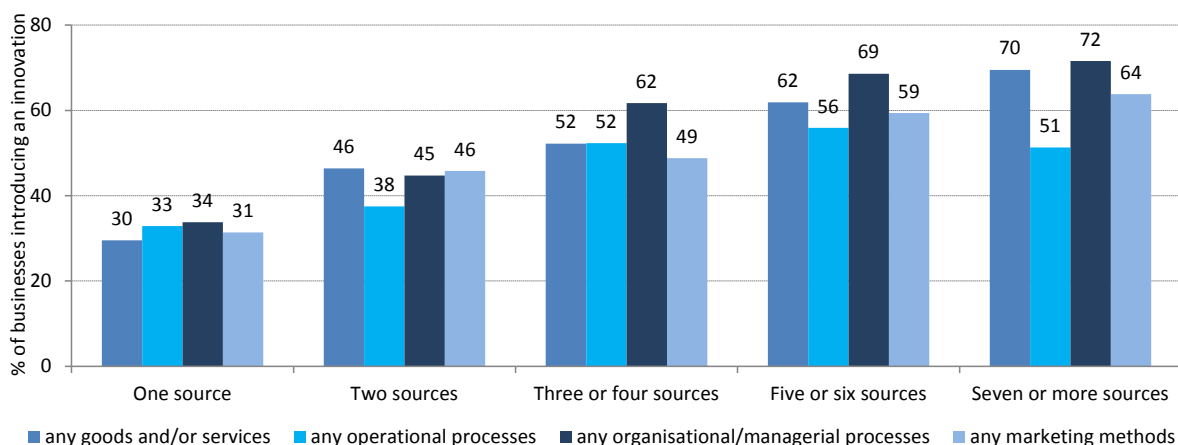
**Chart 7 Respondents reporting an increase in business performance compared to previous year, by type of activity, 2009-10**



Source: ABS, data analysis commissioned by the Commonwealth Department of Industry (DI), from the Business Characteristics Survey, 2009-10

Collaboration broadens exposure to ideas and information that lead to innovation activity; the greater the number of sources of information and ideas available to a business, the more likely that business is to innovate. There appears to be a positive relationship between the proportion of businesses innovating and access to ideas and information, irrespective of the type of innovation activity the business engages in, shown in **Chart 8**. For example, 72 of businesses with access to seven or more sources of information introduced a new marketing method in 2010-11. In contrast, 34 per cent of businesses with access to just one source of information introduced a new marketing method in 2010-11.

**Chart 8 Access to sources of information and proportion of businesses introducing an innovation, 2010-11**

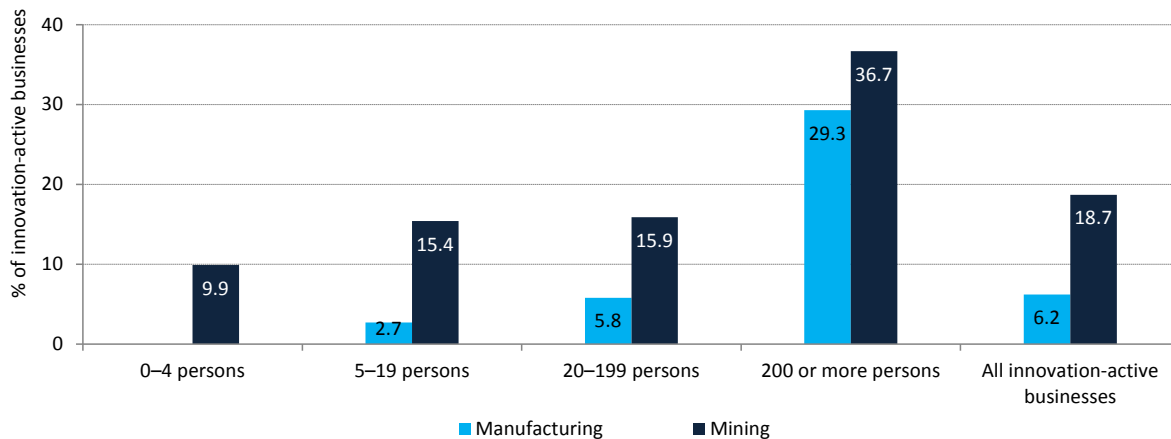


Source: ABS 8158.0, Custom data request by DI from the Business Characteristics Survey, 2010-11

The larger a business, the more likely it is to engage in joint R&D. Within Australia, the mining industry had the highest proportion of innovation active businesses engaging in joint R&D in 2010-11 while the manufacturing industry was ninth active. Overall, 89 per cent of Australian manufacturing businesses that

innovated in 2010-11 reported some form of benefit as a result of the introduction of new or significantly improved goods, service, processes or methods<sup>30</sup>. By comparison, 98 per cent of mining businesses that innovated reported some form of benefit. The survey results indicate less collaboration in R&D is occurring at all business sizes in manufacturing. The reason for lower levels of R&D collaboration in the manufacturing industry may be due to the diversity of manufacturing activity reducing the gains from joint collaboration.

**Chart 9 Joint research and development by business size, 2010–11**



Source: ABS 8158.0, Custom data request by DI from the Business Characteristics Survey, 2010-11

The manufacturing industry (of which automotive industry is well represented) collaborates with Government and other public research organisations at a rate of 5.6 per cent for 2010-11, almost double the rate for all industries.

Kangan Institute's Automotive Centre of Excellence (ACE) at Docklands (Melbourne) is a dedicated automotive training and industry focused facility. Stage II of the facility was launched in 2012 and introduced new workshop spaces, a world-class Vehicle and Engine Laboratory (VEL) as well as a purpose-built auto electrical lab supplied by Training Systems Australia.

More than 4,500 automotive students train at the ACE every year, taking full advantage of its state-of-the-art technology and professional, hands-on training environment. Classes are taught by leading professionals employed within industry. Students benefit from a dynamic curriculum ensuring the skills gained are in demand by employers.

<sup>30</sup> ABS cat. no. 8158.0, Innovation in Australian Businesses, 2010-11



## APPENDIX 3: VICTORIAN GOVERNMENT SUPPORT FOR PRODUCTIVITY AND COMPETITIVENESS

### Productivity and innovation

The Victorian Government is committed to boosting business productivity through the use of new technology, which is critical for ensuring the global competitiveness of our local industry.

The Victorian government has successfully helped businesses develop better products, processes and services for local and global markets across the manufacturing industry including the automotive sub-sector, through programs such as innovation and technology skills vouchers, innovation and investment funds supporting industries in transition, and through support for industry networks and clusters. See **Figure 1** for details on the *Victorian Manufacturing Strategy* and how public support is assisting business to adopt new technology and become more efficient.

Through Victoria's *Technology Plan for the Future* – a suite of strategies for small technologies, biotechnology and ICT, the Government is helping Victorian businesses create more competitive products, processes and services.

The Plan's flagship program, the *Technology Voucher Program*, provides vouchers of up \$250,000 to support business to develop new technologies or find ways to use current technology in novel ways.

This program is complemented by the *Innovation Voucher Program* that provides responsive funding of up \$25,000 for R&D and the development of innovative skills for small and medium companies.

The Victorian Government is committed to supporting a sustainable local automotive industry, through:

- working closely with major auto manufacturers based in Victoria and the Australian Government, to retain the State's world-class automotive supply base by assisting local suppliers develop new technologies and enter new markets in the Asia Pacific region;
- assisting companies like Toyota to invest in their local operations and providing support to the production of the Hybrid Camry and Toyota's new \$300 million state of the art Global Engine Line at Altona;
- assisting the automotive supply chain by working in partnership with the three car makers to introduce Victorian businesses to their Global Networks. This work will culminate in an inbound mission as part of the 2014 Automotive Week, held in the week leading up to the Australian Formula One Grand Prix; and
- working in partnership with the Commonwealth and South Australian governments to deliver the \$42 million Automotive New Markets Program to assist automotive suppliers diversify into new products and markets.

### Procurement support

The Victorian Government also supports the automotive industry by purchasing domestically made cars. Under the 'Australian made' vehicle purchasing policy, all passenger vehicles purchased or leased by the Victorian Government must be substantially manufactured in Australia.

### Business engagement

Beyond the automotive industry, the Victorian Government is focussing on assisting all enterprises through our business engagement approach. Our Business Development Managers in our Victorian Government Business Office network are working with companies to assist them increase productivity through programs to identify red tape or other barriers, and access overseas markets.

**Figure 1: Victorian Manufacturing Strategy**

### **A more competitive manufacturing industry**

Through the Victorian Manufacturing Strategy 'A more competitive manufacturing industry', the Victorian Government has delivered programs that help manufacturers to purchase and integrate new technologies that will improve their productivity and competitiveness. These investments can transform manufacturing businesses – from the way products are designed and produced to how they acquire and use information, knowledge and resources.

These programs include

- the \$24.8 million *Investing in Manufacturing Technology Program* – which to date has provided \$3.4 million in grants to 19 businesses who are now investing \$14 million in innovative equipment and technologies; and
- the \$7.5 million Manufacturing Productivity Networks program, which helps manufacturing firms to collaborate on activities and projects to increase their productivity, competitiveness and export readiness

Two businesses in the automotive, transport and car components industry that have been recipients of the *Investing in Manufacturing Technology Program* are:

#### **Air-Radiators Pty Ltd**

The Victorian Government awarded Air-Radiators Pty Ltd of Lara, a \$122,000 grant to invest in new manufacturing technology. The Recipient designs and manufactures heat transfer and air movement solutions for a range of industrial markets including power generation, rail, defence, mining and on-road, heavy trucks. Air Radiators used the grant to help purchase and install an automatic high technology computer numerically controlled (CNC) hydraulic brake press, to improve its competitiveness in the global mining equipment market and to provide for increased employment at its manufacturing facility.

#### **HM GEM Engines**

HM GEM Engines has specialised in supplying fully remanufactured engines and cylinder heads to the Australian automotive repair industry for over 40 years. HM GEM Engines was awarded an IMT grant of \$61,000 to purchase and commission a Rottler F79A Machining Center, with world's best practice technology, to provide fast and accurate machining of large diesel engine blocks, thereby allowing for major productivity increases in order to retain competitiveness.

#### **AutoCRC's**

As part of the *Manufacturing Productivity Networks Program*, the AutoCRC recently received \$600,000 in funding on behalf of the Key Commodity Manufacturers Network to undertake projects with over 120 suppliers (Tier 1, 2 and 3) to the automotive industry to improve existing supply chain efficiencies and explore new product development in other sectors.

## APPENDIX 4: UNIQUE CONTRIBUTION OF MANUFACTURING

The Manufacturing industry generates more activity than any other industry and more industries rely on manufacturing for inputs than any other industry.

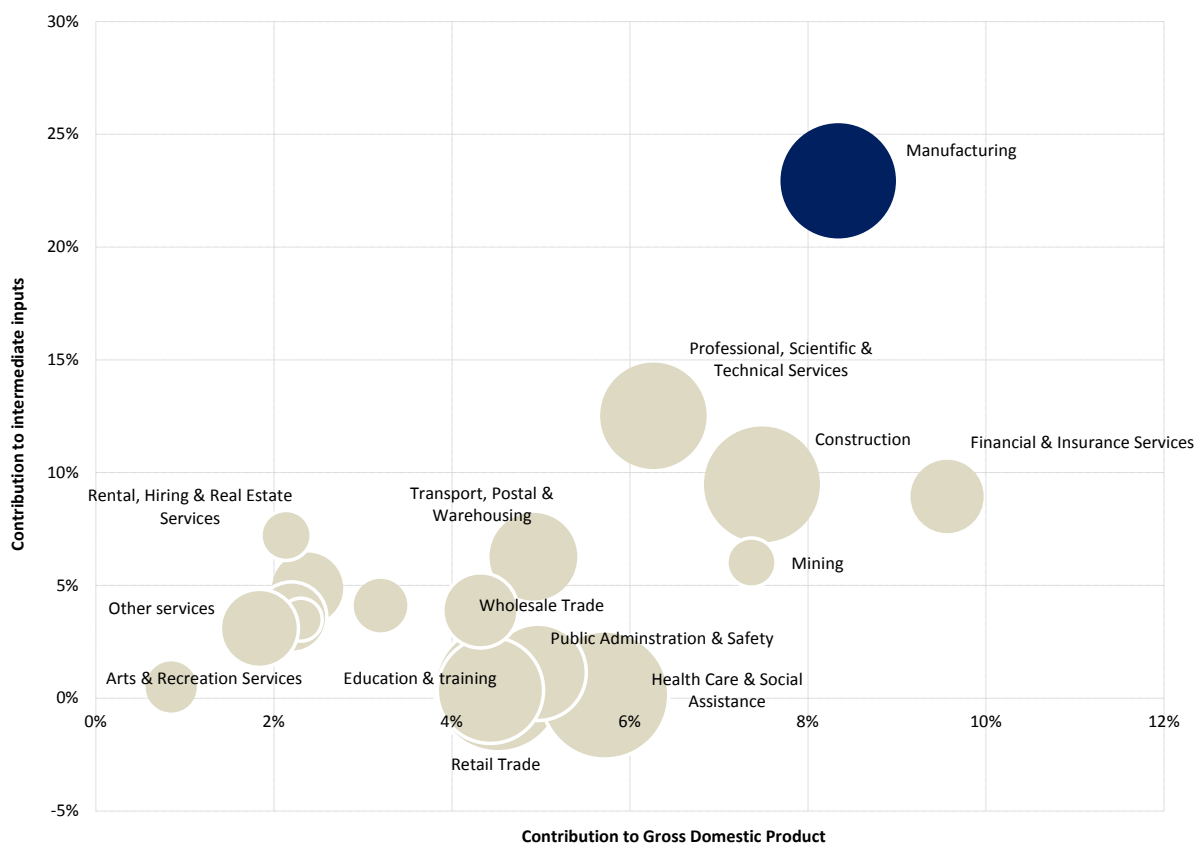
Declining domestic manufacturing capability therefore affects the competitiveness of other industries, not just manufacturing. The unique role of manufacturing means that government assistance that supports firm-level manufacturing productivity improvements will generate economy wide benefits.

The loss of manufacturing capabilities also means a growing reliance on imported manufactured goods. While the ability to import more manufactured goods is a benefit of globalisation, allowing for gains from trade, it raises issues such as market access, exchange rate risk and the capability of Australian businesses to engage with international suppliers.

### Manufacturing as a supplier of intermediate (business-to-business) inputs

In 2009-10, the manufacturing industry contribute the second largest share of gross domestic product, employed the fourth largest workforce, and contributed the largest share of intermediate inputs used in the Australian economy (refer to **Chart 10**).

**Chart 10 Importance of Australian industries including contribution to intermediate inputs, 2009-10**



Notes:

Bubble size indicates size of workforce. Domestically produced intermediate inputs (excludes imported intermediate inputs and excludes ownership of dwellings).

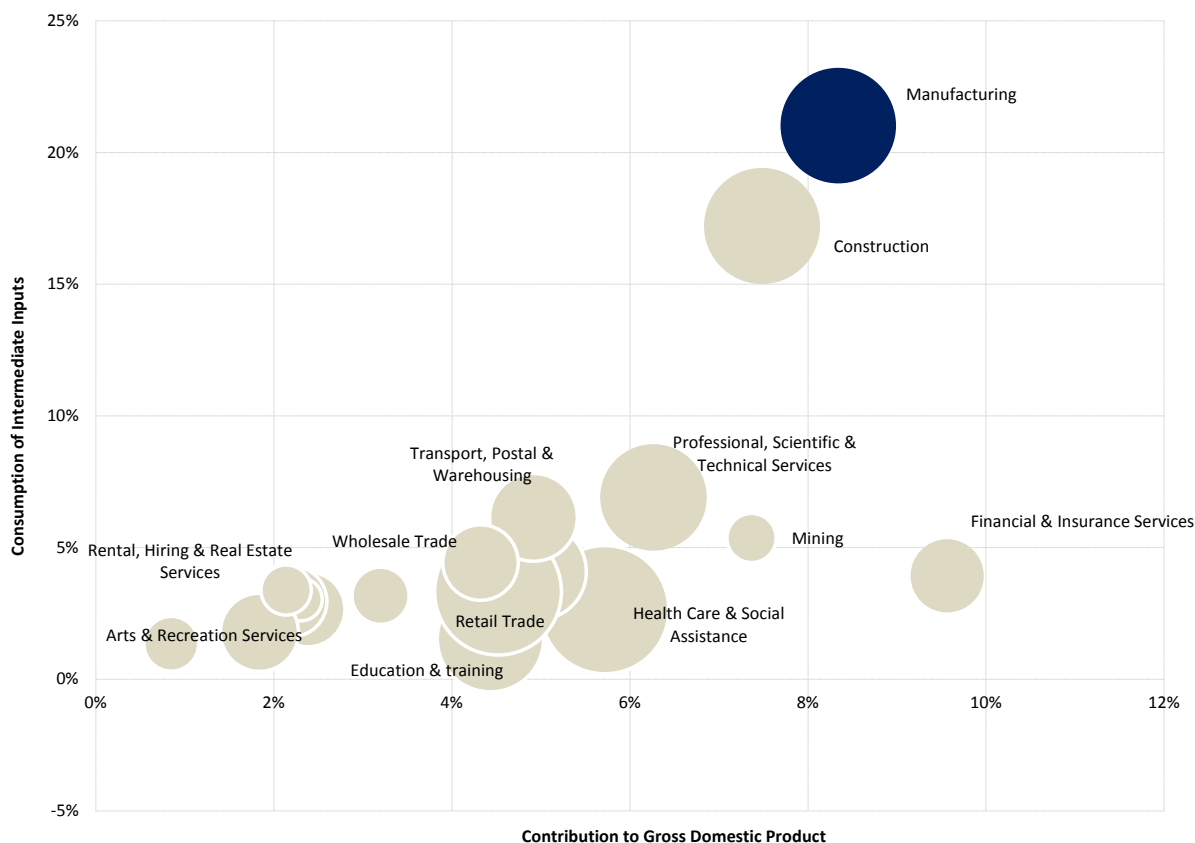
Source: ABS 5209.0.55.001 and ABS 6291.0.55.003

## Manufacturing as a consumer of intermediate (business-to-business) inputs

The manufacturing industry also consumed the largest share of intermediate inputs produced in the Australian economy. That is, manufacturing activity generates more demand for intermediate inputs than any other industry.

**Chart 11** replicates **Chart 10** but with consumption of intermediate inputs, instead of contribution to (supply of) intermediate inputs, on the vertical axis.

**Chart 11 Economy wide impact of Australian industries including consumption of intermediate inputs, 2009-10**



Notes:

Bubble size indicates size of workforce. Domestically produced intermediate inputs (excludes imported intermediate inputs and excludes ownership of dwellings).

Source: ABS 5209.0.55.001 and ABS 6291.0.55.003