

**Economic Development and  
Infrastructure Committee**

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**Inquiry into Manufacturing in  
Victoria**

July 2010

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# **Inquiry into Manufacturing in Victoria**

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Report of the Economic Development  
and Infrastructure Committee on the  
Inquiry into Manufacturing in Victoria

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## Committee Members

This Inquiry was conducted during the term of the 56<sup>th</sup> Parliament.

The members of the Economic Development and Infrastructure Committee are:

Hon. Christine Campbell, MP (Chair)

Mr David Davis, MLC (Deputy Chair)

Mr Bruce Atkinson, MLC

Mr Peter Crisp, MP

Mr Hong Lim, MP

Mr Brian Tee, MLC

Hon. Marsha Thomson, MP

## Staff

For this Inquiry, the Committee was supported by a secretariat comprising:

Executive Officer: Dr Vaughn Koops

Research Officer: Ms Yuki Simmonds

Administrative Officer: Ms Shanthi Wickramasurya



# The Economic Development and Infrastructure Committee

The Victorian Economic Development and Infrastructure Committee is constituted under the *Parliamentary Committees Act 2003*, as amended.

The Committee comprises members of Parliament drawn from both houses and all parties.

Its functions under the Act are to inquire into, consider and report to the Parliament on any proposal, matter or thing connected with economic development, industrial affairs or infrastructure, if the Committee is required or permitted to do so by or under the Act.

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# Terms of Reference

The Legislative Assembly under section 33 of the *Parliamentary Committees Act 2003* refers Terms of Reference requiring:

That the Economic Development and Infrastructure Committee inquire into, consider and report to Parliament on the state of manufacturing in Victoria and, in particular, the Committee is required to:

- 1) explore the necessary criteria used by businesses to transfer offshore manufacturing to Victoria; and
- 2) identify and report on the factors which influence businesses in determining whether to manufacture in Australia or overseas including the consideration of:
  - a) the retention of intellectual property rights;
  - b) maintaining consistent quality standards in line with both federal and state laws;
  - c) probity matters;
  - d) assistance and incentives provided by governments; and
  - e) the impact that the global deterioration in economic conditions in recent months will have on future decisions regarding manufacturing locations.

The Committee is required to report to Parliament by 30 June 2010.



## Chair's Foreword

Manufacturing continues to make a strong and substantial contribution to the Victorian economy, employment, and exports. The manufacturing sector employs more people than any other sector in Victoria, and provides the second-largest output of all industry sectors in Victoria. The flow-on benefits to Victoria and Australia from the manufacturing sector are substantial – it is a driver for innovation, technology transfer, and skills development. It also links Victoria to international markets and supply chains, and is an important source of exports from Australia.

The competitive environment for manufacturing is strong, and with the globalisation of companies and manufacturing supply processes, there has been increased pressure on Australian manufacturers to work to their strengths, and explore opportunities for lean, agile and high-technology manufacturing. As a developed economy, Australia has tended to move toward capital-intensive manufacturing, where niche, complex and/or high quality goods are produced for international and domestic markets. Victorian manufacturers are well-placed to build on their existing strengths to compete in these markets, and there is an important role for Government to continue to support development of the sector.

In this context, the Economic Development and Infrastructure Committee was asked by Parliament to report and examine the factors that influence businesses' decisions to manufacture products in Australia or overseas. The Committee interpreted its reference broadly, and took the opportunity to examine a number of key issues facing Victorian manufacturers today, including access to skilled labour, finance, and professional advice. The report contains 45 recommendations that the Committee believes will assist the Victorian manufacturing sector to maintain its important place in the Victorian economy, and continue its key contribution to Victorian jobs, exports, and competitiveness.

Victoria is recognised as the Australian leader in workforce training, particularly in apprenticeships, and skills enhancement. Its forward agenda has a strong industry focus on science and technology policy and investment towards high value jobs in the rapidly expanding multi-billion dollar green industries. The establishment of a Victorian composites centre offers immense opportunities for the development of new, cost effective low energy and versatile composites that will aid the expansion of the state's aerospace and defence products and services.

Given the state's strong focus on skilling the workforce, development of high value manufacturing based on current and future global markets, and mixed commercial experiences of non-high volume off-shore manufacturing; the inquiry heard disturbing evidence that indicated many financiers held a misguided and outdated view that for their best return on capital, Australian manufacturing businesses should produce off-shore.

Other than for high volume and low to mid value items, evidence suggested that there can be a false economy in moving manufacturing offshore. Supply chain logistics, problematic quality, intellectual property

dangers, high transport costs, productivity and quality issues per worker, high administration costs, ongoing servicing difficulties and official and unofficial payments to overseas government workers are all serious considerations for businesses in their decision making for production location. The consequence of financiers failing to ensure they also consider such risks and immediate cost realities on a business's profitability is that in many cases manufacturers lose access to the finance necessary for on-shore production expansion.

Governments can positively influence increased Australian manufacturing by championing the industry and, most importantly, as a major purchaser of manufactured product, by having procurement policies focused on quality and local content. Particularly for government, an invoice price may not be the same as a project price, due to taxes forgone and increased welfare payments if jobs go overseas.

Lessons can be learnt from other states and countries that have strong local procurement policies whilst not breaching international treaty obligations.

Victorian manufacturing is well positioned to continue to grow. Members of the Economic Development and Infrastructure Committee trust that this report will assist further increase our state's manufacturing to the vast global market.

The Committee received 65 written submissions during the course of this Inquiry, convened public hearings with 68 witnesses, and conducted meetings with a number of key organisations in the United Kingdom, France, Belgium and Germany during its international investigations. On behalf of the Committee I thank these people and organisations for their important contribution.

I thank my fellow Committee Members for their contribution to the Inquiry – Mr David Davis (Deputy Chair); Mr Bruce Atkinson; Mr Peter Crisp; Mr Hong Lim, Mr Brian Tee, and the Hon. Marsha Thomson. I also thank the Committee secretariat for their hard work and support throughout this inquiry – Dr Vaughn Koops, Ms Yuki Simmonds, and Ms Shanthi Wickramasurya.

**Hon. Christine Campbell, MP**



# Executive Summary

## Chapter One: Introduction

The Australian manufacturing sector makes an important contribution to the economy, contributing ten per cent to gross domestic product (GDP) in 2007-08 and accounting for approximately nine per cent of the total labour market. In Victoria, manufacturing is a significant sector, contributing \$30.6 billion to gross state product (GSP) in 2007-08, and accounting for 11.4 per cent of total GSP.

While increasing international pressures and the recent global financial crisis have created a challenging environment for the local sector to operate within, many manufacturers are relying more on offshore activities and shifting the focus of their local operations into more specialised and niche areas of manufacturing. Other strategies employed by local manufacturers to respond to enhanced competition in domestic and global markets include greater participation in innovative activities; expanded presence in export markets and global supply chains; improving productivity levels through incorporation of new technologies and business models into existing operations; and enhancing skills levels among workers.

As part of the Committee's investigations into the state of manufacturing in Victoria, it considered the various criteria employed by manufacturing firms when deciding whether to manufacture in Australia or overseas. Some of the key issues addressed in the report include:

- government support available to the manufacturing sector;
- availability of skills;
- innovation in the manufacturing sector;
- access to finance; and
- factors influencing business growth and competitiveness among local manufacturers.

## Chapter Two: The state of manufacturing

The Australian and New Zealand Standard Industrial Classification (ANZSIC) defines manufacturing as "the physical or chemical transformation of materials or components into new products, whether the work is performed by machinery or by hand." The manufacturing sector comprises the key industry groups of food, beverage and tobacco; machinery and equipment; metal products; non-metallic mineral products; petroleum, coal, chemical and associated products; printing, publishing and recorded media; textiles, clothing and footwear (TCF); wood and paper; and other manufacturing.

In Victoria, the manufacturing sector is a key employer, accounting for 29 per cent of total manufacturing employment in 2006-07. It also accounted for 28 per cent of the total Australian sector's sale and services income. Key areas of the Victorian manufacturing sector include transport equipment, food, TCF, chemicals, pharmaceuticals, printing, and aluminium. Victoria's major manufacturing exporters in 2008-09 were the food and beverage, and the automotive industries. Its major imports were crude petroleum and passenger motor vehicles. Overall, the Australian manufacturing sector accounted for 17 per cent of all exports in 2008.

The Australian manufacturing sector has experienced consistent growth over the past three decades. However, while performance of the manufacturing sector has been good in this regard, other sectors of the economy have grown at a much faster rate, and as a result manufacturing has accounted for a decreasing share of GDP and employment relative to other sectors. These trends correlate with observations of manufacturing sectors in most developed economies.

## Chapter Three: The changing face of the Australian manufacturing sector

Between 1975 and 2006, the place of the manufacturing sector in the economy has changed considerably. These changes can be attributed to a number of factors, some of which are common to all developed economies and others that are mostly relevant to Australia.

Structural change in economies is a key factor in the changing role of the Australian manufacturing sector in the economy. Structural change is characterised by the increasing contribution of one sector at the expense of another sector as economies evolve and become more industrialised, for example, or move toward a heavier emphasis on the services sector.

Higher relative productivity in the manufacturing sector has been a key driver behind the reduced share of manufacturing in total employment, with the productivity of each employee in the manufacturing sector increasing over time as a consequence of advances in technology and the increased use of capital in production processes.

Ongoing trade liberalisation has been a priority for most developed economies, with the growth in trade reflected in the rise in the share of world exports in world GDP, increasing from approximately six per cent in 1950 to over 20 per cent in 2008. As a consequence of trade liberalisation, the Australian manufacturing sector has become more export and import orientated, although evidence indicates that Australia's share of imports of manufactured goods is increasing at a greater rate than its share of exports of manufactured goods. This suggests that local manufacturers are experiencing strong competition from overseas manufacturers, particularly those in developing economies such as China, where there is a strong capacity to mass produce low-cost, labour-intensive products.

In response to enhanced international competition, a number of local manufacturers are relying more on offshore activities, creating concerns about the impact of trade liberalisation on the declining share of manufacturing in total employment, particularly in labour-intensive

industries such as TCF. While it is difficult to confirm the real impact of trade on the creation or disappearance of any particular job, there is evidence in Australia that some employees in declining industries have experienced displacement.

There is also evidence that focusing less on labour-intensive manufacturing has allowed some manufacturers to move into new areas of comparative advantage and to compete in the global market in different and more specialised areas of manufacturing. Local manufacturers are also participating more in international supply chains, with the cross-border flows of both intermediate and final goods now a common feature of the global economy.

Another key feature of global engagement of the manufacturing sector is the role of inward and outward investment. Multinational corporations have a significant presence in Australia's business environment, with the level of foreign direct investment (FDI) equalling \$377 billion in 2007. Inward investment in manufacturing accounted for 17.9 per cent of total FDI (\$67 billion). In the same year, Australia's outward investment was valued at \$323.6 billion, with the United States, the United Kingdom and New Zealand the most popular destinations for this investment.

The competitiveness of the Australian manufacturing sector has also been affected by the appreciation and volatility of the Australian dollar, a factor that is relevant to only a small group of developed economies.

## Chapter Four: Deciding where to manufacture

Factors affecting manufacturing businesses' decisions about where to locate are complex, and are generally specific to the type of manufacture undertaken by the business. The Committee identified 12 factors that were generally applicable to manufacturing business decisions about whether to relocate from, or locate in, Victoria, including: labour, market size and access, logistics and supply chains, quality of manufacture, access to complementary businesses, intellectual property security, business and regulatory environment, infrastructure reliability and cost, and government procurement and assistance.

The Committee found that, in general, strong incentives for manufacturing businesses to locate in, or relocate to, Victoria are found in the following areas: skilled labour, lifestyle, export market access, logistics and supply chains, quality of manufacture, intellectual property security, business and regulatory environment, infrastructure reliability and cost, and government assistance

Areas in which there are opportunities to improve the attraction of Victoria to manufacturing businesses include: payroll tax and labour-related regulations; access to advice and expertise; government procurement; and access to complementary businesses. Of these, the Committee notes that Victoria's payroll tax and labour-related regulations compare favourably with other Australian States and Territories.

There are some factors affecting manufacturing business location which Victoria has limited ability to improve. These include: size of domestic markets, and distance from other markets; and wage and salary rates.

Because these factors are difficult to influence, future manufacturing strategies should focus on means by which their effect can be minimised, for example, through promotion of high-value, capital intensive manufacturing; and through promotion of niche manufacturing.

## Chapter Five: Government manufacturing support

The Inquiry's Terms of Reference required the Committee to consider the types of government assistance and incentives available to the Australian manufacturing sector, and how this support influences firms' decisions about where to locate their manufacturing operations. The Committee shared the view that government support is a key factor in fostering a sustainable and competitive sector, combined with the provision of a strong business environment that allows manufacturing firms to grow with minimal intervention.

Both the Victorian and Commonwealth Governments provide extensive support to the manufacturing sector, which takes various forms including subsidies to particular industry groups or firms; provision of business support services; tax concessions; procurement policies; and tariffs, quotas and regulatory restrictions on imported goods and services.

Provision of support to the Australian manufacturing sector through procurement policies has been a strong priority of the Victorian and Commonwealth Governments, both of whom amended their policies in 2009 to achieve better outcomes for smaller and medium-sized firms. A key component of the Victorian Government's *Building our Industries for the Future* statement was strengthening the Victorian Industry Participation Plan (VIPP) to ensure it is more rigorously implemented and reported. The Victorian Industry Capability Network (ICN) also received an additional \$1.2 to promote Victorian industry capabilities in international networks, and encourage greater participation of local companies in major projects and global supply chains.

## Chapter Six: A way forward for government support

In examining further support to the manufacturing sector, the Committee focussed on three key areas of action, including stronger government procurement; tightening of grants and support programs targeting manufacturing businesses; and pursuing national strategies to promote Australian manufacturing.

The Committee believes that government procurement is a key mechanism to support local industry, which is supported by evidence that indicates greater involvement of small and medium-size enterprises (SMEs) in major public projects provides them with opportunities to expand their operations; and enhance their investment in skills development and innovative activities. Strong government procurement policies were also viewed as a key driver of industry development, job creation, and attracting new investments.

The Committee proposed a number of amendments to the VIPP to strengthen its role in encouraging greater local content in major public projects, including the requirement that all tender bids provide a summary

of estimated levels of local content, and that the calculation of local content targets for public projects declared of “strategic significance” be solely based on capital costs. The Committee also urged government agencies involved in government purchasing to ensure that their implementation of the VIPP provides local manufacturers with fair and reasonable opportunities to tender for major public projects in Victoria.

The provision of grants and assistance programs continues to be an important mechanism to support the manufacturing sector, although there is a growing consensus around the need for the effective design of such support to ensure well-defined problems are addressed, rather than activities that would occur without assistance. There was also extensive support in the evidence received throughout the Inquiry to streamline and simplify grants and assistance programs, with the intention of improving manufacturers’ capacity, particularly SMEs, to navigate the grants system and minimise resources required to apply for and comply with grants and assistance programs. The Committee recommended the establishment of a network of business advisers that work solely with manufacturing firms to identify and apply for appropriate assistance programs offered by both the Commonwealth and Victorian Governments.

The Committee also heard from various witnesses regarding the need for the Commonwealth, State and Territory governments to address inconsistent policies, regulations, and the multitude of grants and assistance programs across jurisdictions to improve the business environment for manufacturers operating in the national, Australian market. The development of a national manufacturing strategy could promote an integrated approach to coordinate support offered to manufacturing businesses across all levels of government, ensuring that it is complementary and sufficiently targeted. The coordination of a national strategy will also strengthen and enhance the competitiveness of the sector through identification of areas of comparative advantage.

## Chapter Seven: Enhanced standards and regulations for manufacturing

A common theme identified in the evidence emphasised the role of Australian standards in the Australian manufacturing sector. Australian standards boost Australian productivity and production; and they can make businesses more competitive through linking locally made products with global markets. Standards also protect the broader community by ensuring quality of goods and manufactured products, as well as provide for the health and safety of Australians. If standards are to be effective, however, it is important that they harmonise with one another, and are consistently observed and are enforced. While there is limited capacity to actively monitor compliance with standards as products are developed or prior to them going to market, there are mechanisms to enhance compliance with standards through the use of third party certification. In particular, governments can encourage higher take-up of certification through their procurement policies.

Regulatory environments can also have a substantial effect on business activity and on the attraction of offshore businesses. An ongoing issue for Australia is inconsistent regulation between the States and Territories,

which can create problems for businesses operating across jurisdictions, or for businesses making products for markets across the states. The Victorian Government has undertaken a number of reforms directed toward harmonisation of regulations, and for minimising compliance costs to business.

## Chapter Eight: Skills for manufacturing

The Australian manufacturing sector is facing labour skills challenges in some key areas, and in particular, is experiencing a shortage of engineers. The Committee also heard that some skilled workers, such as welder-fabricators, are in short supply. One means of overcoming this shortfall is through increased skilled migration. The ageing Australian workforce is also likely to create some challenges for the manufacturing sector, particularly in ensuring that knowledge transfer from retiring workers to incoming workers occurs.

Manufacturing in Australia is often misrepresented as a 'dead end' sector with dirty, onerous conditions and poor pay, and as a result, there is often a poor perception of manufacturing as a career option for young people. The Committee heard that, in fact, modern manufacturing is often well-remunerated, and that the sector remains healthy and sustainable. There is a need for better promotion of manufacturing as a credible career option to young adults. There is also a need for greater promotion of science, technology, engineering and mathematics skills in schools.

Apprentices play an important role in the manufacturing sector. While apprenticeships schemes receive substantial support from government, there are opportunities for apprenticeship schemes to be enhanced, such as through group training schemes within industries in the manufacturing sector.

Overseas there have also been initiatives to improve interaction and collaboration between universities and manufacturers through student placement programs, known as "knowledge transfer partnerships." There is also a role for higher education in the provision of workforce development education, in collaboration with manufacturing businesses.

## Chapter Nine: Innovation in the Australian Manufacturing Sector

A strong capacity for innovation is likely to be an important factor in maintaining sustainability and success of manufacturing in Australia. Innovation is undertaken in various forms, with the most common being research and development (R&D). Business innovation, where new technologies and knowledge are created and/or diffused into processes, business models and organisational structures, is also critical to the development of knowledge-based economies.

Business expenditure on R&D (BERD) makes an important contribution to total R&D, with BERD increasing at an average annual rate of 12 per cent in the five years to 2007. However, the BERD to GDP ratio of 1.27 per cent remains below the Organisation for Economic Co-operation and Development country (OECD) average of 1.58 per cent.

Despite improvements in business R&D expenditure, international comparisons of innovative performance show the OECD average R&D spend is 2.26 per cent of GDP, while Australia's average R&D spend is just 2.01 per cent, and is increasing at a much slower pace than other countries.

Over the last decade, there has been growing awareness within Commonwealth, State and Territory governments about the contribution of innovation to GDP. At the state level, the Victorian Government's innovation statement *Innovation: Victoria's Future* outlines initiatives to further the innovation capacity of various industries, including the advanced manufacturing industry. The Victorian Government has also been particularly supportive of the highly innovative and specialised biotechnology sector, with Victoria now considered an internationally leading location for various life science areas.

The development of new materials technologies, such as carbon fibre, textiles and composites, represents an important field for innovation in the manufacturing sector. Another important field for future development of the manufacturing sector is in green manufacturing, focusing on the use of innovative solutions to work towards addressing global challenges, such as climate change and energy consumption.

## Chapter Ten: Access to finance

The presence of adequate and functioning financial services to the manufacturing sector is a critical component for success of the sector. Businesses require finance for a number of core activities, such as acquisitions activity, the use of overdraft facilities, equipment purchases, working capital, cash-flow maintenance, and/or business expansion. Businesses operating at different scales of enterprise require different approaches to finance. The stage of business development also affects needs for finance and the range of products available to businesses.

A key characteristic of SME finance is the predominant use of internal funds for business finance, either through borrowing from friends and family, or, most commonly, by securing loans against assets held by the business owner, such as the owner's residential property. The reliance of SMEs on owner-equity to obtain finance tends to limit the quantum of finance available, as loans are constrained by the value of residential properties. For most purposes, this form of finance may be adequate for SME needs, but may not be adequate where the business seeks to expand and needs to acquire higher levels of finance. The high utilisation of mortgage-backed business loans for SMEs is also an indicator of the lack of finance options available to SMEs generally.

There may be opportunities for the development of new financial services, in the form of venture capital or expansion capital, to assist SMEs in the manufacturing sector to develop capacity, commercialise products, and to expand into new markets.

## Chapter Eleven: Business growth and competitiveness

Country of origin branding, such as the Australian Made, Australian Grown campaign logos, provide a useful marketing strategy for the promotion of products in global markets. There are opportunities for Victorian manufacturers to better employ country of origin branding for the marketing of products.

Succession planning for family-owned manufacturing businesses is emerging as an issue, particularly as a proportion of 'baby boomer' business owners consider retirement. A recent survey indicated that only 15 per cent of 613 family firms reported having a formal succession plan in place, although 31 per cent said they were currently working on one. There is a need to encourage family-owned manufacturing businesses to develop succession plans, in order to ensure they continue to operate upon retirement of current business owners, and to assist manufacturing businesses to remain in Australia, rather than be sold and moved offshore.

Victorian trade fair participation and trade missions provide an important mechanism to promote Victorian manufacturing businesses in overseas markets, and to overseas businesses. When planning trade fairs and missions, it is important to recognise that trade fairs and missions are not an end to themselves but rather should be integrated with broader strategic business plans. In this context, assessment of the success or failure of trade fairs and missions should not be solely dependant on the immediate realisation of export sales. Export sales following attendance at a trade fair or mission requires ongoing follow-up with contacts once participants are back in their home country.

Manufacturing business clusters provide an important means to promote the competitiveness of local firms, through labour market pooling; localised provision of intermediate goods; and greater spillover of information about new technologies, processes, goods and services. A number of successful manufacturing clusters already exist in Victoria, and demonstrate that the concentration of similar and/or related firms in a location can improve the competitiveness and viability of all firms.

Internationally, substantial government resources have been allocated to support the development of industry clusters. The Committee believes there are opportunities for further promotion of industry clusters in Victoria.



# Table of Recommendations

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# Abbreviations

AANZFTA	Association of South-East Asian Nations-Australia-New Zealand Free Trade Agreement
ACCI	Australian Chamber of Commerce and Industry
ACIS	Automotive Competitiveness and Investment Scheme
AFFRIC	Australian Future Fibres Research and Innovation Centre
AFGC	Australian Food and Grocery Council
AiG	Australian Industry Group
AiIC	Automotive Industry Innovation Council
AIP	Australian Industry Participation
AISAP	Automotive Industry Structural Adjustment Program
AMAG	Australian Made Australian Grown
AMCL	Australian Made Campaign Ltd
AMTIL	Australian Manufacturing Technology Institute Limited
AMWU	Australian Manufacturing Workers' Union
AMP	Advanced Manufacturing Precinct
ANZCERTA	Australia-New Zealand Closer Economic Relations Trade Agreement
ANZSIC	Australian and New Zealand Standard Industrial Classification
AQF	Australian Qualification Framework
ARA	Australasian Railway Association
ARIC	Australian Railway Industry Corporation
ASCDP	Automotive Supply Chain Development Program
ASEA	Automotive Supplier Excellence Australia
ASEAN	Association of South-East Asian Nations
ASI	Australian Steel Institute
ATS	Automotive Transformation Scheme
AutoCRC	Cooperative Research Centre for Advanced Automotive Technology
AUS	Australian Urban System
AusAMRC	Australian Advanced Manufacturing Research Centre

AUSFTA	Australia-United States Free Trade Agreement
AWU	Australian Workers' Union
BCA	Business Club Australia
BERD	Business Expenditure on Research and Development
BIC	Clothing and Household Textile Building Innovative Capability Scheme
BHIS	Boosting Highly Innovative SMEs
BLDI	German Aerospace Industries Association
CEO	Chief Executive Officer
CiM	Careers in Manufacturing
CIM	Certain Inputs to Manufacture
CMA	Confectionary Manufacturers of Australasia
COAG	Council of Australian Governments
CPG	Commonwealth Procurement Guidelines
CRC	Cooperative Research Centre
CRC-ACS	CRC for Advanced Composite Structures
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DEEWR	Department of Education, Employment and Workplace Relations
DFAT	Department of Foreign Affairs and Trade
DIIRD	Department of Innovation, Industry and Regional Development
DIISR	Department of Innovation, Industry, Science and Research
EBPPP	Enterprise Based Productivity Places Program
EFIC	Export Finance and Insurance Corporation
EMDG	Export Market Development Grants
EOAP	Expanded Overseas Assembly Provisions
EPBS	Enhanced Project By-law Scheme
ETM	Elaborately Transformed Manufactures
FAMP	Federation for Automotive Products Manufacturers
FBA	Family Business Australia
FDI	Foreign Direct Investment

FMIIC	Future Manufacturing Industry Innovation Council
FTA	Free Trade Agreement
GATT	General Agreement on Tariffs and Trade
GCIF	Green Car Innovation Fund
GDP	Gross Domestic Product
GERD	Gross Expenditure on Research and Development
GFC	Global Financial Crisis
GPA	Government Procurement Agreement
GSP	Gross State Product
HdH	Hawker de Havilland
HRST	Human Resources in Science and Technology
ICN	Industry Capability Network
ICNL	Industry Capability Network Limited
ICT	Information and Communication Technology
IIF	Innovation Investment Fund
IP	Intellectual Property
ISA	Industry Skills Advisers
ISC	Industry Skills Council
ITF	Industry Transition Fund
IVA	Industry Value Added
KfW	Kreditanstalt für Wieder
LDA	London Development Agency
MCTEE	Ministerial Council for Tertiary Education and Employment
MESAB	Manufacturing and Engineering Skills Advisory Board
MITUP	Manufacturing Industry Teacher Up-skill Project
MSA	Manufacturing Skills Australia
NATA	National Association of Testing Authorities
NCP	National Competition Policy
NES	National Employment Standards
NTC	National Transport Commission
Ntec	Northland Technical Education Centre

OECD	Organisation for Economic Co-operation and Development
OEM	Original Equipment Manufacturers
OHS	Occupational Health and Safety
PACCER	Procurement and Contracting Centre for Education and Research
PC	Productivity Commission
PERDA	Paris Region Economic Development Agency
PMI	Performance Manufacturing Index
PPP	Productivity Places Program
R&D	Research and Development
REC	Renewable Energy Certificates
RET	Renewable Energy Targets
RMIT	Royal Melbourne Institute of Technology
RPL	Recognition of Prior Learning
RTO	Registered Training Organisation
SAFTA	Singapore-Australia Free Trade Agreement
SAMP	Supplier Access to Major Projects
SBMS	Small Business Mentoring Service
SEMMA	South East Melbourne Manufacturers Alliance
SIA	Science Industry Australia
SIP	TCF Post-2005 Strategic Investment Program
SME	Small and Medium-Size Enterprise
STEM	Science, Technology, Engineering and Mathematics
STI	Science, Technology and Innovation Initiative
STM	Simply Transformed Manufactures
TAA	Team Australia Automotive
TAFE	Technical and Further Education
TAFTA	Thailand-Australia Free Trade Agreement
TCF	Textiles, Clothing and Footwear
TCF PDS	TCF Product Diversification Scheme
TCF SBP	TCF Small Business Program
TCF SCP	TCF Strategic Capability Program



TCFUA	Textiles, Clothing and Footwear Union of Australia
TEC	Technical Education Centres
TRIPS	Trade-Related Aspects of Intellectual Property
UK	United Kingdom
USA	United States of America
VAMAP	Victorian Automotive Manufacturing Action Plan
VCAL	Victorian Certificate of Applied Learning
VCAMM	Victorian Centre for Advanced Materials Manufacturing
VCE	Victorian Certificate of Education
VDMTC	Victorian Direct Manufacturing Technology Centre
VEDC	Victorian Economic Development Corporation
VET	Vocational Education and Training
VIMC	Victorian Industry Manufacturing Council
VIPP	Victorian Industry Participation Policy
VGBO	Victorian Government Business Office
VGPB	Victorian Government Purchasing Board
VTP	Victorian Transport Plan
WTO	World Trade Organisation

## Chapter One: Key points

The Committee received a reference to inquire into the state of manufacturing in Victoria on 9 June 2009. Under the Terms of Reference the Committee was required to explore criteria used by businesses to determine whether to manufacture in Victorian or overseas.

Manufacturing plays an important role in the Australian economy. Output by the manufacturing sector has increased over the past three decades, and the sector accounts for ten per cent of the Australian labour market. Victoria accounts for approximately 29 per cent of manufacturing sector employment in Australia.

International competition with businesses in the manufacturing sector is strong, and with the development of open international markets, there are increasing opportunities for Australian manufacturers to move into new markets, and for foreign firms to invest in Australia. In this context, important factors influencing the Australian manufacturing sector are government support; skills availability; innovation within the sector; and access to finance.

The Committee received 65 submissions during the course of the Inquiry, and conducted eleven public hearings with 68 witnesses representing 40 organisations. A delegation from the Committee also met with key organisations in the United Kingdom, France, Belgium and Germany.

# Chapter One: Introduction

On 9 June 2009, the Economic Development and Infrastructure Committee received a reference under the *Parliamentary Committees Act 2003* to inquire into the state of manufacturing in Victoria. In particular, the Committee was asked to:

1. explore the necessary criteria used by businesses to transfer offshore manufacturing to Victoria; and
2. identify and report on the factors which influence businesses in determining whether to manufacture in Australia or overseas including the consideration of:
  - a. the retention of intellectual property rights;
  - b. maintaining consistent quality standards in line with both federal and state laws;
  - c. probity matters;
  - d. assistance and incentives provided by governments; and
  - e. the impact that the global deterioration in economic conditions in recent months will have on future decisions regarding manufacturing locations.

## 1.1 Australian manufacturing sector

### 1.1.1 Manufacturing in Australia

The manufacturing sector continues to play an important role in Australia, contributing ten per cent to gross domestic product in 2007-08. Overall manufacturing output has increased by an average of 1.5 per cent per year between 1975 and 2006. Australian Bureau of Statistics (ABS) data indicates that the sector's industry value added (IVA) has increased, with its IVA for 2007-08 valued at \$105 billion, an increase of \$6 billion from 2006-07. While the manufacturing sector's share of total employment in Australia has decreased over time, approximately nine per cent of the total labour market is still employed in the sector.

One of the key factors behind the reduced share of manufacturing in total employment is the higher relative productivity growth in the sector due to advances in technology and manufacturing operations. The Committee received evidence that productivity growth in the manufacturing sector had

consistently outperformed other sectors of the Australian economy over the last twenty years up until 2006-07.

## 1.1.2 Manufacturing in Victoria

The manufacturing sector is the largest employing sector in Victoria, accounting for approximately 29 per cent of the total Australian manufacturing employment in 2006-07. In 2007-08, the Victorian manufacturing sector contributed \$30.6 billion to gross state product (GSP), equal to 11.4 per cent of total GSP. Based on the evidence received throughout the Inquiry, manufacturing continues to play an important role in the State's prosperity, particularly in regard to creating direct and indirect employment outcomes.

Food product manufacturing is Victoria's largest manufacturing industry, accounting for 20 per cent of the overall sector's sales and services income, and 19 per cent of its employment in 2006-07. Other areas of manufacturing that significantly contribute to Victoria's economy include automotive and transport equipment; textiles, clothing and footwear; chemicals; pharmaceuticals; and aluminium. Other industries emerging in Victoria include aerospace, advanced manufacturing, and defence.

## 1.1.3 The role of manufacturing in Australia

Despite the significant contribution of the Australian manufacturing sector to the Australian economy, increasing pressures from international competition and the recent global financial crisis has created a challenging environment for the local sector to operate within. In order to remain internationally competitive, a number of Australian manufacturers are increasingly relying on offshore activities, which has led to a decline in the prominence of labour-intensive industry groups in Australia. Australian manufacturers are also refining the focus of their operations, and shifting into new and more specialised areas of manufacturing.

With an increasing emphasis on innovation in the public and private sectors, there is an opportunity for Australia to foster a more sophisticated and flexible manufacturing sector. The Committee is aware that many manufacturers are actively adjusting to a more competitive environment in both domestic and global markets through adoption of various strategies, including enhancing investment and performance in innovative activities; expanding their presence in export markets and global supply chains; incorporating new technologies and business models into existing operations to improve productivity levels; and providing appropriate training to workers to enhance their skills levels. While there is significant scope for improvement in various areas relating to the sector, including government support available to manufacturing firms, the Committee shares the view that the manufacturing sector can continue to make a positive impact on the Australian economy.

## 1.1.4 Key issues considered in this report

### **1.1.4.1 Factors that influence decisions about where to manufacture**

With the development of open international markets, there are increasing opportunities for Australian manufacturers to move into new markets and

for foreign firms to invest in Australia. The Inquiry's Terms of Reference required the Committee to explore the criteria adopted by businesses when deciding where to manufacture. Various criteria were identified, including among other things, the size of the domestic market, access to supply chains and logistics, quality of manufacture, intellectual property security, and access to, and promotion of, research and expertise.

The Committee received extensive evidence about the factors that influence firms' decisions to remain in Victoria or contemplate moving offshore operations to Victoria, including availability of highly skilled labour; a stable economic and regulatory environment; government attitudes towards manufacturing; and reliable infrastructure.

#### **1.1.4.2 Government support available to the manufacturing sector**

Assistance and incentives provided by governments to the manufacturing sector are key considerations for firms considering expanding manufacturing operations in Australia, and fostering a sustainable and competitive sector overall. There is also a role for governments to shape an environment for business that allows manufacturing firms to develop and grow with minimal intervention.

Government procurement is an important mechanism to support the local manufacturing sector, particularly smaller and medium-sized firms, by actively seeking to maximise local content in major public projects. Direct government support through grants and assistance programs, tax concessions/credits, and tariffs can also be utilised to support manufacturing, although the purpose of these mechanisms need to be clearly defined to ensure government resources are efficiently applied.

#### **1.1.4.3 Availability of skills**

The availability of a highly skilled workforce is widely recognised as a crucial factor in securing the long-term sustainability of the Australian manufacturing sector. The existing sector provides employment opportunities to workers of all skills levels, although the shift towards high quality and specialised manufacture will ensure a greater demand for technical skills relating to research, design and development.

Meeting the future skill needs of the manufacturing sector requires that a range of education and training programs are available to people of all skill levels and career aspirations. Increased efforts are required on behalf of industry groups, governments and training providers to encourage young people to pursue a career in manufacturing. It is also important that existing workers in the manufacturing sector are provided with opportunities to enhance their existing knowledge and skills base.

#### **1.1.4.4 Innovation in the manufacturing sector**

The capacity of individual manufacturers to continuously invent, discover and diffuse new knowledge and technologies into their business operations is crucial to ensuring that they can compete in global markets. In this context, innovation should be employed by manufacturing firms as a decisive competitive strategy, as it will enable them to move into more specialised areas of manufacture and differentiate their products in the marketplace.

In recognition of the role of innovation in lifting productivity and its contribution to the economy, government support is necessary to help stimulate innovation among manufacturing firms. This is particularly important for small and medium-size enterprises (SMEs), many of whom may not have access to sufficient resources to invest in research and development, or other innovative activities, such as commercialising new processes or technologies.

#### **1.1.4.5 Access to finance**

Access to finance is an important issue for manufacturing firms of all sizes and at all stages of their business cycle. Finance is required for various activities, including acquisitions activity, the use of overdraft facilities, equipment purchases, working capital, cash-flow maintenance, and/or business expansion.

While a number of different finance options exist for manufacturing firms, there are reports of lending institutions and other credit agencies tightening their provision of finance to businesses in response to the recent economic downturn. On this basis, it is important that industry groups, manufacturing firms and governments explore alternative finance options to ensure that opportunities exist for manufacturers to expand their operations into viable and sustainable businesses.

#### **1.1.4.6 Factors that influence business growth and competitiveness**

The competitiveness of manufacturing firms is dependent on a number of components, many of which are outlined in the above sections. Other factors that contribute to the continued growth of the sector include the involvement of individual firms in international trade through exporting and participation in global supply chains; promotion and branding of the manufacturing sector in domestic and global markets; and the capacity of individual firms to work effectively in industry clusters.

## **1.2 Inquiry process**

The Committee advertised the Terms of Reference and called for written submissions in Victorian and national newspapers in June and July 2009. The Committee received 65 submissions (see Appendix One).

Eleven public hearings were convened from August 2009 through to April 2010. Details of hearings are provided in Appendix Two. The Committee took evidence from and met 68 witnesses representing 40 organisations, hearing from government agencies and non-government agencies, peak industry groups, industry experts, unions, and businesses working in the manufacturing sector.

As parts of its investigations, the Committee conducted meetings with a number of key organisations in the United Kingdom, France, Belgium and Germany to obtain an international perspective on issues arising from this Inquiry. Meetings were conducted between Monday 8 February 2010 and Friday 19 February 2010. During this time, the delegation met with legislators, key policy makers, business peak bodies, unions, government department and agency representatives, researchers, and business representatives. In total, the delegation met with over 72 people

representing 38 organisations. The Committee also visited the National Assembly for Wales.

Many individuals and organisations contributed to this Inquiry by making written submissions and participating at public hearings. The Committee is grateful to these people for generously sharing their expertise and time.

## Chapter Two: Key points

Growth in the manufacturing sector has been consistent over the last three decades. Over time, however, the manufacturing sector's share of gross domestic product (GDP) and employment has decreased relative to other sectors, principally due to rapid expansion sectors such as the services sector. The trends in manufacturing employment and growth, and in the relative contribution of manufacturing to GDP and employment, correlate with developments in most Organisation for Economic Co-operation and Development (OECD) nations.

In Victoria, the manufacturing sector is a key employer, accounting for 29 per cent of total manufacturing employment in 2006-07. It also accounted for 28 per cent of the total Australian sector's sale and services income. Key areas of the Victorian manufacturing sector include transport equipment; food; textiles, clothing and footwear (TCF); chemicals; pharmaceuticals; printing and aluminium. Victoria's major manufacturing exporters in 2008-09 were the food and beverage, and the automotive industries. Its major imports were crude petroleum and passenger motor vehicles. Overall, the Australian manufacturing sector accounted for 17 per cent of all exports in 2008.

Manufacturing industry groups, by order of contribution to Victorian employment, are: food, beverages and tobacco; machinery and equipment; TCF; petroleum, coal, chemical and associated products; printing, publishing and recorded media; non-metallic mineral products; wood and paper; metal products; and other manufacturing.

The manufacturing sector makes an important contribution to Australian exports, accounting for 17 per cent of all exports in 2008, and for more than 51 per cent of merchandise exports. In Victoria, principal manufacturing sector exports were from the food and beverage industry, and the automotive industry.



## Chapter Two: The state of manufacturing

The manufacturing sector forms a vital part of the Victorian economy, as the largest employing sector in the state, and the second-largest sector in terms of output.<sup>1</sup> Manufacturing contributed \$30.6 billion to Victoria's economy in 2007-08, and forms a vital part of economic activity.<sup>2</sup> The manufacturing sector is also a key driver of private research and development spending, accounting for 45 percent of expenditure in Victoria, and playing a key role in innovation for the State.<sup>3</sup>

Despite the significant role manufacturing plays in the Victorian economy, international competition is placing pressure on a number of industries within the Victorian, and Australian, manufacturing sectors. The pressures experienced in Australia in this regard are similar to those experienced across Organisation for Economic Co-operation and Development (OECD) countries, and generally require manufacturing businesses to improve productivity and move toward high-value, innovative, high-technology, and often capital-intensive manufacturing. Victoria is currently well-placed to make this move. The labour skills base for manufacturing is strong, regulations for intellectual property protection are well-developed, and the political and economic environment is stable and robust.

### 2.1 Definitions for manufacturing

A number of definitions of what comprises the 'manufacturing' sector are employed internationally. The definition used by the principal statistical agencies in Australasia, the Australian Bureau of Statistics (ABS) and Statistics New Zealand, is found in the Australian and New Zealand Standard Industrial Classification (ANZSIC), which defines manufacturing as "the physical or chemical transformation of materials or components into new products, whether the work is performed by machinery or by hand."<sup>4</sup> Within the ANZSIC, the transformation of materials or components is separated into two categories: simply transformed manufactures (STM); and elaborately transformed manufactures (ETM). STM refers to materials that are transformed one or two stages beyond the principal material in its raw form, whereas ETM refers to finished or near-finished products with high-added value.<sup>5</sup>

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<sup>1</sup> Hon Martin Pakula, Minister for Industry and Trade and Minister for Industrial Relations, *Transcript of evidence*, 14 September 2009.

<sup>2</sup> Victorian Government, *Submission*, no. 60, 14 September 2009.

<sup>3</sup> Victorian Government, *Submission*, no. 60, 14 September 2009.

<sup>4</sup> Australian Bureau of Statistics, 'Themes - Manufacturing statistics', viewed 10 February 2010, <[www.abs.gov.au](http://www.abs.gov.au)>.

<sup>5</sup> Engineers Australia, *Submission*, no. 38, 4 August 2009.

While the ANZSIC definition provides a common framework to examine the performance of Australia's manufacturing sector, there is pressure to broaden the scope of the ANZSIC to accommodate industries that have emerged from synergies between manufacturing and other sectors within the economy, particularly the services sector. In its report *Trends in Australian manufacturing*, the Productivity Commission identified two such emerging industries:

- the information technology industry spans traditional sectors, including hardware manufacture and assembly and a whole range of services (software and software services, systems design, and equipment and systems management); and
- the pharmaceutical industry encompasses not only traditional manufacturing and packaging, but also quality assessment, regulatory approval, marketing and substantial, often outsourced, research and development activity.<sup>6</sup>

While components of the ANZSIC will continue to evolve to accommodate changing industry practice, it remains the most useful standard for analysis of manufacturing in Australasia, due to its adoption by government statistical agencies. In the international context, however, a variety of systems have been adopted to encompass the range of international statistical systems.

One of the most important of these is the set of definitions adopted by the OECD, which conducts a range of research on developments in industry across selected developed nations. In its examinations of the global manufacturing sector, the OECD draws on distinctions between low, medium and high technology industries based on the level of research and development (R&D) that occurs within manufacturing industries:

- high-tech industries: including photographic and optical manufacturing; medical and surgical equipment; professional and scientific equipment; computer and business machine manufacturing; telecommunications, broadcasting and transceiving equipment; electronic equipment; medicines and pharmaceuticals; and aircraft;
- medium-tech industries: including motor vehicles; electrical equipment; shipbuilding; railway equipment; and chemicals; and
- low-tech industries: including processed food; textiles, clothing, footwear and leather; printing and publishing; iron and steel; non-ferrous metals and non-metallic minerals; and other manufacturing (furniture, toys, sporting goods and miscellaneous small articles).<sup>7</sup>

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<sup>6</sup> Productivity Commission, *Trends in Australian Manufacturing*, Canberra, 2003, pp. 3-4.

<sup>7</sup> Organisation for Economic Co-operation and Development, *Globalisation and regional economies*, Organisation for Economic Co-operation and Development, Paris, 2007; Organisation for Economic Co-operation and Development, *Innovation and growth: rationale for an innovation strategy*, 2007.

For the purpose of this Inquiry, examination of manufacturing in Australia is largely based on ANZSIC data. OECD categories are also adopted when comparing Australia's performance against other OECD countries.<sup>8</sup>

## 2.2 Australia's manufacturing sector

Between 1975 and 2006, overall manufacturing output in Australia increased by an average of 1.5 per cent per year. During this 31 year period, the sector experienced a fall in output in only eight years, with the fall in one three-year period accounted for by the recession between 1989 and 1992.<sup>9</sup> The most recent ABS data indicates that the manufacturing sector's gross industry value added (GVA) increased between 2005-06 and 2007-08, but dropped in 2008-09. In 2005-06, manufacturing GVA was \$103.72 billion, increasing to \$109.94 billion in 2007-08, but dropping to \$103.14 in 2008-09. The 2008-09 fall was principally attributable to the effect of the global financial crisis (GFC).

While growth in the manufacturing sector has been consistent over the past three decades, other sectors of the economy have grown at a much faster rate, at 3.3 per cent per annum from 1974 to 2001. Due to the strong performance of these other sectors, manufacturing accounts for a decreasing share of GDP and employment over the last four decades relative to other sectors.<sup>10</sup> For example, according to a 2003 report by the Productivity Commission, manufacturing contributed to around one-quarter of economic activity in the early 1960s, which fell to around one-eighth by the early twenty-first century, despite an increase in real production and income across the manufacturing sector over that period.<sup>11</sup> In 2003, the Productivity Commission predicted that the sector would only account for around one-tenth of GDP between 2010-11 and 2015-16.<sup>12</sup> This prediction is confirmed in recent ABS data, which indicates the manufacturing sector contributed 10 per cent to GDP in 2007-08, down from 11 per cent in 2001-02.<sup>13</sup>

As the share of manufacturing in GDP has decreased, so too has its share of total employment. Between 1966-67 and 2001-02, manufacturing-related employment decreased from over one-quarter of all employment to around 12 per cent.<sup>14</sup> According to the Australian Chamber of Commerce and Industry (ACCI), the manufacturing sector has lost approximately one hundred thousand employees since 1985.<sup>15</sup>

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<sup>8</sup> OECD countries include: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States.

<sup>9</sup> Australian Chamber of Commerce and Industry, *The future of Australia's manufacturing sector: a blueprint for success*, Australian Chamber of Commerce and Industry, Barton, 2007.

<sup>10</sup> Department of Innovation Industry Science and Research, *Manufacturing sector: overview of structural change industry brief 2006-07*, Canberra, 2008.

<sup>11</sup> Productivity Commission, *Trends in Australian Manufacturing*, Canberra, 2003.

<sup>12</sup> Productivity Commission, *Trends in Australian Manufacturing*, Canberra, 2003.

<sup>13</sup> Australian Bureau of Statistics, *2008 Australian year book*, Canberra, 2009.

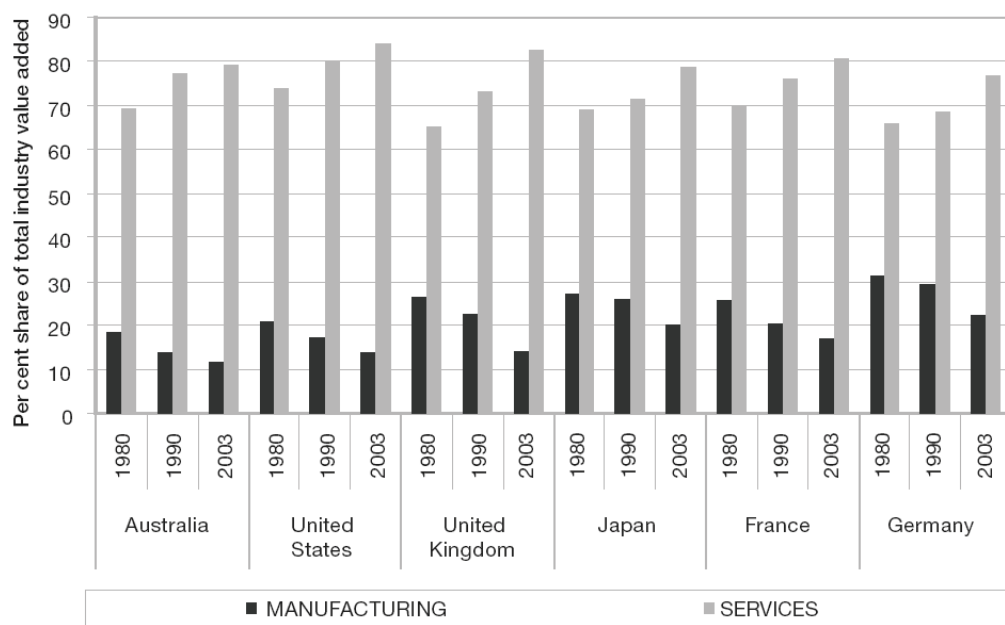
<sup>14</sup> Productivity Commission, *Trends in Australian Manufacturing*, Canberra, 2003.

<sup>15</sup> Australian Chamber of Commerce and Industry, *The future of Australia's manufacturing sector: a blueprint for success*, Australian Chamber of Commerce and Industry, Barton, 2007.

According to the ABS *2009 Australian yearbook*, 1,016,700 people were employed in the Australian manufacturing sector in 2008-09, representing nine per cent of the total labour market. In the context of average weekly earnings of employees, between May 1999 and May 2009, the average earnings of all manufacturing employees increased by \$331 (46 per cent), which was higher than the increase of \$308 for all other sectors. However, the increase in average earnings of full-time employees between the same ten year period was lower in the manufacturing sector (48 per cent) than for all other sectors (57 per cent).<sup>16</sup>

These trends in manufacturing employment and growth correlate with observations of manufacturing sectors in most OECD countries. Figure 1 shows that the share of manufacturing IVA relative to all industries in Australia, the United States of America (USA), the United Kingdom (UK), Japan, France and Germany has decreased over the past two decades.<sup>17</sup> Furthermore, the OECD report *The changing nature of manufacturing in OECD economies* confirmed that the share of manufacturing in overall employment has decreased in many OECD economies, coinciding with a rise in the share of services.<sup>18</sup>

**Figure 1: Share of value added by industry<sup>19</sup>**



**Finding 1:** The growth of the Australian manufacturing sector has been consistent over the last three decades, although in contrast to other sectors, the manufacturing sector has faced greater pressure from global competition. Consequently, the manufacturing sector's share of gross domestic product and employment has decreased relative to other industry sectors. This trend is common to developed economies.

<sup>16</sup> Australian Bureau of Statistics, *2009-10 Year book Australia*, Canberra, 2010.  
<sup>17</sup> Department of Innovation Industry Science and Research, *Manufacturing sector: overview of structural change industry brief 2006-07*, Canberra, 2008.  
<sup>18</sup> Dirk Pilat, et al., *The changing nature of manufacturing in OECD economies*, Paris, 2006.  
<sup>19</sup> Department of Innovation Industry Science and Research, *Manufacturing sector: overview of structural change industry brief 2006-07*, Canberra, 2008, p. 10.

## 2.2.1 States and territories

The latest direct data on IVA for the manufacturing sector in the States and Territories from the ABS is for the 2004-05 financial year, which predates changes to the sector as a result of the global financial crisis. In 2004-05, New South Wales contributed 39 per cent of the total IVA for the printing, publishing and recorded media industry; and between 29 per cent and 35 per cent of the total IVA for remaining manufacturing industries. Victoria, on the other hand, contributed 42 per cent of the total IVA for the textile, clothing and footwear (TCF) manufacturing industry; 37 per cent of the total IVA for the petroleum, coal, chemical and associated product manufacturing industry; and between 21 and 35 per cent of the total IVA for the remaining manufacturing industries.<sup>20</sup>

**Table 1: Manufacturing industry, value added – 2004-05<sup>21</sup>**

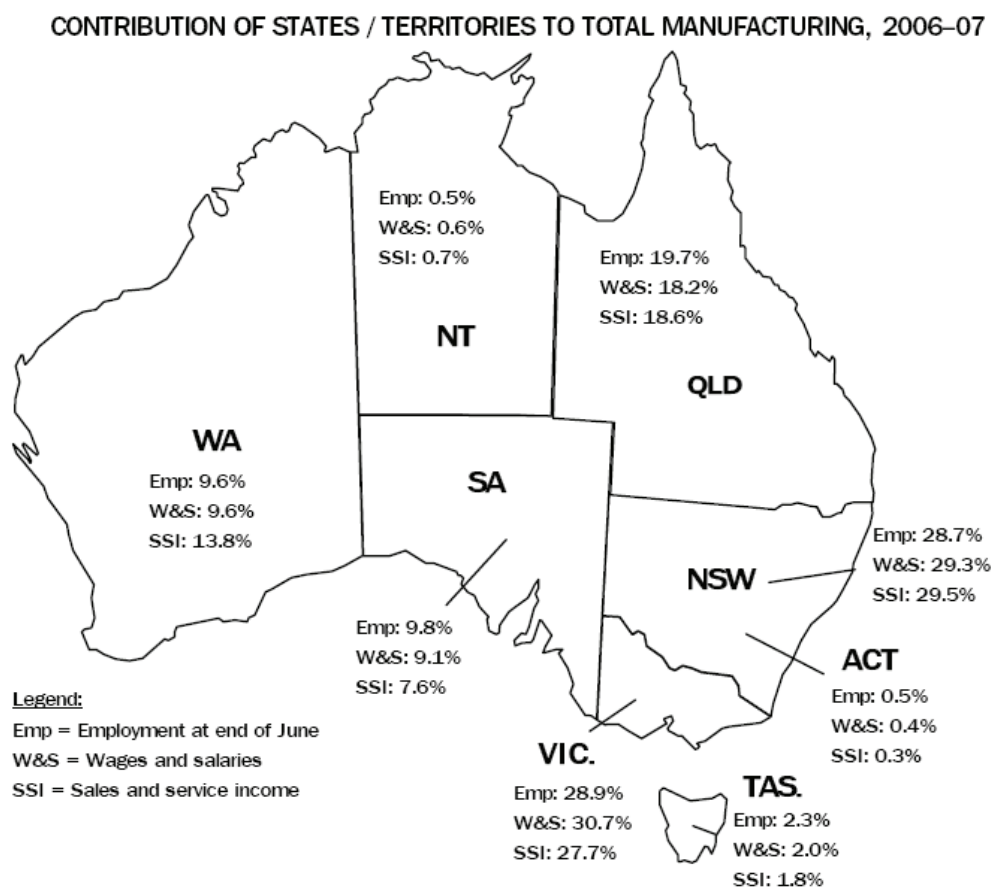
ANZSIC subdivision	NSW \$m	Vic \$m	Qld \$m	SA \$m	WA \$m	Tas \$m	NT \$m	ACT \$m	Aust \$m
Food, beverage and tobacco	6404.3	5519.3	3261.5	1756.5	1146.7	401.7	37.1	35.5	18 562.5
Textile, clothing, footwear and leather	847.9	1241.6	345.4	132.6	269.6	66.7	10.1	8.6	2922.5
Wood and paper products	1813.7	1858.2	1112.9	741.4	415.0	506.2	10.9	27.7	6483.9
Printing, publishing and recorded media	3893.9	3080.3	1313.6	675.8	814.3	145.6	48.6	140.6	10,112.7
Petroleum, coal, chemical and associated products	3861.1	4733.4	1961.0	682.0	1513.3	150.7	30.4	15.8	12,947.8
Non-metallic mineral products	1543.5	1119.9	862.0	433.4	638.5	120.5	54.2	51.2	4823.3
Metal products	6214.1	3974.8	3751.4	1096.7	2585.8	620.7	471.4	53.0	18,747.9
Machinery and equipment	5683.7	6648.7	2573.7	2403.0	1420.6	248.7	71.9	80.2	19,130.6
Other manufacturing	1324.0	1169.9	778.2	323.6	414.4	69.9	24.1	28.1	4132.2
<b>Total</b>	<b>31,586.4</b>	<b>29,344.1</b>	<b>15,959.7</b>	<b>8245.1</b>	<b>9198.0</b>	<b>2330.6</b>	<b>758.7</b>	<b>440.8</b>	<b>97,863.4</b>

In 2006-07, New South Wales and Victoria shared similar levels of economic aggregates, with New South Wales accounting for 29 per cent of sales and service income and Victoria accounting for 28 per cent (see Figure 2). New South Wales and Victoria each accounted for approximately 29 per cent of manufacturing employment in 2006-07.

<sup>20</sup> Australian Bureau of Statistics, *2008 Australian year book*, Canberra, 2009.

<sup>21</sup> Australian Bureau of Statistics, *2008 Australian year book*, Canberra, 2009, p. 569.

**Figure 2: Contribution of states and territories to total manufacturing, 2006-07<sup>22</sup>**



## 2.3 Victorian manufacturing sector

In 2007-08, the Victorian manufacturing sector contributed \$30.6 billion to gross state product (GSP), equal to 11.4 per cent of total GSP.<sup>23</sup> According to the former Minister for Industry and Trade, the Honourable Martin Pakula MP, the Victorian manufacturing sector continues to play an important role in the State's prosperity:

It is the second-largest sector in the State in terms of output, and is still the largest employing sector in the State. A very high proportion – around 85 per cent – of the jobs in the sector are full-time jobs, and it is a sector which drives innovation, it drives technology transfer and skill development, and it connects us as a state into global supply chains.<sup>24</sup>

Throughout the course of the Inquiry, the Committee heard evidence highlighting the benefits of manufacturing to the State of Victoria. In its submission, the City of Greater Dandenong referred to local regional

<sup>22</sup> Australian Bureau of Statistics, *Manufacturing industry 2006-07*, 2008, p. 34.

<sup>23</sup> Victorian Government, *Submission*, no. 60, 14 September 2009.

<sup>24</sup> Hon Martin Pakula, Minister for Industry and Trade and Minister for Industrial Relations, *Transcript of evidence*, 14 September 2009, p. 2.

modelling that demonstrated for every 100 direct manufacturing jobs, there is a multiplier effect of an additional 120 jobs:

Local regional modelling demonstrates that every 100 direct manufacturing jobs has a multiplier effect of a further 120 jobs with approximately half of these driving an industrial effect across other manufacturing, wholesale and retail trade, transport and storage and property and business services. The other half of these indirect jobs have a consortium effect particularly in relation to other retail, business services, education and community sectors.

In a wider Melbourne metropolitan context the multiplier effect is even more significant with 100 direct manufacturing jobs supporting nearly 200 indirect jobs across similar sectors to the local area but with greater impacts for retail, business services, hospitality, education, health and community, recreational and personal service sectors.<sup>25</sup>

In the context of rail manufacturing, Bombardier Transportation Australia outlined in its submission how its contract to produce the V/LOCITY train benefited the local supply chain, with one consortium of local manufacturing companies that supply equipment and components to Bombardier collectively employing 250 people and attracting \$30 million worth of work.<sup>26</sup>

Victoria's manufacturing strengths traditionally lie in the areas of transport equipment; food; TCF; chemicals; pharmaceuticals; printing; and aluminium. In 2006-07, food product manufacturing was Victoria's largest manufacturing industry, accounting for 20 per cent of the overall sector's sales and services income, and 19 per cent of its employment. Transport equipment manufacturing ranked second in both sales and services income (15 per cent) and employment (14 per cent). Both food product manufacturing and transport equipment manufacturing made significant contributions to the State's wages and salaries, each accounting for 17 per cent.<sup>27</sup>

Other industry groups that are emerging as major contributors to Victoria's manufacturing sector include information and communication technology (ICT), aerospace, and defence.<sup>28</sup>

Finding 2: Manufacturing continues to make an important contribution to Victoria, particularly in the creation of skilled, higher-value jobs.

## 2.4 An overview of manufacturing industry groups

This section outlines the key industry groups in the Australian manufacturing sector, with an overview of their contributions to the Victorian and Australian economies.

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<sup>25</sup> City of Greater Dandenong, *Submission*, no. 20, 3 August 2009, p. 1.

<sup>26</sup> Bombardier Transportation Australia Pty Ltd, *Submission*, no. 51, 21 August 2009.

<sup>27</sup> Australian Bureau of Statistics, *Manufacturing industry 2006-07*, 2008.

<sup>28</sup> Department of Innovation Industry and Regional Development, *Building our industries for the future*, Melbourne, 2008.

## 2.4.1 Food, beverages and tobacco

According to ANZSIC, the food, beverage and tobacco industry comprises meat and meat product manufacturing, dairy product manufacturing, fruit and vegetable processing, oil and fat manufacturing, flour mill and cereal food manufacturing, bakery product manufacturing, other food manufacturing, beverage and malt manufacturing, and tobacco product manufacturing.<sup>29</sup>

At the national level, the annual turnover of the food and beverage manufacturing industry in 2006-07 was \$80 billion. In the five years to June 2007, the food and beverage sector grew by 8.1 per cent.<sup>30</sup>

According to ABS data, the value of the food product manufacturing sub-industry's IVA was \$14.5 billion in 2006-07. The sub-industry employed 206,328 people, 56,557 (27 per cent) of which were located in Victoria. Of the sales of goods produced, 19.7 per cent were exported. Furthermore, the value of the beverage and tobacco product manufacturing sub-industry's IVA was \$5.8 billion. It had an employment base of 33,722, with 7583 (22 per cent) employed in Victoria. Of the goods produced in this sub-industry, 7.5 per cent of sales were in exports.<sup>31</sup>

In its submission to the Inquiry, the Confectionery Manufacturers of Australia (CMA) indicated that its industry, which represents manufacturers of chocolate, sugar and gum confectionary, and suppliers of ingredients, machinery, packaging materials, is valued in excess of \$3 billion, with over 60 per cent of products manufactured in Victoria.<sup>32</sup>

At the state level, Victoria is a major contributor to Australia's food industry. In 2008-09, Victoria produced 30 per cent of Australia's food products from just three per cent of its arable land. The Victorian industry is valued at \$21 billion, and accounts for one-fifth of Victoria's GSP. It comprises over 2000 processing plants, covering the areas of wine, meat, dairy, confectionary, bakery products, and fruit and vegetables. It also includes over 32,000 farms with a combined value of \$8.7 billion.<sup>33</sup>

Victoria's food exports are worth over A\$5.6 billion, of which A\$2.1 billion is generated by the dairy industry. Victoria's dairy industry is responsible for two-thirds of national dairy production and around 13 per cent of global dairy production.<sup>34</sup>

## 2.4.2 Machinery and Equipment

The machinery and equipment manufacturing industry includes motor vehicle and part manufacturing; other transport equipment manufacturing

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<sup>29</sup> Australian Bureau of Statistics, 'Australian and New Zealand Standard Industrial Classification (ANZSIC), 1993', viewed 16 February 2010, <<http://www.abs.gov.au>>.

<sup>30</sup> Australian Food and Grocery Council and KPMG Australia, *Australian Food and Grocery Council, State of the industry 2009*, Kingston, 2009.

<sup>31</sup> Australian Bureau of Statistics, *Manufacturing industry 2006-07*, 2008.

<sup>32</sup> Confectionery Manufacturers of Australasia Limited, *Submission*, no. 46, 17 August 2009.

<sup>33</sup> Hon. Jacinta Allan, Minister for Regional and Rural Development and Minister for Skills and Workforce Participation, *Transcript of evidence*, 14 September 2009; Business Victoria, 'Victoria's food industry', viewed 2 July 2010, <<http://www.business.vic.gov.au>>.

<sup>34</sup> Department of Innovation Industry and Regional Development, *Building our industries for the future*, Melbourne, 2008.



(ship building, boat building, aircraft components and railway equipment), photographic and scientific equipment manufacturing, electronic equipment manufacturing, electrical equipment and appliance manufacturing, and industrial machinery and equipment manufacturing.<sup>35</sup> The industrial machinery and equipment sub-industry encompasses production of equipment used in sectors other than manufacturing, such as construction, mining and agriculture.<sup>36</sup>

In 2006-07, the machinery and equipment manufacturing industry's IVA was \$10.5 billion. The industry employed 119,477 people, with 27,587 (23 per cent) employed in Victoria. Twenty-one per cent of goods sold from the Australian machinery and equipment manufacturing industry were exported.<sup>37</sup>

The transport equipment manufacturing industry's IVA was \$9 billion in 2006-07 and it employed 105,244 people, with 42,017 (40 per cent) located in Victoria. In addition, 7.7 per cent of the sales of goods produced in the Australian transport equipment industry were exported.<sup>38</sup>

Further information on some of the key sub-industries within the machinery and equipment manufacturing industry is provided below.

#### 2.4.2.1 Automotive

Automotive manufacturing is the largest sub-industry within the machinery and equipment manufacturing industry. While the industry is small by international standards, it is one of the few automotive industries on a global scale that contains the full range of capabilities, from development of concept to delivery of final product. It is also an extremely fragmented industry, comprising around 60 brands that offer more than 350 models from 26 different source countries.<sup>39</sup> Ford, Toyota and Holden all have a large presence in Victoria, along with 100 Australian, European, Japanese and American component manufacturers. Collectively, these component manufacturers account for \$5 billion in component production annually.<sup>40</sup>

According to the Commonwealth Government's Automotive Industry Innovation Council, the automotive industry is one of Australia's key manufacturing industries, accounting for nearly six per cent of total manufacturing activity.<sup>41</sup> In its submission to the Inquiry, the Federal Chamber of Automotive Industries stated that the three Australian based vehicle manufacturers in Victoria and Adelaide employ over 61,000 people, with around 25,000 employed directly in vehicle manufacturing. The industry accounts for \$3.7 billion in wages and salaries each year, equal to 7 per cent of total manufacturing wages and salaries.<sup>42</sup>

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<sup>35</sup> Australian Bureau of Statistics, 'Australian and New Zealand Standard Industrial Classification (ANZSIC), 1993', viewed 16 February 2010, <<http://www.abs.gov.au>>.

<sup>36</sup> National Office for the Information Economy, *Productivity growth in Australian manufacturing*, Canberra, 2004.

<sup>37</sup> Australian Bureau of Statistics, *Manufacturing industry 2006-07*, 2008.

<sup>38</sup> Australian Bureau of Statistics, *Manufacturing industry 2006-07*, 2008.

<sup>39</sup> Ford Motor Company of Australia Limited, *Submission*, no. 34, 5 August 2009.

<sup>40</sup> Business Victoria, 'Automotive', viewed 4 February 2010, <<http://www.business.vic.gov.au>>.

<sup>41</sup> Automotive Industry Innovation Council, *Submission*, no. 56, 7 September 2009.

<sup>42</sup> Federal Chamber of Automotive Industries, *Submission*, no. 58, 21 September 2009.

At the state level, the Victorian automotive industry turnover was A\$15.3 billion in 2006-07, accounting for 45.5 per cent of national automotive industry turnover. In 2008, the Victorian industry manufactured 211,000 vehicles, which was 62.8 per cent of Australia's total vehicle production. Of these vehicles, 106,000 were exported, accounting for 66.3 per cent of all Australian vehicle exports.<sup>43</sup>

#### **2.4.2.2 Aerospace**

The Aerospace manufacturing sub-industry encompasses activities surrounding the design, construction, assembly, maintenance, and launching of civil and military aircraft, aircraft engines, spacecraft, missiles, and equipment hardware and software. In particular, aerospace in Australia includes the manufacturing of aircraft and aircraft components, repair and maintenance, and system design and development. The Australia aerospace industry annual turnover is \$3.9 billion, \$1.8 billion of which is Australian value added. Aerospace manufacturing employs 13,000 people.<sup>44</sup>

Victoria has the largest and most innovative aerospace industry in Australia, providing a centre of excellence for aerospace and aviation activities in the Asia Pacific Region. Victoria has more than 150 firms and 5000 workers in the aerospace sector, accounting for almost 40 per cent of the national aerospace industry. The Victorian aerospace manufacturing industry has an annual turnover of more than \$600 million and exports worth \$250 million.<sup>45</sup>

#### **2.4.2.3 Defence**

While the aerospace sub-industry plays a prominent role in Australian defence activities, the defence manufacturing category also encompasses other activities relating to land, sea, ammunitions and missiles, and systems support. The prominence of the automotive industry in Victoria has facilitated its rise as the lead defence manufacturing state.

Victoria's defence industry has an annual turnover of over \$1.2 billion and it employs more than 10,500 people. In 2005-06, the major sources of defence industry activity included:

- naval shipbuilding and repair - \$400 million;
- aerospace structural design and manufacturing - \$240 million;
- weapons and ordnance - \$200 million;
- aerospace electronics - \$140 million;
- land vehicles - \$85 million;
- non-aerospace electronics - \$80 million; and

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<sup>43</sup> Invest Victoria, 'Automotive: Melbourne, Victoria, Australia', viewed 2 February 2010, <<http://www.invest.vic.gov.au>>.

<sup>44</sup> Peter Lambe, *AMTIL The source*, Wantirna, 2009.

<sup>45</sup> Business Victoria, 'Air', viewed 4 February 2010, <<http://www.business.vic.gov.au>>.

- aerospace maintenance and overhaul - \$75 million.

Around half of Australia's defence businesses have operations in Victoria, where nearly half the defence workforce is employed. In 2005-06, three-quarters of Victoria's defence businesses exported both defence and non-defence goods and services valued at \$1.05 billion, equal to six per cent of Victoria's total exports.

#### 2.4.2.4 Electronics and process control

The Australian electronics sub-industry covers various types of products, including telecommunications equipment, optical fibre cables, personal computers assembly, printed circuit boards and some defence equipment.<sup>46</sup> The industry underpins other key industries, including defence, automotive, telecommunications, scientific and medical equipment, biotechnology, environment and advanced materials.

According to the Commonwealth Government's *Electronic Industry Action Agenda*, in 2003 the electronics industry employed 33,000 people, had an annual turnover of \$8.7 billion and exports valued at \$4.9 billion.<sup>47</sup> At present, Victoria generates 41 per cent of Australia's ICT and electronics output.<sup>48</sup>

#### 2.4.2.5 Medical and scientific equipment

This industry covers a wide range of instruments used in observations, measurements, testing and diagnostics, as well as medical instruments including heart pacemakers and ear implants.<sup>49</sup>

In its submission to the Inquiry, Science Industry Australia (SIA) advised that Australia's domestic market for scientific equipment and laboratory-related services is estimated to be worth \$11.78 billion in 2009-10. SIA also stated the Australian market represents an estimated two per cent of global production. Manufacturing production is worth \$1.38 billion, with exports valued at \$1.27 billion and imports valued at \$3.31 billion.<sup>50</sup>

The Victorian industry manufactures 46 per cent of Australia's scientific and analytical products, 95 per cent of which is intended for export.<sup>51</sup>

### 2.4.3 Textiles, clothing and footwear

The TCF industry includes textile fibre, yarn and woven fabric manufacturing; textile product manufacturing; knitting mills; clothing

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<sup>46</sup> National Office for the Information Economy, *Productivity growth in Australian manufacturing*, Canberra, 2004.

<sup>47</sup> Department of Communications Information Technology and the Arts, *Electronic industry action agenda*, Canberra, 2003.

<sup>48</sup> Business Victoria, 'Electronics and process control', viewed 4 February 2010, <<http://www.business.vic.gov.au>>.

<sup>49</sup> National Office for the Information Economy, *Productivity growth in Australian manufacturing*, Canberra, 2004.

<sup>50</sup> Science Industry Australia Inc, *Submission*, no. 8, 31 July 2009.

<sup>51</sup> Business Victoria, 'Scientific and analytical products', viewed 4 February 2010, <<http://www.business.vic.gov.au>>.

manufacturing; footwear manufacturing; and leather and leather product manufacturing.<sup>52</sup>

The Australian TCF industry's IVA was \$2.8 billion in 2006-07. According to ABS data, 53,838 people were employed in the TCF industry in 2006-07, 19,679 of which were located in Victoria (36 per cent). Approximately 15 per cent of sales of goods produced in the TCF industry were exported.<sup>53</sup>

While the TCF industry continues to make an important contribution to the Australian and Victorian economies, its share of GVA to the GDP declined by 35.2 per cent from 2001-02 to 2005-06.<sup>54</sup> The industry has also experienced significant declines in employment, with evidence of a 48 per cent job loss in the decade from 1996 to 2006.<sup>55</sup>

#### 2.4.4 Petroleum, coal, chemical and associated products

The petroleum, coal, chemical and associated products manufacturing industry includes petroleum refining, petroleum and coal product manufacturing, basic chemical manufacturing, other chemical product manufacturing, rubber product manufacturing, and plastic product manufacturing.<sup>56</sup>

According to the ABS, the petroleum and coal product manufacturing sub-industry's IVA was \$2.5 billion in 2006-07. It employed 7846 people throughout Australia, with 2979 (38 per cent) employed in Victoria. Almost 4 per cent of the sales of goods produced in this industry were exported.<sup>57</sup>

During the same period, the basic chemical and chemical product manufacturing sub-industry's IVA was \$6.8 billion, with an employment base of 45,109 persons. In Victoria, 16,576 people were employed in this sub-industry, accounting for 36.7 per cent of total industry employment. Over 17 per cent of sales of goods produced in this industry were exported.<sup>58</sup>

In addition, the ABS reported that the polymer product and rubber product manufacturing sub-industry's IVA was \$5 billion in 2007-07. It employed 52,531 people, with the Victorian industry employing 19,012 people (36 per cent of total industry employment). Seven per cent of sales of goods produced in this industry were exported.<sup>59</sup>

#### 2.4.5 Printing, publishing and recorded media

Under ANZSIC, this industry encompasses printing and services to printing, publishing, and recorded media manufacturing and publishing. In

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<sup>52</sup> Australian Bureau of Statistics, 'Australian and New Zealand Standard Industrial Classification (ANZSIC), 1993', viewed 16 February 2010, <<http://www.abs.gov.au>>.

<sup>53</sup> Australian Bureau of Statistics, *Manufacturing industry 2006-07*, 2008.

<sup>54</sup> Australian Bureau of Statistics, *2008 Australian year book*, Canberra, 2009.

<sup>55</sup> Michele O'Neil, National Secretary and Victorian Secretary, Textile, Clothing and Footwear Union of Australia, *Transcript of evidence*, 7 August 2009.

<sup>56</sup> Australian Bureau of Statistics, 'Australian and New Zealand Standard Industrial Classification (ANZSIC), 1993', viewed 16 February 2010, <<http://www.abs.gov.au>>.

<sup>57</sup> Australian Bureau of Statistics, *Manufacturing industry 2006-07*, 2008.

<sup>58</sup> Australian Bureau of Statistics, *Manufacturing industry 2006-07*, 2008.

<sup>59</sup> Australian Bureau of Statistics, *Manufacturing industry 2006-07*, 2008.

particular, the printing, publishing and recorded media industry is responsible for publishing and printing newspapers, magazines, books and printed advertising.<sup>60</sup>

In 2006-07, the value of the printing industry's IVA was \$3.9 billion. It employed 50,315 people, with over a quarter of the industry employed in Victoria (13,603 persons). Exports accounted for 2.7 per cent of sales of goods produced in 2006-07.<sup>61</sup>

## 2.4.6 Non-metallic mineral products

The non-metallic mineral product industry refers to glass and glass product manufacturing; ceramic product manufacturing; and cement, lime, plaster and concrete product manufacturing.<sup>62</sup>

In 2006-07, the non-metallic mineral product manufacturing industry's IVA was \$5 billion, with employment of 46,405 people. Over a quarter (12,830 people) of workers in the industry were employed in Victoria. Exports accounted for 2.2 per cent of sales of goods produced in the industry.<sup>63</sup>

## 2.4.7 Wood and paper

The wood and paper industry refers to log sawmilling and timber dressing, other wood product manufacturing, and paper and paper product manufacturing.

The 2006-07 ABS data indicates that the wood product manufacturing sub-industry's IVA was \$4 billion. It employed 51,919 people, 12,483 of which were located in Victoria (24 per cent). Ten per cent of sales of goods produced in the wood product manufacturing sector were exported.<sup>64</sup>

In this same period, the pulp, paper and converted paper product manufacturing sub-industry's IVA was \$2.7 billion, with an employment base of 23,800. In addition, of the goods produced in this industry, 6.8 per cent of sales were in exports.<sup>65</sup>

## 2.4.8 Metal products

Metal product manufacturing includes iron and steel manufacturing, basic non-ferrous metal manufacturing, structural metal product manufacturing, sheet metal product manufacturing, and fabricated metal product manufacturing.<sup>66</sup> Non-ferrous metals manufacturing refers to alumina and aluminium production, in addition to the smelting of copper, silver, nickel, lead and zinc. Fabricated metal products are structural components used in construction, sheet metal products, pipes, containers, cans, wires, springs, metal fasteners, cutlery and small tools. The raw materials used to

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<sup>60</sup> Australian Bureau of Statistics, 'Australian and New Zealand Standard Industrial Classification (ANZSIC), 1993', viewed 16 February 2010, <<http://www.abs.gov.au>>.

<sup>61</sup> Australian Bureau of Statistics, *Manufacturing industry 2006-07*, 2008.

<sup>62</sup> Australian Bureau of Statistics, 'Australian and New Zealand Standard Industrial Classification (ANZSIC), 1993', viewed 16 February 2010, <<http://www.abs.gov.au>>.

<sup>63</sup> Australian Bureau of Statistics, *Manufacturing industry 2006-07*, 2008.

<sup>64</sup> Australian Bureau of Statistics, *Manufacturing industry 2006-07*, 2008.

<sup>65</sup> Australian Bureau of Statistics, *Manufacturing industry 2006-07*, 2008.

<sup>66</sup> Australian Bureau of Statistics, 'Australian and New Zealand Standard Industrial Classification (ANZSIC), 1993', viewed 16 February 2010, <<http://www.abs.gov.au>>.

manufacture these products include iron and steel, and non-ferrous metals.<sup>67</sup>

According to the 2006-07 ABS data, the value of the primary metal and metal product manufacturing sub-industry's IVA was \$15 billion. The industry employed 61,815 people, with 8,442 (13.7 per cent) located in Victoria. Primary metal and metal product manufacturing was Australia's most heavily export-oriented manufacturing industry, with exports accounting for 39 per cent of sales of goods produced in 2006-07.<sup>68</sup>

The fabricated metal product manufacturing sub-industry's IVA was \$9 billion in 2006-07, with employment of 114,700, of which a quarter (30,467) were employed in Victoria. Of the goods produced in this sub-industry, 3.2 per cent of sales were exported.<sup>69</sup>

In providing evidence to the Committee, the Chief Executive of the Australian Steel Institute (ASI), Mr Don McDonald, stated that as of mid-2008 the total turnover of the Australian steel industry was \$29 billion, with an employment base of 91,000 people:

Total turnover was \$29 billion; there was employment of 91 000 people; and the steel-making capacity was 8 million tonnes per annum, which is more than we consume. So we are a net exporter of steel, mainly through BlueScope, which exports somewhere around half of their production. We have a fabrication capacity of 1.1 million tonnes per annum. This is a pretty big number if we look at Britain, which has three times our population and has a structural fabrication capacity of about the same amount. There has been significant investment in fabrication capacity expansion and automation in the two-year period up until the end of June 2008. There has been something like \$400 million invested by the fabrication sector, which gave increased capacity of about 145 000 tonnes per annum.<sup>70</sup>

Mr McDonald also advised that Victoria has a proficient steel fabrication industry and steel detailing sector, with Victorian fabricators working on major and award-winning projects, including the Southern Cross Station, the Melbourne Cricket Ground and Federation Square.<sup>71</sup>

## 2.4.9 Other manufacturing

This classification refers to a collection of eclectic and unclassifiable manufacturing types with limited commonality. It includes the manufacturing of pre-fabricated buildings, furniture manufacturing, advertising signs, badges, coins and medals, umbrellas, silverware, toys and sporting equipment, pens and paints, and musical instruments.<sup>72</sup>

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<sup>67</sup> National Office for the Information Economy, *Productivity growth in Australian manufacturing*, Canberra, 2004.

<sup>68</sup> Australian Bureau of Statistics, *Manufacturing industry 2006-07*, 2008.

<sup>69</sup> Australian Bureau of Statistics, *Manufacturing industry 2006-07*, 2008.

<sup>70</sup> Don McDonald, Chief Executive Officer, Australian Steel Institute, *Transcript of evidence*, 29 October 2009, p. 2.

<sup>71</sup> Don McDonald, Chief Executive Officer, Australian Steel Institute, *Transcript of evidence*, 29 October 2009.

<sup>72</sup> Department of Innovation Industry Science and Research, *Manufacturing sector: overview of structural change industry brief 2006-07*, Canberra, 2008.

The ABS reports on key data for this collection of manufacturing types under the heading *Furniture and other manufacturing*. In 2006-07, this group's IVA was \$2.4 billion. It comprised an employment base of 41,030 people.<sup>73</sup>

## 2.4.10 Advanced manufacturing

The Australian advanced manufacturing industry is not a defined ANZSIC industry grouping, however, the Committee is aware of its increasing contribution to technology development and productivity growth in other manufacturing industries, including automotive, aviation, defence, medical biotechnology and food processing.<sup>74</sup>

The Australian Manufacturing Technology Institute Limited (AMTIL) describes the advanced manufacturing industry as incorporating "a range of specific industry segments that are characterised by the use of leading edge practices, technologies and organisational cultures."<sup>75</sup> In presenting evidence to the Committee, Professor Aleksander Subic, Head of School for Aerospace, Mechanical and Manufacturing Engineering at RMIT University stated that advanced manufacturing refers to:

...working with new and complex materials such as composites like carbon fibre, reinforced plastics and so on. The processes and design techniques that they require are advanced. It is interfacing the manufacturing with the virtual design aspect, so that the transfer of designs to manufacturing is rapid and seamless and you take away the tooling from the critical path, which usually takes a lot of money and time. It is also customised.<sup>76</sup>

It is estimated that businesses within the advanced manufacturing industry employ 12,000 people in Australia, and have an annual revenue base of \$2.84 billion and an export revenue base of \$537 million.<sup>77</sup>

## 2.5 Imports and exports

International trade is vital for the continued growth of the Australian economy and the prosperity of the Australian community. Over the past fifty years, Australia's merchandise exports have shifted from a largely agricultural base towards a mix of manufacturing, mining and agriculture. More recently, Australia has experienced a significant increase in the export of services. As a consequence, Australia now has a diverse export base, with particular export strengths in food, resources, fuels and education.<sup>78</sup> Given the importance of exports to the Australian economy, it is critical that opportunities to expand exporting are pursued, and that the business environment fosters export activities by manufacturers. It is also critical that the Australian manufacturing sector is innovative, as innovative manufacturing is more likely to expand into areas of comparative advantage and strengthen the competitiveness of the sector.

<sup>73</sup> Australian Bureau of Statistics, *Manufacturing industry 2006-07*, 2008.

<sup>74</sup> AMTIL, *Submission*, no. 41, 10 August 2009.

<sup>75</sup> AMTIL, *Submission*, no. 41, 10 August 2009, p. 1.

<sup>76</sup> Professor Aleksandar Subic, Head of School, Aerospace, Mechanical and Manufacturing Engineering, RMIT University, *Transcript of evidence*, 7 September 2009, p. 5.

<sup>77</sup> AMTIL, *Submission*, no. 41, 10 August 2009.

<sup>78</sup> Department of Foreign Affairs and Trade, *Trade at a glance 2009*, Canberra, 2009.

The Australian manufacturing sector accounts for a significant proportion of Australia's exports, accounting for 17 per cent of all exports in 2008.<sup>79</sup> According to the ABS, the sector dominates the value of Australia's merchandise exports by industry of origin, accounting for 46 per cent of these exports in 2008-09.<sup>80</sup> While the value of manufacturing exports was 59.1 per cent higher in 2008-09 than in 1999-00, the sector's share of total value of merchandise exports decreased over this period from 59.6 per cent to 40.1 per cent (see Table 2).<sup>81</sup> The value of Australia's imports of manufactured goods, on the other hand, almost doubled between 1999-00 and 2008-09, from \$102 billion to \$195 billion. Furthermore, in 2006-07, 90 per cent of Australia's total value of merchandise imports was accounted for by manufactured goods (see Table 3).<sup>82</sup> The Committee notes that the significant increase in imports into Australia reflects increased competition from China and other developing economies, which as discussed in Chapter Three is a common experience in most developed economies.

**Table 2: Value of merchandise exports of goods, by industry of origin<sup>83</sup>**

Year	Manufacturing \$m	All industries	Manufacturing share of total exports
1999-2000	57 982	97 286	59.6
2000-01	69 128	119 539	57.8
2001-02	69 111	121 108	57.1
2002-03	65 810	115 479	57.0
2003-04	62 442	109 049	57.3
2004-05	67 496	126 823	53.2
2005-06	75 102	152 492	49.2
2006-07	85 383	168 099	50.8
2007-08	88 496	180 857	48.9
2008-09	92 457	230 620	40.1

**Table 3: Value of merchandise of imports of goods, by industry of origin<sup>84</sup>**

Year	Manufacturing \$m	All industries	Manufacturing share of total imports
1999-2000	102 382	110 078	93.0
2000-01	108 331	118 317	91.6
2001-02	111 162	119 649	92.9
2002-03	123 041	133 129	92.4
2003-04	122 844	130 997	93.8
2004-05	138 011	149 469	92.3
2005-06	152 841	167 503	91.2
2006-07	164 354	180 801	90.9
2007-08	181 682	202 307	89.9
2008-09	195 114	219 485	88.9

<sup>79</sup> Department of Foreign Affairs and Trade, *Trade at a glance 2009*, Canberra, 2009.

<sup>80</sup> Merchandise exports are "goods which subtract from the stock of material resources in Australia as a result of their movement out of the country."

<sup>81</sup> Australian Bureau of Statistics, *2009-10 Year book Australia*, Canberra, 2010.

<sup>82</sup> Australian Bureau of Statistics, *2009-10 Year book Australia*, Canberra, 2010.

<sup>83</sup> Australian Bureau of Statistics, *2009-10 Year book Australia*, Canberra, 2010, p. 582.

<sup>84</sup> Australian Bureau of Statistics, *2009-10 Year book Australia*, Canberra, 2010, p. 583.



The three main destinations for manufacturing commodities exported from Australia in 2008-09 were the United Kingdom (under \$10 billion), Japan (under \$8 billion), and the United States of America (USA) (under \$8 billion). During 2002-03 to 2008-09, exports to India increased from just under \$3 billion to over \$7 billion. The USA provided the largest amount of imports of manufactured goods into Australia from 2002-03 to 2004-05, however, China overtook the USA in 2005-06, with the value of imports from China increasing from \$19.6 billion in 2004-05 to \$36 billion in 2008-09.<sup>85</sup>

## 2.5.1 Victoria

Victoria's major exports in 2008-09 were from two of its key manufacturing industry groups - the food and beverage industry, and the automotive industry. Principal export destinations were China (10.6 per cent), New Zealand (9.4 per cent), USA (8.8 per cent) and Japan (8.5 per cent).<sup>86</sup>

**Table 4: Victoria's major goods exports, 2008-09<sup>87</sup>**

Exported Goods	A\$m
Passenger motor vehicles	1,667
Aluminium	1,523
Milk and cream	1,360
Medicaments (incl. veterinary)	985
Meat (excl beef)	742
Beef	734
Cheese and curd	617
Wool and other animal hair (incl. tops)	552
Refined petroleum	537
Fruit and nuts	369

Victoria's major imports in 2008-09 were crude petroleum and passenger motor vehicles, as well as various types of manufactured goods, including prams, toys, games and sporting goods; computers; and telecommunications equipment and parts (see Table 5). Principle import countries of origin were China (20.2 per cent), USA (12.4 per cent), Japan (8.6 per cent) and Germany (6.6 per cent).<sup>88</sup>

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<sup>85</sup> Australian Bureau of Statistics, *2009-10 Year book Australia*, Canberra, 2010.

<sup>86</sup> Department of Foreign Affairs and Trade, *Australia's trade by state and territory*, Canberra, 2010.

<sup>87</sup> Department of Foreign Affairs and Trade, *Australia's trade by state and territory*, Canberra, 2010, p. 34.

<sup>88</sup> Department of Foreign Affairs and Trade, *Australia's trade by state and territory*, Canberra, 2010.

**Table 5: Victoria's major goods imports, 2008-09<sup>89</sup>**

<b>Imported Goods</b>	<b>A\$m</b>
Crude petroleum	3,679
Passenger motor vehicles	3,559
Refined petroleum	1,602
Vehicle parts and accessories	1,341
Prams, toys, games and sporting goods	1,248
Telecom equipment and parts	1,217
Goods vehicles	1,172
Medicaments (incl. veterinary)	1,111
Computers	955
Measuring and analysing instruments	945

When comparing Victoria's major imports and exports, there is evidence that intra-industry trade occurs in the areas of passenger motor vehicles and medicaments. Intra-industry trade is characterised by the simultaneous exporting and importing of goods within the same industry, and signifies the growing global integration of production processes for products, as well as the creation of specialised niches within industries of the manufacturing sector. This issue is discussed further in Chapter Three.

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<sup>89</sup> Department of Foreign Affairs and Trade, *Australia's trade by state and territory*, Canberra, 2010, p. 34.



## Chapter Three: Key points

The changing place of the manufacturing sector in the Australian economy is a feature shared with most other developed countries, with many undergoing structural change associated with de-industrialisation. The manufacturing sector has also tended to lead in productivity growth relative to other sectors, which has led to reduced shares of manufacturing in total employment, while manufacturing output has increased.

The reduction of trade barriers, and trade liberalisation, has created opportunities for manufacturers to move into new areas of niche manufacturing, but has also created greater competition in the production of low-cost, labour-intensive products. Competition in low-cost, labour-intensive manufacturing has led to the displacement of some workers.

As a consequence of trade liberalisation, the Australian manufacturing sector has become more export and import orientated, although evidence indicates that Australia's share of imports of manufactured goods is increasing at a greater rate of its share of exports of manufactured goods. This suggests that local manufacturers are experiencing strong competition from overseas manufacturers, particularly those in developed economies such as China, where there is a strong capacity to mass produce low-cost, labour-intensive products.

Another key feature of global engagement of the manufacturing sector is the role of inward and outward investment. Multinational corporations have a significant presence in Australia's business environment, with the level of foreign direct investment (FDI) equalling \$377 billion in 2007. Inward investment in manufacturing accounted for 17.9 per cent of total FDI (\$67 billion). In the same year, Australia's outward investment was valued at \$323.6 billion

## Chapter Three: The changing face of the Australian manufacturing sector

The place of Australia's manufacturing sector in the economy has changed considerably over the past few decades. As noted in Chapter Two, despite increasing manufacturing output, the sector's share of gross domestic product (GDP) and employment has fallen between 1975 and 2006. According to the Productivity Commission's report *Trends in Australian manufacturing*, the manufacturing sector had the slowest trend growth rate of 17 broad industry divisions during the period 1974-75 to 2001-02. While the sector's output growth increased in the 1990s, its relative performance did not, with manufacturing placed 14 among 17 industry divisions for that decade.<sup>90</sup> The share of manufacturing in total employment has decreased from over one quarter in 1966-67 to nine per cent in 2008-09.<sup>91</sup>

Changes in Australian manufacturing can be attributed to a number of factors, some of which are common to all developed economies, and others that are particularly relevant to Australia. These factors are:

- structural change in developed economies characterised by a shift away from manufacturing to services;
- higher productivity growth in manufacturing production processes;
- trade liberalisation facilitated by reduced tariff protection;
- enhanced globalisation of the manufacturing sector; and
- appreciation of the Australian dollar.

### 3.1 Structural change

The changing place of the Australian manufacturing sector in the economy is a feature shared with most manufacturing sectors within developed economies, with many undergoing structural change that is characterised by de-industrialisation. In the report *Drivers of structural change*, the Centre for International Economics defined structural change as:

...the process by which an economy is progressively transformed over time. This can include changes to industry, organisational and market

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<sup>90</sup> Productivity Commission, *Trends in Australian Manufacturing*, Canberra, 2003.

<sup>91</sup> Australian Bureau of Statistics, *2009-10 Year book Australia*, Canberra, 2010; Productivity Commission, *Trends in Australian Manufacturing*, Canberra, 2003.

structures as well as the various means by which market participants generate economic activity. Structural change is difficult to capture in a single measure. It is usually measured in terms of the reallocation of capital and labour across industries and regions. However, it can also be applied to a shift within and across industries, in the markets they sell to and the products and services they require, and the nature of their production processes.<sup>92</sup>

Structural change in economies follows a consistent pattern where the share of manufacturing in GDP and employment rises as economies become more industrialised, typically at the expense of the agriculture sector. As economies become more developed, the relative share of manufacturing in the economy decreases with a concurrent rise in the services sector. These transitions are evident in both developed and developing economies:

Among 17 'rich' countries, only one (Singapore) experienced an increase in the share of manufacturing in nominal GDP over the two decades from 1978. In contrast, manufacturing increased in importance in eight of 18 poorer countries, consistent with the role of manufacturing in the development phase of countries.<sup>93</sup>

In this context, the decreasing contribution of manufacturing to the economy occurs as prosperity improves in developed economies. Long-term shifts in consumer expenditure in Australia demonstrate that demand for goods has significantly decreased as a share of total consumer expenditure, from around 50 per cent in 1959-60 to 34 per cent in 2001-02.<sup>94</sup> Coinciding with this, the service sector now makes the largest contribution to Australian GDP, accounting for 55 per cent of the total production of goods and services in 2007-08.<sup>95</sup>

Another feature of structural change in developed economies is a decreasing share of manufacturing in total employment. In Australia, this manufacturing employment has fallen from more than one in four workers in 1966-67 to around one in ten in 2007.<sup>96</sup> The decrease in manufacturing jobs has coincided with growth in the share of total employment accounted for by other sectors, such as the services sector.<sup>97</sup>

Finding 3: The evolution of the Australian economy, and other developed nations, has been characterised by a decreasing contribution of the manufacturing sector to the economy and coinciding growth of the services sector.

### 3.1.1 Measurement issues

While changes in manufacturing employment have certainly occurred over time, the Committee notes that a number of activities that were once

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<sup>92</sup> Peter Downes and Andy Stoeckel, *Drivers of structural change in the Australian economy*, Centre for International Economics, Canberra, 2006, p. 11.

<sup>93</sup> Productivity Commission, *Trends in Australian Manufacturing*, Canberra, 2003, p. XXI.

<sup>94</sup> Productivity Commission, *Trends in Australian Manufacturing*, Canberra, 2003.

<sup>95</sup> Australian Bureau of Statistics, *2008 Australian year book*, Canberra, 2009.

<sup>96</sup> Australian Bureau of Statistics, *2008 Australian year book*, Canberra, 2009; Productivity Commission, *Trends in Australian Manufacturing*, Canberra, 2003.

<sup>97</sup> Productivity Commission, *Trends in Australian Manufacturing*, Canberra, 2003.

performed in-house at manufacturing firms are now contracted to service-sector businesses, such as activities associated with distribution, finance, IT and communications. In 2003 the Productivity Commission suggested that “some of the observed decline in manufacturing may be illusory, reflecting changes in the boundaries of firms rather than real shifts in activities per se.”<sup>98</sup> While the Committee acknowledges that these changes in some manufacturing businesses may have contributed to an apparent, rather than a real, decline in manufacturing employment, the Committee also notes that the aggregate effect of these changes is likely to be minor compared to more general changes in industry employment.

## 3.2 Productivity

Aside from structural change, higher relative productivity growth in the manufacturing sector has been a key driver behind the reduced share of manufacturing in total employment. This is because advances in technology and manufacturing practice have led to the productivity of each employee in the manufacturing sector increasing over time. This partly explains how Australia, and other Organisation for Economic Co-operation and Development (OECD) countries, have increased manufacturing output despite falls in manufacturing employment. In its submission to the Inquiry, Engineers Australia stated that productivity growth in the manufacturing sector, measured by gross value added per hour worked, has consistently outperformed other sectors of the Australian economy over the 20 years up until 2006-07.<sup>99</sup> In particular, labour productivity in the sector increased by 18 per cent more than for the economy as a whole, and accounted for 25 per cent of the decrease in share of total employment.<sup>100</sup>

A key factor in manufacturing sector productivity growth has been the increased use of capital in production processes. The introduction of new technologies, such as robotics and automatic diagnostics, has intensified the capacity of capital, resulting in greater labour productivity and lower costs. There has been a significant shift towards capital deepening in the Australian manufacturing sector, a trend measured by comparing differences in capital and labour inputs. For example, during the period from 1994-95 to 2003-04, overall capital inputs increased by 50 per cent while labour inputs increased by 31 per cent.<sup>101</sup> The trend towards capital deepening is reflected in the greater emphasis on automated production processes:

This is consistent with the long-expected trend towards a more automated and less labour-intensive production process. Such movement is a necessary adjustment to competition from countries where labour costs are significantly lower. Employment and value added data provide front-end evidence of this trend, with the quality of value added per employees in the manufacturing sector increasing at a higher rate than the average for the whole economy. This is particularly the case in those areas of the

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<sup>98</sup> Productivity Commission, *Trends in Australian Manufacturing*, Canberra, 2003, p. 35.

<sup>99</sup> Engineers Australia, *Submission*, no. 38, 4 August 2009.

<sup>100</sup> Department of Innovation Industry Science and Research, *Manufacturing sector: overview of structural change industry brief 2006-07*, Canberra, 2008.

<sup>101</sup> Department of Innovation Industry Science and Research, *Manufacturing sector: overview of structural change industry brief 2006-07*, Canberra, 2008.

manufacturing sector that produce higher technology goods and are more capital-intensive than the industry as a whole.<sup>102</sup>

The impact of capital intensity on productivity means that fewer workers can produce a greater amount of value than previously was the case, with evidence indicating that 15 per cent fewer employees in 2001-02 produced double the real output of 1966-67.<sup>103</sup> By contrast, developing countries tend to increase output through increased labour.

According to the Commonwealth Department of Innovation, Industry, Science and Research (DIISR), manufacturers have also increased productivity levels by prioritising core activities and outsourcing non-core activities, such as design, production and distribution, to external specialists.<sup>104</sup> Other business operations and services that were traditionally performed in-house, such as finance and communication services, are also now being outsourced. As a consequence, costs associated with production processes and business operations in manufacturing companies have decreased.

Finding 4: A key factor behind reduced total employment in the manufacturing sector is high productivity growth due to increased use of capital and new technologies in production processes. It is also the consequence of manufacturing firms outsourcing non-core activities, such as finance and communication services, to other sectors.

At the industry level, the Committee is aware that growth in labour productivity varies significantly between industry groups in the manufacturing sector. There has been strong growth in the machinery and equipment industry since 2001-02 as a consequence of high levels of capital investment, and per-capita labour productivity has doubled since the late 1980s.<sup>105</sup> The textiles, clothing and footwear (TCF) industries, on the other hand, has experienced a per-capita decline in productivity due to low levels of capital investment.<sup>106</sup> Per-capita productivity in the food and beverages industry has also decreased since 2000-01.<sup>107</sup>

Internationally, productivity growth in manufacturing has remained high in many OECD countries. Average rates of growth have remained between 2 per cent to 4 per cent annually, which is significantly higher than productivity growth in the economy as a whole.<sup>108</sup> There is, however, variation in productivity levels across OECD countries. Some countries have significantly improved productivity over the past decade, such as Finland and Korea, whereas little progress has been made in other

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<sup>102</sup> Department of Innovation Industry Science and Research, *Manufacturing sector: overview of structural change industry brief 2006-07*, Canberra, 2008, p. 22.

<sup>103</sup> Productivity Commission, *Trends in Australian Manufacturing*, Canberra, 2003.

<sup>104</sup> Department of Innovation Industry Science and Research, *Manufacturing sector: overview of structural change industry brief 2006-07*, Canberra, 2008.

<sup>105</sup> Peter Downes and Andy Stoeckel, *Drivers of structural change in the Australian economy*, Centre for International Economics, Canberra, 2006.

<sup>106</sup> Peter Downes and Andy Stoeckel, *Drivers of structural change in the Australian economy*, Centre for International Economics, Canberra, 2006.

<sup>107</sup> Department of Innovation Industry Science and Research, *Manufacturing sector: overview of structural change industry brief 2006-07*, Canberra, 2008.

<sup>108</sup> Dirk Pilat, et al., *The changing nature of manufacturing in OECD economies*, Paris, 2006.



countries, notably in Europe where productivity levels compared with the USA have fallen.<sup>109</sup>

Available evidence also suggests that productivity levels in Australia's manufacturing sector could be improved.<sup>110</sup> Compared to other countries, the contribution of Australia's manufacturing sector to aggregate productivity growth over the past decade has been limited. In contrast, manufacturing sectors in other OECD countries, such as Finland, Hungary, Korea, Poland, the Slovak Republic and Sweden, have all made significant contributions to their country's aggregate productivity performance.<sup>111</sup>

### 3.2.1 Price effects

Price effects have also contributed to the decreasing share of manufacturing in the total economy. Productivity growth tends to lead to lower prices, so that prices for manufactured goods have tended to increase slowly over time, and in some instances have even fallen. Increased competition from cheaper imports has also placed downward pressure on manufacturing prices. In contrast, prices in the services sector, where productivity growth has been slower, have increased more strongly. Consequently, the value of manufacturing output in current prices has increased at a lower rate than the value of services in current prices.<sup>112</sup>

## 3.3 Global trade

Trade policy is a key component of the Commonwealth Government's economic policy framework. Australia has been a long-term advocate of an open and rules-based global trading system, as a founding member of the General Agreement on Tariffs and Trade (GATT) in 1947 and the World Trade Organisation (WTO) in 1997. The Government also attributes its commitment to an open, flexible and transparent economy as a key factor in Australia's strong economic performance over the past 20 years.<sup>113</sup> In providing evidence to the Committee, Mr Andrew Ford, Director of the Trade Competitiveness Section, Trade Competitiveness and Advocacy Branch, Department of Foreign Affairs and Trade (DFAT) described the impact of trade liberalisation on the Australian economy:

...ongoing trade liberalisation has been an important reform contributing to a less insular, more resilient economy, one that is positioned to take advantage of emerging opportunities and to respond to changes in our external environment. It found that Australians are working smarter as a result. They are wealthy, have on average more highly skilled jobs, greater employment opportunities and can look forward to more stable investment incomes in retirement due to the diversification of funds overseas. By itself, trade liberalisation has increased GDP by between 2.5 to 3.5 relative to

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<sup>109</sup> Dirk Pilat, et al., *The changing nature of manufacturing in OECD economies*, Paris, 2006.

<sup>110</sup> House of Representatives Standing Committee on Economics Finance and Public Administration, *Australian manufacturing: today and tomorrow*, Canberra, 2007.

<sup>111</sup> Dirk Pilat, et al., *The changing nature of manufacturing in OECD economies*, Paris, 2006.

<sup>112</sup> Dirk Pilat, et al., *The changing nature of manufacturing in OECD economies*, Paris, 2006.

<sup>113</sup> Commonwealth Government, 'Trade policy review', viewed 22 March 2010, <<http://www.wto.org/>>.

where it would have been, depending on what account is taken of dynamic productivity and labour market effects, thereby adding between \$2700 and \$3900 per annum to the real income of the average family.<sup>114</sup>

Along with most WTO members, Australia pursues a comprehensive trade strategy to reduce trade barriers and expand its markets through the adoption of multilateral, regional and bilateral agreements. The Commonwealth Government's 2007 trade policy review to the WTO indicated that its highest trade objective is the successful conclusion of the multilateral Doha Round. According to the Commonwealth review of export policies and programs *Winning in World Markets*, development of a functioning multilateral system is the best hope for Australia to reduce barriers to world trade, particularly in the context of implementing a transparent set of trade laws and regulations that apply to all countries.<sup>115</sup>

The completion of the Doha Round will potentially result in significant economic benefits, particularly concerning the alleviation of global poverty. The World Bank estimated in 2005 that full merchandise trade liberalisation alone would boost global welfare by US\$290 billion in 2015.<sup>116</sup> With 150 member countries negotiating on the Doha Round, however, the Committee is aware of the difficulties in achieving a successful and equitable outcome in the near future.

As a consequence of challenges surrounding the Doha Round, the Commonwealth Government continues to pursue WTO-consistent bilateral and regional free trade agreements (FTA). FTAs are "agreements between two or more countries that include commitments to reduce or eliminate tariffs on goods traded between parties to the agreement and liberalise trade in services and investment flows between the parties."<sup>117</sup> The purpose of FTAs is to promote stronger ties between participating countries and provide Australian exporters and investors with opportunities to expand their business into key markets.<sup>118</sup>

FTAs have played a significant role in the international trading system, and a substantial number of agreements have been negotiated during the past 15 years. For example, at the beginning of 2008, there were approximately 100 bilateral and regional trade agreements in force in the Asia-Pacific region, more than three times the number in 1990.<sup>119</sup>

Australia currently holds the following six FTAs:

- Australia-New Zealand Closer Economic Relations Trade Agreement (ANZCERTA) – operational in 1983, this agreement

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<sup>114</sup> Andrew Ford, Director, Trade Competitiveness Section, Trade Competitiveness and Advocacy Branch, Department of Foreign Affairs and Trade, *Transcript of evidence*, 28 October 2009, p. 2.

<sup>115</sup> David Mortimer, *Winning in world markets: review of export policies and programs*, Canberra, 2008.

<sup>116</sup> Commonwealth Government, 'Trade policy review', viewed 22 March 2010, <<http://www.wto.org/>>.

<sup>117</sup> David Mortimer, *Winning in world markets: review of export policies and programs*, Canberra, 2008, p. 93.

<sup>118</sup> Commonwealth Government, 'Trade policy review', viewed 22 March 2010, <<http://www.wto.org/>>.

<sup>119</sup> David Mortimer, *Winning in world markets: review of export policies and programs*, Canberra, 2008.

provides duty free access on most goods traded between Australia and New Zealand;

- Singapore-Australia FTA (SAFTA) – operational in July 2003, this agreement provides tariff elimination and increased market access for Australian exporters of services. It also allows a more open and stable business environment across various areas, including competition policy, procurement, intellectual property and e-commerce;
- Thailand-Australia FTA (TAFTA) – operational in January 2005, this agreement eliminated tariffs on up to 80 per cent of Australian exports to Thailand, with the further elimination on virtually all tariffs on goods by January 2010;
- Australia-US FTA (AUSFTA) – operational in January 2005, this agreement immediately eliminated over 97 of USA tariffs on Australia's non-agricultural and manufacturing exports, and almost two thirds of USA tariffs on Australian agricultural products;
- Australia-Chile FTA – operational in January 2009, this agreement eliminates 97 per cent of tariffs on existing merchandise trade, with an agreement to eliminate 100 per cent by 2015;<sup>120</sup>
- Association of South-East Asian Nations (ASEAN)-Australia-New Zealand FTA (AANZFTA) – operational in January 2010, this agreement is the largest FTA that Australia has ever signed, and will deliver over time tariff elimination from the more developed ASEAN member countries and Vietnam on between 90 and 100 per cent of tariff lines covering 96 per cent of current Australian exports to the region.<sup>121</sup>

Australia is currently negotiating FTAs with China, the Gulf Cooperation Council, Japan, Korea, Malaysia, the Pacific Agreement on Closer Economic Relations, and the Trans-Pacific. FTAs between Australia and India, and Australia and Indonesia are currently under consideration.<sup>122</sup>

While the Victorian Government does not have a direct role in negotiating Australia's FTAs with other countries, it works closely with DFAT to maximise opportunities for Victorian industries and companies from FTAs.<sup>123</sup>

### 3.3.1 Trade liberalisation

Most developed countries have adopted policies for open trade over the past 50 years. Between 1940 and 2001, average tariff rates reduced from around 50 per cent to below four per cent. In particular, average tariffs on

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<sup>120</sup> Export Victoria, 'Trade agreements', viewed 18 March 2010, <<http://export.business.vic.gov.au/>>.

<sup>121</sup> Austrade, 'The ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA)', viewed 22 March 2010, <<http://www.austrade.gov.au/>>.

<sup>122</sup> Department of Foreign Affairs and Trade, 'Free Trade Agreements', viewed 18 March 2010, <<http://www.dfat.gov.au/>>.

<sup>123</sup> Export Victoria, 'Trade agreements', viewed 18 March 2010, <<http://export.business.vic.gov.au/>>.

manufactured goods dropped from about 30 per cent in 1983 to nine per cent in 2003.<sup>124</sup> Following commencement of the unilateral tariff reduction programme in 1988, Australia's effective rate of assistance (ERA) for manufacturing gradually declined from 25 per cent to 4.5 per cent in 2003-04. Consequently, the Australian manufacturing sector has changed significantly, becoming more export and import orientated.

Globally, the growth in trade is reflected in the increase in the share of world exports in world GDP. It increased from approximately 6 per cent in 1950 to over 20 per cent in 2008<sup>125</sup> and since 1990 world trade has grown on average almost twice as fast as world GDP.<sup>126</sup> In Australia, the ratio of exports plus imports to GDP increased from 27 per cent in the mid 1980s to 44 per cent in 2003.<sup>127</sup>

Finding 5: The pursuit of trade liberalisation through free trade agreements and ongoing reduced tariff protections has encouraged the Australian manufacturing sector to become more import and export oriented.

While trade liberalisation has typically boosted trade in developed economies, evidence indicates that not all economies have benefited equally, with some gaining greater market share than others.<sup>128</sup> A report by the OECD into *The changing nature of manufacturing in OECD economies* indicated that Australia, alongside 13 other OECD countries, lost rather than gained shares in the goods export market between 1995 and 2003 (Figure 3).<sup>129</sup> Australia's loss of three per cent market share in the global market coincides with a seven per cent rise in imports of manufactured goods into Australia and a 4.5 per cent increase in exports of Australian manufactured goods in the decade leading up to 2003.<sup>130</sup>

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<sup>124</sup> David Mortimer, *Winning in world markets: review of export policies and programs*, Canberra, 2008.

<sup>125</sup> David Mortimer, *Winning in world markets: review of export policies and programs*, Canberra, 2008.

<sup>126</sup> David Mortimer, *Winning in world markets: review of export policies and programs*, Canberra, 2008.

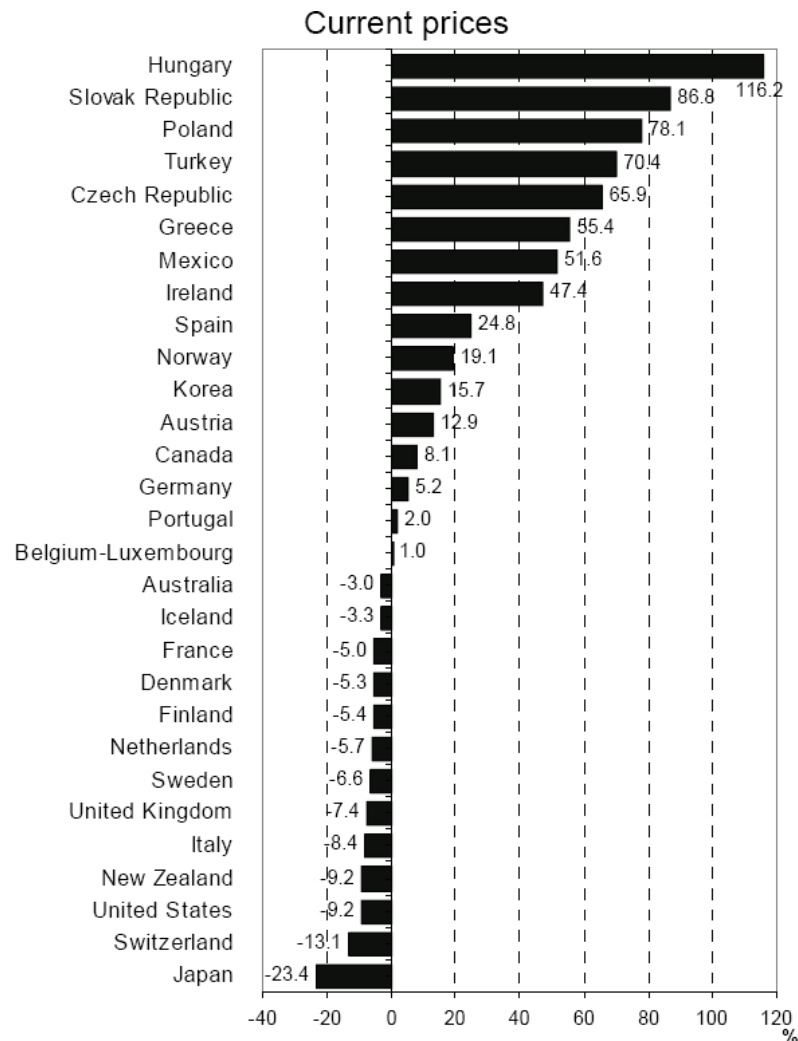
<sup>127</sup> Australian Chamber of Commerce and Industry, *The future of Australia's manufacturing sector: a blueprint for success*, Australian Chamber of Commerce and Industry, Barton, 2007.

<sup>128</sup> Dirk Pilat, et al., *The changing nature of manufacturing in OECD economies*, Paris, 2006.

<sup>129</sup> Dirk Pilat, et al., *The changing nature of manufacturing in OECD economies*, Paris, 2006.

<sup>130</sup> Australian Chamber of Commerce and Industry, *The future of Australia's manufacturing sector: a blueprint for success*, Australian Chamber of Commerce and Industry, Barton, 2007.

**Figure 3: Growth of OECD countries export market shares in goods between 1995 and 2003<sup>131</sup>**



Rising imports of manufactured goods into Australia suggests that local manufacturers are experiencing strong competition from overseas manufacturers, particularly those in developing economies where there is significant capacity to manufacture low-value, high-volume products at a low per unit cost.

China's transition into an industrialised economy has proven particularly challenging for Australian manufacturers, with Chinese imports into Australia increasing by an average of over 20 per cent per year in the period between 1996 and 2006. While Australian exports to China also increased, rising 15 per cent during the same time period, these exports were dominated by raw materials, including iron ore, wool, aluminium, coal and petroleum. Imports from China to Australia, on the other hand, comprise mostly manufactured goods. In 2009, the value of Australian

<sup>131</sup> Dirk Pilat, et al., *The changing nature of manufacturing in OECD economies*, Paris, 2006, p. 19.

merchandise exports to China was \$42.3 billion, whereas Chinese exports to Australia were worth \$35 billion.<sup>132</sup>

China's capacity to mass produce low-cost, labour-intensive products has been a key factor in its rise in prominence in the global export market, and also in strengthening itself as a key destination for global direct investment flows.<sup>133</sup> The *World Investment Report 2009* by the United Nations Conference on Trade and Development reported that China was the third largest recipient of foreign direct investment (FDI), after the USA and France.<sup>134</sup> As a consequence, there has been a clear shift in exports away from OECD countries to China.

In order to remain internationally competitive, Australian manufacturers increasingly rely on offshore activities, by either replacing local products with cheaper imported products for domestic production, or transferring low-value production offshore. The rising prominence of off-shoring by Australian companies has led to a decline in the presence of labour-intensive industry groups in Australia, such as the TCF industries (see Text Box 1).

### **Text Box 1: Structural change within the TCF industries**

The shift of Australia's manufacturing sector away from labour-intensive industries, driven by strong global and domestic competition, has led to significant structural change within the TCF industries.

Since 1993, TCF industries have decreased by around 4 percentage points each year and are now roughly one third of their previous size.<sup>135</sup> Output has declined over the past two decades, with its share of gross value added to the GDP falling by 35.2 per cent in the period from 2001-02 to 2005-06.<sup>136</sup> In providing evidence to the Committee, Ms Michele O'Neil, the National Secretary and State Secretary of the Textile, Clothing and Footwear Union of Australia (TCFUA) advised of job losses within the TCF industry of 48 per cent between 1996 and 2006. The majority of job losses occurred in Victoria, where there was a 56 per cent decline in jobs in the two decades leading up to 2006.<sup>137</sup>

The decline of TCF industries has coincided with the reduction of formal protection of Australia's manufacturing sector. Historically, TCF industries were the most heavily protected in the sector, receiving an ERA of 156.7 per cent in 1985-86. This rate dropped to 23.2 per cent in 2000-01, and by 2015, it will stand at 5 per cent for TCF industries.<sup>138</sup>

Reduced border protection, coupled with the substantial decline in the price of TCF products from developing economies, has led to the surge in the share of imports in total

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<sup>132</sup> Department of Foreign Affairs and Trade, *China profile*, Department of Foreign Affairs and Trade, Canberra, 2010.

<sup>133</sup> Australian Industry Group, *Australian manufacturing and China*, Sydney, 2006.

<sup>134</sup> United Nations Conference on Trade and Development, 'Global FDI inflows continue to slide in 2009: significant recovery expected only in 2011', viewed 17 February 2010, <<http://www.unctad.org>>.

<sup>135</sup> Peter Downes and Andy Stoeckel, *Drivers of structural change in the Australian economy*, Centre for International Economics, Canberra, 2006.

<sup>136</sup> Australian Bureau of Statistics, *2008 Australian year book*, Canberra, 2009.

<sup>137</sup> Michele O'Neil, National Secretary and Victorian Secretary, Textile, Clothing and Footwear Union of Australia, *Transcript of evidence*, 7 August 2009.

<sup>138</sup> Professor Roy Green, *Building innovative capability*, Canberra, 2008.

sales of TCF products in Australia. Imports as a proportion of domestic Australian output increased from 28 per cent in 1980 to 91 per cent in 2006.<sup>139</sup> According to the Commonwealth Government's review into TCF industries, *Building innovative capability*, this has been the largest contributor to the decline in overall industry output and employment.<sup>140</sup> Furthermore, declining levels of profitability throughout the industry has limited the amount of capital investments, which in turn has adversely impacted productivity on a per-head basis.

Despite the falls in output, the Committee received evidence about the continuing contribution of the industry to the Australian economy. It currently comprises an output value of \$2.8 billion and an export value of \$1.6 billion. Employment in the formal sector is over 48,000, with more unaccounted for in home-based employment. The Committee also received evidence about future opportunities for growth in the industry. In particular, the Committee was advised that a shift towards greater innovation in manufacturing processes and types of products can potentially drive the long-term sustainability of the industry. Some segments within the industry have already expanded their scope into new and specialised areas:

Over the last few decades we have seen a significant shift in the type of textile production that you see here in Victoria. We have made some great inroads in the area of technical textiles where it is non-traditional textiles... There is a range of what would not be usually thought of as textile production innovation happening in the state.<sup>141</sup>

While growth in global trade has led to a rise of cheap imports coming into Australia, the Committee is aware of the opportunities that trade liberalisation has created for the Australian manufacturing sector. Mr Peter Burn, the Associate Director of Public Policy at the Australian Industry Group (AiG), told the Committee:

We were interested more in capability development and facilitating business evolution in whatever way it made sense for that business to evolve. We were not too fussed if businesses were improving their performance by taking some of their operations offshore, getting low-cost advantages and being more competitive as a result.<sup>142</sup>

The Committee also heard how cheaper imports into Australia have lowered costs of production as a consequence of companies paying less for inputs.<sup>143</sup>

Off-shoring some manufacturing activities can also improve the competitiveness of companies by allowing them to expand their market shares and profitability, and potentially increase capital investment in the domestic market. Furthermore, a shift away from labour-intensive industries allows manufacturers to move into areas of comparative advantage, and potentially compete in the global market in different and

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<sup>139</sup> Professor Roy Green, *Building innovative capability*, Canberra, 2008.

<sup>140</sup> Professor Roy Green, *Building innovative capability*, Canberra, 2008.

<sup>141</sup> Michele O'Neil, National Secretary and Victorian Secretary, Textile, Clothing and Footwear Union of Australia, *Transcript of evidence*, 7 August 2009, p. 2.

<sup>142</sup> Peter Burn, Associate Director of Public Policy, Australian Industry Group, *Transcript of evidence*, 6 August 2009, p. 3.

<sup>143</sup> Australian Industry Group, *Manufacturing futures*, Sydney, 2006; Engineers Australia, *Submission*, no. 38, 4 August 2009.

more specialised areas of manufacturing. According to DFAT, the transition to more specialised areas is common among Australian companies:

...manufacturing industries have changed greatly over the past two decades and have responded to the increasing competitiveness pressures from low-wage economies by rationalising their product lines and focusing on niche products and services such as design where labour costs are less important to market success.<sup>144</sup>

Finding 6: The Australian manufacturing sector's greater reliance on off-shoring activities has allowed manufacturers to increase their competitiveness through expansion of market share and profitability in some cases. Off-shoring has also allowed some manufacturers to move into new areas of comparative advantage.

### 3.3.2 Employment

The Committee is aware that the effect of trade liberalisation on declining shares of manufacturing in total employment is a contentious and widely-debated issue. With the rapid integration of developing economies into the global market, and with countries such as Brazil, Russia, India and China (referred to as the "BRICs" by the OECD) representing 45 per cent of world labour supply,<sup>145</sup> there have been heightened anxieties about OECD workers becoming less competitive internationally.

The Committee recognises that correlations are often drawn between enhanced international trade and decline in total employment, particularly where growth in trade has coincided with a decline in employment, such as in TCF industries. In its submission to the Commonwealth Government's review of Australian TCF industries, the TCFUA stated:

Falling tariff rates and increased imports over the past three decades have undeniably been the major cause of job loss and retrenchment in the industry...Falling tariffs have also caused a surge of imports from low-wage countries where labour standards are often non-existent. While employment has more than halved, imports have more than doubled during this period of dramatic falls in tariff protection.<sup>146</sup>

In a policy brief on *Globalisation, jobs and wages*, the OECD stated that it is often difficult to confirm whether trade is responsible for the creation or disappearance of any particular job, although globalisation is typically compatible with high employment rates. For example, during the past decade, employment-population ratios have increased while unemployment rates have fallen in most OECD countries.<sup>147</sup> This has been the experience in Australia where overall employment increased by 4.2

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<sup>144</sup> Andrew Ford, Director, Trade Competitiveness Section, Trade Competitiveness and Advocacy Branch, Department of Foreign Affairs and Trade, *Transcript of evidence*, 28 October 2009, p. 2.

<sup>145</sup> Organisation for Economic Co-operation and Development, *Globalisation, jobs and wages*, OECD, Paris, 2007.

<sup>146</sup> Textiles Clothing and Footwear Union of Australia, *Submission*, Building innovative capability, Department of Innovation, Industry, Science and Research, p. 8.

<sup>147</sup> Organisation for Economic Co-operation and Development, *Globalisation, jobs and wages*, OECD, Paris, 2007.



million people since 1966-67.<sup>148</sup> In addition, available evidence indicates that the net effect of cheap imports into Australia has been reduced because the manufacturing sector has reoriented itself towards areas of comparative advantage. As reported by the Productivity Commission:

- changes in the trade deficit in manufacturing explain only between one and three percentage points of the 13 percentage points decline in manufacturing's share of economy-wide employment from the late 1960s to 2001-02.
- over the period from 1977-78 to 1992-93, other estimates suggest that the employment losses resulting from import growth were almost entirely offset by employment gains associated with an expansion of exports.<sup>149</sup>

### 3.3.2.1 Displaced workers

While trade liberalisation does not appear to create a long-term impact on unemployment, it does lead to displacement issues for some employees in declining industries. There is an increased risk of sustained unemployment for more vulnerable workers, with attributes such as low skills, poor English proficiency, older age and low educational attainment limiting their capacity to find alternative employment.<sup>150</sup> When measured this way, workers in TCF industries are considered among the most vulnerable. Australia's automotive industry, another industry exposed to open trade, also tends to employ workers with below-average prospects for re-employment as a consequence of being located in areas of high regional concentration, combined with the variability in the demand for workers with automotive skills.<sup>151</sup>

In these circumstances, governments often implement labour-market policies to reduce risks associated with adjustments borne by displaced workers. This was the basis for the Commonwealth Government's phased in reductions of tariff assistance for the automotive and TCF industries, as well as the implementation of complementary support programs, such as the Automotive Industry Structural Adjustment Program (AISAP). The purpose of the AISAP has been to strengthen the components sector to ensure it can provide secure employment to as many skilled workers as possible. This program is discussed further in Chapter Five.

Finding 7: While available evidence does not indicate that off-shoring manufacturing activities to low-cost countries has led to significant unemployment in Australia, there is evidence that some employees in declining industries experience job displacement. This is particularly common among workers with low skills, poor English proficiency, low educational attainment, and older workers.

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<sup>148</sup> Productivity Commission, *Trends in Australian Manufacturing*, Canberra, 2003.

<sup>149</sup> Productivity Commission, *Trends in Australian Manufacturing*, Canberra, 2003, p. XXII.

<sup>150</sup> Organisation for Economic Co-operation and Development, *Globalisation, jobs and wages*, OECD, Paris, 2007.

<sup>151</sup> Hon Steve Bracks, *Review of Australia's automotive industry*, Canberra, 2008.

### 3.3.2.2 Inequality in labour markets

The Committee notes that enhanced open trade can increase inequality in domestic labour markets, with evidence of globalisation eroding the bargaining power of less skilled workers. The OECD reported that while globalisation has not created an overall shortage of jobs, some workers are put in positions where they have to make concessions on wages or working conditions to remain employed.<sup>152</sup> This is consistent with evidence presented by the TCFUA to the Committee that TCF companies make the decision not to transfer their operations offshore but rather to contract work out to local companies that use home-based workers. The TCFUA spoke of the exploitative conditions associated with this type of work:

...it is characterised by extremely low rates of pay and exploitative conditions. The most recent information still has these workers receiving an average \$5 an hour for the work that they do, and working 12, 14-hour days, seven days a week, frequently with their children involved in the manufacturing process.<sup>153</sup>

The Committee notes that the 2008 review of the TCF industries *Building innovative capability* recommended that better protection be provided to workers engaged in home-based manufacture of TCF products through both legislation and industrial awards. In response, the Commonwealth Government's *Fair Work Act 2009* allows modern awards to include 'outworker terms' for the TCF industries. This creates a regulatory framework around record keeping regarding work allocation and ensuring claims for payment can be recovered from outworker entities that do not themselves directly employ or engage outworkers. The legislation also includes special right-of-entry provisions for suspected breaches of the Act.<sup>154</sup>

## 3.4 Global engagement

The globalisation of trade has significantly changed the way domestic manufacturing sectors operate. Previously distinct markets and economies that produced goods only for domestic markets are now integrated through regional and global supply chains, increasing cross-border flows of both intermediate and final goods. For example, in 2003 54 per cent of world manufacturing imports were classified as "intermediate" goods.<sup>155</sup>

Australian manufacturers are increasingly aware that maintaining a sustainable and profitable business in Australia requires them to also be competitive in the global market. In his presentation to the Committee, Mr Roger James, Special Adviser to the Australian Institute of Export advised:

...the move by manufacturing to establish global supply chains has meant that many businesses have chosen to restructure their operations to become competitive parts providers. Allied with this specialisation they have been obliged to develop a range of both domestic and international

<sup>152</sup> Organisation for Economic Co-operation and Development, *Globalisation, jobs and wages*, OECD, Paris, 2007.

<sup>153</sup> Michele O'Neil, National Secretary and Victorian Secretary, Textile, Clothing and Footwear Union of Australia, *Transcript of evidence*, 7 August 2009, p. 5.

<sup>154</sup> Fair Work Online, 'Outworkers', viewed 3 June 2010, <<http://www.fairwork.gov.au>>.

<sup>155</sup> Organisation for Economic Co-operation and Development, *Moving up the value chain: staying competitive in the global economy*, Paris, 2007.

customers in order to spread risk and to reduce the impact of downturns in one or a number of overseas markets. In order to grow and develop their businesses, Victoria's manufacturers have had to internationalise to build larger consumer bases that exist in Australia.<sup>156</sup>

Similarly, Austrade stated in its submission:

Traditional patterns of manufacturing production, which involved drawing inputs from local suppliers, are now giving way to globally integrated operations, investing offshore and relocating aspects of production to take advantage of global supply chain opportunities, a more diverse supplier base and lower input costs.<sup>157</sup>

The Commonwealth Government's review of export policies and programs *Winning in world markets* indicated that Australia's involvement in the global economy, through a strong export culture and continued access to global markets, is essential to Australia's economic prosperity as it:

- enables us to pay for imports as our economy grows;
- fosters innovation;
- stimulates business formation and entrepreneurial dynamism;
- lifts the competitive performance of Australian firms through exposure to international trends in technology, product design, management and marketing; and
- provides an opportunity for exporters to diversify away from a single domestic market and to benefit from economies of scale.<sup>158</sup>

A common feature of global engagement is intra-industry trade, which is characterised by the simultaneous export and import of goods within the same industry.<sup>159</sup> The occurrence of intra-industry trade reflects the global integration of production processes for particular products, as well as the establishment of specialised niches within industries. In Australia, manufacturing industries with the highest levels of intra-industry trade are those that predominantly manufacture elaborate goods, such as motor vehicles and pharmaceuticals.<sup>160</sup> Another example is scientific and medical equipment. In its submission to the Inquiry, Science Industry Australia (SIA) told the Committee that the value of manufacturing production for the science services industry is \$1.38 billion, with exports valued at \$1.27 billion. According to the SIA, the Australian science industry performs well on the global market:

The science industry is well integrated with global supply chains. Its scientific instruments, clinical diagnostics and laboratory services are globally recognised as the best available and used extensively in by the

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<sup>156</sup> Roger James, Special Advisor, Australian Institute of Export, *Transcript of evidence*, 6 August 2009, p. 3.

<sup>157</sup> Australian Trade Commission, *Submission*, no. 49, 19 August 2009, p. 4.

<sup>158</sup> David Mortimer, *Winning in world markets: review of export policies and programs*, Canberra, 2008, p. 39.

<sup>159</sup> Dirk Pilat, et al., *The changing nature of manufacturing in OECD economies*, Paris, 2006.

<sup>160</sup> Productivity Commission, *Trends in Australian Manufacturing*, Canberra, 2003.

world's best companies. Its larger science manufacturing companies export up to 97 per cent of their production.<sup>161</sup>

### 3.4.1 Foreign direct investment

The steady rise in international trade in recent decades has led to the growing importance of foreign direct investment (FDI) in the global economy, and in particular the dominance of multinational corporations in all economies. According to the United Nations Conference on Trade and Development, two-thirds of world trade occurs through multinationals, as a consequence of multinationals continually consolidating business operations on a global scale to maximise efficiencies.<sup>162</sup> For example, in the pharmaceuticals industry, the top ten firms accounted for around one third of sales in the mid 1990s, whereas the top ten account now for around half of global sales. In addition, the automotive sector has consolidated from 40 firms in the 1980s to 14 global firms.<sup>163</sup>

At the domestic level, there are many benefits associated with FDI and the presence of multinational corporations. As they lead and respond to global pressures, multinationals encourage local suppliers and manufacturers to be globally competitive. FDI can also enhance productivity levels in domestic markets through investment in capital equipment and the introduction of new and advanced technologies to domestic production processes:

Empirical evidence has shown that foreign affiliates are larger, and more capital and skill intensive; they invest more in both physical and knowledge capital and pay higher wages than domestic firms within the same industry. Also, as shown by previous OECD work, foreign affiliates are often concentrated in more capital and skill intensive sectors and are more R&D intensive and more innovative than domestic firms. Therefore, they are likely to grow more than domestic firms and thus contribute directly to productivity growth of the host economy.<sup>164</sup>

Multinational corporations have a significant presence in Australia's business environment, with many choosing to locate in Australia in order to establish regional headquarters for the Asia-Pacific region. According to the AiG, there are approximately 2,300 affiliates of over 680 overseas-owned corporations based in Australia.<sup>165</sup> In 2007, the level of FDI in Australia increased by 15 per cent to \$377 billion. Inward investment in manufacturing accounted for 17.9 per cent of total FDI (\$67 billion) and accounted for 13 per cent (\$8 billion) of the 15 per cent total increase.<sup>166</sup> In its submission to the Inquiry, Austrade outlined the major Australian industry sectors that Austrade FDI projects were focussed on in 2008-09 (see Figure 4). Auto and advanced manufacturing captured 12 per cent of

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<sup>161</sup> Science Industry Australia Inc, *Submission*, no. 8, 31 July 2009, p. 2.

<sup>162</sup> United Nations Conference on Trade and Development, *World investment report 2007* New York & Geneva, 2007.

<sup>163</sup> Department of Industry Tourism and Resources, *Drivers of change in Australian industry*, Canberra, 2007.

<sup>164</sup> Chris Criscuolo, 'Foreign affiliates in OECD economies: presence, performance and contribution to host countries' growth', in *Staying competitive in the global economy*, OECD, Paris, 2005, p. 176.

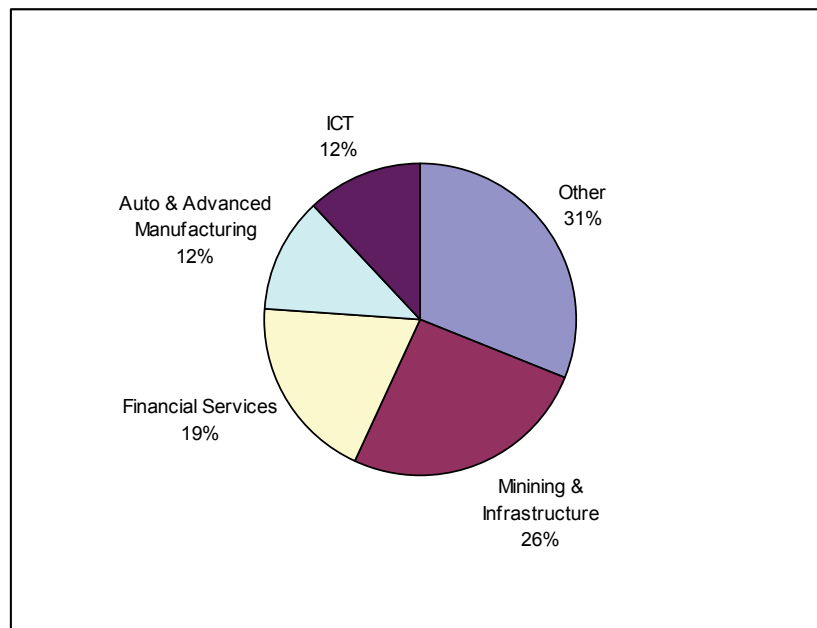
<sup>165</sup> Australian Industry Group, *Manufacturing futures*, Sydney, 2006.

<sup>166</sup> New South Wales Government, 'Foreign direct investment in Australia by industry', viewed 18 February 2010, <<http://www.business.nsw.gov.au>>.

FDI, compared to mining and infrastructure at 26 per cent and financial services at 19 per cent.

Over the last five years, the percentage share of manufacturing in total FDI has fallen below the share of mining in FDI. In 2004, the share of manufacturing was 38.9 per cent compared to 13.7 per cent for mining. By 2005 investment in manufacturing was 19.3 per cent, and investment in mining increased to 21.1 per cent.<sup>167</sup> At the end of 2007, the share of mining in total FDI was 24.5 per cent compared to 17.9 per cent for manufacturing.<sup>168</sup>

**Figure 4: Austrade 2008-09 FDI projects by industry<sup>169</sup>**



In its submission, Austrade also outlined countries from which Austrade attracted investments in 2008-09, with Germany the major FDI source at 12 per cent, followed by China and Singapore at 10 per cent (see Figure 5).

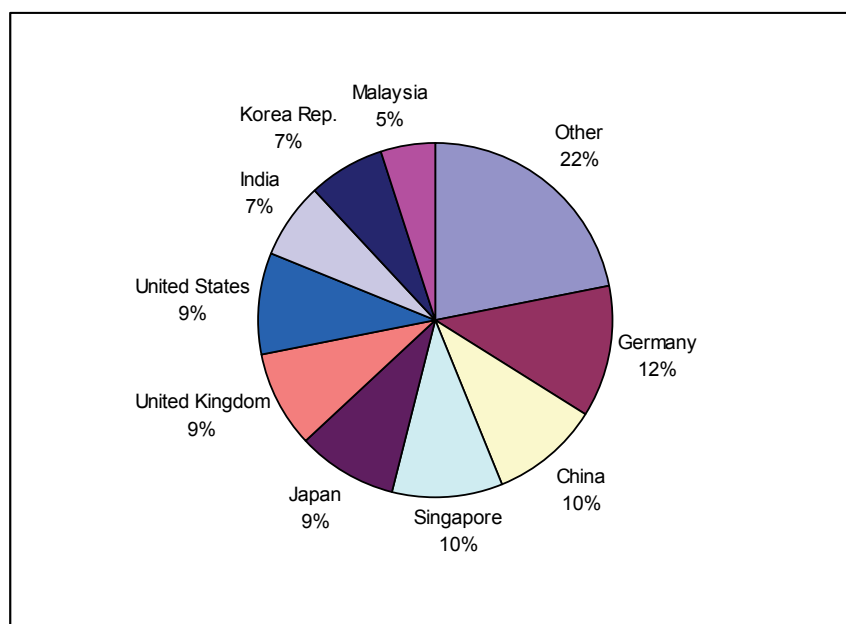
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<sup>167</sup> New South Wales Government, 'Foreign direct investment in Australia by industry', viewed 18 February 2010, <<http://www.business.nsw.gov.au>>.

<sup>168</sup> New South Wales Government, 'Foreign direct investment in Australia by industry', viewed 18 February 2010, <<http://www.business.nsw.gov.au>>.

<sup>169</sup> Australian Trade Commission, *Submission*, no. 49, 19 August 2009, p. 13.

**Figure 5: Austrade 2008-09 FDI projects by country<sup>170</sup>**



Australians are also investing abroad, with the USA, UK and NZ the most popular destinations for outward investment. In 2007, the value of Australia's FDI was \$323.6 billion.<sup>171</sup> A key benefit from outward investment, particularly for Australian-owned companies, is that it expands business beyond the domestic market, which creates economies of scale and enhances productivity levels.<sup>172</sup> Outward investment also allows companies to access resources and expertise in other markets. Just as multinationals in Australia introduce new concepts and technologies to the domestic market, Australian companies overseas expose those companies to new and innovative processes. According to Ms Nicola Watkinson, the National Manager for Investment at Austrade, outward investments benefit the Australian economy and also lead to the internationalisation of Victorian companies:

...it is about establishing a new representative office in order to capture new opportunities, and the profits of those new operations that are set up overseas are usually repatriated back to Australia, so we will get a lot of economic benefit from that. It is what we would call outward investment rather than inward investment. This is not taking something that exists here and removing it from the Australian or Victorian economy and putting it somewhere else, but it is about the growth strategy and the internationalisation of our Victorian manufacturers, and I think that is a positive economic benefit.<sup>173</sup>

<sup>170</sup> Australian Trade Commission, *Submission*, no. 49, 19 August 2009, p. 12.

<sup>171</sup> Australian Bureau of Statistics, 'International Investment Position, Australia: supplementary statistics, 2007', viewed 18 February 2010, <<http://www.abs.gov.au>>.

<sup>172</sup> World Trade Organisation, *Trade policy review: Report by the Secretariat, Australia*, World Trade Organisation, Geneva, 2007.

<sup>173</sup> Nicola Watkinson, National Manager, Investment, Australian Trade Commission, *Transcript of evidence*, 22 January 2010, p. 13.

Finding 8: Foreign direct investment and the presence of multinational corporations in Australia are beneficial to the Australian manufacturing sector. They encourage greater participation of local manufacturers in global markets, and enhance productivity levels in local firms through exposure to and adoption of new and advanced technologies. Similarly, outward investment of Australian firms in overseas markets is also highly beneficial to the local manufacturing sector.

### 3.5 Exchange rates

Recently, the appreciation of the Australian dollar has also had an effect on the Australian manufacturing sector. The Committee notes that while other factors discussed in this Chapter are common to other developed economies, rising exchange rates have recently been confined to a smaller group of OECD countries, such as Australia and New Zealand. In 2009, the Australian dollar finished the year at 89.88 US cents and the May 2010 average was valued at 87.11 US cents.<sup>174</sup> In providing evidence to the Committee, Mr Shane Brittle, the Acting Manager of the Monetary and Fiscal Policy Unit in the Macroeconomic Policy Division at Federal Treasury, advised of the key issues placing upward pressure on the dollar:

At the moment we have seen a somewhat improving sentiment in the outlook for the global economy and particularly recent economic outcomes for Australia have boosted views on the prospects going forward for Australia. That in itself is a factor driving the dollar.

Another key factor is also the outlook for our major trading partners, particularly in the Asian region and China in particular. What we are seeing from that is somewhat of a recent up-tick in global commodity prices and the Australian currency being somewhat determined, or seen as a commodity currency, has responded to those factors as well.

An additional factor that is going on at the moment is US dollar weakness more generally, particularly as that economy looks like it is not showing any strong signs of recovery in the near term, and there could be some perceptions in global markets about their real capacity to repay debts over the medium term and so on. Those are the broad factors that have been driving the dollar recently.<sup>175</sup>

One of the key drivers for the rising Australian exchange rate is the resource boom, which is mostly attributable to the industrialisation of developing economies, particularly China. The rapid expansion of China's manufacturing sector has created an unprecedented demand for raw materials, placing upward pressure on commodity prices.<sup>176</sup> Because Australia has a strong comparative advantage in resources, the value of the dollar rises as commodity prices increase, so that the Australian dollar is often referred to as a "commodity currency".<sup>177</sup> Furthermore, the surge in

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<sup>174</sup> X-rates.com, 'Exchange rates data (Australian dollar, American dollar)', viewed 3 June 2010, <<http://www.x-rates.com/>>.

<sup>175</sup> Shane Brittle, Acting Manager, Monetary and Fiscal Policy Unit, Macroeconomic Policy Division, Federal Treasury, *Transcript of evidence*, 28 October 2009, p. 7.

<sup>176</sup> House of Representatives Standing Committee on Economics Finance and Public Administration, *Australian manufacturing: today and tomorrow*, Canberra, 2007.

<sup>177</sup> House of Representatives Standing Committee on Economics Finance and Public Administration, *Australian manufacturing: today and tomorrow*, Canberra, 2007, p. 17.

exports of raw materials from Australia to developing economies has substantially influenced Australia's growth.

Australia's current high exchange rate tends to reduce competitiveness of the Australian manufacturing sector in domestic and global markets. The AiG report *Aussie dollar challenges manufacturing competitiveness* advised that competitiveness of the manufacturing sector as a whole is limited when the Australian dollar sits at the US\$0.70 mark. According to AiG, for each one cent appreciation of the Australian dollar against the US dollar, export earnings are reduced by around 0.3 per cent, with an annual loss of \$210 million for every one cent appreciation.<sup>178</sup> There are instances when the higher exchange rate can be beneficial to local manufacturers, however, particularly for businesses highly dependent on overseas inputs.

The Committee is also aware of challenges for other manufacturers to invest in future growth when they face strong competition from imports and they have limited capacity to absorb the rising exchange rate.<sup>179</sup> Mr Mike Moignard, the General Manager for the Industry Group at Austrade, advised the Committee that the high exchange rate is particularly challenging for exporters of high or premium manufactured goods because they are often affected by cost structures.<sup>180</sup>

While the high exchange rate is currently a challenge for manufacturing sector exports, the Committee also notes that volatility in exchange rates can also create substantial challenges for businesses. This was also remarked upon by Mr Simon Dighton, Managing Director of Catalyst Investments:

Currency is also an ongoing issue. We now live with far more volatility in the Australian dollar. It is not a specifically Victorian manufacturing issue, but if the business is not looking to export and it is selling in US dollars with an Australian dollar cost base, then it is certainly something that you think about.<sup>181</sup>

In the year to June 2010, the Australian dollar fluctuated between US \$0.777 and US \$0.936<sup>182</sup>, a variation of up to 20 per cent in the value of the dollar. These kinds of price changes introduce an element of uncertainty into forward planning for manufacturing businesses, as they do for all businesses participating in export and/or export of products, services or goods.

**Finding 9: Appreciation and volatility of the Australian dollar significantly reduces competitiveness of the Australian manufacturing sector in both domestic and global markets.**

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<sup>178</sup> Australian Industry Group, *Manufacturing futures*, Sydney, 2006.

<sup>179</sup> Australian Chamber of Commerce and Industry, *The future of Australia's manufacturing sector: a blueprint for success*, Australian Chamber of Commerce and Industry, Barton, 2007.

<sup>180</sup> Mike Moignard, General Manager, Industry Group, Australian Trade Commission, *Transcript of evidence*, 22 January 2010.

<sup>181</sup> Simon Dighton, Managing Director, Catalyst Investment Managers, *Transcript of evidence*, 30 November 2009, p. 7.

<sup>182</sup> Source: XE, viewed 14 June 2010, <<http://www.xe.com/>>.



## 3.6 Global financial crisis

Throughout the Inquiry, witnesses expressed concern about the impact of the global financial crisis (GFC) on the Australian manufacturing sector. While the Committee does not believe the GFC has changed underlying trends for the sector, it does recognise the significant challenges that the sector faced as a consequence of the GFC. For example, the Australian Workers' Union stated in its submission that 77,000 manufacturing-related jobs had disappeared during the GFC.<sup>183</sup>

Mr Michael Brockhoff, the Managing Director of MaxiTRANS Industries, told the Committee how the GFC had affected his company:

The other thing is that during the global financial crisis our business was very severely impacted...Our profits have been down 75 per cent.

We had to let go 300 employees. We had to implement a capex freeze. We implemented a salary freeze where the directors and senior management also took a 10 per cent salary decrease.<sup>184</sup>

A useful measurement of the rise and fall in the output of Australian manufacturing is the AiG - PricewaterhouseCoopers Australian Performance of Manufacturing Index (PMI), a seasonally adjusted national composite index based on diffusion indices for production, new orders, deliveries, inventories and employment, with varying weights. A PMI reading above 50 points indicates that manufacturing is expanding, and a reading below 50 indicates that manufacturing is declining, with the distance from 50 reflecting the strength of the expansion or decline.

As demonstrated in Figure 6, during the period June 2008 to July 2009, the PMI fell below the key 50 points level, with manufacturers citing concerns with limited credit availability, project cancellations, weak demand from the automotive sector, and competitive pressures.<sup>185</sup> From January 2010, however, the Australian PMI has maintained a position above the 50.0 level, reflecting improved markets for manufactured products. In the manufacturing magazine *Industry Update*, Ms Ridout of the AiG stated that 2010 will continue to present challenges to the Australian manufacturing sector, although local demand will improve particularly for companies related to mining and infrastructure construction, and consumer goods.<sup>186</sup>

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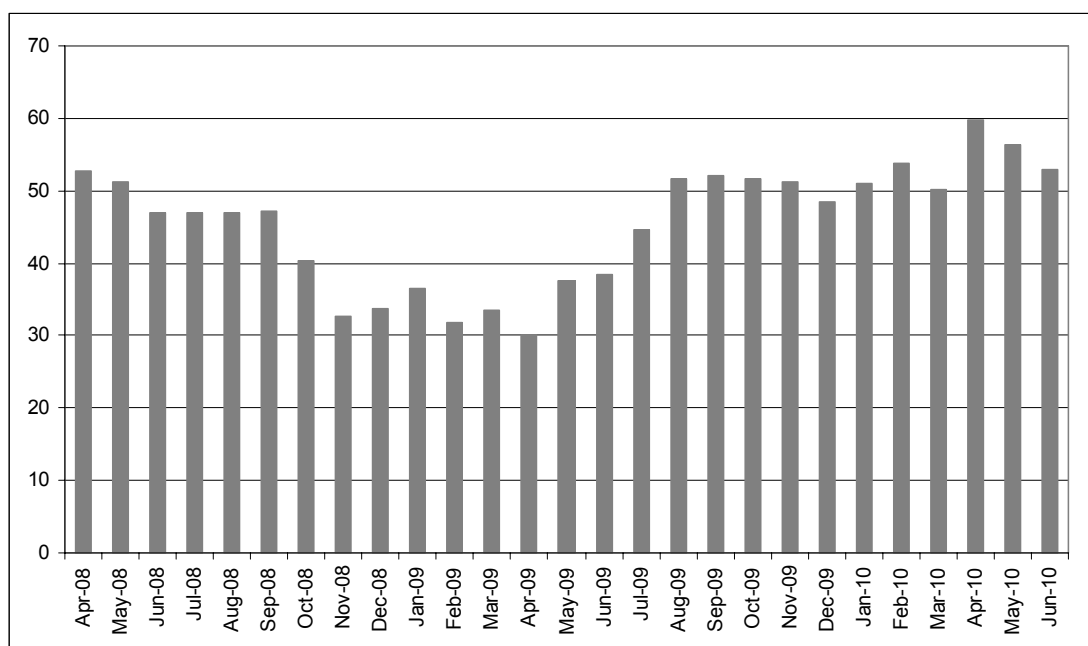
<sup>183</sup> Australian Workers' Union, *Submission*, no. 48, 18 August 2009.

<sup>184</sup> Michael Brockhoff, Managing Director, MaxiTRANS Industries Pty Ltd, *Transcript of evidence*, 18 August 2009, p. 2.

<sup>185</sup> Australian Industry Group, 'Australian PMI: Manufacturing fall continues', viewed 3 March 2010, <<http://www.aigroup.com.au>>.

<sup>186</sup> Heather Ridout, 'Boom or bust?', *Industry update*, no. 52.

**Figure 6: Australian PMI, April 2008 to June 2010.<sup>187</sup>**



### 3.7 Enhanced specialisation

The GFC has created a challenging environment for the Australian manufacturing sector to operate within. Downturns in manufacturing activity as a consequence of the GFC have added to existing pressures for manufacturers to adjust to a more competitive market, and potentially focus their activities to areas of comparative advantage.

A number of witnesses informed the Committee that while the current economic climate had led to new opportunities for many manufacturers, it had also resulted in the closure of some manufacturing companies.<sup>188</sup> Mr Ron Patterson, General Manager of the Victorian and Tasmanian Branch of the Printing Industries Association of Australia, advised the Committee that the GFC had led to a decrease in printing businesses from 1400 to 1100. He noted, however, that businesses which fail quickly during economic downturns are not typically very viable in the first place.<sup>189</sup>

Other manufacturers have actively responded to changing markets through various strategies, such as enhancing investment and engagement in innovation; seeking alternative manufacturing processes to add value to and reduce costs of production; expanding their presence in export markets; and providing training to employees to improve and sustain

<sup>187</sup> Australian Industry Group, 'Australian PMI', viewed 1 July 2010, <<http://www.aigroup.com.au>>.

<sup>188</sup> Angela Krepcik, Chief Executive Officer, Advanced Manufacturing Australia, *Transcript of evidence*, 6 August 2009; Ron Patterson, General Manager for Victoria and Tasmania, Printing Industries Association of Australia, *Transcript of evidence*, 18 August 2009.

<sup>189</sup> Ron Patterson, General Manager for Victoria and Tasmania, Printing Industries Association of Australia, *Transcript of evidence*, 18 August 2009.

productivity.<sup>190</sup> All of these initiatives assist companies move into more specialised areas of production and trade.

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<sup>190</sup> Australian Industry Group, *Manufacturing futures*, Sydney, 2006.

## Chapter Four: Key points

The globalisation of manufacturing processes and businesses provides opportunities manufacturers to move into new markets and product lines. Access to highly-skilled labour, reliable infrastructure, and a stable regulatory environment, provide Victorian manufacturers with opportunities to explore high-value markets, and to position themselves at the high-value points of manufacturing supply chains, to place Victoria as a manufacturing 'hub' in certain industries.

Victoria provides a strong environment for manufacturing businesses through the availability of skilled labour, lifestyle, export market access, logistics and supply chains, quality of manufacture, intellectual property security, business and regulatory environment, infrastructure reliability and cost, and government assistance.

The attraction of Victoria to manufacturing businesses could benefit from improved provisions surrounding payroll tax and labour-related regulations, access to advice and expertise, government procurement, and access to complementary businesses. However, Victoria's payroll tax and labour-related regulations compare favourably with other Australian States and Territories.

Factors affecting manufacturing business location which Victoria has limited ability to improve include: size of domestic markets, and distance from other markets, and wage and salary rates. Because these factors are difficult to influence, future manufacturing strategies should focus on means by which their effect can be minimised, for example, through promotion of high-value, capital intensive manufacturing; and through promoting niche manufacturing.

## Chapter Four: Deciding where to manufacture

The globalisation of manufacturing processes and businesses provides opportunities and challenges for Australian manufacturers to move into new markets and product lines. The Committee heard that, by and large, access to highly-skilled labour, reliable infrastructure, and a stable regulatory environment, provides Victorian manufacturers with opportunities to explore high-value markets – for example, in the production of high-quality goods, or for low-volume production runs, for domestic and overseas markets. The Committee was also told that there are opportunities for Australian manufacturers to look to position themselves at the high-value points of manufacturing supply chains, to place Victoria as a manufacturing ‘hub’ in certain industries.<sup>191</sup>

As noted in Chapter Three, one of the most important drivers of change in the manufacturing sector over recent decades has been the development of more open international markets, which have facilitated the entry of Australian manufacturers into foreign markets, and the engagement of foreign companies in domestic markets. This has transformed not only the range of potential markets that firms can enter, but also how production can be structured – so that, for example, there is more potential for companies to explore efficiencies through the development of cross-jurisdictional production chains than was previously the case.

Improved communications technologies have also had a substantial and complementary effect on market and production liberalisation, by enabling companies to (for example): monitor and maintain processes and inventories within globally dispersed production chains; identify supplier companies locally and internationally; obtain timely and detailed information about those company’s capabilities; and negotiate terms and conditions for production. Communications and technology developments also facilitate transport and logistics management at less cost than has previously been possible.

In this context, multinational firms have been significant drivers of, and participants in, the globalisation of manufacturing production. In many cases, a substantial proportion of a multinational firm’s turnover and employment is derived outside its ‘base’ country, and in foreign countries, may form a substantial part of a local industry’s manufacturing capacity and market.<sup>192</sup> The increasing importance of multinational firms in

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<sup>191</sup> Dirk Pilat, Head, Structural Policy Division, OECD Directorate For Science, Technology And Industry, *Meeting*, Paris, 12 February 2010.

<sup>192</sup> Organisation for Economic Co-operation and Development, *Globalisation and regional economies*, Organisation for Economic Co-operation and Development, Paris, 2007.

production creates challenges for local manufacturing capacity, particularly where the composition and activities of local manufacturers are controlled, or at least heavily influenced, by firms operating in separate jurisdictions. In 2007 the Organisation for Economic Co-operation and Development (OECD) noted two problematic aspects of this development:

First, the actual facilities get scant chance to enjoy a period of long-run stability during which key activities such as management, investment, training etc., can be embedded in the region. Second, facilities and plants can become “victims” of change almost regardless of actual performance; they are simply in the wrong place at the wrong time.<sup>193</sup>

In its 2007 report, *Globalisation and Regional Economies*, the OECD suggested that two types of decisions were made by firms contemplating whether to relocate – sourcing decisions and location decisions.<sup>194</sup> Sourcing decisions are when the firm contemplates which segments of its production chain can be carried out in-house, and which can be outsourced. Generally, following decisions about sourcing, the firm may contemplate whether outsourced segments of production should be performed by subcontractors in the base country, or whether those segments should be produced elsewhere.

Typically the segments of production that are moved offshore are those that can take advantage of cost efficiencies, generally through reduced labour, and occasionally materials, costs. This is not always the case, however, as increasingly, off-shoring is being employed by firms as a means to obtain access to emerging markets.

Another aspect of the globalisation of manufacturing production is changes in the location of research and development (R&D). While R&D activities have tended to locate in OECD countries even where offshore production is employed, there is an emerging trend toward the co-location of R&D with production in non-OECD countries.<sup>195</sup> In some cases, this occurs in order for the firm to obtain efficiencies from close contact between R&D and production activities, but R&D co-location may also be employed to adapt products to conditions in local, emerging, markets. This suggests that in future there may be pressure to offshore innovation as well as production, with movement in this direction underscored by improved education and skills in non-OECD countries, in part leveraging off the development of manufacturing clusters in those countries. This is likely to be a critical issue for maintaining manufacturing capacity in Australia, as the Committee was told by Dr Sami Falou, Supply Chain Manager with the North West Regional Development Agency in Manchester, that in the automotive industry the most secure sites for production were those close to where design was conducted.<sup>196</sup> This underscores the importance of maintaining and developing strong design and R&D facilities and expertise in order to sustain local manufacturing.

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<sup>193</sup> Organisation for Economic Co-operation and Development, *Globalisation and regional economies*, Organisation for Economic Co-operation and Development, Paris, 2007, p. 65.

<sup>194</sup> Organisation for Economic Co-operation and Development, *Globalisation and regional economies*, Organisation for Economic Co-operation and Development, Paris, 2007, p. 67.

<sup>195</sup> Organisation for Economic Co-operation and Development, *Globalisation and regional economies*, Organisation for Economic Co-operation and Development, Paris, 2007, p. 73.

<sup>196</sup> Dr Sami Falou, Supply Chain Manager, North West Regional Development Agency, *Meeting*, Manchester, 9 February 2010.

## 4.1 An overview of factors behind business location

While the discussion above provides a general overview of factors influencing movement of production offshore in manufacturing, the Committee's specific interest is of course in how Victorian-based companies make decisions about sourcing and location. The Committee received a range of evidence from witnesses about the main factors considered by businesses when considering where to locate their manufacturing operations. According to Bombardier Transportation Australia, the criteria employed by offshore businesses when considering whether to transfer to Victoria include:

- company policy to support global employment through decentralisation;
- local and regional demand for goods and services, including market access conditions, growth potential, and the efficiency and effectiveness of transportation to markets;
- infrastructure (including availability, condition, reliability and age) for production, communications and transport;
- productive workforce, including availability of skills, government training support, consistent labour relations and costs;
- supply chain clusters, including a range of easily accessible supply and other services and processes;
- links with R&D facilities, including public and private institutions, and universities;
- materials, including cost and the efficiency and effectiveness of transportation;
- natural environment for staff and business, including wider environmental policies and those affecting and protecting specific manufacturing properties, for example from pollution and residential encroachment;
- the wider social environment including safety, cultural and political stability, opportunities for education, employment and recreation;
- market failure issues, including support of innovation, local industry investment, marketing of the State's 'brand' overseas and advocacy of State issues with central governments and international bodies;
- government policies, including taxes and tax treatments, charges, procurement budgets and programs that mandate strong support local manufacturing and supply chain clusters;
- public sector processes, including transparency, honesty, legal processes, support of business and easy access to decision-makers; and
- the banking system, including the availability of finance for investment and R&D.<sup>197</sup>

The submission from Clyne Foods Ltd suggested that the factors that influence manufacturing businesses to locate in Victoria include:

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<sup>197</sup> Bombardier Transportation Australia Pty Ltd, *Submission*, no. 51, 21 August 2009, p. 25.

- the opportunity to target niche or one off products for both the domestic and export markets;
- a flexible work force that understands the importance of orders being “on time”;
- government assistance and incentives; and
- [regarding regional Victoria] the cost of land and infrastructure, labour and associated costs, around the cheaper costs of operation in regional Victoria.<sup>198</sup>

In the globalised economy, manufacturing businesses must also consider how they can fit into distributed supply chains, and how to ensure that their products are attractive to overseas production ‘hubs’. While ideally Victoria would be able to attract the headquarters of global manufacturers to establish locally, in practice Victorian manufacturers are more likely to be supplying goods into supply chains. In this context, the Aerosol Association of Australia noted that:

From our experience the following are the crucial factors which are considered by multi-nationals in making sourcing decisions:

- price competitiveness;
- consistent quality;
- security of supply;
- timely delivery; and
- proximity to major markets

Direct financial incentives by State Governments are not generally a factor in the sector as significant gains in productivity and throughput can be achieved without major capital expenditure.

State governments can, however, play a major role in ensuring the retention of manufacturing in the State (and in Australia) by providing a ‘business friendly’ environment where the costs of doing business are subject to rigorous scrutiny and attention is constantly focussed on reducing the regulatory compliance and administrative costs being incurred by businesses.<sup>199</sup>

The Committee received extensive evidence about factors considered by companies when deciding where to locate their business.<sup>200</sup> A broad range

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<sup>198</sup> Clyne Foods, *Submission*, no. 33, 5 August 2009, p. 2.

<sup>199</sup> Aerosol Association of Australia Inc, *Submission*, no. 35, 3 August 2009, p. 2.

<sup>200</sup> Advanced Manufacturing Cooperative Research Centre, et al., *Submission*, no. 50, 20 August 2009; Aerosol Association of Australia Inc, *Submission*, no. 35, 3 August 2009; ASSA ABLOY Australia Pty Limited, *Submission*, no. 6, 20 July 2009; Australian Council of Wool Exporters & Processors Inc, *Submission*, no. 63, 12 October 2009; Australian Food and Grocery Council, *Submission*, no. 42, 11 August 2009; Bombardier Transportation Australia Pty Ltd, *Submission*, no. 51, 21 August 2009; City of Greater Dandenong, *Submission*, no. 20, 3 August 2009; Federal Chamber of Automotive Industries, *Submission*, no. 58, 21 September 2009; Fonterra Australia Pty Ltd, *Submission*, no. 43, 17 August 2009; Ford Motor Company of Australia Limited, *Submission*, no. 34, 5 August 2009; Furnishing Industry Association of Australia (Vic/Tas) Inc, *Submission*, no. 12, 31 July 2009; Geelong Manufacturing Council, *Submission*, no. 16, 1 August 2009; Kingston City



of criteria were identified, ranging from global-specific issues, such as the presence of free trade agreements (FTAs) and proximity to global markets, to more domestic-related factors, including the availability and price of serviced land and the existence of a reliable and constant supply of utilities, such as electricity and water. The most commonly identified criteria, however, were those relating to the availability of skilled labour, appropriate infrastructure, access to sound supply chains and government support.

## 4.2 Key factors for determining manufacturing locations

### 4.2.1 Labour

#### 4.2.1.1 Labour skills

A recurrent recommendation of most reviews examining the future role of manufacturing industries in developed economies is that the greatest strengths for manufacturing are likely to be found in medium to high technology, capital intensive, innovative and knowledge-focused production.<sup>201</sup> Educated and highly skilled labour is a critical component of this kind of manufacturing, where labour costs comprise a relatively smaller proportion of total production costs.

The Committee received evidence in submissions that, by and large, Victoria has a strong, highly skilled manufacturing workforce.<sup>202</sup> For the right kinds of manufacture, this pool of labour provides a strong incentive for manufacturing companies to either remain, or contemplate moving operations to, Australia. In its submission to the Inquiry, Bombardier Transportation Australia suggested that the skilled workforce was a source of competitive advantage for Victoria.<sup>203</sup> Mr Mark Ross, Managing Director of Boeing Aerostructures Australia, told the Committee that it was “very difficult to develop a competitive advantage based on property, plant and

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Council, *Submission*, no. 61, 17 September 2009; MaxiTRANS Australia Pty Ltd, *Submission*, no. 22, 3 August 2009; Mitchell Shire Council, *Submission*, no. 52, 24 August 2009; Plenty Food Group, *Submission*, no. 53, 24 August 2009; Qenos Pty Ltd, *Submission*, no. 62, 3 August 2009; Schiavello (Vic) Pty Ltd, *Submission*, no. 14, 31 July 2009; Science Industry Australia Inc, *Submission*, no. 8, 31 July 2009; South East Melbourne Manufacturers Alliance Inc, *Submission*, no. 36, 3 August 2009; The Just Group, *Submission*, no. 30, 3 August 2009; Toyota Motor Corporation Australia Limited, *Submission*, no. 57, 18 September 2009; Yarra Ranges Shire Council, *Submission*, no. 55, 7 September 2009.

<sup>201</sup> Australian Chamber of Commerce and Industry, *The future of Australia's manufacturing sector: a blueprint for success*, Australian Chamber of Commerce and Industry, Barton, 2007; Professor Roy Green, *Building innovative capability*, Canberra, 2008; House of Representatives Standing Committee on Economics Finance and Public Administration, *Australian manufacturing: today and tomorrow*, Canberra, 2007; Organisation for Economic Co-operation and Development, *Globalisation and regional economies*, Organisation for Economic Co-operation and Development, Paris, 2007; Productivity Commission, *Trends in Australian Manufacturing*, Canberra, 2003.

<sup>202</sup> ASSA ABLOY Australia Pty Limited, *Submission*, no. 6, 20 July 2009; Australian Food and Grocery Council, *Submission*, no. 42, 11 August 2009; City of Greater Dandenong, *Submission*, no. 20, 3 August 2009; Fonterra Australia Pty Ltd, *Submission*, no. 43, 17 August 2009; Mitchell Shire Council, *Submission*, no. 52, 24 August 2009; Plenty Food Group, *Submission*, no. 53, 24 August 2009; Science Industry Australia Inc, *Submission*, no. 8, 31 July 2009; South East Melbourne Manufacturers Alliance Inc, *Submission*, no. 36, 3 August 2009.

<sup>203</sup> Bombardier Transportation Australia Pty Ltd, *Submission*, no. 51, 21 August 2009.

equipment,” and that the key to manufacturing competitiveness was “an educated and capable workforce.”<sup>204</sup>

Mr Marcos Anastassiou, Senior Manager in the Office of the Director, RMIT TAFE told the Committee that lack of skills was not the reason manufacturing businesses contemplated moving operations overseas:

We have a very good skills base here, and 60 years of automotive manufacturing has provided a robust level of skills and training. You would have to say that Victoria is pretty good at training for the manufacturing sector, and we should maintain that skills base, not diminish it in any way.<sup>205</sup>

A particular labour strength in Victoria, in regard of import and export markets and global supply chains, is the availability of people with diverse language and cultural skills. The availability of people with these skills, either for employment in the manufacturing sector, or in businesses providing services to the manufacturing sector, may provide incentives for locating manufacturing businesses in Victoria.

The Committee also notes observations from the Structural Policy Division, Directorate for Science, Technology and Innovation, OECD, about the mobility of highly skilled people, including those upon which advanced and medium-to-high technology manufacturing depend.<sup>206</sup> The Structural Policy Division noted that the increased proportions of foreign students occupying positions within the higher education sector should be carefully monitored, to ensure that the so-called “brain drain” of Australian citizens to other OECD countries is not intensified by a concomitant “brain drain” of foreign students repatriating to their countries of origin.<sup>207</sup>

Finding 10: Victoria’s highly skilled workforce provides a strong incentive for manufacturing firms to choose to either remain in Victoria or contemplate moving operations to Victoria. The multicultural nature of the Victorian population provides advantages to the services sector, components of which support the manufacturing sector.

#### 4.2.1.2 Wage and salary rates

While the supply of skilled labour was considered to be a competitive advantage for Victoria by most witnesses, the degree of the advantage is dependent on the type of manufacture – in particular, the extent to which manufacture is labour intensive or otherwise. Particularly in advanced manufacturing, or in medium-to-high technology manufacture, the cost of labour does not comprise a sufficient proportion of overall costs to

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<sup>204</sup> Mark Ross, Managing Director, Boeing Aerostructures Australia, *Transcript of evidence*, 22 January 2010, p. 2.

<sup>205</sup> Marcos Anastassiou, Senior Manager, RMIT TAFE, *Transcript of evidence*, 7 September 2009, p. 11.

<sup>206</sup> Dirk Pilat, Head, Structural Policy Division, OECD Directorate For Science, Technology And Industry, *Meeting*, Paris, 12 February 2010.

<sup>207</sup> Dirk Pilat, Head, Structural Policy Division, OECD Directorate For Science, Technology And Industry, *Meeting*, Paris, 12 February 2010.

constitute 'make or break' conditions for businesses contemplating manufacture in Victoria or overseas.<sup>208</sup>

By contrast, while textiles, clothing and footwear (TCF) industries have, in some cases, moved into higher-value manufacture, it appears that the decline of the mass produced components of these industries in Victoria has been driven principally by labour cost, rather than lack of skilled labour. As noted in Chapter Three, the Committee was told that some firms operating in the clothing industry rely heavily on outworkers who receive in the order of \$5 per hour equivalent, so that it appears for some segments of this labour-intensive industry, competitive viability has been obtained at the expense of wage rates.<sup>209</sup>

The consensus of most analyses of the role of manufacturing in developed economies is that, generally, such countries will not be able to sustain a competitive advantage on salary and wages costs for low-skilled, high-volume manufacturing. There are nevertheless some industries in which specific developed countries maintain market share in labour-intensive manufacturing, such as footwear and textiles in Italy, for example.<sup>210</sup> In general, however, the immediate focus of developed nations should be on the promotion of manufacturing industries in which labour productivity is high, typically in medium to high-technology industries, with relatively high-skilled labour.<sup>211</sup>

In the longer term, some witnesses suggested to the Committee that rising wages and skill levels in developing nations may erode cost benefits from offshore production.<sup>212</sup> Increasing labour sophistication in developing nations will not necessarily reduce pressure on Australian manufacturing, however, as those nations will likely move into high-technology, advanced manufacturing, where developed nations currently tend to have a competitive advantage.<sup>213</sup>

#### 4.2.1.3 Industrial relations

Consideration of industrial relations conditions can influence decisions about where to locate manufacture. The Committee did not receive

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<sup>208</sup> Giuseppe Boemo, Managing Director, Sprint Gas Australia Pty Ltd, *Transcript of evidence*, 7 August 2009; Mark Ross, Managing Director, Boeing Aerostructures Australia, *Transcript of evidence*, 22 January 2010; Andrew Spink, Director, Sales and Marketing, Bombardier Transportation Australia, *Transcript of evidence*, 7 September 2009.

<sup>209</sup> Michele O'Neil, National Secretary and Victorian Secretary, Textile, Clothing and Footwear Union of Australia, *Transcript of evidence*, 7 August 2009.

<sup>210</sup> Dirk Pilat, et al., *The changing nature of manufacturing in OECD economies*, Paris, 2006.

<sup>211</sup> Philip Binns, Chair, Future Manufacturing Industry Innovation Council, *Transcript of evidence*, 28 October 2009; Allan Burns, Manufacturing Consultant, Strategic Connections Group, *Transcript of evidence*, 7 September 2009; Paul Dowling, Executive Officer, South East Melbourne Manufacturers Alliance Inc, *Transcript of evidence*, 18 August 2009; Shane Infanti, Chief Executive Officer, Australian Manufacturing Technology Institute Ltd, *Transcript of evidence*, 6 August 2009; Madeleine McManus, State President, Victoria Division, Engineers Australia, *Transcript of evidence*, 7 August 2009; Science Industry Australia Inc, *Submission*, no. 8, 31 July 2009.

<sup>212</sup> Marcos Anastassiou, Senior Manager, RMIT TAFE, *Transcript of evidence*, 7 September 2009; Timothy McLean, Principal and Director, TXM Pty Ltd, *Transcript of evidence*, 30 November 2009.

<sup>213</sup> Dirk Pilat, Head, Structural Policy Division, OECD Directorate For Science, Technology And Industry, *Meeting*, Paris, 12 February 2010.

evidence suggesting that current industrial relations in the manufacturing sector was an impediment to investment in the industry, or created a threat for the relocation of manufacturing product offshore. Mr Cesar Melhem, Victorian State Secretary of the Australian Workers' Union, told the Committee that:

Unions have taken the view that we need to be flexible, and the flexible working arrangements are there and I think they will stay, notwithstanding the new legislation. I think unions have taken the view that we need to be flexible and encourage manufacturing to stay here, because otherwise we will be hypocrites.<sup>214</sup>

While the Committee did not hear any specific issues with industrial relations in the manufacturing sector, the submission by TXM Ltd noted that some companies looking to set up or expand manufacturing plants in Australia are dissuaded by some union activity in the construction sector:

[T]he action of a few hard line unions, the risk of industrial disruption, poor productivity and excessive wage claims in the construction and operations phase are a major disincentive to investment.<sup>215</sup>

#### **4.2.1.4 Payroll tax and labour-related regulations**

A number of submissions to the Inquiry cited payroll tax as a significant imposition on manufacturing businesses in Victoria. Ararat Rural City Council stated that concerns about payroll tax had resulted in many small businesses maintaining employee numbers below the payroll tax threshold.<sup>216</sup> Submissions also argued that payroll tax disproportionately disadvantages labour intensive manufacturers. Toyota Australia argued:

In Toyota Australia's opinion, payroll tax is a tax on jobs and should be abolished. In a labour intense industry such as automotive manufacturing, this tax represents an unfair and unreasonable burden that is not borne by other industries.<sup>217</sup>

SEMMA suggested that variations in the application of various taxes and regulatory requirements (including WorkCover premiums and payroll tax) between jurisdictions created unnecessary duplication of effort for businesses, and may act as a disincentive to the location of businesses in Victoria and/or Australia.<sup>218</sup> The Committee notes that, since receiving evidence for the Inquiry, the Victorian Treasurer announced in the 2010-11 budget that payroll tax in Victoria would be reduced from 4.95 per cent to 4.9 percent, for companies with wages payrolls in excess of \$550,000.<sup>219</sup>

As indicated in Table 6, in comparison to selected jurisdictions, a KPMG cost-comparison study suggested that Australia labour costs were ranked fourth among ten nations. This suggests that while Australia is cost-

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<sup>214</sup> Cesar Melhem, Victorian State Secretary, Australian Workers' Union, *Transcript of evidence*, 18 August 2009, p. 8.

<sup>215</sup> TXM Pty Ltd, *Submission*, no. 10, 30 July 2009, p. 2.

<sup>216</sup> Ararat Rural City, *Submission*, no. 9, 30 July 2009.

<sup>217</sup> Toyota Motor Corporation Australia Limited, *Submission*, no. 57, 18 September 2009, p. 4.

<sup>218</sup> South East Melbourne Manufacturers Alliance Inc, *Submission*, no. 36, 3 August 2009.

<sup>219</sup> State Revenue Office, 'Victorian State Budget 2010-11', viewed 20 May 2010, <[www.sro.vic.gov.au](http://www.sro.vic.gov.au)>.

comparable to developed nations in labour cost, labour cost in itself does not comprise a competitive advantage. Notably, the only developing nation included in the comparison – Mexico – has substantially reduced labour costs compared to the developed nations.

**Table 6: Labour cost comparison, selected countries, 2010.**<sup>220</sup>

	Salaries and wages		Statutory plans		Other benefits		Total labour	
	Average per employee (US\$)	Rank	Percent of payroll	Rank	Percent of payroll	Rank	Average per employee (US\$)	Rank
<b>Europe</b>								
France	\$52,898.00	2	45%	10	21%	1	\$ 87,764.00	5
Germany	\$73,268.00	9	16%	8	22%	2	\$101,000.00	9
Italy	\$58,462.00	4	22%	9	29%	8	\$ 88,186.00	6
Netherlands	\$62,919.00	7	12%	6	28%	6	\$ 88,583.00	7
United Kingdom	\$57,271.00	3	10%	4	34%	9	\$ 81,970.00	3
<b>North America</b>								
Canada	\$59,880.00	5	9%	2	25%	4	\$ 80,079.00	2
Mexico	\$26,319.00	1	7%	1	29%	7	\$ 35,696.00	1
United States	\$61,897.00	6	9%	3	36%	10	\$ 89,791.00	8
<b>Asia Pacific</b>								
Australia	\$63,183.00	8	13%	7	23%	3	\$ 86,032.00	4
Japan	\$77,074.00	10	10%	5	25%	5	\$103,867.00	10

#### 4.2.1.5 Lifestyle

Only a couple of the Inquiry's Australian submissions mentioned quality of life as a factor contributing to decisions about whether to manufacture in Victoria.<sup>221</sup> However, the Committee was told by agencies outside Australia that lifestyle could have an effect on the decisions of executives about whether to locate manufacturing in Australia.<sup>222</sup> Consequently, promoting the amenities and non-work facilities of Australia is a key focus of investment promotion agencies, such as Austrade and Invest Victoria, and to some extent, performed by the Victorian Commissioners in overseas jurisdictions.

### 4.2.2 Market access and size

As noted above, access to markets is a key factor behind decisions of companies to manufacture in a given location. While access to market is

<sup>220</sup> KPMG, *Competitive alternatives*, Montreal, 2010.

<sup>221</sup> Australian Made Campaign Ltd, *Submission*, no. 39, 5 August 2009, p. Attachment A; Bombardier Transportation Australia Pty Ltd, *Submission*, no. 51, 21 August 2009.

<sup>222</sup> Jeffrey Williams, Deputy Manager, Australasia and Caribbean Unit, UK Trade and Invest, *Meeting*, London, 10 February 2010.

an important factor for all manufacturers, the Committee was also told by some witnesses that consideration of the local market was more important for small and medium-size enterprises (SMEs) than large multinationals – in part, because multinationals are likely to have more extensive, and efficient, supply chains and logistics capability.<sup>223</sup>

Access to market issues are not only relevant to the sales strategies of manufacturing companies – as manufacturers become more integrated into global supply chains, conditions surrounding the import of goods from offshore can also become an important consideration.

Some of the factors surrounding access to market that may affect a manufacturing company's decision on where to locate include:

- the importance of exports to business viability;
- the proportion of production inputs that must be imported, and whether those inputs are sourced from one, or many, offshore locations; and
- regulatory or other differences between jurisdictions within the local market that may impede trade.

From a national perspective, the ease of access to markets in other Australian States and Territories may also affect a businesses' decisions on whether to manufacture in Victoria. While s.92 of the *Constitution Act 1902* (Cth) provides for freedom of trade between the States, local and non-discriminatory requirements such as standards and regulatory specifications may have the effect on impeding efficient access to market of businesses operating within Australia. For example, Mr Bryan Nye, Chief Executive Officer of the Australasian Railway Association, told the Committee that:

...the same rail carriage is built in Maryborough in Queensland for Queensland Rail and Western Australia. They are both built for narrow gauge rail; they are both the same carriage if you look at them externally. However, there are 652 differences between them. It is all about different specifications. Each state has a different crash-worthiness test and a different thickness-of-glass standard. I mean the one thing we could change very quickly is we could move to a standardisation of components, because we would actually reduce the cost to Australian manufacturing dramatically.<sup>224</sup>

The importance of harmonised standards and regulations to promote national markets for manufacturing businesses is discussed in the following chapters. The Committee notes, however, that the extent to which harmonisation exists may influence the decisions of particular firms

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<sup>223</sup> Andrew Davies, Head, Regional Competitiveness and Governance Division, Organisation for Economic Co-operation and Development, *Meeting*, Paris, 12 February 2010; Dirk Pilat, Head, Structural Policy Division, OECD Directorate For Science, Technology And Industry, *Meeting*, Paris, 12 February 2010; Jeffrey Williams, Deputy Manager, Australasia and Caribbean Unit, UK Trade and Invest, *Meeting*, London, 10 February 2010.

<sup>224</sup> Bryan Nye, Chief Executive Officer, Australasian Railway Association, *Transcript of evidence*, 28 October 2009, p. 4.

on whether they wish to locate manufacturing within Australia, and in Victoria particularly.

#### 4.2.2.1 Export market access

While most manufacture in Australia is produced for the Australian market, manufacturing does make a substantial contribution to export trade.<sup>225</sup> The Committee heard that for some businesses, the size of the Australian market was insufficient for their product, and that export was critical to business viability.

With all due respect to this great country, Australia does not have a market, in our industry anyway, to sustain a full manufacturing investment. Manufacturing here in Australia is a fantastic first step in developing export markets.<sup>226</sup>

The existence of FTAs with other countries may have a substantial effect on the decisions of some manufacturers to locate in Australia – particularly those with an export focus, or those integrated into global supply chains. Mr Dirk Pilat, Director of the Structural Policy Division, OECD suggested that FTAs with New Zealand had the benefit of effectively increasing the market available to Australian manufacturers from 20 million consumers to 24 million consumers.<sup>227</sup> However, some witnesses also suggested that in some cases FTAs could work to draw manufacturing production offshore, particularly when they operate in conjunction with policies within jurisdictions regarding local content in manufacturing production.<sup>228</sup> In its submission to the Inquiry, Industry Capability Network (Victoria) Ltd told the Committee that:

On an international trade mission ICN auspiced to the USA, participating companies stated that it would be to their advantage to move their business off shore to America to comply with the USA local content requirements and then free trade back into Australia – thereby having the “best of both worlds”.<sup>229</sup>

The Committee also heard that there was potential for Victoria to leverage its proximity to Asian markets to attract manufacturing businesses to start up production in the State. Witnesses suggested that Victoria could highlight some of its comparative manufacturing strengths – such as skilled workforce, regulatory stability, IP security, and language and cultural proficiency – to sell Victoria as a production base for entry into Asian markets.<sup>230</sup> In evidence to the Committee, the Minister for Regional and Rural Development, the Hon. Jacinta Allan MP, also suggested that the

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<sup>225</sup> Hon Martin Pakula, Minister for Industry and Trade and Minister for Industrial Relations, *Transcript of evidence*, 14 September 2009; Victorian Government, *Submission*, no. 60, 14 September 2009.

<sup>226</sup> Giuseppe Boemo, Managing Director, Sprint Gas Australia Pty Ltd, *Transcript of evidence*, 7 August 2009, p. 4.

<sup>227</sup> Dirk Pilat, Head, Structural Policy Division, OECD Directorate For Science, Technology And Industry, *Meeting*, Paris, 12 February 2010.

<sup>228</sup> Peter Yates, Executive Director, Industry Capability Network, *Transcript of evidence*, 18 August 2009.

<sup>229</sup> Industry Capability Network (Victoria) Limited, *Submission*, no. 32, 3 August 2009, p. 1.

<sup>230</sup> Dirk Pilat, Head, Structural Policy Division, OECD Directorate For Science, Technology And Industry, *Meeting*, Paris, 12 February 2010; Jeffrey Williams, Deputy Manager, Australasia and Carribean Unit, UK Trade and Invest, *Meeting*, London, 10 February 2010.

proximity of Victoria to growing Asian markets was a key strength for manufacturing.<sup>231</sup>

In its submission to the Inquiry, Confectionery Manufacturers of Australia Ltd described the potential of this market to Australian manufacturing, although it also noted that to date the market is relatively untapped by their industry:

In terms of food manufacture, Australia is a great location, if the near markets of Asia can be sold to. The Asian confectionery market is \$16bn and growing compared to our \$3bn mature market. Yet these markets remain virtually untapped for Australian manufacturers. Key barriers are:

- No standardised food labelling in the region;
- Lack of education in these markets about the quality of 'manufactured' Australian food;
- Lack of coordination in reaching these markets.<sup>232</sup>

Finding 11: Australia's proximity to Asia-Pacific markets, combined with Victoria's manufacturing capabilities, is a key strength for attracting manufacturing operations to the State.

### 4.2.3 Retail consolidation

The Committee also notes that changes in the domestic market for manufactured goods may also have an impact on firms' decisions about where to source production. The Committee was told by Mr John Osmelak, General Manager of the Furnishing Industry Association of Australia, that manufacturers from that industry that have remained viable do not necessarily supply the major retailers:

Those manufacturers here in Victoria who are remaining viable and who will remain successful do not necessarily supply the major retailers. The needs and requirements of the manufacturers who supply major retailers are quite different to those of the manufacturers who do not sell to major retailers. I believe the problem with this industry is that many years ago — about 30 years ago — the industry abdicated its marketing responsibilities to the retailers and now the retailers control the market. In my view — and this is a personal view — if I were a manufacturer, I would not supply a major retailer in a pink fit. Their supply agreements — and particularly Harvey Norman's supply agreement — are horrendous.<sup>233</sup>

With regard to the TCF industries, the Committee was told by the Textile, Clothing and Footwear Union of Australia (TCFUA) that a small number of retailers control the vast majority of product retail sales, which allows them to have a large role in determining price:

...it is basically a bidding war. Whoever comes in at the lowest price is going to get the order. With a concentration of very few numbers of large

<sup>231</sup> Hon. Jacinta Allan, Minister for Regional and Rural Development and Minister for Skills and Workforce Participation, *Transcript of evidence*, 14 September 2009.

<sup>232</sup> Confectionery Manufacturers of Australasia Limited, *Submission*, no. 46, 17 August 2009, p. 2.

<sup>233</sup> John Osmelak, General Manager, Furnishing Industry Association of Australia, *Transcript of evidence*, 18 August 2009, p. 10.



retailers that has forced companies to move their production offshore and/or they say undercut each other with these other practices.<sup>234</sup>

The Committee also notes that consolidation is developing in other retail markets relevant to the manufacturers, such as the home hardware market:

...the Woolworths/Lowes joint venture is continuing to look for sites for its hardware stores nationally, in an effort to tackle rival Bunnings head on for a slice of the \$24 billion hardware and home handyperson market. The first such big box stores are planned to open in the second half of calendar 2011, most likely in Victoria. Over 50 sites had already been secured and the joint venture vehicle was also scouting for sites in Tasmania.<sup>235</sup>

One effect of retail consolidation on the Victorian manufacturing sector may be to increase pressure on Victorian manufacturers to reduce input costs on products, which may – as observed in TCF industries – increase pressure to source production overseas. Some other repercussions from increased retail consolidation were also observed by the Master Grocers' Association in a 2008 submission to the Australian Competition and Consumer Commission *Inquiry into the Competitiveness of Retail Prices for Standard Groceries*:

While competition amongst the major wholesalers (Coles, Woolworths and Metcash) may be robust, it is likely that the dominant position of Coles and Woolworths in the retail market gives their integrated wholesalers an increased level of demand side market power, which results in advantageous supply prices that have nothing to do with economies of scale. Given their retail market power and their immense buying power, there is potential for the chains to exert anticompetitive pressure on suppliers to achieve lower prices. Suppliers who want to maintain strong business relationships with extremely powerful retailers are faced with few alternatives but to appease the major chains. Independents, with significantly less market share at the retail level, may have less bargaining power and are less well placed to demand the benefits the chains may receive, even if all other considerations, such as volume, are equal.<sup>236</sup>

While measures to address these issues are largely beyond the powers of the Victorian Government, the Committee notes that these developments may comprise one of the factors influencing manufacturers' decisions on location.

In this context, the Committee notes the importance of independent retailers to provide alternate outlets for products, particularly those manufactured by Australian businesses. The existence of independent retailers in largely consolidated markets also provides opportunities for competition and diversity that can enhance consumer choice.

**Finding 12: The maintenance of fair and competitive markets is critical to provide local manufacturing opportunities and enhance consumer choice.**

<sup>234</sup> Michele O'Neil, National Secretary and Victorian Secretary, Textile, Clothing and Footwear Union of Australia, *Transcript of evidence*, 7 August 2009, p. 9.

<sup>235</sup> 'Woolworths' buys 13 Tas hardware units', *AAP Financial News*, 24 May 2010.

<sup>236</sup> Master Grocers' Association, *Submission*, March 2008, *Inquiry into the Competitiveness of Retail Prices for Standard Groceries*, Australian Competition and Consumer Commission.

## 4.2.4 Logistics and supply chains

While modern communications and transport technologies have reduced the cost and impact of international logistics, the management of global supply chains is still a complex endeavour, and may incur a number of costs that are not apparent to casual observers:

The Committee only received evidence of a few cases of manufacturing businesses returning to Victoria having gone offshore, or of sourcing production inputs from Victoria rather than overseas. In each case where the business had returned, or looked at sourcing from Victoria rather than overseas, difficulties with the supply chain was cited as a key factor. Mr Giuseppe Boemo, Managing Director of Sprint Gas Australia Ltd, told the Committee that he was endeavouring to commence gas cylinder manufacture in Victoria, in large part due to inconsistent quality of offshore-sourced production, but also because of the additional costs associated with offshore sourcing of inputs:

...all feasibility studies that we have done have led to the same result in that it is feasible to manufacture our components here in Australia. That is based on a direct comparison of the costs of the components from our current suppliers to the cost of manufacturing in-house. It does not evaluate the benefit of reduced stock holdings, not using trade finance facilities, such as letters of credit, and the resources it takes internally for the administration of importation of components from the other side of the world. There are other hidden benefits in there that are non-tangible at this stage.<sup>237</sup>

The Committee was told that often, when making decisions to source production from overseas, the true cost of production was underestimated by manufacturers.<sup>238</sup> While the focus was often on the per-unit cost, further cost could be incurred due to the requirement for increased inventories; lead time in the supply chain; the time lag in identifying quality control issues; exchange rates; and so on. Mr Paul Dowling, Chief Executive Officer of the South East Melbourne Manufacturers Alliance, told the Committee that in the automotive industry:

Companies that were going overseas to source from China are now coming back because of this value proposition. When you weigh in the lead time, exchange rates, reject rates, the inability for Chinese companies to be part of your supply chain and therefore help you develop, my personal opinion is this is where the car companies in Australia are going to suffer in the next 10 years. Australian companies added greatly to their development and the manufacturers by knowing how to do it better. These are some of the things that we all forgot chasing the almighty dollar, and now companies are starting to realise that it is cost versus value, and in some cases it is not adding up.<sup>239</sup>

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<sup>237</sup> Giuseppe Boemo, Managing Director, Sprint Gas Australia Pty Ltd, *Transcript of evidence*, 7 August 2009, p. 2.

<sup>238</sup> Timothy McLean, Principal and Director, TXM Pty Ltd, *Transcript of evidence*, 30 November 2009; Dr Wolfgang Rhode, Board Member, IG Metall, *Meeting*, Frankfurt, 19 February 2010; TXM Pty Ltd, *Submission*, no. 10, 30 July 2009.

<sup>239</sup> Paul Dowling, Executive Officer, South East Melbourne Manufacturers Alliance Inc, *Transcript of evidence*, 18 August 2009, p. 5.

In his submission to the Inquiry, Mr Tim Mclean, Principal of TXM Pty Ltd provided the following estimated cost of ownership of manufacturing production in China versus Australia, in comparison with an Australian business practicing lean manufacturing techniques:

**Table 7: Five Year Total Cost of Ownership, China and Australia, by Supply Chain Type.**<sup>240</sup>

5 Year Total Cost of Ownership			
Supplier location	China	Australia	Australia
Supply chain type	Typical	Typical	Lean
Annual usage (units)	100,000	100,000	100,000
Cost per Unit Year 1	\$6.00	\$10.00	\$10.00
Inflation Rate	9%	3%	3%
Currency movement	5%	0%	0%
Ex Works Cost Over 5 Years	3,966,062	5,309,136	5,309,136
Sea Freight Costs	396,606		
Inventory Holding Costs	249,916	218,184	48,291
Storage Cost	137,429	91,714	24,971
Cost of Poor Quality	654,190	308,219	22,740
Startup Costs	300,000	200,000	200,000
Ongoing Supplier Costs	336,606		
<b>Total Cost Over Five Years</b>	<b>6,040,810</b>	<b>6,127,253</b>	<b>5,605,138</b>

The Committee was also told by Mr Wolfgang Rhode, Board Member of IG Metall, that in Europe companies that had shifted manufacturing production to Eastern European countries had failed in many cases, despite 50 per cent cheaper wages and 50 hour working weeks, principally because companies:

- found it difficult to integrate logistical networks;
- productivity and quality per worker was reduced; and
- official and unofficial payments to government workers offset cost savings.<sup>241</sup>

From a suppliers' point of view, the Committee was told by Mr Steve Gregson, National Sales Manager of Bluescope Steel that businesses obtained significant advantages from access to local manufacture of steel, including reduced freight, smaller lead times and minimum quantities, inventory management services, local certification, and access to in-market technical experts.<sup>242</sup> The Committee also received evidence of an

<sup>240</sup> TXM Pty Ltd, *Submission*, no. 10, 30 July 2009, p. Supplementary Evidence.

<sup>241</sup> Dr Wolfgang Rhode, Board Member, IG Metall, *Meeting*, Frankfurt, 19 February 2010.

<sup>242</sup> Steve Gregson, National Sales Manager, Bluescope Steel, *Transcript of evidence*, 7 September 2009.

international food manufacturer basing its business in Ballarat to have greater access to raw materials (see Text Box 2).

### **Text Box 2: International manufacturing.**

#### **Hakubaku**

The Japanese noodle company, Hakubaku, made the decision in 1996 to establish its first and only overseas manufacturing factory in Ballarat, Victoria. Hakubaku began in 1941 and is a leading manufacturer in the Japanese noodle and grain market, with global sales figures of almost US\$170 million per year. It employs 300 people across its six factories in Japan and employs 30 people in its Ballarat factory.

Hakubaku's decision to locate its operations in Ballarat was made on the basis that 90 per cent of the noodles manufactured in Japan use imported Australian wheat, which is considered to be of premium quality. In evidence presented to the Committee, the Minister for Regional and Rural Development, the Hon. Jacinta Allan MP advised that Ballarat was a strategic location for Hakubaku:

...Ballarat was a strategic location. It was close to the Western District and part of the supply chain. It was strategically located with good access to road and rail and port infrastructure. Initially, as I said, it was only about producing noodles for consumption in Japan but it started selling into the domestic market, and we have seen production grow to around 15 000 tonnes a year and key alliances with Woolworths and Coles. It has now gone on: Ballarat-made organic noodles have captured 100 per cent of the organic noodles market in Japan.<sup>243</sup>

There is no doubt many instances in which the overall cost of offshore production to a manufacturing company are reduced compared to production within the home country. The submission from the Shire of Yarra Ranges suggested that there were some benefits to offshore production, citing examples of two large manufacturers in its municipality that had established factories in Thailand, both of which were highly satisfied with the facilities and employees in that country.<sup>244</sup> However, the Committee notes that cost savings do not inevitably arise from relocation to cheaper manufacturing locations. As discussed above, the quantum of any cost savings from offshore relocation of manufacture are determined with specific reference to the type of production involved.

While there is potential for Victoria to increase its market size through improved access to Asian markets, it is nevertheless true that the distance of Australia from major markets is a challenge for manufacturing production. While logistics and transport technologies have reduced the effect of distance from market on manufacturing businesses, the cost of transportation will likely continue to be a key consideration for Australian manufacturers – particularly over time as the price of oil is likely to

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<sup>243</sup> Hon. Jacinta Allan, Minister for Regional and Rural Development and Minister for Skills and Workforce Participation, *Transcript of evidence*, 14 September 2009, p. 5.

<sup>244</sup> Yarra Ranges Shire Council, *Submission*, no. 55, 7 September 2009.

increase, and as prices begin to take account of the carbon cost of transportation. If the cost of transportation increases, there may be more pressure on manufacturing businesses to reduce the geographical dispersion of supply chains, which may have flow-on effects for those manufacturing business that supply to manufacturing 'hubs'.<sup>245</sup> This pressure will of course work in two directions – while it may increase challenges associated with bringing offshore manufacture to Victoria, it may also dissuade many Victorian manufacturers from going offshore.

## 4.2.5 Quality of manufacture

Another key factor in business decisions to manufacture in particular locations is the extent to which quality manufacturing is possible utilising local labour, infrastructure, logistics, and government support. A particular concern for businesses is the defect rate of manufactured products relative to cost, so that while high defect rates in low-value products may be acceptable, similar defect rates in high-value products may quickly become unsustainable. Furthermore, inconsistent quality in manufactured products can also result in substantial cost to businesses:

Where we have sourced cylinders from Thailand, in one shipment we might have defect rates as high as 10 per cent or 15 per cent that we have to scrap. In other shipments they might be 100 per cent correct, no defects. It is the inconsistencies. The problems that that creates is that because we do not know what we are going to get, there is no stability in their supply, the problem that that creates is the down time that we have to cost into the product for checking each and every component.... When you have a few thousand cylinders per month, if we manufactured those components here in Australia, we would know as they came off the machine that they are all 100 per cent correct and we would not have to test it. It makes the cycle time for one cylinder in the tens of minutes, maybe about 18 minutes. Now when we have the ones coming in from Thailand they are probably getting up to about 40 minutes per cylinder in what we have to check. That in itself adds a cost to it.<sup>246</sup>

[A local manufacturer imports components] at a third of the price, but by the time you wait 12 to 16 weeks, one of our astute members has worked their organisation adds 12 per cent on the actual landed cost as a handling delay charge. They are having up to 40 per cent rejects. It is the labour then to sort that, then you have to over-order to allow for that, and at the end of the day it is just not worth it, because when you import components it obviously goes into a high-level component, and if you cannot produce that to your customer, it is your name that is tainted, not the supplier in China. They are now coming to the realisation that it is not happening.<sup>247</sup>

In Germany, the Committee was told that between 2004 and 2006, 15 per cent of German manufacturers outsourced parts of their production to another country. However, within 4-5 years, 20 to 25 per cent of these companies had relocated back to Germany, for the following reasons:

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<sup>245</sup> Chris Cassley, Innovation, Science and Technology Group, Confederation of British Industry, *Meeting*, London, 10 February 2010.

<sup>246</sup> Giuseppe Boemo, Managing Director, Sprint Gas Australia Pty Ltd, *Transcript of evidence*, 7 August 2009, p. 6.

<sup>247</sup> Paul Dowling, Executive Officer, South East Melbourne Manufacturers Alliance Inc, *Transcript of evidence*, 18 August 2009, p. 6.

- flexibility and capacity;
- quality issues;
- coordination costs;
- insufficient infrastructure; and
- lack of qualified workforce.<sup>248</sup>

The Federal Ministry of Economics and Technology told the Committee that usually businesses underestimate costs of relocation, and consultants generally do not provide good estimates of real costs.<sup>249</sup>

The Committee heard that the quality of Australian manufactured products was generally very high, and that in fact this provided Australian manufacturers with opportunities to move into niche manufacturing markets, with a low-volume, high quality focus. In general, the quality of Australian manufacturing is regarded as a key strength of the industry, and is more likely to be a factor encouraging manufacturing businesses to locate in Australia, than to consider leaving the country.

Finding 13: Local manufacturers deciding to move their operations offshore need to be mindful of potential costs involved in manufacturing in developing economies, such as costs arising from quality issues, lower worker productivity, insufficient infrastructure, inventory maintenance, freight, and differences in business culture.

#### 4.2.6 Access to complementary businesses

A number of developed nations now dedicate substantial resources to promoting local and national supply chains as a means to obtain competitive advantage in manufacturing. The co-location of manufacturing businesses can produce overall benefits to industry, by not only providing proximate supply and reduced logistical costs, where inter-business trade occurs, but also through the sharing of techniques and processes between enterprises, and through the attraction of new manufacturing businesses to the area. There is also potential for similar businesses to share logistical networks to deliver their goods to market, and to obtain production inputs. As noted by the OECD, there appear to be benefits to similar manufacturing industries 'clustering' together – either spatially, or through close business relationships – to improve competitiveness and productivity:

...it seems paradoxical that in an era when it is possible to produce any good in any location, firms tend to locate in the same places to produce the same or similar goods. There has been renewed policy attention on the issue of concentration of economic activity because of the assertion that:

- 1) certain activities, particularly high value added activities, and

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<sup>248</sup> Dr Lutz Reimers, Director, National and International Industrial Policy, Federal Ministry of Economics and Technology, *Meeting*, Berlin, 17 February 2010.

<sup>249</sup> Dr Lutz Reimers, Director, National and International Industrial Policy, Federal Ministry of Economics and Technology, *Meeting*, Berlin, 17 February 2010.

increasingly concentrated, and 2) this concentration can increase the productivity of firms and make them more innovative.<sup>250</sup>

The Committee was told by Mr Lloyd Joseph, Managing Director of IP Plastics, that the key reason his business was established in Campbellfield was the existence of a ‘cluster’ of automotive manufacturers in the area, which could provide complementary services to the business.<sup>251</sup> In its submission to the Inquiry, Bombardier Transportation Australia identified supply chain clusters as a key criterion employed by companies in decision-making processes.<sup>252</sup> It also identified the “condition of supply chain clusters, including government policies and strategies that value and support local manufacturing and supply chain clusters” as a key factor that was specific to its own decision to remain in Victoria.<sup>253</sup>

The Committee heard from a number of witnesses that the existence of a developed automotive industry in Victoria provided a number of ‘spill-over’ benefits to manufacturing businesses, particularly those engaged in advanced manufacturing, such as aerospace. The Tier 1 manufacturers in turn sustain a great number of Tier 2 and 3 companies, who may continue to service the automotive industry exclusively, but may also use the experience obtained from supplying Tier 1 manufacturers to diversify into alternative manufacturing industries. Mr Mark Ross, Managing Director of Boeing Aerostructures Australia, told the Committee that the Port Melbourne Boeing plant was an industry leader in light robotics, and that he suspected this strength derived in part from the strength of Victoria’s automotive industry:

I have pondered — and this is speculation, not fact-based — why it is that we have been able to advance the robotic technology as far as we have. I suspect it is tied to the automotive industry here and the fact that robotics are used extensively in that industry and some of that capability bleeds over into other industries like our own. We did attain some advantages as a result of that.<sup>254</sup>

**Finding 14:** The presence of industry clusters and government support for those clusters can be a strong influence on the decisions of some manufacturing firms about where to locate their operations. In Victoria, the existence of the automotive industry is considered to have helped strengthen the presence of other industries, such as the advanced manufacturing and aerospace industries.

Internationally, what comprises an industry ‘cluster’ can be interpreted quite broadly – Invest in France and the Paris Regional Development Agency, for example, allow international manufacturing production to be included in a state-supported ‘cluster’, provided there are demonstrated strong links between the business and other manufacturers, and provided

<sup>250</sup> Organisation for Economic Co-operation and Development, *Globalisation and regional economies*, Organisation for Economic Co-operation and Development, Paris, 2007, p. 40.

<sup>251</sup> Lloyd Joseph, Managing Director, IP Plastics Pty Ltd, *Transcript of evidence*, 22 January 2010.

<sup>252</sup> Bombardier Transportation Australia Pty Ltd, *Submission*, no. 51, 21 August 2009.

<sup>253</sup> Bombardier Transportation Australia Pty Ltd, *Submission*, no. 51, 21 August 2009, p. 27.

<sup>254</sup> Mark Ross, Managing Director, Boeing Aerostructures Australia, *Transcript of evidence*, 22 January 2010, p. 3.

it has some local presence.<sup>255</sup> Generally, however, the strength of a business cluster is measured by its size, specialisation, and presence in a particular region relative to other regions.<sup>256</sup>

While there are emerging resources in Victoria for the identification of manufacturing business clusters, to date the 'mapping' of clusters by government agencies has not been conducted in a systematic, or comprehensive manner. The Committee believes that with better, and more transparent, information about manufacturing business clusters in Victoria, there may be opportunities to promote the state to overseas manufacturers, and to improve the efficiency and collaboration of businesses already located in Victoria. These issues are discussed further in Chapter Eleven.

#### 4.2.7 Access to, and promotion of, research and expertise

For businesses endeavouring to compete in advanced manufacturing, aerospace, defence, automotive or other medium-to-high technology manufacturing sectors, access to sound research is critical. In these industries, access to functional research relationships, particularly with higher education institutions, can be a significant business consideration. There was a clear consensus among submissions that innovation is fundamental to the future success of the Australian manufacturing sector, and its capacity to be globally competitive.<sup>257</sup> The Commonwealth Government's Future Manufacturing Industry Innovation Council (FMIIC) stated that the future of Australia's manufacturing sector is tied to its willingness and capacity to innovate, and in particular it should focus on "high technology, high-skill, and high-wage manufacturing where it is globally competitive and where Australia has world-class capabilities and technology."<sup>258</sup>

The Committee was told by businesses currently active in R&D that Victorian research institutions were able to facilitate constructive relationships with manufacturing businesses for the development of products and technologies. Internationally, programs run by universities such as RMIT, Swinburne, Deakin, Melbourne and Monash are highly regarded, particularly where active industry collaboration occurs.<sup>259</sup> The

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<sup>255</sup> Jerome Clausen, Senior Project Manager, Invest in France, *Meeting*, Paris, 12 February 2010; Florence Humbert, Executive Manager, Economic and Regional Information Center, Paris Region Economic Development Agency, *Meeting*, Paris, 12 February 2010.

<sup>256</sup> The Cluster Observatory, '*Evaluation of regional cluster strength: 3-star clusters*', viewed 20 April 2010, <[www.clusterobservatory.eu](http://www.clusterobservatory.eu)>.

<sup>257</sup> Advanced Manufacturing Cooperative Research Centre, et al., *Submission*, no. 50, 20 August 2009; Australian Paint Manufacturers' Federation Inc, *Submission*, no. 19, 3 August 2009; Automotive Industry Innovation Council, *Submission*, no. 56, 7 September 2009; William Ferme, *Submission*, no. 5, 23 July 2009; Ford Motor Company of Australia Limited, *Submission*, no. 34, 5 August 2009; Future Manufacturing Industry Innovation Council, *Submission*, no. 15, 31 July 2009; Kingston City Council, *Submission*, no. 61, 17 September 2009; Robert Bosch (Australia) Pty Ltd, *Submission*, no. 13, 31 July 2009; The Just Group, *Submission*, no. 30, 3 August 2009.

<sup>258</sup> Future Manufacturing Industry Innovation Council, *Submission*, no. 15, 31 July 2009, p. 1.

<sup>259</sup> Keith Palmer, Head of Business Support, South East Wales, Business Support Wales, *Meeting*, Cardiff, 8 February 2010; Mark Ross, Managing Director, Boeing Aerostructures Australia, *Transcript of evidence*, 22 January 2010; Jeffrey Williams, Deputy Manager, Australasia and Caribbean Unit, UK Trade and Invest, *Meeting*, London, 10 February 2010;



various Cooperative Research Centres related to manufacturing sectors were also well regarded, along with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the Defence, Science and Technology Organisation.<sup>260</sup>

The Committee discusses research issues in depth in Chapter Nine of this report, and identifies some areas in which engagement between research institutions and manufacturing businesses could be improved. In general, however, the Committee believes there is limited risk that manufacturing businesses would move production offshore due to a lack of research capacity in Victoria, although there may be opportunities to improve engagement of Tier 2 and Tier 3 companies with research institutions.

While programs are convened by state and commonwealth governments to promote R&D (see Chapter Nine), the Committee is aware that substantial incentives are offered internationally to promote R&D, including by grants and tax relief. The Committee was told that, of the various means available to governments to stimulate R&D, grants and prizes were the most effective.<sup>261</sup> While tax relief is used extensively in some jurisdictions, such as France, the Committee was told that R&D tax credits tend to finance R&D projects of marginal worth, whereas grants and prizes are more likely to lead to the development of significant R&D technologies.<sup>262</sup>

The Committee received evidence regarding the provision of expert advice to manufacturing businesses, including through government agencies such as the ICN<sup>263</sup> and Enterprise Connect.<sup>264</sup> Some witnesses also suggested

Prof. Andrew Young, Strategic Industry Adviser, University of Manchester Composites Centre, *Meeting*, Manchester, 9 February 2010.

<sup>260</sup> Mark Ross, Managing Director, Boeing Aerostructures Australia, *Transcript of evidence*, 22 January 2010.

<sup>261</sup> Chris Cassley, Innovation, Science and Technology Group, Confederation of British Industry, *Meeting*, London, 10 February 2010; Dirk Pilat, Head, Structural Policy Division, OECD Directorate For Science, Technology And Industry, *Meeting*, Paris, 12 February 2010.

<sup>262</sup> Dirk Pilat, Head, Structural Policy Division, OECD Directorate For Science, Technology And Industry, *Meeting*, Paris, 12 February 2010.

<sup>263</sup> Peter Burn, Associate Director of Public Policy, Australian Industry Group, *Transcript of evidence*, 6 August 2009; Paul Dowling, Executive Officer, South East Melbourne Manufacturers Alliance Inc, *Transcript of evidence*, 18 August 2009; Steve Gregson, National Sales Manager, Bluescope Steel, *Transcript of evidence*, 7 September 2009; Industry Capability Network (Victoria) Limited, *Submission*, no. 32, 3 August 2009; Shane Infanti, Chief Executive Officer, Australian Manufacturing Technology Institute Ltd, *Transcript of evidence*, 6 August 2009; Angela Krepcik, Chief Executive Officer, Advanced Manufacturing Australia, *Transcript of evidence*, 6 August 2009; Don McDonald, Chief Executive Officer, Australian Steel Institute, *Transcript of evidence*, 29 October 2009; Timothy McLean, Principal and Director, TXM Pty Ltd, *Transcript of evidence*, 30 November 2009; David Pallant, VIPP Manager, Industry Capability Network, *Transcript of evidence*, 18 August 2009; Andrew Spink, Director, Sales and Marketing, Bombardier Transportation Australia, *Transcript of evidence*, 7 September 2009; Victorian Government, *Submission*, no. 60, 14 September 2009; Peter Yates, Executive Director, Industry Capability Network, *Transcript of evidence*, 18 August 2009.

<sup>264</sup> Australian Trade Commission, *Submission*, no. 49, 19 August 2009; Engineers Australia, *Submission*, no. 38, 4 August 2009; Geelong Manufacturing Council, *Submission*, no. 16, 1 August 2009; Glenda Graham, Executive Director, Victoria Division, Engineers Australia, *Transcript of evidence*, 7 August 2009; Shane Infanti, Chief Executive Officer, Australian Manufacturing Technology Institute Ltd, *Transcript of evidence*, 6 August 2009; Timothy McLean, Principal and Director, TXM Pty Ltd, *Transcript of evidence*, 30 November 2009; Madeleine McManus, State President, Victoria Division, Engineers Australia, *Transcript of evidence*, 7 August 2009; Mike Moignard, General Manager, Industry Group, Australian

that the manufacturing sector could be assisted by a program to introduce mentors to business owners.<sup>265</sup> The Committee notes that in some overseas jurisdictions substantial resources have been dedicated to the provision of expert advice, on topics such as lean and/or agile manufacturing, to manufacturing businesses.<sup>266</sup>

The Committee notes that the provision of expert advice can be of substantial assistance to manufacturing businesses, and discusses these issues throughout this Report. However, while expert advice can significantly assist business sustainability and growth, the Committee received no evidence suggesting that the absence of such advice substantially affected business decisions to relocate, or take production, offshore.

## 4.2.8 Intellectual property security

Protection of intellectual property (IP) is a critical component of manufacturing when the business relies on its IP to obtain a competitive advantage. In general, IP protection through legislation and supporting structures was regarded as a particular strength in Australia compared to developing and competitor nations.<sup>267</sup> The submission by Wilson Transformer Co. stated that “IP rights and their enforcement are generally good in Victoria, and less so in competitor countries.”<sup>268</sup> Issues surrounding the utilisation of IP protection rights by manufacturing businesses are discussed in depth in Chapter Nine.

IP protection in Australia provides a substantial incentive for businesses to remain in Victoria, or to locate there, where the IP is critical to the business

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Trade Commission, *Transcript of evidence*, 22 January 2010; David Pallant, VIPP Manager, Industry Capability Network, *Transcript of evidence*, 18 August 2009; Dr Mark Trigg, Managing Director, Advanced Manufacturing CRC, *Transcript of evidence*, 23 November 2009; TXM Pty Ltd, *Submission*, no. 10, 30 July 2009; Peter Yates, Executive Director, Industry Capability Network, *Transcript of evidence*, 18 August 2009.

<sup>265</sup> Giuseppe Boemo, Managing Director, Sprint Gas Australia Pty Ltd, *Transcript of evidence*, 7 August 2009; Harry Kras, Family Business Adviser, Family Business Australia, *Transcript of evidence*, 23 November 2009; David Langworthy, Chief Executive Officer, Bev Marks Australia, *Transcript of evidence*, 23 November 2009.

<sup>266</sup> Paolo Fazzi, Executive, London Manufacturing Advisory Service, *Meeting*, London, 11 February 2010; Florence Humbert, Executive Manager, Economic and Regional Information Center, Paris Region Economic Development Agency, *Meeting*, Paris, 12 February 2010; Dr Hossam Ismail, Director, Operations Management and EBusiness Group, University of Liverpool, *Meeting*, Manchester, 9 February 2010; Keith Palmer, Head of Business Support, South East Wales, Business Support Wales, *Meeting*, Cardiff, 8 February 2010; Brian Richardson, Advanced Engineering Sector Manager, Business Link, *Meeting*, Manchester, 9 February 2010.

<sup>267</sup> Marcos Anastassiou, Senior Manager, RMIT TAFE, *Transcript of evidence*, 7 September 2009; Allan Ballagh, Director, RMIT TAFE, *Transcript of evidence*, 7 September 2009; Philip Binns, Chair, Future Manufacturing Industry Innovation Council, *Transcript of evidence*, 28 October 2009; Paul Dowling, Executive Officer, South East Melbourne Manufacturers Alliance Inc, *Transcript of evidence*, 18 August 2009; Lloyd Joseph, Managing Director, IP Plastics Pty Ltd, *Transcript of evidence*, 22 January 2010; Maroondah City Council, *Submission*, no. 45, 17 August 2009; Timothy McLean, Principal and Director, TXM Pty Ltd, *Transcript of evidence*, 30 November 2009; South East Melbourne Manufacturers Alliance Inc, *Submission*, no. 36, 3 August 2009; Andrew Spink, Director, Sales and Marketing, Bombardier Transportation Australia, *Transcript of evidence*, 7 September 2009; Professor Aleksandar Subic, Head of School, Aerospace, Mechanical and Manufacturing Engineering, RMIT University, *Transcript of evidence*, 7 September 2009.

<sup>268</sup> Wilson Transformer Company Pty Ltd, *Submission*, no. 28, 3 August 2009, p. 3.

case of the manufacturer. Ultimately, the decision of a company whether to exercise options available for the protection of IP in Australia is dependent on that businesses' assessment of the benefits and risks of doing so. The Committee believes it is unlikely that concerns about the protection of IP would ever comprise one of the factors a manufacturing business might elect to take production offshore.

#### 4.2.9 Innovation

In many respects, an innovative environment for businesses in the manufacturing sector represents an amalgamation of some of the key factors discussed above – access to skilled labour, access to complementary businesses, access to research and expertise, and intellectual property security. In general, Australia and Victoria perform well in all of these areas, although as noted above, more could be done to improve collaboration and coordination between manufacturing businesses.

The recent cost comparison study conducted by KPMG, *Competitive alternatives*, also examined some non-cost factors affecting business location, including innovation. The report compared some proxy statistics for innovation in order to evaluate the rank of key countries: a) human resources in science and technology (HRST), which estimates the number of tertiary qualified people working in an industry, plus unqualified people working in positions where a high qualification is normally required; b) researchers actively involved in R&D; and c) R&D expenditure as a proportion of GDP. The study found that Australia rated third among ten countries for HRST workforce, third for researchers as a proportion of total employment, and fifth for proportion of GDP spent on R&D (see Table 8).

**Table 8: Innovation indicators, selected countries, KPMG  
2010.<sup>269</sup>**

	HRST workforce as proportion of total employment				Researchers as proportion of total employment		R & D Expenditure as proportion of GDP	
	HRST Professionals	HRST Technicians	Total	Rank	Researchers	Rank	Average per employee (US\$)	Rank
<b>Europe</b>								
France	13.4%	18.9%	32.2%	6	8.3%	4	2.1%	4
Germany	14.5%	21.5%	36.0%	25	7.2%	6	2.5%	3
Italy	10.4%	21.1%	31.5%	7	3.6%	9	1.1%	9
Netherlands	19.6%	18.0%	37.6%	1	5.1%	8	1.7%	8
United Kingdom	14.2%	12.9%	27.1%	8	5.6%	7	1.8%	7
<b>North America</b>								
Canada	21.3%	14.3%	35.5%	4	8.2%	5	1.9%	6
Mexico	n/a	n/a	17.5%	9	1.2%	10	0.5%	10
United States	15.8%	16.5%	32.3%	5	9.7%	2	2.7%	2
<b>Asia Pacific</b>								
Australia	20.7%	15.0%	35.7%	3	8.5%	3	2.0%	5
Japan <sup>270</sup>	11.0%	3.9%	14.9%	10	11.0%	1	3.4%	1

When considering where to locate a business, perceptions about innovation are likely to be more important for business involved in medium to high-technology manufacturing. While the Committee believes Victoria is strongly placed in terms of attracting and retaining such businesses, the likely importance of these businesses into the future suggests that fostering an innovative environment through all of the factors noted above – labour, business collaboration, R&D and IP protection – should be an ongoing priority for the Victorian and Commonwealth governments.

**Finding 15:** Fostering an innovative environment through the availability of skilled labour; support for research and development; and a strong legal and business environment should be an ongoing priority for the Commonwealth and Victorian Governments to ensure medium to high-technology manufacturing firms are encouraged to invest in the Australian manufacturing sector.

<sup>269</sup> Source: KPMG, *Competitive alternatives*, Montreal, 2010.

<sup>270</sup> Due to reporting issues, Japanese HRST statistics are likely to be substantially understated.

#### 4.2.10 Business and regulatory environment

Australia's stable business environment was considered by many submissions as an important advantage for manufacturing.<sup>271</sup> The Australian-Taiwan Business Council stated that in promoting Australia for investment purposes, factors such as political stability and low country risk were typically cited as key to Australia's competitive advantage.<sup>272</sup> There is a similar perception of Victoria's business environment, with the Victorian Government viewed as a supporter of business objectives.<sup>273</sup>

In terms of corporate income taxes, Australia appears to compare favourably to key developed countries, according to the *Competitive Alternatives* study by KPMG. This study found that Australia ranked 3<sup>rd</sup> for combined corporate tax rate from ten nations, after Mexico and the Netherlands (see Table 9).

**Table 9: Effective combined corporate income tax rate for manufacturing businesses, selected countries, 2010.**<sup>274</sup>

	Manufacturing Average	Rank
<b>Europe</b>		
France	23.80%	5
Germany	28.90%	8
Italy	29.20%	9
Netherlands	19.30%	2
United Kingdom	22.70%	4
<b>North America</b>		
Canada	15.10%	1
Mexico	26.80%	6
United States	28%	7
<b>Asia Pacific</b>		
Australia	22.00%	3
Japan	36.40%	10

The extent to which regulatory conditions in Victoria affect business decisions to maintain production in the State, or move production offshore, depend on the alternative country being considered. The Committee is

<sup>271</sup> Advanced Manufacturing Cooperative Research Centre, et al., *Submission*, no. 50, 20 August 2009; Australia-Taiwan Business Council, *Submission*, no. 25, 3 August 2009; City of Greater Dandenong, *Submission*, no. 20, 3 August 2009; MaxiTRANS Australia Pty Ltd, *Submission*, no. 22, 3 August 2009; Victorian Government, *Submission*, no. 60, 14 September 2009; Jeffrey Williams, Deputy Manager, Australasia and Carribean Unit, UK Trade and Invest, *Meeting*, London, 10 February 2010.

<sup>272</sup> Australia-Taiwan Business Council, *Submission*, no. 25, 3 August 2009.

<sup>273</sup> City of Greater Dandenong, *Submission*, no. 20, 3 August 2009; South East Melbourne Manufacturers Alliance Inc, *Submission*, no. 36, 3 August 2009.

<sup>274</sup> KPMG, *Competitive alternatives*, Montreal, 2010.

aware, for example, that the regulatory environment in European nations is often more onerous than in Australia, so that Victoria may have a relative advantage in attracting businesses from those nations, or alternatively, this would act as a disincentive for Victorian manufacturers to relocate. However, in comparison to some developing nations, and in particular competitor nations within the South East Asian Region, the regulatory environment in Victoria may be comparatively onerous. To some extent, stability of government and the business environment in Victoria may offset this comparative disadvantage.

#### 4.2.11 Infrastructure reliability and cost

In general, evidence received by the Committee suggested that infrastructure was sufficient for manufacturing business needs in Victoria, and was currently priced competitively in comparison to international prices. Overall, the quality and price of infrastructure in Victoria is sufficient and is unlikely to be a significant factor in most manufacturers' decisions to relocate production offshore, unless the reliability of infrastructure in the offshore nation is deficient.

However, the Committee did receive evidence about particular aspects of infrastructure provision that were a cause of concern for witnesses. MaxiTRANS Ltd recommended that more be done to improve electricity supply reliability in regional Victoria, and noted that the current water restrictions were also a constraint on Victorian manufacturing, particularly in regional areas. In MaxiTRANS Ltd's case, it had to invest in spare electricity generation capacity, that was rarely used, in case of electricity supply fluctuations, and rain water storage systems.<sup>275</sup>

The Australian Food and Grocery Council noted that the availability and reliability of water supply was a critical issue for the food and grocery manufacturing industry, and suggested that the Victorian Government "develop a strategic response to water use in the future which factors in the needs of its major manufacturing industries and directly supports their research and process development leading to more efficient water use."<sup>276</sup> The availability of water comprises a factor for the sustainability of this sector of manufacturing, and future investment in the industry by domestic and overseas companies will likely be predicated on the availability of this key resource.

A number of submissions suggested that rail and ports infrastructure could be further developed, as a means of saving costs associated with road transport and with bottlenecks in export and distribution.<sup>277</sup>

The Committee also heard evidence regarding the effect that increased utility costs may have on manufacturing businesses, should a carbon price be introduced in Australia. While this issue is likely to be an ongoing concern for manufacturing business competitiveness, the Committee notes that during the course of this inquiry, legislation proposed for the

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<sup>275</sup> MaxiTRANS Australia Pty Ltd, *Submission*, no. 22, 3 August 2009.

<sup>276</sup> Australian Food and Grocery Council, *Submission*, no. 42, 11 August 2009, p. 13.

<sup>277</sup> Kingston City Council, *Submission*, no. 61, 17 September 2009; South East Melbourne Manufacturers Alliance Inc, *Submission*, no. 36, 3 August 2009; Wodonga City Council, *Submission*, no. 24, 3 August 2009.

introduction of an emissions trading scheme to the Commonwealth Parliament did not pass Senate. Subsequently, the former Prime Minister, the Hon. Kevin Rudd MP, announced that an emissions trading scheme will not become active in Australia until after the expiration of the 2012 Kyoto agreement. Consequently, it is difficult for the Committee to speculate on the possible effect of emissions trading on utility pricing, and on the manufacturing sector in Victoria.

## 4.2.12 Government procurement and assistance

Governments have had a key role in encouraging and sustaining manufacturing businesses – traditionally, through tariffs and import restrictions, and other mechanisms antithetical to the current Australian policy preference for relatively liberalised international trade.

Nevertheless, the Committee was told by a number of witnesses that Government procurement and industry assistance could have a substantial effect on manufacturing business location, while maintaining policies that sufficiently encouraged free entry and exit from the Australian manufacturing sector. Evidence received by the Committee indicated support for minimising the regulatory burden placed on businesses. A number of witnesses and submissions also suggested streamlining government grants and programs within and across all levels of government; and enhancing the Victorian Government's procurement policy.

### 4.2.12.1 Government procurement policy

Various submissions identified the positive impact that supportive government procurement policies can have on manufacturers' decisions about the location of their operations.<sup>278</sup> In particular, submissions advised of the need for governments to complement their grants and support schemes with local content rules in order to create opportunities for local manufacturers and to utilise existing supply chains.<sup>279</sup>

The Committee was also told that in some cases the importance of government incentives in encouraging manufacturing businesses to remain in a given location, or relocate, depended on the scale and type of business in question. According to UK Trade and Invest, for example, blue chip companies were more interested in government grants and concessions when contemplating entering a market, whereas SMEs were more likely to base decisions about where to locate production on the

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<sup>278</sup> Advanced Manufacturing Cooperative Research Centre, et al., *Submission*, no. 50, 20 August 2009; Ararat Rural City, *Submission*, no. 9, 30 July 2009; Australasian Railway Association and Australian Railway Industry Corporation, *Submission*, no. 40, 7 August 2009; Australian Workers' Union, *Submission*, no. 48, 18 August 2009; Bombardier Transportation Australia Pty Ltd, *Submission*, no. 51, 21 August 2009; Federal Chamber of Automotive Industries, *Submission*, no. 58, 21 September 2009; Industry Capability Network (Victoria) Limited, *Submission*, no. 32, 3 August 2009; Kingston City Council, *Submission*, no. 61, 17 September 2009; Robert Bosch (Australia) Pty Ltd, *Submission*, no. 13, 31 July 2009; South East Melbourne Manufacturers Alliance Inc, *Submission*, no. 36, 3 August 2009; Victorian Government, *Submission*, no. 60, 14 September 2009.

<sup>279</sup> Advanced Manufacturing Cooperative Research Centre, et al., *Submission*, no. 50, 20 August 2009; Australian Workers' Union, *Submission*, no. 48, 18 August 2009; Bombardier Transportation Australia Pty Ltd, *Submission*, no. 51, 21 August 2009; Robert Bosch (Australia) Pty Ltd, *Submission*, no. 13, 31 July 2009.

potential of the market they were entering. This suggests that government assistance in the form of business support may be more successful in encouraging SMEs to remain or relocate to Victoria, whereas grants, concessions, or tax breaks may be more appropriately employed in order to attract multinational firms.

The Committee acknowledges that government policy has a key role to play in manufacturing industry support. The Committee also recognises that a wide range of programs are already in place from the Commonwealth, State and Territory governments to support manufacturing businesses. Recommendations on how government may improve support for manufacturing businesses comprise the remaining chapters of this report.





## Chapter Five: Key points

Government support is a key factor in fostering a sustainable and competitive sector, combined with the provision of a strong business environment that allows manufacturing firms to grow with minimal intervention.

Both the Victorian and Commonwealth Governments provide extensive support to the manufacturing sector, which takes various forms including subsidies to particular industry groups or firms; provision of business support services; tax concessions; procurement policies; and tariffs, quotas and regulatory restrictions on imported goods and services.

In Victoria, these initiatives include support for the Industry Capability Network; the RMIT Advanced Manufacturing Precinct; and automotive, defence, and transport infrastructure manufacturing industry-specific support and programs. The Victorian Government also provides a range of industry-neutral initiatives to support the manufacturing sector in promoting advanced manufacturing, industry transition, and various import and export assistance programs.

## Chapter Five: Government manufacturing support

Government support to the manufacturing sector can take various forms, such as: subsidies to particular industry groups or companies; provision of business support services; tax concessions; procurement policies; and tariffs, quotas and regulatory restrictions on imported goods and services. Government can also provide indirect support through major projects that create flow-on effects to various areas of the economy, including manufacturing.

At both national and state levels, government support to the manufacturing sector includes targeted support to specific industry groups, particularly the automotive industry and textiles, clothing and footwear (TCF) industries. Most support is industry-neutral, however, with governments tending to focus on driving innovation in manufacturing, and creating comparative advantage across the entire manufacturing sector.

Governments are also examining how procurement may be employed to support local industry, with both the Commonwealth and Victorian governments amending their purchasing policies in 2009 to achieve greater transparency and better outcomes for small businesses and local suppliers. Both governments have worked to ensure that their respective procurement policies are consistent with international obligations, which is imperative when trading on the global market. It is estimated that the global government procurement market alone is valued at \$14 trillion.<sup>280</sup>

Australian governments are also introducing initiatives to facilitate the development of green technologies, as well as programs that aim to reduce energy and water usage in production processes.

### 5.1 Victorian Government

The Victorian Government has implemented a number of initiatives to support the local manufacturing sector, including those outlined in *Building our Industries for the Future*, the 2008 Victorian industry and manufacturing statement. The Government also provides a range of non-targeted grants and assistances programs that aim to help companies improve their business operations, a number of which have a strong regional focus.

The *Building our Industries for the Future* statement comprises three action plans relating to services, manufacturing and global markets. The Victorian

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<sup>280</sup> Minister for Finance and Deregulation, 'Australian Government procurement statement', viewed 19 March 2010, <<http://www.financeminister.gov.au/>>.

Government committed \$122.7 million to the manufacturing action plan to improve the international competitiveness of Victorian manufacturers by:

- supporting the development of a highly skilled workforce for the sector;
- assisting businesses in the adoption of new competitive technologies;
- helping businesses to expand their engagement with global supply chains and grow;
- providing networks of business contacts; and
- implementing a range of sector-specific strategies and initiatives.<sup>281</sup>

A breakdown of funding under the manufacturing action plan is:

- Industry Transition Fund - \$50 million;
- Market Demonstration and Development Program - \$28 million;
- Agenda for New Manufacturing - \$21.6 million;
- Defence Industry Acceleration Program - \$8 million;
- Victorian Automotive Manufacturing Action Plan - \$6.7 million;
- RMIT Advanced Manufacturing Precinct - \$7 million;
- C21 Challenge Pilot Program - \$1.1 million; and
- Greening the Automotive Industry - \$300,000.<sup>282</sup>

The *Building our Industries for the Future* statement also strengthened the Victorian Industry Participation Policy (VIPP) in accordance with its local industry development objectives and to ensure it is more rigorously implemented and reported. This is described in further detail below.

### 5.1.1 Procurement

The Victorian Government established the VIPP in 2001 to encourage greater participation of small and medium-size enterprises (SMEs) in major government procurement. The objectives of the VIPP are to:

- boost employment and business growth in Victoria by expanding market opportunities for local SMEs;
- provide main contractors for major projects with greater access to a wider range of companies that can deliver the best value for money;
- promote a cultural change in local business, raising awareness and shifting perceptions from “imports are always best”, to “local suppliers can be world class”;

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<sup>281</sup> Victorian Government, *Submission*, no. 60, 14 September 2009, p. 6.

<sup>282</sup> Department of Innovation Industry and Regional Development, *Building our industries for the future*, Melbourne, 2008.

- expose Victorian companies to world-best practice in workplace innovation, e-commerce and use of new technologies and materials;
- develop industry's international competitiveness and flexibility in responding to changing global markets, by giving local SMEs a fair opportunity to compete against overseas suppliers; and
- maximise skills and training outcomes.<sup>283</sup>

Similar to the Commonwealth Government's procurement policy, the VIPP's key consideration is value for money, with assessments based on whole-of-life costing of projects wherever possible.

Since its inception, the VIPP has been applied to more than 1000 Victorian Government projects valued at nearly \$21 billion. The VIPP has achieved average local content levels of 84 per cent, equating to \$17.7 billion of local content.<sup>284</sup> In November 2008, a number of significant changes were made to the implementation of the VIPP. In particular, the VIPP requirements now apply to all government projects with a value of \$3 million in metropolitan Melbourne and over \$1 million in country Victoria. Since 1 July 2009, all short-listed bidders have been required to complete a VIPP plan to address the main reporting requirements of:

- level of local content;
- number of new jobs created;
- possible skills and technology transfer generated including training of staff and apprentices; and
- how local industry development commitments will be implemented.<sup>285</sup>

Other amendments to the VIPP process included:

- VIPP Plans prepared by short-listed tenderers have to be certified by the Industry Capability Network (ICN) and include a short statement by the ICN on the merits of the local content commitments;
- ICN approval is required for any amendments to VIPP Plans as a result of post-tender negotiations; and
- ICN and/or independent audits are required to conduct post-contract verification of VIPP outcomes.<sup>286</sup>

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<sup>283</sup> Department of Innovation Industry and Regional Development, *Victorian Industry Participation Policy: Opportunities for local small and medium enterprises*, State of Victoria, Melbourne, 2009, p. 4.

<sup>284</sup> Department of Innovation Industry and Regional Development, *Victorian Industry Participation Policy: Opportunities for local small and medium enterprises*, State of Victoria, Melbourne, 2009.

<sup>285</sup> Department of Innovation Industry and Regional Development, *Victorian Industry Participation Policy: Opportunities for local small and medium enterprises*, State of Victoria, Melbourne, 2009.

In providing evidence to the Committee, Mr Peter Yates, Executive Director of ICN Victoria advised of the benefits arising from the changes to the VIPP:

The new VIPP I think is a significant change. The original VIPP was a tie-breaker, and under those VIPP requirements the second envelope was only ever opened if the two bids were within 5 per cent of one another...The new program requiring it to be a mandatory criterion is a very positive impact in my mind...we have had inquiries from agencies and organisations we did not even know existed. To me that is all for the good of Victoria, because suddenly people are taking an active interest in what is available locally. It also asked that question, and in all my dealings with SMEs they do not mind losing the job provided they have been given the opportunity to bid. When they are not given that opportunity that is when they really complain. I think rightfully so too.<sup>287</sup>

Furthermore, the VIPP now requires major projects that have whole-of-life costs of \$250 million or more to be declared a “Strategic Project”. In addition to the completion of the normal VIPP plan, declared Strategic Projects are required to ensure that a minimum percentage of the procurement value comprises local content provided by SMEs.<sup>288</sup> The Committee considers the role of Victorian Government procurement in detail, and discusses some aspects of the VIPP that it believes could be improved, in Chapter Six.

#### **5.2.1.1 Industry Capability Network**

The ICN is a network of offices located throughout Australia and NZ that assist businesses to maximise opportunities that arise from purchasing requirements from both the government and private sectors. The state ICN offices are funded individually by the respective state governments. ICN Victoria is funded through the Department of Innovation, Industry and Regional Development (DIIRD).

The ICN’s key role is to “create jobs through import replacement, local sourcing and export-related activities across all of the industry sectors.”<sup>289</sup> It also facilitates the VIPP on behalf of the Victorian Government.

The ICN regularly consults with purchasers and project/procurement managers to identify supply requirements, while working closely with local industry to identify business capabilities. The information is then used to match purchasers with the appropriate and competitive suppliers. The ICN also identifies opportunities for import replacement and to nominate local alternatives, as well as assist local businesses expand into overseas markets. Since its inception in 1984, over \$2 billion has been generated in

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<sup>286</sup> Victorian Government, *Submission*, no. 60, 14 September 2009.

<sup>287</sup> Peter Yates, Executive Director, Industry Capability Network, *Transcript of evidence*, 18 August 2009, p. 11.

<sup>288</sup> Department of Innovation Industry and Regional Development, *Victorian Industry Participation Policy: Opportunities for local small and medium enterprises*, State of Victoria, Melbourne, 2009.

<sup>289</sup> Peter Yates, Executive Director, Industry Capability Network, *Transcript of evidence*, 18 August 2009, p. 2.

orders for Victorian industry, which according to the ICN, may have otherwise been placed offshore.<sup>290</sup>

As part of *Building our Industries for the Future*, the Victorian Government provided \$1.2 million to the ICN to engage with and encourage industry leaders to use their international networks to promote Victorian industry capability and to help companies take part in major projects and global supply chains.<sup>291</sup>

## 5.1.2 Industry specific initiatives – advanced manufacturing

### 5.1.2.1 RMIT Advanced Manufacturing Precinct

The Royal Melbourne Institute of Technology (RMIT) is currently in the process of establishing an Advanced Manufacturing Precinct (AMP) to deliver practical skills training for the design, development, production, marketing and management processes of the advanced manufacturing sectors. The AMP will achieve this through:

- providing 'real life' industry training in high-level skills and professional areas identified by the advanced manufacturing industry as skills shortage areas;
- delivering cross-disciplinary training to meet industry needs in applied design, development, production, marketing and management through the 'factory model';
- developing opportunities for new and innovative product development in manufacturing through co-location of applied design and advanced manufacturing specialisations;
- fostering co-operation and joint ventures between industry and training providers and make facilities available to other Registered Training Organisations; and
- being a 'test bed' for new products and processes.<sup>292</sup>

The RMIT AMP is scheduled for completion in October 2010. As part of *Building our Industries for the Future*, the Victorian Government committed \$7 million for the development of the precinct.

## 5.1.3 Industry specific initiatives – automotive

### 5.1.3.1 Victorian Automotive Manufacturing Action Plan

The *Victorian Automotive Manufacturing Action Plan* (VAMAP) was released in December 2008 to assist the automotive industry build on its existing capabilities and transform challenges into new opportunities for growth. The plan builds on the Commonwealth Governments *A New Car*

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<sup>290</sup> Industry Capability Network (Victoria) Limited, 'About us', viewed 18 March 2010, <<http://www.icnvic.org.au>>.

<sup>291</sup> Department of Innovation Industry and Regional Development, *Building our industries for the future*, Melbourne, 2008.

<sup>292</sup> RMIT University, 'RMIT'S future Advanced Manufacturing Precinct', viewed 18 March 2010, <<http://www.rmit.edu.au>>.

*Plan for a Greener Future* and it committed \$6.7 million over four years to deliver the new initiatives outlined in Table 10.

**Table 10: VAMAP initiatives<sup>293</sup>**

<b>Program Initiative</b>	<b>Description</b>
<b>Theme 1: Business Development</b>	<b>A business development program to enhance the international competitiveness of companies at all levels of the supply chain.</b>
Supplier Development	
a) Automotive Supplier Excellence Australia (ASEA)	Aimed at the Tier 1 (and key Tier 2) suppliers, ASEA provides an independent, best-in-class benchmarking process and targeted supply chain development initiatives that will enable Australian automotive suppliers to achieve world-class capability and competency levels. The Victorian Government's continued funding support will be provided for the full industry roll-out over the four-year period commencing 2009-10.
b) C21 Challenge	A partnership between the Victorian Government and Toyota Australia to continue supporting Tier 2 and 3 automotive component suppliers to achieve and maintain sustainable international competitiveness.
	<b>\$800,000</b>
Skills Development	Ongoing program to widen application of Lean Manufacturing to new technologies, supply chain development and training in international standards such as TS16949.
	<b>\$800,000</b>
Automotive Roadmaps	Two studies of the Victorian automotive manufacturing industry to map its technology and manufacturing capabilities in the short, medium and long terms, by taking into account current and future trends and developments globally.
a) Industry Capability Roadmap	The project will focus on mapping the industry's technology and capabilities to cover short-term requirements.
b) Technology Roadmap	This roadmap will cover the longer term, beyond the current commitments of the local vehicle manufacturers.
	<b>\$700,000</b>
<b>Theme 2: Investment</b>	<b>Investment in new technologies, including hybrid power trains and alternative fuels</b>
Automotive Gap Study & Business Case Development	An independent study to identify the critical gaps in capabilities of the total Victorian automotive manufacturing industry, covering the demands of an increasing export focus for vehicle, component and tooling manufacturers. Follow-up assistance will be available to Victorian companies seeking to prepare business cases to fill identified gaps.
	<b>\$500,000</b>
Product and Process Innovation	To facilitate and encourage rapid introduction of new technologies, including prototyping and technology evaluation involving micro/nano technologies, composites, energy and water-saving process development including advanced engine transmission systems (power trains), alternative fuels and advanced manufacturing processes.
<b>Theme 3: Global Market Access</b>	<b>Identification of opportunities and facilitation of access by Victorian firms to global supply chains</b>
In-market Representation	The use of contracted in-market auto-experienced personnel to obtain market intelligence and represent established export groups for China and India, based on the Team Australia Automotive (TAA) example, with continuation of the TAA operation for in-market services in the USA.
	<b>\$950,000</b>
Technical Presentation Visits	Support industry to make one-on-one in-market Technical Presentation visits to targeted vehicle manufacturers or international component suppliers.
	<b>\$950,000</b>
<b>VAMAP Total</b>	<b>\$6,700,000</b>

<sup>293</sup> Department of Innovation Industry and Regional Development, *Victorian Automotive Manufacturing Action Plan*, Melbourne, 2008, p. 6.



### 5.1.3.2 C21 Challenge

A key initiative under the VAMAP is the C21 Challenge program, which the Victorian Government piloted in 2008-09 with Toyota Australia and more than 40 Tier 1, 2 and 3 component suppliers. The aim of the program is to improve the competitiveness and sustainability of the automotive sector by strengthening the capability of local SME automotive component suppliers towards international best practice.

The C21 Challenge is a five part program that encourages suppliers to the automotive industry to think strategically about the future and improve their processes. The program includes:

1. a strategic diagnostic review for each business;
2. a manufacturing efficiency assessment;
3. workforce training and development;
4. specialised workshops; and
5. automotive industry forums and networking events.<sup>294</sup>

The pilot achieved significant outcomes, with 71 per cent of participants stating that the C21 Challenge improved their capacity to respond to the broader changes in the automotive industry. In addition, participating businesses collectively indicated that the program increased their collective turnover by \$1.24 million. The Victorian Government expects that as the program benefits are realised over time, this figure will increase to almost \$32.9 million.<sup>295</sup>

In response to the pilot outcomes, the Government provided new funding to support the facilitation of the 2009-10 program. The new program now applies to Tier 1, 2 and 3 suppliers to Toyota, Holden and Ford, as well as commercial component manufacturing businesses and diversified manufacturing businesses that are exposed to the automotive industry.<sup>296</sup>

### 5.1.3.3 Greening the Automotive Industry

As part of the Greening the Automotive Industry initiative, the Victorian Government has contributed \$300,000 to work with major automotive stakeholders on promoting alternative fuels and new clean technologies for motor vehicles.<sup>297</sup>

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<sup>294</sup> Department of Innovation Industry and Regional Development, 'C21 Challenge', viewed 17 March 2010, <<http://www.business.vic.gov.au/>>.

<sup>295</sup> Department of Innovation Industry and Regional Development, 'C21 Challenge', viewed 17 March 2010, <<http://www.business.vic.gov.au/>>.

<sup>296</sup> Department of Innovation Industry and Regional Development, 'C21 Challenge', viewed 17 March 2010, <<http://www.business.vic.gov.au/>>.

<sup>297</sup> Department of Innovation Industry and Regional Development, *Building our industries for the future*, Melbourne, 2008.

## 5.1.4 Industry specific initiatives – defence

### 5.2.4.1 Defence Industry Acceleration

The Victorian Government committed \$8 million to the Defence Industry Acceleration program to work with the defence industry to enhance Victoria's role as the leading Australian state for advanced technologies that underpin the defence sector. The program includes:

- support for Victorian industry participation in global supply chain opportunities through the *Defence Ready* initiative;
- strategic leadership and advocacy that better links government with industry and better informs government on defence-related issues and major defence projects;
- helping innovative Victorian defence industries to realise commercialisation opportunities through the *Innovation Support* initiative; and
- establishing a Defence Systems Centre in Victoria to encourage industry, defence and academia to work on complex systems integration and engineering requirements in the defence and allied industry sectors such as homeland security, police and emergency services.<sup>298</sup>

## 5.1.5 Industry specific initiatives – transport

### 5.1.5.1 Transport Infrastructure Manufacturing Scheme

In the 2009 State Budget, the Victorian Government announced its commitment to provide \$1.2 million for the creation of a new Transport Manufacturing Scheme to assist Victorian manufacturers maximise Australian and international transport infrastructure business opportunities. In announcing the scheme, the former Minister for Industry and Trade, the Hon. Martin Pakula MLC stated:

...the new scheme will assist more Victorian companies win work on the billions of dollars worth of Brumby Labor Government new infrastructure projects. The new scheme will also identify and promote contract opportunities for Victorian companies elsewhere in Australia and in overseas markets.<sup>299</sup>

## 5.1.6 Industry neutral initiatives

### 5.1.6.1 Agenda for new manufacturing

The Victorian Government released the Agenda for New Manufacturing program in June 2002, which comprised \$27 million worth of initiatives aimed at strengthening and expanding the Victorian manufacturing sector, particularly through support for new manufacturers. The seven key areas of the agenda were accelerating innovation, growing exports, championing

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<sup>298</sup> Department of Innovation Industry and Regional Development, *Building our industries for the future*, Melbourne, 2008, p. 36.

<sup>299</sup> Minister for Roads and Ports, 'Industry and freight package to help secure local jobs', viewed 18 March 2010, <<http://www.budget.vic.gov.au/>>.

manufacturing, creating high-performance workplaces, building skills, attracting investment, and achieving environmentally sustainable manufacturing.<sup>300</sup>

As part of the *Building our Industries* statement, the Agenda for New Manufacturing program was renewed with an additional \$21.6 million to promote lean manufacturing, product and process innovation, and export development.<sup>301</sup> Funding was also provided to build upon the following manufacturing-related programs:

- *Innovation Insights* – launched in 2002 to provide SMEs with the opportunity to visit Victoria's leading manufacturing companies and learn practical insights into the business areas of advanced manufacturing, information technology management, lean manufacturing, occupational health and safety, human resources, Six Sigma program, and supply chain management.<sup>302</sup> As of March 2009, the program had achieved 5,500 visitors from 1000 enterprises participating in more than 300 visits;<sup>303</sup>
- *Careers in Manufacturing* – in 2007, the Victorian Government launched the *It's Your Future* campaign, which promoted manufacturing as a viable career choice to young people through a website and television campaign;
- *Manufacturing Hall of Fame* – the Victorian Government established the Victorian Manufacturing Hall of Fame in June 2001 to celebrate manufacturing excellence in Victoria. In partnership with the Victorian Industry Manufacturing Council (VIMC), the Government selects individuals or organisations that have made outstanding contributions to sustained manufacturing excellence for inclusion in the Hall of Fame.<sup>304</sup>

#### 5.1.6.2 Industry Transition Fund

The Industry Transition Fund (ITF) provided \$50 million to support companies with the potential to move into new and emerging industries. Support was provided to companies through a cap of \$2 million financial assistance, with grants requiring a co-contribution of at least \$2 for every \$1 granted from the ITF. The fund is scheduled to end in June 2010.<sup>305</sup> In his presentation to the Committee, the former Minister for Industry and Trade, the Hon. Martin Pakula MLC spoke of the benefits of the ITF:

...that is a fund absolutely targeted at supporting companies that want to update their technology, their R and D, their capabilities, to transition into

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<sup>300</sup> Department of Innovation Industry and Regional Development, *Agenda for new manufacturing*, Melbourne, 2003.

<sup>301</sup> Department of Innovation Industry and Regional Development, *Building our industries for the future*, Melbourne, 2008.

<sup>302</sup> Business Victoria, 'Innovation Insights', viewed 18 March 2010, <<http://www.business.vic.gov.au/>>.

<sup>303</sup> Minister for Industry and Trade, 'Continuation of the highly successful Innovation Insights program', viewed 18 March 2010, <<http://www.i2e.org.au/>>.

<sup>304</sup> Business Victoria, 'About the Hall of Fame', viewed 18 March 2010, <<http://www.business.vic.gov.au/>>.

<sup>305</sup> Business Victoria, 'Industry Transition Fund', viewed 17 March 2010, <<http://www.business.vic.gov.au/>>.

more sustainable entities for the future. We have said to companies that it is not just about saying, 'We are in strife, give us a few bucks'; it is about saying, 'We have got a program or a project, a new machine or a new process that is going to sustain jobs, put this business or this enterprise on a more sustainable footing' there is a fund there available to assist that.<sup>306</sup>

#### **5.1.6.3 Market Demonstration and Development program**

The Market Demonstration and Development program was a key initiative of the 2008 Victorian innovation statement *Innovation: Victoria's future*. It provides \$28 million to support SMEs to develop new technology products and services that meet Government specifications, and to secure expansion capital in a commercial setting. A key focus of the program is the manufacturing sector.<sup>307</sup>

#### **5.1.6.4 Victorian Industry Manufacturing Council**

As part of the *Building our Industries* statement, the Manufacturing Industry Consultative Council, which was established in 2000 to advise the Victorian Government on industry initiatives, was reformed and renamed the Victorian Industry Manufacturing Council (VIMC). The council is an advisory group of representatives from across the manufacturing sector, including leading employer groups, trade unions and individual employers. It acts as a sounding board for the Government's manufacturing initiatives and provides a forum to bring emerging opportunities and issues for manufacturing and sectoral trends to the Government's attention.<sup>308</sup>

#### **5.1.6.5 Jobs for the Future Economy**

In April 2010 the Victorian Government announced the *Jobs for the Future Economy Action Plan*, which sets out actions by the Victorian Government to secure jobs in a low carbon economy. The plan includes a series of actions to support jobs growth and improve environmental outcomes, such as: promoting water and energy efficiency in building design and construction; encouraging private sector investment in renewable energy, such as through the creation of solar hubs; removing barriers to investment and business participation in carbon markets, resource recovery and recycling; and supporting new research and industry science projects and investment in electric vehicle trials. The *Jobs for the Future Economy Action Plan* and other green industry initiatives by the Victorian Government are discussed further in Chapter Nine.

### **5.1.7 Imports/exports programs**

The *Building Our Industries* statement included a global markets action plan, which committed \$24.8 million to support Victorian businesses access global markets through:

- assisting provide information and market intelligence;

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<sup>306</sup> Hon Martin Pakula, Minister for Industry and Trade and Minister for Industrial Relations, *Transcript of evidence*, 14 September 2009, p. 11.

<sup>307</sup> Department of Innovation Industry and Regional Development, *Building our industries for the future*, Melbourne, 2008.

<sup>308</sup> Business Victoria, 'Victorian Industry Manufacturing Council', viewed 18 March 2010, <[http://www.business.vic.gov.au/scripts/nc.dll?BUSVIC:STANDARD:1001:pc=PC\\_60452.html](http://www.business.vic.gov.au/scripts/nc.dll?BUSVIC:STANDARD:1001:pc=PC_60452.html)>.

- identifying and accessing overseas project opportunities; and
- promoting export clusters that provide critical mass and improve shared knowledge between local businesses within a sector.<sup>309</sup>

A breakdown of funding under the global markets action plan includes:

- Leveraging Global Opportunities - \$8 million;
- Export Clusters - \$4 million;
- Opening Doors to Export - \$4.8 million;
- Export Connections - \$4.8 million;
- Industry Champion - \$1.2 million;
- Victorians Abroad - \$1 million; and
- Tiger Teams - \$1 million.

These programs are outlined further below, in addition to other existing export-related initiatives that target the Victorian manufacturing sector.

#### **5.1.7.1 Access program**

The Access program is a service provided by the Victorian Government to Victorian-based companies which are aiming to expand into the international markets of United States of America (USA), China, India, Japan and the Middle East. The program aims to assist Victorian companies to:

- establish new relationships with partners;
- market their products more effectively; and
- set up operations in the region.<sup>310</sup>

A key feature of the program is the use of office space available in the Victorian Government Business Offices (VGBO) located in each of the listed countries to conduct business. Personnel are stationed in each VGBO to provide information and advice to eligible companies in the areas of market entry strategy analysis, initial market research, local market knowledge such as product and service suitability, information on cultural issues, introductions and networking, agent identification, logistical support, and strategy refinement. The facilities are available to eligible businesses free of charge for the first two weeks and for US\$250 per month thereafter for up to three months.<sup>311</sup>

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<sup>309</sup> Department of Innovation Industry and Regional Development, *Building our industries for the future*, Melbourne, 2008.

<sup>310</sup> Business Victoria, 'Access Program', viewed 18 March 2010, <<http://export.business.vic.gov.au/>>.

<sup>311</sup> Business Victoria, 'Access Program', viewed 18 March 2010, <<http://export.business.vic.gov.au/>>.

### **5.1.7.2 Export Clusters**

The Victorian Government established the Export Clusters program in recognition of the role of export clusters as an effective export development model. The program encourages companies in related areas to build critical mass and international bargaining power, as well as create more high-skilled jobs in servicing markets around the world.

An example of a successful export cluster is the Australian Urban System (AUS), which was established in June 2006 to promote Victoria's skills in the sustainable urban development field. The cluster comprises various companies involved in sustainable urban development, including planning, design, technology and communications, engineering, economics, investment, infrastructure, and environmental sciences. It also comprises representatives from government universities. According to the AUS, it has been highly successful in creating many export and export-related employment opportunities:

Through the engagement at the planning and policy level AUS members have been able to pull through many related technologies, products and services into major global urban framework projects and are currently working across China, the Middle East and with early engagement in India...These projects alone have already delivered exports to Victorian and Australian providers of related technologies, products and services in excess of \$30 million and have identified real project opportunities in excess of \$1 billion over the next 5 years, for the pull-through and engagement of other Victorian/Australian firms. It is also estimated that the AUS initiative has created more than 150 new export related employment opportunities over the past 24 months.<sup>312</sup>

### **5.1.7.3 Export Networks**

Export Networks is a program targeting new or existing business networks, which provide their members with export information, training services and mentoring opportunities. The program is designed to bring companies together to exchange practical information and experiences, with the aim of assisting companies gain valuable awareness of export practices. Grants of up to \$10,000 are provided to networks to run a 12-month program of export training, export information events, and mentoring activities.<sup>313</sup>

### **5.1.7.4 First Step Exporter**

First Step Exporter provides financial assistance to Victorian companies that are seeking to research and explore opportunities in their first export markets. Assistance to eligible businesses includes a grant of up to \$10,000, which can be used to recover 50 per cent of eligible expenses and include up to two overseas trips that can be to one or two different markets. Eligible expenses include commissioned market research, transport fares to and within the overseas market/s, promotional material, trade fair participation, and freight of samples. The program is open to companies that have an export turnover of less than 10 per cent of total annual dollar turnover, have a demonstrated export capability, are in an

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<sup>312</sup> Australian Urban Systems, 'Welcome to Australian Urban Systems', viewed 18 March 2010, <<http://www.ausvictoria.com.au/english/>>.

<sup>313</sup> Business Victoria, 'Export Networks', viewed 18 March 2010, <<http://export.business.vic.gov.au/>>.

industry of strategic importance, and have been in operation for a minimum of two years.<sup>314</sup>

#### 5.1.7.5 Grow Your Business

The Grow Your Business program offers planning and management services and advice to Victorian companies to help them become internationally competitive. Individual specialists work with eligible businesses to undertake a business strategic review, and/or business development plans to assist companies identify their future directions. Other services provided through Grow Your Business include group programs, networks program, and supply chain management. The program specifically targets manufacturing companies that are located in Victoria, are financially viable and have export and/or import replacement potential.<sup>315</sup>

#### 5.1.7.6 Opening Doors to Export

The *Opening Doors to Export* plan was first released by the Victorian Government in 2004, providing the agenda for the Government's export-related assistance, programs and initiatives, including the development of export networks, information and training services, in-market support abroad, and support for trade fairs and missions. As part of the *Building our Industries for the Future* statement, the plan was extended and augmented by the introduction of three new initiatives:

- *Export Connections* – an online exporter community that acts as a gateway for Victorian businesses to access global markets. As part of the service, participants receive information about new export opportunities and new supply and distribution global networks, and enhance their access to State and Commonwealth export assistance programs;<sup>316</sup>
- *Victorians Abroad* – a network of 250,000 Victorian expatriates to develop new investment, trade and partnership opportunities;<sup>317</sup> and
- *Leveraging Global Opportunities* – an initiative that gathers market intelligence; targets potential investors in strategically significant sectors; investigates trade and investment opportunities in emerging markets; promotes major Victorian projects; and develops strategic partnerships with other investment promotion agencies and sister states.<sup>318</sup>

#### 5.1.7.7 Trade Fairs and Missions

The Trades Fairs and Missions program provides financial assistance to Victorian-based companies to assist them enter or expand their presence

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<sup>314</sup> Business Victoria, 'First Step Exporter', viewed 18 March 2010, <<http://www.business.vic.gov.au>>.

<sup>315</sup> Business Victoria, 'Grow your business', viewed 18 March 2010, <<http://www.business.vic.gov.au/>>.

<sup>316</sup> Business Victoria, 'Join Export Connections', viewed 18 March 2010, <<http://export.business.vic.gov.au/>>.

<sup>317</sup> Department of Innovation Industry and Regional Development, *Building our industries for the future*, Melbourne, 2008.

<sup>318</sup> Department of Innovation Industry and Regional Development, *Building our industries for the future*, Melbourne, 2008.

in overseas markets and to increase their knowledge of export market requirements and opportunities. Grants are provided to eligible companies to attend trade fairs, organise international trade missions and bring trade missions to Victoria. Five streams of funding are available:

- Outwards trade fairs – funding of up to \$40,000 per trade fair depending on number of participants;
- Outwards trade missions – funding of up to \$30,000 per mission depending on number of participants;
- Inwards trade missions – funding of up to \$15,000;
- Industry capability missions – funding of up to \$200,000 depending on number of participants; and
- Pre-departure training and post-event follow up – funding of up to \$50,000.

Eligible businesses are those that can demonstrate financial viability and a commercial approach to exporting through the development of a business plan or appropriate market research.<sup>319</sup> Issues surrounding Victorian missions and participation in trade fairs are discussed in more detail in Chapter Eleven.

#### 5.1.7.8 Tiger Teams

The Tiger Teams program coordinates and supports Victorian industry and government partnerships established specifically to win major international contract opportunities.<sup>320</sup>

### 5.1.8 Major government initiatives

In its submission to the Inquiry, the Victorian Government advised the Committee of its initiatives to minimise the impact of the global financial crisis (GFC) on the Victorian economy, including the investment of \$8 billion in major capital works projects such as the *Victorian Transport Plan*, the *Victorian Schools Plan* and major hospital redevelopments:

These projects, including *National Building – Economic Stimulus Plan* and the *Building the Education Revolution* program with the Commonwealth Government, will ensure Victoria is developing the critical infrastructure vital for Victoria's future prosperity. At Budget time, the Department of Treasury and Finance estimated that the Government's total infrastructure program would support about 35,000 jobs in the local construction sector and its direct suppliers in 2009/10.<sup>321</sup>

An example of the Government's infrastructure program supporting local manufacturers is the \$1 billion development of the new Royal Children's Hospital. According to the ICN, this project has been committed to the

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<sup>319</sup> Business Victoria, 'Trade Fairs and Missions Programs', viewed 18 March 2010, <<http://www.business.vic.gov.au/>>.

<sup>320</sup> Department of Innovation Industry and Regional Development, *Building our industries for the future*, Melbourne, 2008.

<sup>321</sup> Victorian Government, *Submission*, no. 60, 14 September 2009, p. 5.



VIPP process to ensure local industry is maximised. Consequently, Assa Abloy, an Oakleigh-based manufacturing company, was awarded the contract to supply locks, door furniture and door control to be fitted throughout the hospital. Assa Abloy believed this to be a significant win for its company:

It's no small thing to get a contract like this. It means a lot for local manufacturing and communities...It also gave people confidence in our long term prospects...we were assured of three years work which we knew would lead to other opportunities as well.<sup>322</sup>

#### **5.1.8.1 Victorian Transport Plan**

The Victorian Government released the *Victorian Transport Plan* (VTP) in 2008, which committed \$38 million to deliver the best transport system in Australia. As part of the VTP, the Government allocated \$4.2 billion to order new trains, trams and regional train carriages, including:

- up to 70 new six-carriage trains on the metropolitan network;
- up to 50 new large low floor trams, on track from 2012-13; and
- up to 74 new V/Locity carriages.<sup>323</sup>

In addition, the VTP committed to investing in up to 270 new low floor buses.

The development and production of the 50 new trams was declared a Strategic Project under the VIPP. Consequently, the manufacturing contract is now required to comprise at least 25 per cent of local content. Local content will also form part of the criterion in the tender selection with a weighting of ten per cent. Minister Pakula indicated that the local content provision was expected to create at least 150 direct jobs in Victoria and the total local content over the life of contract would be more than 50 per cent.<sup>324</sup> On this basis, the VTP is indirectly supporting Victoria's manufacturing sector, particularly through the creation of new jobs, and the greater utilisation of local sub-contractors and suppliers in the development of transport infrastructure.

#### **5.1.8.2 Victorian Schools Plan**

The *Victorian Schools Plan* is the Victorian Government's ten year commitment to rebuild, renovate or extend all government schools by 2016-17. In particular, \$1.9 billion has been invested to rebuild, renovate or extend 500 schools by 2011. Similar to the VTP, the Schools Plan indirectly supports the local manufacturing sector. As part of the plan's modernisation projects, new facilities are being built, including libraries, classrooms and gymnasiums. Combined with the Commonwealth Government's *Building the Education Revolution* program as part of the

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<sup>322</sup> ICNews, 'Local manufacturers wins multi-million dollar contract with the new Royal Children's Hospital', viewed 19 March 2010, <<http://www.icnvic.org.au/>>.

<sup>323</sup> Department of Transport, 'The Victorian Transport Plan', viewed 18 March 2010, <<http://www4.transport.vic.gov.au/>>.

<sup>324</sup> Minister for Industry and Trade, '150 jobs created as shortlist to build trams announced', viewed 18 March 2010, <<http://www.premier.vic.gov.au/>>.

*Nation Building – Economic Stimulus Plan*, the Victorian Schools Plan supports local jobs through the design, procurement of local products and related services and construction processes.

## 5.2 Commonwealth Government

In 2007-08, the Commonwealth Government allocated \$7.6 billion in combined assistance to the Australian manufacturing sector. Of this, \$5.8 billion was provided in tariffs directed to TCF industries, with assistance also provided to the food, beverages and tobacco industry (\$1.2 billion), the metal products manufacturing industry (\$932 million), and the motor vehicles and parts industry (\$641 million).<sup>325</sup> The remaining \$1.8 billion was provided through budgetary assistance, such as outlays and tax concessions. The manufacturing sector, the primary production sector, and the services sector, each received around one quarter of total estimated budgetary assistance. The mining sector received relatively little assistance.<sup>326</sup>

According to the Productivity Commission's *Trade and Assistance Review 2007-08*, the effective rates of assistance (ERA) to the manufacturing sector has significantly declined over the last 35 years. In 1970-71, the ERA was around 35 per cent, whereas since 2000 the rate has been around 5 per cent. The Productivity Commission stated that the decline has been driven by reductions in tariff protection, including the 25 per cent across-the-board tariff cut of 1973, the abolition of tariff quotas and the tariff reductions that commenced in the 1980s.<sup>327</sup> For example, TCF industries received an ERA of 156.7 per cent in 1985-86, which dropped to 23.2 per cent in 2001-02. By 2015, the ERA will stand at 5 per cent.<sup>328</sup>

The following sections provide an overview of the Commonwealth Government's existing support programs. Some of these initiatives directly target the manufacturing sector, whereas other initiatives do not solely target the sector but may still apply to it.

### 5.2.1 Procurement

Under the *Financial Management and Accountability Regulations 1997*, the Commonwealth Minister for Finance and Deregulation administers the Commonwealth Procurement Guidelines (CPG), which is designed to support the activity of agencies in the delivery of Commonwealth Government programs and services.<sup>329</sup>

The core principle of the CPG is value for money, which is determined through a whole-of-life assessment of relevant costs and benefits for each proposal, rather than consideration of purchase price only. On this basis, agencies are not forced to choose lowest-cost suppliers when that choice could result in the purchase of inferior quality goods or high ongoing

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<sup>325</sup> Productivity Commission, *Trade & assistance review 2007-08*, Melbourne, 2009.

<sup>326</sup> Productivity Commission, *Trade & assistance review 2007-08*, Melbourne, 2009.

<sup>327</sup> Productivity Commission, *Trade & assistance review 2007-08*, Melbourne, 2009.

<sup>328</sup> Professor Roy Green, *Building innovative capability*, Canberra, 2008.

<sup>329</sup> Department of Finance and Deregulation, *Commonwealth Procurement Guidelines*, Barton, 2008; Minister for Finance and Deregulation, 'Australian Government procurement statement', viewed 19 March 2010, <<http://www.financeminister.gov.au/>>.

service costs.<sup>330</sup> Whole-of-life value for money assessments include consideration of the following factors:

- fitness for purpose;
- the performance history of each prospective supplier;
- the relative risk of each proposal;
- the flexibility to adapt to possible change over the lifecycle of the property or service;
- financial considerations including all relevant direct and indirect benefits and costs over the whole procurement cycle; and
- the evaluation of contract options.<sup>331</sup>

A key purpose of government procurement is enhancing industry participation through linking Australian companies to procurement opportunities. At the Commonwealth level, this is the responsibility of the Department of Innovation, Industry, Science and Research (DIISR), which administers the *Australian Industry Participation (AIP) National Framework*. The AIP framework encourages all Australian governments to adopt a consistent national approach to maximise the participation of local industry in Australian and international major projects. It is underpinned by the following four strategic approaches:

- encouraging industry to meet world best practices through capability building;
- early identification of opportunities for Australian industry participation in Australia and overseas;
- promoting Australian capability and integrating industry into global supply chains; and
- enhancing project facilitation and Australian industry participation.<sup>332</sup>

Since 1 January 2010, all tenders for large Commonwealth projects have been required to submit an AIP plan. The purpose of AIP plans is to provide local suppliers with the opportunity to demonstrate their capabilities and tender if the procurement specifications are met.<sup>333</sup> In its submission to the Inquiry, the Australian Workers' Union indicated its support for the strengthening of the AIP framework:

Overall this is a positive result for the local procurement policy that the Manufacturing Alliance has been calling for. Australian industry and workers are looking forward to getting a fairer go at winning government and private sector contracts under a strong industry participation framework.<sup>334</sup>

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<sup>330</sup> Minister for Finance and Deregulation, 'Australian Government procurement statement ', viewed 19 March 2010, <<http://www.financeminister.gov.au/>>.

<sup>331</sup> Department of Finance and Deregulation, *Commonwealth Procurement Guidelines*, Barton, 2008, p. 10.

<sup>332</sup> Minister for Finance and Deregulation, 'Australian Government procurement statement ', viewed 19 March 2010, <<http://www.financeminister.gov.au/>>, p. 7.

<sup>333</sup> Minister for Finance and Deregulation, 'Australian Government procurement statement ', viewed 19 March 2010, <<http://www.financeminister.gov.au/>>.

<sup>334</sup> Australian Workers' Union, *Submission*, no. 48, 18 August 2009, p. 7.

### 5.2.1.1 Industry Capability Network

The ICN is a network of 26 offices located throughout Australia and New Zealand, with over 90 technical consultants that have extensive project knowledge and experience to help Australian, New Zealand and overseas businesses maximise opportunities that arise from purchasing requirements from both the government and private sectors. ICN assists companies by:

- helping find new business opportunities by identifying purchasing requirements within government and the private sector;
- matching Australian suppliers with buyers according to identified purchasing requirements;
- helping identify appropriate Australian supply solutions to their purchasing and supply requirements;
- helping find competitive Australian sources to meet procurement and project needs;
- providing complete services to manufacturers that lead to whole-of-life savings for buyers, as well as supply contract wins for suppliers;
- assisting with supply contract preparations to meet buyer requirements; and
- conducting ongoing industry research to expand knowledge base and expertise to ensure businesses achieve the most effective outcome.<sup>335</sup>

The Industry Capability Network Limited (ICNL), which is part of the broader ICN network, is independently managed and funded by DIISR.

As of February 2010, ICN had over 75 major projects listed on its website covering various manufacturing-related opportunities across defence, oil, gas and energy, transport, automotive, mining, water, clean technology, information technology and communications. Collectively, these projects represent approximately \$60 billion worth of contracts.<sup>336</sup>

### 5.2.1.2 Supplier Access to Major Projects

A key program administered by the ICNL is the Supplier Access to Major Projects (SAMP) program, which aims to increase opportunities for Australian industry to participate in major national and international projects. The SAMP program funds existing networks and specialist experts to work with project developers and Australian businesses to identify opportunities and also enhance Australian industry access to global supply markets for major projects.<sup>337</sup>

Since the program's inception in 1997, it has provided more than \$11.7 million to facilitate the participation of Australian businesses in more than

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<sup>335</sup> Industry Capability Network, 'About ICN', viewed 12 March 2010, <<http://www.icn.org.au/>>.

<sup>336</sup> Nina Hendy, 'Manufacturing in 2010: Challenges and Opportunities', *Australian Manufacturing Technology*, no. February 2010.

<sup>337</sup> Industry Capability Network, *Supplier Access to Major Markets (SAMP) program guidelines*, Deakin, 2009.

120 projects. The ICNL estimates that under SAMP, businesses have won contracts worth more than \$2 billion for work that could have otherwise gone to overseas competitors.<sup>338</sup>

### 5.2.1.3 Supplier Advocates

The Commonwealth Government has allocated \$8.2 million over four years to support the appointment of Supplier Advocates with specialised knowledge in the areas of steel, infrastructure, the built environment, engineering, logistics and TCF industries. The role of the Supplier Advocates is to help SMEs market their capabilities to government buyers in Australia.<sup>339</sup>

In November 2009, the first Supplier Advocate was appointed for the rail industry to help small and medium-size businesses market their products to government buyers, as well as to promote sectorial initiatives to improve competitiveness.<sup>340</sup> A Supplier Advocate has also been appointed for the steel industry, whose role is to maximise opportunities for the Australian steel industry to participate in major public and private projects in Australia and overseas. the role of the Steel Supplier Advocate is to build connections within the supply chain and between Australian suppliers and major project proponents

## 5.2.2 Industry specific initiatives - automotive

### 5.2.2.1 A new car plan for a greener future

In November 2008, the Commonwealth Government announced the *A new car plan for a greener future* initiative, a \$6.2 billion plan to assist the automotive industry to prepare for a low carbon future and enhance its participation in global markets and supply chains. Funding and grants allocation by the Commonwealth under the plan is contingent on private sector contributions. The Government expects the plan to stimulate industry investment of at least \$16 billion in new capacity and new technologies.<sup>341</sup> Initiatives under the plan are outlined below.

### 5.2.2.2 Automotive Transformation Scheme

The Automotive Transformation Scheme (ATS) replaced stage three of the Automotive Competitiveness and Investment Scheme (ACIS), which was aimed at encouraging investment and innovation in the automotive industry from 2001 to 2015. The ATS places more emphasis on investment in R&D to increase competitiveness and productivity, particularly within the supply chain. It includes capped assistance of \$1.5 billion between 2011 and 2015, and new capped assistance of \$1 billion between 2016 and 2020. To receive assistance, participants are required to demonstrate progress

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<sup>338</sup> Department of Innovation Industry Science and Research, 'Supplier Access to Major Projects (SAMP) program', viewed 11 March 2010, <<http://www.innovation.gov.au/>>.

<sup>339</sup> Minister for Finance and Deregulation, 'Australian Government procurement statement', viewed 19 March 2010, <<http://www.financeminister.gov.au/>>.

<sup>340</sup> Senator the Hon Kim Carr, 'First supplier advocate appointed: rail advocate to champion industry', viewed 3 June 2010, <<http://minister.innovation.gov.au/>>.

<sup>341</sup> Department of Innovation Industry Science and Research, *A new car plan for a greener future*, Canberra, 2008.

towards achieving better environmental outcomes and a commitment to develop capabilities and skills in the workforce.<sup>342</sup>

### **5.2.2.3 Green Car Innovation Fund**

The Green Car Innovation Fund (GCIF) was established to help the automotive industry deliver the improved environmental performance required by the ATS, with a particular focus on R&D and commercialisation of technologies that reduce fuel consumption, greenhouse gas emissions, or the weight of vehicles. The GCIF provides \$1.3 billion over ten years from 2009 to vehicle producers, component makers and researchers.<sup>343</sup>

### **5.2.2.4 Automotive Industry Structural Adjustment Program**

The Automotive Industry Structural Adjustment Program (AISAP) commenced on 1 January 2009 and works with automotive industry companies to minimise the impact of structural adjustment, such as short-term job losses. The aim of the AISAP is to strengthen the components sector to ensure it continues to provide secure employment to skilled workers, as well as retain core capabilities, by providing assistance to help companies consolidate supply chains. The program provides a fund of \$116.3 million, which may be used for by companies to cover legal, relocation and other merger costs, as well as to provide labour market adjustment support to workers who have been made redundant.<sup>344</sup>

### **5.2.2.5 Automotive Supply Chain Development Program**

The Automotive Supply Chain Development Program (ASCDP) provides \$20 million over four years until 2012-13 to strengthen capabilities in the components sector and improve supply chain integration. The objective of the ASCDP is to:

...assist the automotive components sector further develop its capabilities, better integrate into local and global supply chains and enhance the industry's domestic and international competitive advantage by improving the operational performance of individual firms and the sector as a whole.<sup>345</sup>

The ASCDP builds on the Automotive Supplier Excellence Australia (ASEA) program, which was established in 2007 to assist the Australian automotive supply base achieve international competitiveness and sustainability. The ASEA program is jointly funded by all Australia motor vehicle producers, the Commonwealth, Victorian and South Australian Governments, the Federation for Automotive Products Manufacturers

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<sup>342</sup> Department of Innovation Industry Science and Research, *A new car plan for a greener future*, Canberra, 2008.

<sup>343</sup> Department of Innovation Industry Science and Research, *A new car plan for a greener future*, Canberra, 2008.

<sup>344</sup> Department of Innovation Industry Science and Research, *A new car plan for a greener future*, Canberra, 2008.

<sup>345</sup> Department of Innovation Industry Science and Research, 'Automotive Supply Chain Development Program - Draft framework paper', viewed 11 March 2010, <<http://www.innovation.gov.au/>>.

(FAPM) and the Cooperative Research Centre for Advanced Automotive Technology (AutoCRC).<sup>346</sup>

#### **5.2.2.6 Automotive Market Access program**

The Automotive Market Access Program was established in 2009 to boost component suppliers' access to global supply chains. Under the program an industry figure is appointed to promote the industry by acting as a specialised Austrade advisor in China, India, Korea and the USA.<sup>347</sup> This program builds upon the SAMP program's Team Australia Automotive Initiative, which was a consortium established by the ICN in 2007 to employ a contractor to represent Australian component manufacturers to North America original equipment manufacturers (OEM) and Tier 1 suppliers.

#### **5.2.2.7 LPG Vehicle Scheme Enhancement**

The LPG Vehicle Scheme Enhancement increased the preceding LPG Vehicle Scheme grant for new factory-fitted LPG passenger motor vehicles for private use from \$1000 to \$2000 in November 2008. The purpose of the scheme is to make new LPG vehicles more affordable and to encourage the early adoption of new technologies, such as direct-injection LPG engines.<sup>348</sup> Grants available for LPG conversions or purchases of new LPG vehicles are available from 1 January 2009 to 30 June 2014.

#### **5.2.2.8 Supplier Assistance Coordinator**

Following the release of *A new car plan for a greener future*, Senator Kim Carr and the former Victorian Minister for Industry and Trade, the Hon. Martin Pakula MLC, announced that they were each providing \$75,000 to fund a Supplier Assistance Coordinator position based with FAPM. The purpose of the Supplier Assistance Coordinator is to provide Australian automotive component manufacturers with access to a single point of contact for advice on financial needs and assistance with state and national industry programs.<sup>349</sup>

### **5.2.3 Industry specific initiatives - textiles, clothing and footwear**

In response to the recommendations proposed in the 2008 review of the Australian TCF industries *Building Innovative Capability*, the Commonwealth Government announced the following initiatives under the TCF innovation package in the May 2009 Federal Budget:

#### **5.2.3.1 TCF Strategic Capability Program**

The TCF Strategic Capability Program (TCF SCP) is a \$30 million grants program that supports projects that boost innovation capacity in the TCF

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<sup>346</sup> Automotive Supplier Excellence Australia, 'ASCDP Element 1 - ASEA', viewed 11 March 2010, <<http://www.asea.net.au/>>.

<sup>347</sup> Department of Innovation Industry Science and Research, *A new car plan for a greener future*, Canberra, 2008.

<sup>348</sup> Department of Innovation Industry Science and Research, *A new car plan for a greener future*, Canberra, 2008.

<sup>349</sup> Senator the Hon Kim Carr, 'Single point for auto industry advice and support', viewed 28 September 2009, <<http://minister.innovation.gov.au/>>.

industries at the enterprise and workplace level. The program runs from 2010-11 to 2014-15.

The minimum total eligible expenditure for the TCF SCP is \$1 million. The TCF SCP contributes one dollar for every dollar contributed by grantees. To be eligible for a grant under the program, applicants must link their proposed project to one or more of the TCF SCP activities, which include innovation, research and design capability; collaboration, networks and supply chain participation; accessing market opportunities; new business models and strategic repositioning; high-performance work and management system; education and skills; and environmentally sustainable and ethical practices.<sup>350</sup>

### **5.2.3.2 Clothing and Household Textile Building Innovative Capability program**

The Clothing and Household Textile Building Innovative Capability program (BIC) replaced the TCF Post-2005 Strategic Investment Program (SIP) scheme from 2010-11, and will run until 2014-15. The TCF Post-2005 SIP was an extension of the long-term assistance package for TCF industries established by the Commonwealth Government in November 2003. It aimed to facilitate the development of a sustainable and internationally competitive TCF manufacturing and design industry in Australia.<sup>351</sup> The program also replaced the TCF Product Diversification Scheme (PDS), which was established in November 2003 to assist Australian-based clothing and finished textile manufacturers and designers internationalise their sourcing arrangements and complement their product range, by providing duty credit that could be used to offset duty payable on finished clothing or relevant finished textile articles.<sup>352</sup>

While the BIC program has a similar focus to the schemes that preceded it, the intention of the scheme is to place a greater emphasis on innovation. The program provides \$22.5 million per annum to the clothing and household textiles products industry.<sup>353</sup>

### **5.2.3.3 Expanded Overseas Assembly Provisions Scheme**

The Expanded Overseas Assembly Provisions (EOAP) scheme allows participants to assemble certain goods overseas from predominantly Australian fabric and leather, which can then be imported for local consumption, with duty payable only on the cost of overseas processing and content. The objective of the EOAP scheme is to help the ongoing development of the Australian TCF and leather companies, as well as to allow them to retain their value-adding and high-skilled activities. The scheme is scheduled for completion in June 2010.<sup>354</sup>

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<sup>350</sup> Senator the Hon Kim Carr, *Textile, Clothing and Footwear Strategic Capability Program - Program guidelines consultation draft*, Canberra, 2009.

<sup>351</sup> Department of Innovation Industry Science and Research, 'Textile, Clothing and Footwear Innovation Package', viewed 11 March 2010, <<http://www.innovation.gov.au/>>.

<sup>352</sup> AusIndustry, 'TCF - Product Diversification Scheme (PDS)', viewed 11 March 2010, <<http://www.ausindustry.gov.au/>>.

<sup>353</sup> Department of Innovation Industry Science and Research, 'Textile, Clothing and Footwear Innovation Package', viewed 11 March 2010, <<http://www.innovation.gov.au/>>.

<sup>354</sup> AusIndustry, 'Expanded Overseas Assembly Provisions Scheme', viewed 22 March 2010, <<http://www.ausindustry.gov.au/>>.



#### 5.2.3.4 TCF Small Business Program

The TCF Small Business Program (SBP) commenced in 2006-07 with the purpose of improving the business enterprise culture of TCF small businesses, and particularly those not eligible to receive assistance under the TCF Post-2005 SIP. AusIndustry describes “business enterprise culture” as the style of management, communication, decision-making, and production and financial processes of a business.<sup>355</sup> Grants with a maximum value of \$50,000 are provided to each successful project. Funding of \$2.5 million is provided per annum over a ten year period until 2016.<sup>356</sup>

Other initiatives included in the Commonwealth Government’s TCF innovation package include:

- establishment of the TCF Industries Innovation Council;
- establishment of a National TCF Innovation Network within the Enterprise Connect;
- proceeding with the TCF tariff reductions already enshrined in legislation.<sup>357</sup>

### 5.2.4 Industry specific initiatives - Industry innovation councils

From September 2008 the Commonwealth Government established seven industry innovation councils to cover various industry groups. The objectives of the councils are to create sustainable conditions for innovation to prosper in order to support the Commonwealth Government’s economic, environmental and social priorities. Membership of the councils draws on innovation leaders from business, unions and professional organisations, science and research agencies, and government. Councils operating in areas specific to the manufacturing sector are:

- the Automotive Industry Innovation Council (AIIC);
- the Future Manufacturing Industry Innovation Council (FMIIC);
- the Steel Industry Innovation Council (Steel council); and
- the TCF Industries Innovation Council.

#### 5.2.4.1 Automotive Industry Innovation Council

The AIIC was established in November 2010, to provide advice to the Minister and act as an innovation advocate for, and provide leadership to, the automotive industry. The AIIC described its long-term goals and priorities in its submission to the Inquiry:

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<sup>355</sup> AusIndustry, 'Textile, Clothing and Footwear Small Business Program', viewed 11 March 2010, <<http://www.ausindustry.gov.au/>>.

<sup>356</sup> AusIndustry, 'Textile, Clothing and Footwear Small Business Program', viewed 11 March 2010, <<http://www.ausindustry.gov.au/>>.

<sup>357</sup> Department of Innovation Industry Science and Research, 'Textile, Clothing and Footwear Innovation Package', viewed 11 March 2010, <<http://www.innovation.gov.au/>>.

The AIIC is working with industry to build a strong innovation culture where business, the research sector, the workforce and governments work together and invest in technology and practices that are more productive, cleaner and responsive than those traditionally used.

The AIIC is helping to develop strategies for boosting the Australian automotive industry's competitive advantage in high value added manufacturing of both vehicles and components and sophisticated design and engineering capabilities.<sup>358</sup>

The first key outcome of the AIIC was to endorse development of a Australian automotive industry technology roadmap by the AutoCRC, in partnership with the Australian National University, the CSIRO, and in collaboration with the University of Cambridge. The purpose of the roadmap is to identify opportunities and underlying capabilities in the automotive industry, and ensure the Commonwealth Government's \$6.2 billion *A new car plan for a greener future* is invested strategically. The project is jointly funded by the Australian and Victorian Governments, and was scheduled for completion in April 2010.<sup>359</sup>

#### **5.2.4.2 Future Manufacturing Industry Innovation Council**

The FMIIC was established in October 2008, with a focus on innovation-intensive, high technology, high value-add, high-skill manufacturing, including manufacturing that uses advanced processes, materials and technologies. The FMIIC also focuses on future opportunities for Australian manufacturers in the area of green technologies.<sup>360</sup> The FMIIC advised in its submission to the Inquiry that it is currently working on the following initiatives:

- development of an innovation quiz in conjunction with the Australian Institute for Commercialisation;
- development of a profile of Australia's future manufacturing sector; and
- examination of opportunities for Australian manufacturers in the clean energy industry.<sup>361</sup>

#### **5.2.4.3 Steel Industry Innovation Council**

The Steel Council is intended to have a key role supporting long-term sustainability and competitiveness in the Australian steel industry. The Council will facilitate innovation within the steel industry and promote improvements in the steel value chain.<sup>362</sup>

#### **5.2.4.4 TCF Industries Innovation Council**

The TCF Industries Innovation Council was established on 12 May 2009, to provide strategic advice to the Minister on innovation priorities, as well as promote innovation among the TCF industries. Its current key activities are to provide advice on the introduction of a voluntary ethical mark,

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<sup>358</sup> Automotive Industry Innovation Council, *Submission*, no. 56, 7 September 2009, p. 2.

<sup>359</sup> Automotive Industry Innovation Council, *Submission*, no. 56, 7 September 2009.

<sup>360</sup> Future Manufacturing Industry Innovation Council, *Submission*, no. 15, 31 July 2009.

<sup>361</sup> Future Manufacturing Industry Innovation Council, *Submission*, no. 15, 31 July 2009.

<sup>362</sup> Department of Innovation Industry Science and Research, 'Steel Industry Innovation Council', viewed 10 March 2010, <<http://www.innovation.gov.au/>>.

voluntary national sizing standards for clothing and footwear, and a national anthropometric (human measurement) database.<sup>363</sup>

## 5.2.5 Industry neutral initiatives

### 5.2.5.1 Enterprise Connect

In May 2008, DIISR announced its commitment to allocate \$250 million over five years for the establishment and management of Enterprise Connect centres throughout Australia. The centres deliver advisory services to SMEs in the areas of technology, research, business and management, with the objective of boosting productivity, enhancing innovation and increasing business competitiveness.<sup>364</sup>

As part of Enterprise Connect, a national manufacturing network was established where business advisors deliver integrated and practical services to SMEs to build internal capacity and capitalise on growth potential. Key services offered by the Manufacturing Centres include:

- business reviews provided free of charge to eligible applicants to identify strengths and opportunities; assess potential areas for growth and improvement; and assist companies to access appropriate business tools, processes and technology;
- tailored advisory services that encourage SMEs to implement the findings of the business review by providing financial support of up to \$20,000 to assist deliver the recommended changes; and
- placement of researchers from universities or public research agencies into SMEs where there are opportunities to develop and implement a new idea with commercial potential.<sup>365</sup>

Enterprise Connect also established Innovative Regions Centres throughout Australia that aim to assist SMEs in advanced manufacturing practices, new product development, better business models, improved business capabilities and more efficient production. The centres have adopted a tailored approach to build innovation regions by encouraging a culture of collaboration; assisting the flow of innovative information; and assisting in building business capabilities and entrepreneurial capacity.<sup>366</sup>

### 5.2.5.2 Re-tooling for climate change

The Re-tooling for Climate Change program is intended to help manufacturing-related SMEs improve the energy and/or water efficiency of their production processes to reduce their environmental footprint. The program runs for four years from 2008-09 to 2011-12 and provides grants

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<sup>363</sup> Department of Innovation Industry Science and Research, 'Textile, Clothing and Footwear Industries Innovation Council', viewed 10 March 2010, <<http://www.innovation.gov.au/>>.

<sup>364</sup> Enterprise Connect, 'Manufacturing network fact sheet', viewed 11 March 2010, <<http://www.enterpriseconnect.gov.au/>>.

<sup>365</sup> Enterprise Connect, 'Manufacturing network fact sheet', viewed 11 March 2010, <<http://www.enterpriseconnect.gov.au/>>; Enterprise Connect, 'Researchers in business grant', viewed 11 March 2010, <<http://www.enterpriseconnect.gov.au/>>.

<sup>366</sup> Enterprise Connect, 'Innovative Regions Centre', viewed 11 March 2010, <<http://www.enterpriseconnect.gov.au/>>.

between \$10,000 and \$500,000, accounting for up to a maximum of half the cost of each project. Eligible applications need to demonstrate that their proposed project:

- has the potential to reduce their environmental footprint;
- is more than routine production, will have a long-term, sustainable impact on the capacity of the business or industry to respond to climate change, and if it offers the potential application of innovative, transferable technology; and
- has the organisation capacity to undertake the project, including access to relevant expertise and experience.<sup>367</sup>

By the end of 2009, manufacturers across Australia received a combined total of \$2.8 billion in grants under the Re-tooling for Climate Change program.

## 5.2.6 Import/export programs

### 5.2.6.1 Australian Export Awards

Commencing in 1963, the Australian Export Awards is a national program that recognises exporters who have achieved sustainable growth through innovation. The program is jointly run by Austrade and the Australian Chamber of Commerce and Industry (ACCI), and also requires collaboration with all the states and territories, each of which run independent export awards programs. The winners from these programs progress as national finalists to the Australian Export Awards, with the possibility of winning a national award or the Prime Minister's Australian Exporter of the Year Award. The objectives of the Australian Export Awards are to:

- identify and reward Australia's most successful and innovative exporters;
- promote top exporters as corporate role models in order to stimulate greater involvement in exporting amongst Australian businesses;
- promote Australia's leading exporters to the same status and public recognition as sporting and entertainment heroes; and
- further develop community awareness of the importance of exporting to Australia's economic future and support the drive to substantially increase the number of companies exporting.<sup>368</sup>

Award recipients are from various sectors, including manufacturing, mining, agribusiness, arts, tourism and education. There are also specific sector-based awards, such as the Large Advanced Manufacturing Award for outstanding export achievement by a manufacturer with total annual sales of at least \$30 million.

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<sup>367</sup> AusIndustry, 'Re-tooling for climate change program', viewed 25 January 2010, <<http://www.ausindustry.gov.au/>>.

<sup>368</sup> Austrade, 'About the Australian Export Awards', viewed 15 March 2010, <<http://www.exportawards.gov.au/>>.

### 5.2.6.2 Business Club Australia

Business Club Australia (BCA) is Austrade's business networking program that is organised around major international sporting events. Its objectives are to:

1. Promote, position and support Brand Australia internationally by showcasing Australia as a desirable business partner.
2. Target strategic industry sectors around specific events.
3. Provide business matching services at networking events to enable Australian companies to establish or strengthen business relationships with overseas clients and organisations.
4. Use events/venues as a showcase of the Australian sports injury (and major event) capability.<sup>369</sup>

A recent event where BCA was present was the Vancouver 2010 Winter Games. The program allowed Australian companies with an interest or presence in Canada to participate in Austrade-hosted corporate hospitality and business networking events. Another previous program of BCA was hosted at the Beijing 2008 Olympic Games. During the 17 days of the Games, the BCA facilitated the involvement of over 4,000 Australian and Chinese business people in 51 business and industry networking functions held in Beijing, Shanghai and Guangzhou.<sup>370</sup>

### 5.2.6.3 Certain Inputs to Manufacture

The Certain Inputs to Manufacture (CIM) program provides import duty concessions on certain imported raw materials and intermediate goods, such as chemicals, plastics or paper goods, as well as metal materials and goods used for the packaging of food. The objective of the program is to improve the competitiveness of the Australian manufacturing sector.<sup>371</sup>

To receive the duty concessions, an independent technical assessment needs to demonstrate that the imported goods are substantially and demonstrably superior in comparison to similar goods produced in Australia for specific end products. Applicants are also required to seek advice from the ICN to identify at least one Australian manufacturer of comparable goods.<sup>372</sup>

### 5.2.6.4 Enhanced Project By-law scheme

The Enhanced Project By-law Scheme (EPBS) provides for eligible goods not made in Australia, or technologically superior to those made in Australia, to be imported duty free for significant projects in the mining, resource processing, agriculture, food processing, food packaging, manufacturing, gas supply, power supply and water supply industries.

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<sup>369</sup> Austrade, 'About Business Club Australia', viewed 15 March 2010, <<http://www.austrade.gov.au/>>.

<sup>370</sup> Austrade, 'Beijing 2008', viewed 22 March 2010, <<http://www.austrade.gov.au/BCA-Beijing-2008/default.aspx>>.

<sup>371</sup> AusIndustry, 'Certain Inputs to Manufacture', viewed 25 January 2010, <<http://www.ausindustry.gov.au/>>.

<sup>372</sup> AusIndustry, 'Certain Inputs to Manufacture', viewed 25 January 2010, <<http://www.ausindustry.gov.au/>>.

Projects must have expenditure on capital goods in excess of \$10 million to be eligible for the concession.<sup>373</sup>

An important component of the EPBS is that recipients are required to develop an AIP plan as per the AIP framework to encourage and provide opportunities for greater utilisation of Australian industry in projects and global supply chains.<sup>374</sup>

#### **5.2.6.4 Export Finance and Insurance Corporation**

The Export Finance and Insurance Corporation (EFIC) is the Commonwealth Government's export credit agency, which was established to support the growth of Australian businesses internationally. Its role is to provide finance and insurance solutions to Australian exporters to help them overcome the financial barriers they face when expanding their business overseas.

The EFIC helps successful businesses win, finance and protect export trade or overseas investments where their bank is unable to provide all of the necessary support. It works with exporters or with their banks to provide loans, guarantees, bonds and insurance products.<sup>375</sup> For example, in February 2010, the EFIC helped Victorian manufacturer, Footcare International, access additional funds through the provision of a working capital guarantee to the ANZ. This enabled the bank to lend Footcare an additional extra \$300,000 to help it expand its overseas sales.<sup>376</sup>

A key initiative of the EFIC is the *Export Finance Navigator*, which is an online tool to help Australian SMEs that are exporting or investing offshore to understand the export finance options available to them.<sup>377</sup>

#### **5.2.6.5 Export Market Development Grants scheme**

The Export Market Development Grants (EMDG) scheme is an Austrade financial assistance program targeting aspiring and current exporters. The EMDG scheme encourages SMEs to develop export markets and reimburses up to 50 per cent of expenses incurred on eligible export promotion activities above a \$10,000 threshold. Up to eight grants can be provided to each eligible applicant through the scheme.

According to the Austrade submission to the Inquiry, a total of 4,105 grants and \$185.9 million were paid to EMDG recipients in 2008-09, an increase of 4.4 per cent in grant numbers, and an increase of 23.7 per cent in grant payments compared to 2007-08. Austrade described the EMDG applicants as follows

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<sup>373</sup> Ausindustry, 'Enhanced Project By-law Scheme', viewed 25 January 2010, <<http://www.ausindustry.gov.au>>.

<sup>374</sup> Ausindustry, 'Enhanced Project By-law Scheme', viewed 25 January 2010, <<http://www.ausindustry.gov.au>>.

<sup>375</sup> Export Finance and Insurance Corporation, 'Vision, mission and values', viewed 18 March 2010, <<http://www.efic.gov.au>>.

<sup>376</sup> Export Finance and Insurance Corporation, 'EFIC helps Footcare International to expand worldwide distribution', viewed 3 June 2010, <<http://www.efic.gov.au>>.

<sup>377</sup> Export Finance and Insurance Corporation, 'Minister for Trade media release: Government to make it easier for small business to navigate trade finance', viewed 3 June 2010, <<http://www.efic.gov.au>>.

- The average claimed grant amount was \$50,150 (down 3 per cent) and the median grant amount was \$35,116 (down 4 per cent);
- In dollar terms, the largest expenditure category claimed was marketing visits (32.3 per cent of total claimed expenditure), followed by overseas representation (25.9 per cent);
- At the broad sectoral level, 3.4 per cent of applicants were in the primary sector, 34.4 per cent in manufacturing, and 62.2 per cent in services;
- The top three industry groups represented were: business services excluding ICT (25.5 per cent), other manufacturing (24.2 per cent), ICT including both ICT manufacturing and ICT services (14.3 per cent), education and culture (13.9 per cent), and tourism (12.2 per cent); and
- The five principal markets targeted by grant applications in claimed promotion expenditure were the United States of America (55.2 per cent of applications), United Kingdom (41.9 per cent), China (22.5 per cent, 36 per cent including Hong Kong), Singapore (20.5 per cent) and Germany (17 per cent). Many applicants claim expenditure for more than one market.<sup>378</sup>

In providing evidence to the Committee, Mr Roger James, Special Adviser to the Australian Institute of Export, advised that the EMDG scheme is regarded as a major influence in helping companies to commence exporting, and to develop and maintain international business activities.<sup>379</sup> In its submission to the 2010-11 Federal Budget, the AiG stated that the EMDG has been particularly effective, with the Commonwealth review *Winning in World Markets* finding that each \$1 in EMDG funds generates between \$13.50 and \$27 in additional exports.<sup>380</sup>

#### 5.2.6.6 Getting into Export

The Getting into Export program works with SMEs to prepare them to enter the export market. Through a package of customised services, skilled export advisers work with businesses over 18 months to develop the skills and knowledge to be ready for export opportunities, as well as identify the specific needs of each business. The program is administered by Austrade, which with its international network, allows businesses to determine the right markets for their products or services. In 2007-08, Austrade connected 5,000 Australian service providers and suppliers with international buyers, which generates over \$23 billion in business deals.<sup>381</sup>

#### 5.2.6.7 TradeStart

TradeStart is a national network of export assistance offices that employ export advisors to assist SMEs, particularly in regional Australia and industries that have high growth potential, to commence exporting and to convert irregular exporters to sustainable export activity. TradeStart also

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<sup>378</sup> Australian Trade Commission, *Submission*, no. 49, 19 August 2009, p. 10.

<sup>379</sup> Roger James, Special Advisor, Australian Institute of Export, *Transcript of evidence*, 6 August 2009.

<sup>380</sup> Australian Industry Group, *Strengthening the recovery: investing in growth*, North Sydney, 2010.

<sup>381</sup> Pat Evans, 'Austrade new Getting into Export program introduction', viewed 15 March 2010, <<http://www.austrade.gov.au/>>.

provides assistance to established exporters to expand their markets. The TradeStart network is a partnership between Austrade and a range of local private and public sector organisations throughout Australia. It comprises elements of coaching and action learning, with the objective of assisting each business achieve sustainable success in their export markets. Since its inception in July 1998, the TradeStart network has helped more than 2,000 businesses achieve export success worth more than \$750 million.<sup>382</sup>

#### 5.2.6.8 Tradex

The Tradex scheme aims to strengthen the competitiveness of Australian business in export markets by providing up-front exemptions from customs duty and GST on eligible imported goods that are intended for direct export, or imported goods that are used, lost or wasted in the manufacture of other goods that are exported later on. Prior to the establishment of Tradex, importers of goods destined for export later on would have to pay customs duty and GST at the time of import and then claim a refund after the goods are exported. Under Tradex, customs duty and GST are exempted up-front, providing businesses with significant cash flow advantages.<sup>383</sup>

## 5.2.7 Major government initiatives

### 5.2.7.1 Nation Building – Economic Stimulus Plan

In February 2009, the Commonwealth Government released the \$42 billion *Nation Building – Economic Stimulus Plan*, which built on the economic stimulus packages and payments announced in October and December 2008. The plan includes the following key components:

- cash payments: One-off cash payments to eligible families, single workers, students, drought affected farmers and others - \$12.2 billion;
- business investment: A temporary business investment tax break for small and general businesses buying eligible assets - \$2.7 billion;
- education: Constructing or upgrading buildings in Australian schools, universities, and TAFEs - \$19.3 billion;
- social and defence housing: construction of around 20,000 new homes - \$5.9 billion;
- transport and infrastructure: Significantly increasing funding for local community infrastructure as well as local road and rail repairs and safety projects - \$3.3 billion; and
- energy efficient homes: increasing the energy efficiency of homes through insulation and solar hot water - \$3 billion.<sup>384</sup>

The implementation of the plan comprised three phases. The first phase from February 2009 to June 2009 focussed on the payment of the cash stimulus measures, and on scoping, planning, approving and contracting individual projects for Commonwealth Government funding. From July

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<sup>382</sup> Austrade, 'TradeStart', viewed 15 March 2010, <<http://www.austrade.gov.au/>>.

<sup>383</sup> AusIndustry, 'Tradex scheme', viewed 15 March 2010, <<http://www.ausindustry.gov.au/>>.

<sup>384</sup> Commonwealth Coordinator-General, *Commonwealth Coordinator-General's progress report to 31 December 2009*, Canberra, 2010, p. 5.



2009, phase two moved from planning and towards delivery, with a shift from pre-construction into site works and then completion. The final phase will consist of assessing the achieved outcomes.<sup>385</sup>

While the plan does not directly target the Australian manufacturing sector, it is intended to create positive flow-on effects to manufacturing, with some components likely having a greater impact than others, such as investment in Australia's infrastructure. During the Federal Treasury's presentation to the Committee, the witnesses, Mr Shane Brittle and Mr Paul Gardiner, were asked about investment in the manufacturing sector resulting from the Plan. Mr Gardiner, Manager of the Forecasting Unit, Domestic Economy Division responded:

As you can see, this slide shows motor vehicles – 'other', which are essentially commercial vehicles. You can see there that this rose quite sharply over the months of the June quarter, again reflecting the impact of the Government's stimulus through the small business and general business tax break. This increase contributed to a solid 5.7 per cent increase in new machinery and equipment investment in the June quarter. Indeed, if not for that stimulus impact we estimate that equipment and machinery investment would have contracted over that quarter, following a contraction of 10 per cent in the March quarter of 2009.<sup>386</sup>

As these projects are still underway at the time of this report's release, there is limited evidence of the flow-on effects to specific industry groups, such as machinery and equipment and metal products.

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<sup>385</sup> Commonwealth Coordinator-General, *Commonwealth Coordinator-General's progress report to 31 December 2009*, Canberra, 2010.

<sup>386</sup> Paul Gardiner, Manager, Forecasting Unit, Domestic Economy Division, Federal Treasury, *Transcript of evidence*, 28 October 2009, p. 4.

## Chapter Six: Key points

Government procurement is a key mechanism to support local industry, with evidence indicating greater involvement of small and medium-size enterprises (SMEs) in major public projects provides them with opportunities to expand operations and enhance investment in skills development and innovative activities. Strong government procurement policies are a key driver for industry development, job creation, and attracting new investments.

The Victorian Industry Participation Policy (VIPP) is an important initiative to support development and participation of local industry in government procurement. There are opportunities to refine some aspects of the VIPP to provide better support to local industries, such as by requiring all tender bids to provide a summary of estimated local content, and by ensuring the local content of projects declared of strategic significance only be calculated on capital costs.

Grant complexity, and the proliferation of grant types, can create barriers for manufacturing businesses attempting to access government support. More work could be done to streamline the number and range of grants and support available to manufacturers, where appropriate, and to facilitate business access to grants.

Inconsistent policies and regulations between jurisdictions can also create compliance costs for manufacturing businesses. The development of a nationally manufacturing strategy could promote an integrated approach to coordinate support offered to manufacturing businesses across all levels of government, ensuring that it is complementary and sufficiently targeted. The coordination of a national strategy could also strengthen and enhance the competitiveness of the sector through identification of areas of comparative advantage.

## Chapter Six: A way forward for government support

As described in Chapter Five, there are a wide range of government programs to support the manufacturing sector, and businesses generally. While the Committee believes that government programs currently cover a range of assistance options adequately, opportunities remain for programs to be refined to better support the manufacturing sector. This Chapter examines how the Victorian Government can further support the sector, and facilitate an environment in which manufacturers are able to strengthen productivity and take advantage of new challenges and opportunities.

While there is a role for government support in the manufacturing sector, individual manufacturers are principally responsible for ensuring their own success in domestic and international markets. The role of governments is to shape an environment for business that allows manufacturing companies to develop and grow with minimal intervention. Governments must also ensure that the support offered accommodates the changing nature of the Australian manufacturing sector, which is tending toward a greater focus on specialisation, and is driven by technology and innovation.

In this context, the Committee focuses on three main areas for action in this Chapter – how government procurement can be most effectively used to support local manufacture; how grants and services can be effectively delivered to manufacturing businesses; and national strategies for promoting Australian manufacturing. Further measures for supporting the manufacturing sector, including a stronger focus on standards, financial opportunities, skills acquisition, and innovation are considered in subsequent chapters.

### 6.1 Government procurement

Governments are major consumers of goods and services. Consequently, government procurement can be used as a key mechanism to support local industry by maximising local participation in major public projects. This proposition is supported by evidence suggesting that enhanced opportunities for local companies, particularly small and medium-size enterprises (SMEs), to participate in major projects allows them to expand their operations. Investment in SMEs also promotes innovation through skills development and adoption of new technologies. In Victoria, the State Government's procurement policy, the Victorian Industry Participation

Policy (VIPP), has been applied to support local manufacturing, and in 2008-09 was applied to 386 new contracts worth a total of \$6.6 billion.<sup>387</sup>

A number of witnesses and submissions argued that governments should use their power as major purchasers of goods to drive industry development.<sup>388</sup> Ms Michelle O'Neil, the National and Victorian Secretary of the Textiles, Clothing and Footwear Union of Australia (TCFUA), suggested that procurement is the "single most effective thing that would support local jobs in our industry."<sup>389</sup> Ms Neil indicated that procurement facilitates innovation among manufacturing companies:

One of the great spin-offs for government policy of its own procurement locally is that it allows innovation and investment because you have a degree of certainty. You are able to think, 'Okay, I know I have this contract for a three-year period,' and that, for a business, allows them to say, 'I'm going to make the commitment in terms of skill development training and innovation and research and design,' that you would not otherwise be able to make in the industry.<sup>390</sup>

Government procurement may also be employed as a measure to protect local industries during economic downturns to ensure productive capacity is not lost when economies recover. For example, as part of the United States of America (USA) Government's stimulus package in response to the global financial crisis (GFC), the USA Government attempted to require that all stimulus funds be spent only on USA goods and services.<sup>391</sup> This buy-American clause was later amended to comply with US international agreements, such as the non-discrimination provisions in the Australia-United States Free Trade Agreement (AUSFTA).<sup>392</sup> In Australia, the Commonwealth Government introduced less contentious changes to its procurement policy in response to the GFC, such as a funding boost to the national Industry Capability Network (ICN) to increase the involvement of Australian companies in public procurement opportunities.<sup>393</sup>

The Committee also heard from witnesses of the potential for government procurement policies to attract new investment. Mr Peter Yates, the Executive Director of ICN Victoria, told the Committee that the attitudes of

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<sup>387</sup> Department of Innovation Industry and Regional Development, *Victorian Industry Participation Policy 2008-09*, Melbourne, 2009.

<sup>388</sup> Australian Workers' Union, *Submission*, no. 48, 18 August 2009; Stephen Dargavel, Victorian Secretary, Australian Manufacturing Workers' Union, *Transcript of evidence*, 7 August 2009; Madeleine McManus, State President, Victoria Division, Engineers Australia, *Transcript of evidence*, 7 August 2009; Cesar Melhem, Victorian State Secretary, Australian Workers' Union, *Transcript of evidence*, 18 August 2009; Michele O'Neil, National Secretary and Victorian Secretary, Textile, Clothing and Footwear Union of Australia, *Transcript of evidence*, 7 August 2009; Andrew Spink, Director, Sales and Marketing, Bombardier Transportation Australia, *Transcript of evidence*, 7 September 2009; Peter Yates, Executive Director, Industry Capability Network, *Transcript of evidence*, 18 August 2009.

<sup>389</sup> Michele O'Neil, National Secretary and Victorian Secretary, Textile, Clothing and Footwear Union of Australia, *Transcript of evidence*, 7 August 2009, p. 8.

<sup>390</sup> Michele O'Neil, National Secretary and Victorian Secretary, Textile, Clothing and Footwear Union of Australia, *Transcript of evidence*, 7 August 2009, p. 10.

<sup>391</sup> Jon Herskovitz, 'WTO chief says "Buy American" meets world trade rules', 23 February 2009, viewed <http://www.reuters.com/>.

<sup>392</sup> Jon Herskovitz, 'WTO chief says "Buy American" meets world trade rules', 23 February 2009, viewed <http://www.reuters.com/>.

<sup>393</sup> Senator the Hon Kim Carr, 'A fairer go for Aussie business at home and abroad', viewed 30 March 2010, <<http://minister.innovation.gov.au/>>.

the Commonwealth, State and Territory governments towards manufacturing in Australia is a key factor in manufacturers' decisions about where to locate their operations.<sup>394</sup> Mr Yates told the Committee that during a 2005 trade mission to the USA some companies considered moving their business to the USA to take advantage of its local content requirements, and then free-trade back into Australia.<sup>395</sup> Similarly, Mr Remo Moretta, Director of the Free Trade Area Commitments and Implementation Section in the Office of Trade Negotiations at the Department of Foreign Affairs and Trade (DFAT), told the Committee that many Australian companies had considered placing themselves in the USA to enhance their access to the USA Government's procurement market.<sup>396</sup>

Finding 16: Government procurement can be an effective mechanism to support local manufacturing sectors through maximising local content in public projects, which consequently can drive industry development; create new jobs; and facilitate investment in ongoing skills development and innovative activity.

### 6.1.1 International obligations

In recognition that procurement is an important component of international trade, the World Trade Organisation (WTO) negotiated the Agreement on Government Procurement (GPA), which came into effect on 1 January 1996. The GPA established an agreed framework of rights and obligations among signatories in regard to national laws, regulations, procedures and practices in the area of government procurement.<sup>397</sup> A key principle of the GPA is non-discrimination, which limits the capacity for countries' procurement policies to favour local suppliers over foreign competitors. The GPA states:

...Parties to the Agreement are required to accord to the products, services and suppliers of any other Party to the Agreement treatment "no less favourable" than they give to their domestic products, services and suppliers. Further, Parties may not discriminate among goods, services and suppliers of other Parties. In addition, each Party is required to ensure that its entities do not treat domestic suppliers differently on the basis of a greater or lesser degree of foreign affiliation or ownership as well as to ensure that its entities do not discriminate against domestic suppliers because their good or services is produced in the territory of another Party.<sup>398</sup>

Australia is not a signatory to the GPA, which according to Mr Moretta of DFAT is because the Commonwealth, State and Territory governments believed it to be too burdensome, too prescriptive and requiring too much

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<sup>394</sup> Peter Yates, Executive Director, Industry Capability Network, *Transcript of evidence*, 18 August 2009.

<sup>395</sup> Peter Yates, Executive Director, Industry Capability Network, *Transcript of evidence*, 18 August 2009.

<sup>396</sup> Remo Moretta, Director, Free Trade Area Commitments and Implementation Section, Office of Trade Negotiations, Department of Foreign Affairs and Trade, *Transcript of evidence*, 28 October 2009.

<sup>397</sup> World Trade Organisation, 'Cornerstone principles: non-discrimination and transparency', viewed 26 March 2010, <<http://www.wto.org/>>.

<sup>398</sup> World Trade Organisation, 'Cornerstone principles: non-discrimination and transparency', viewed 26 March 2010, <<http://www.wto.org/>>.

adjustment.<sup>399</sup> To address the imbalance of Australia not being a signatory to the GPA, the Commonwealth Government negotiated the inclusion of procurement chapters in some of Australia's free trade agreement's (FTA).<sup>400</sup>

In Australia, there has been extensive discussion concerning what constitutes compliance with international obligations regarding non-discriminatory procurement practices. Leading up to the 2009 Australian Labour Party National Conference, there were widespread calls from unions for the Commonwealth Government to introduce a "Buy Australian" campaign. In particular, it was proposed that the Government introduce a similar policy to that of the NSW Government, where local firms are provided with a 20 per cent price advantage when tendering for government projects.<sup>401</sup> According to an Australian Workers' Union (AWU) poll, 85 per cent of respondents were in favour of the Government purchasing Australian-made products, even if those products were more expensive.<sup>402</sup> On 29 July 2009, the Commonwealth Government announced a \$19.1 million funding boost to support local industry. The funding boost did not include a "Buy Australian" campaign but rather a four-year package to provide Australian industry with greater opportunities to win public and private sector contracts.<sup>403</sup>

In reference to the NSW Government's procurement policy, the Committee received evidence that questioned the policy's compliance with international non-discriminatory obligations. The *Local Jobs First* policy, announced in the 2009-10 NSW State Budget, provides a 20 per cent price advantage to local suppliers, and an additional five per cent price advantage to regional and rural suppliers when tendering for major public projects.<sup>404</sup> While the policy was welcomed by some groups as an opportunity to create new jobs in NSW, it also attracted extensive criticism. The then Commonwealth Trade Minister, the Hon. Simon Crean MP expressed concern that the policy may precipitate a "downward spiral into protectionism" as Australia's trading partners may potentially respond with similar measures.<sup>405</sup> The former Victorian Minister for Industry and Trade, the Hon. Martin Pakula MLC, stated in his evidence to the Committee that the Victorian Government does not support the 20 per cent price preference for the following reasons:

Apart from the obvious ones about free trade agreements and whether or not that type of thing is in breach of them and quite apart from the potential

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<sup>399</sup> Remo Moretta, Director, Free Trade Area Commitments and Implementation Section, Office of Trade Negotiations, Department of Foreign Affairs and Trade, *Transcript of evidence*, 28 October 2009.

<sup>400</sup> Remo Moretta, Director, Free Trade Area Commitments and Implementation Section, Office of Trade Negotiations, Department of Foreign Affairs and Trade, *Transcript of evidence*, 28 October 2009.

<sup>401</sup> Philip Dorling, 'Labor rejects unions' buy Australian campaign push', *Canberra Times*, 27 July 2009, viewed <http://www.canberratimes.com.au/>.

<sup>402</sup> Philip Dorling, 'Labor rejects unions' buy Australian campaign push', *Canberra Times*, 27 July 2009, viewed <http://www.canberratimes.com.au/>.

<sup>403</sup> Senator the Hon Kim Carr, 'A fairer go for Aussie business at home and abroad', viewed 30 March 2010, <<http://minister.innovation.gov.au/>>.

<sup>404</sup> Department of State and Regional Development, *NSW Government Procurement: Local Jobs First Plan*, Sydney, 2009.

<sup>405</sup> Jacob Saulwick, 'Buy Australia policy sparks fears of trade war', *The Sydney Morning Herald*, 16 June 2009.

for retaliation against our export companies – there are some fantastic export companies that we do not want to see retaliated against by other jurisdictions – 20 per cent as a coverall price preference is a pretty blunt instrument. It is not always going to be the right figure.

...I always hear the argument that price should not be the determinant alone, and I agree with that, but putting on a 20 per cent price preference elevates price above everything else as a factor – above quality, above reliability, above the ability of the supplier to action to provide the product. As I said, in that regard it is a blunt instrument. But beyond that I have always taken the view that if something waddles like a duck and quacks like a duck, it is a duck.<sup>406</sup>

Components of the Victorian Government's VIPP have also attracted criticism, particularly those relating to rail rolling stock purchases where a ten per cent selection weighting is provided to Australian and New Zealand tenders, and the requirement to meet a 40 per cent local content target. Critics argued that these VIPP commitments could be in breach of the AUSFTA and could potentially result in governments buying products that are of lesser quality but at a higher price. In response, the Premier of Victoria, the Hon. John Brumby MP stated that Victoria's policy compared well to other countries' procurement policies, some of which require at least 50 per cent local content in major projects.

The Committee shares the view that the VIPP is consistent with Australia's international treaty obligations. The Committee believes it is important that the Victorian Government's procurement policy continues to maintain a strong balance between committing to open trade, and supporting the local manufacturing sector and creating new jobs.

## 6.1.2 Procurement management

The Victorian Government's procurement policies, including the VIPP, are overseen by the Victorian Government Purchasing Board (VGPB), which was established under the *Financial Management Act 1994*, and aims to provide leadership in government procurement of goods and services. Under Section 54B of the Act, the VGPB's functions are:

1. in relation to the supply of goods and services to departments and the management and disposal of goods by departments:
  - to develop, implement and review policies and practices; and
  - to provide advice, staff training and consultancy services.
2. to monitor departmental compliance with supply policies and Ministerial directions and to report irregularities to the relevant minister, and the Minister for Finance;
3. to foster improvements in the use and application of purchasing systems and electronic trading;
4. to establish and maintain a comprehensive database of purchasing data of departments and supply markets for access by departments;

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<sup>406</sup> Hon Martin Pakula, Minister for Industry and Trade and Minister for Industrial Relations, *Transcript of evidence*, 14 September 2009, pp. 14-15.

5. any other functions conferred by the Board by this Part.<sup>407</sup>

As part of its core responsibilities, the VGPB continuously reviews the Victorian Government's procurement policies to ensure they maintain good practice standards in procurement. The VIPP, in particular, is supported by the VGPB's *Purchasing and Local Industry Participation* policy, which identifies the procurement processes that give effect to the VIPP. The Committee notes that the VGPB places significant emphasis on maximising opportunities for local businesses in its efforts to furthering procurement reform across the Victorian Government:

Together, VGPB policy and VIPP will maximise opportunities for local industry to supply to government, thereby increasing employment opportunities and skills development in the Victorian labour market.<sup>408</sup>

A key component of the VGPB is the Procurement and Contracting Centre for Education and Research (PACCER), which administers various procurement training programs targeting public servants involved in procurement and contracting activities, as well as businesses in the private sector. The competency based training programs cover various topics, including procurement planning and tender development, contract management, and strategic sourcing. PACCER also undertakes information sessions about Victorian Government purchasing policies, such as the VIPP, which covers relevant procurement principles, including value for money and probity. The *Winning government business* seminar is designed to encourage SMEs to participate in the government market, and provides information to assist them bid for government business.<sup>409</sup>

### 6.1.3 Encouraging local content

In 2003, the Victorian Government introduced the *Victorian Industry Participation Act* in order to strengthen the VIPP by requiring agencies to report to the Parliament of Victoria on implementation of the VIPP each year. The reports provide a comprehensive overview of how the VIPP is working to maximise local content in the Government's major projects.<sup>410</sup>

In the 2008-09 report to Parliament, the Government stated that for the period of 1 July 2008 to 30 June 2009, the VIPP was applied to 386 contracts to the value of \$6.6 billion. Each of the contracts complied with the VIPP commitments, including demonstrated levels of local content. The 386 contracts achieved the creation of 4,663 local jobs and the retention of a further 7,840 existing jobs.<sup>411</sup>

Table 11 outlines the application of the VIPP over the last six years, including new jobs created and the average percentage of local content in public projects.

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<sup>407</sup> Victorian Government Purchasing Board, 'About the VGPB', viewed 7 May 2010, <<http://www.vgpb.vic.gov.au>>.

<sup>408</sup> Victorian Government Purchasing Board, *Annual report 2008-2009*, Melbourne, 2009, p. 8.

<sup>409</sup> Victorian Government Purchasing Board, *Annual report 2008-2009*, Melbourne, 2009.

<sup>410</sup> Department of Innovation Industry and Regional Development, *Victorian Industry Participation Policy 2008-09*, Melbourne, 2009.

<sup>411</sup> Department of Innovation Industry and Regional Development, *Victorian Industry Participation Policy 2008-09*, Melbourne, 2009.



**Table 11: Application of the VIPP in the last six years<sup>412</sup>**

Year	New projects	Value	New jobs	% Avg. local content
2003-04	99	\$2.947 billion	2,608	86%
2004-05	164	\$4.935 billion	3,376	90%
2005-06	176	\$2.449 billion	4,668	87%
2006-07	224	\$2.840 billion	4,247	89.5%
2007-08	229	\$5.745 billion	3,990	80.3%
2008-09	386	\$6.582 billion	4,663	81.3%

In facilitating the VIPP, ICN Victoria provides advice to government agencies and statutory bodies preparing tender contracts for companies seeking to provide goods and services to the Government. A key performance measure for the ICN in this role is the level of import replacement orders achieved, which refers to orders placed with local companies that without ICN would have been filled by overseas suppliers. Two examples of import replacement facilitated by the ICN are described in Text Box 3.

### **Text Box 3: Import replacement case studies**

#### **Case study one: Northern Sewerage Project (NSP) stage one<sup>413</sup>**

The NSP is a \$650 million infrastructure investment to increase the capacity of Melbourne's sewerage system to meet increasing demand from the city's growing population. Stage one of the project involves construction of an 8km deep-tunnelled sewer in Melbourne's northern suburbs.

Following John Holland being awarded the contract to construct this stage of the project, ICN Victoria contacted the company to discuss the benefits of local sourcing and reaffirm the significance of 'value-add' to the local economy through increased wages, salaries, taxes and profits.

Consequently, John Holland awarded the Australasian civil contracting company, Fulton Hogan Pty Ltd, with the \$20 million contract to manufacture and supply some of the concrete materials for the sewer tunnel. This opportunity allowed Fulton Hogan to expand its facilities, including the purchase of a new plant to manufacture the contracted materials, as well as enhance its capabilities, and competitiveness when bidding for future projects.

#### **Case study two: Deer Park Bypass<sup>414</sup>**

The Deer Park Bypass is a four lane 9.3km freeway linking the Western Ring Road at Sunshine West to the Western Highway at Caroline Springs. The \$331 million project was

<sup>412</sup> Department of Innovation Industry and Regional Development, *Victorian Industry Participation Policy 2008-09*, Melbourne, 2009, p. 2.

<sup>413</sup> Department of Innovation Industry and Regional Development, *Victorian Industry Participation Policy 2008-09*, Melbourne, 2009, p. 5.

<sup>414</sup> Department of Innovation Industry and Regional Development, *Victorian Industry Participation Policy 2008-09*, Melbourne, 2009, p. 6.

jointly funded by the Victorian and Commonwealth Governments.

Leightons Contractors was awarded the contract to design and construct the freeway. In order to comply with the VIPP obligations outlined in the contract, Leightons Contractors intended to purchase noise attenuation barriers through an Australian distributor, unaware that the distributor was planning to source the materials from an overseas supplier.

ICN Victoria introduced Leightons Contractors to an Australian company, Australian Rollforming Manufacturers Pty Ltd, and the two companies negotiated a deal allowing Leighton Contractors to purchase the materials directly from the Dandenong manufacturer at a competitive price.

### 6.1.3.1 Local content in short-listed bids

All short-listed bidders of projects valued at \$3 million in metropolitan Melbourne and over \$1 million in regional Victoria are required to complete a VIPP Plan containing estimated levels of local content; number of new jobs created; and possible skills and technology transfer generated, including training of staff and apprentices.<sup>415</sup> While an estimate of local content is required, local content is not given any weighting at the beginning of the tender process when bids are short-listed. This creates the risk that agencies could short-list tender bids based solely on imported materials, when bids with local content are available at a marginal premium. Mr Yates of ICN Victoria raised this issue as a concern in his presentation to the Committee:

What my concern is – when it gets to the agency, if you have say 10 bidders and the agency short-lists, at the time of short-listing they actually have no VIPP information. At the time of short-listing there is no requirement for them to have any data on local content percentages, and if they short-list the predominant determiners would be pricing structure and fit for purpose, and they might short-list down to three companies that are providing a fully imported product.<sup>416</sup>

As a solution, Mr Yates proposed that all tender bids be required to develop a summary of the VIPP Plan to allow agencies to make informed decisions about which bids to short-list. As the VIPP commitments only apply to projects worth \$3 million or more in metropolitan Melbourne, this requirement would likely have a limited logistical impact on Victorian SMEs bidding for government tenders. Mr Yates also suggested that a requirement for businesses to estimate local content in government tender bids would develop industry awareness about local content generally.<sup>417</sup>

The Committee is of the view that consideration of local content should be promoted in the process of considering VIPP tender bids, as it will promote

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<sup>415</sup> Department of Innovation Industry and Regional Development, *Victorian Industry Participation Policy: Opportunities for local small and medium enterprises*, State of Victoria, Melbourne, 2009.

<sup>416</sup> Peter Yates, Executive Director, Industry Capability Network, *Transcript of evidence*, 18 August 2009, p. 10.

<sup>417</sup> Peter Yates, Executive Director, Industry Capability Network, *Transcript of evidence*, 18 August 2009.

greater awareness of local manufacturers' capabilities and their potential contribution to the delivery of major public projects.

Recommendation 1: That the Victorian Industry Participation Policy (VIPP) be amended to require all tender bids to provide a summary of the VIPP Plan, which describes their estimated levels of local content, and that tender bids with high local content be considered a key advantage by Government agencies when short listing bids.

### 6.1.3.2 Declared strategic projects

As part of the changes to the VIPP in July 2009, major projects that meet certain criteria are declared of strategic significance, and are subject to additional local content requirements. Projects declared of strategic significance are assessed on the following criteria:

- have whole-of-life costs of \$250 million or more;
- over their whole-of-life cost contribute to the productive capability of Victoria and make a strategic contribution to our ongoing economic wellbeing;
- have potential to generate significant local industry participation, employment and skills/technology transfer during the project or procurement activity (design, construction etc);
- have potential for building ongoing industry capability, skills and employment benefits resulting from the project; and
- present a clear choice between using local and overseas suppliers.

In providing evidence to the Committee, the Minister for Industry and Trade, the Hon. Jacinta Allan MP, advised that two major projects have been declared of strategic significance, including the light rail vehicles tender and the Parkville Comprehensive Cancer Centre.<sup>418</sup> Minister Allan stated that as part of the light rail vehicles tender, the Victorian Government has committed to a local manufacturing requirement of 25 per cent and a whole-of-life local content requirement of 50 per cent. The metric for calculating local content is discussed below.

### 6.1.3.3 Calculating local content

Throughout the Inquiry process, the Committee heard from witnesses that the way local content targets are calculated could limit the use of locally manufactured goods in major public projects.<sup>419</sup> As discussed in Chapter Five, the VIPP requires that all projects declared of "strategic significance" comprise a minimum local content percentage of the procurement value, which is determined on a whole-of-life basis. As "whole-of-life" refers to

<sup>418</sup> Hon. Jacinta Allan, Minister for Industry, Trade, and Industrial Relations, *Transcript of evidence*, Melbourne, 28 April 2010.

<sup>419</sup> Stephen Dargavel, Victorian Secretary, Australian Manufacturing Workers' Union, *Transcript of evidence*, 7 August 2009; Cesar Melhem, Victorian State Secretary, Australian Workers' Union, *Transcript of evidence*, 18 August 2009; Bryan Nye, Chief Executive Officer, Australasian Railway Association, *Transcript of evidence*, 28 October 2009; Andrew Spink, Director, Sales and Marketing, Bombardier Transportation Australia, *Transcript of evidence*, 7 September 2009.

initial capital costs, maintenance and any related training costs, it is possible that local content targets could be met by maintenance costs alone, with no requirement for capital to be obtained locally. In reference to the procurement of rail rolling stock, which is subject to a 40 per cent minimum local content target, Bombardier stated in its submission that as maintenance is always undertaken in Australia, the local content target will always be satisfied by maintenance alone.<sup>420</sup> Mr Andrew Spink, Director of Sales and Marketing at Bombardier, also raised this issue in his presentation to the Committee:

If you were to look at the whole-life cost of a vehicle, 65 per cent of that cost is in maintenance. If you were to look at forthcoming contracts, for example, if you look at the expression of interest for the tram contract, probably 35 per cent of that contract is in maintenance. From Bombardier's perspective and the industry's perspective, what they would need to do locally is nothing really – fitting out of seats, perhaps. We believe it is an issue. On the value of manufacturing, we believe we just have to value it.<sup>421</sup>

Many witnesses called for amendments to the calculation so that it only accounts for capital costs and not maintenance costs.<sup>422</sup>

**Finding 17: The existing “whole-of-life” metric for calculating minimum local content targets in major public projects has the potential to limit the use of locally manufactured goods in those projects.**

In response to questions from the Committee about the local content calculation, the former Minister for Industry and Trade, the Hon. Martin Pakula MLC, indicated that a key priority for the Victorian Government when it delivers a project is the whole-of-life benefit to the economy:

Maintenance, whether it is a plant or whether it is a vehicle or anything else, is part of the whole-of-life benefit that that procurement or project provides. That is the reason it is considered. But I understand that that component will be the subject of ongoing debate and discussion. It has been raised with you and it has been raised with me on numerous occasions.<sup>423</sup>

The Committee acknowledges the benefits to the Victorian economy derived from the whole-of-life maintenance of capital goods, particularly in the areas of technical support and after sales service. However, the Committee notes that these benefits would exist with or without a minimum local content target. Toward this end, the Committee recommends that maintenance no longer be used in calculating the minimum local content target of public projects declared of “strategic significance”. The Committee

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<sup>420</sup> Bombardier Transportation Australia Pty Ltd, *Submission*, no. 51, 21 August 2009.

<sup>421</sup> Andrew Spink, Director, Sales and Marketing, Bombardier Transportation Australia, *Transcript of evidence*, 7 September 2009, p. 6.

<sup>422</sup> Stephen Dargavel, Victorian Secretary, Australian Manufacturing Workers' Union, *Transcript of evidence*, 7 August 2009; Cesar Melhem, Victorian State Secretary, Australian Workers' Union, *Transcript of evidence*, 18 August 2009; Bryan Nye, Chief Executive Officer, Australasian Railway Association, *Transcript of evidence*, 28 October 2009; Andrew Spink, Director, Sales and Marketing, Bombardier Transportation Australia, *Transcript of evidence*, 7 September 2009.

<sup>423</sup> Hon Martin Pakula, Minister for Industry and Trade and Minister for Industrial Relations, *Transcript of evidence*, 14 September 2009, p. 15.

believes that initial capital costs should be the key consideration in order to promote local manufacturers and contribute to their sustained competitiveness in domestic and international markets.

**Recommendation 2:** That the calculation of local content targets for public projects declared of “strategic significance” be solely based on capital costs.

#### 6.1.3.4 Value for money

Another important consideration regarding the VIPP highlighted for the Committee is its focus on “value for money”. The VIPP requires that value for money be the primary consideration in government purchasing, and that wherever possible, whole-of-life costing of projects be the basis for these considerations.<sup>424</sup> The VIPP Guidelines state that the VIPP is designed to encourage the use of local SMEs whenever it makes good commercial sense. According to the guidelines, SMEs can provide equivalent, if not better, value for money in the following ways:

- **Innovation** – SMEs can be in a better position to offer alternative solutions which contribute to an organisation’s ability to carry out its business in a more cost-effective manner.
- **Flexibility** – due to size, location and often a multi skilled workforce, SMEs can be in a position to quickly adapt to your changing requirements.
- **Customer service** – to maintain viability, SMEs are often highly customer focussed, which can lead to better relationship management.
- **Industry development** – government business can make direct contributions to the social, economic, financial and cultural environment of a region.
- **Increased local competition** – encouraging SME participation in government purchasing helps maintain a viable network of suppliers leading to better value for money outcomes.
- **Skills and training** – SMEs can help build a steady supply of local skills.<sup>425</sup>

The Committee heard from numerous witnesses about how important it was not to equate value for money solely with low cost. Ms Glenda Graham, the Executive Director of the Victorian Division of Engineers Australia, advised the Committee that both government and the private sector should look beyond simple least cost calculations when considering major purchases.<sup>426</sup> Ms Graham argued that these purchases should be viewed as investment opportunities, where various flow-on benefits are

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<sup>424</sup> Department of Innovation Industry and Regional Development, 'Victorian Industry Participation Policy', viewed 6 April 2010, <<http://www.diird.vic.gov.au/>>.

<sup>425</sup> Victorian Government, 'Victorian Industry Participation Policy Guidelines', viewed 6 April 2010, <<http://www.diird.vic.gov.au/>>.

<sup>426</sup> Glenda Graham, Executive Director, Victoria Division, Engineers Australia, *Transcript of evidence*, 7 August 2009.

considered, including the potential skills and knowledge that accompany the acquisition of a major local asset.<sup>427</sup>

Despite the VIPP Guidelines stating that project proponents should not consider value for money as equating to lowest price, the Committee received evidence of this occurring at the departmental level. Mr Paul Dowling, the Executive Officer of the South East Melbourne Manufacturers' Alliance (SEMMA), provided examples of agencies purchasing cheaper products from overseas suppliers:

...the standard hospital bed from China costs around \$700 and will last about three years. The standard hospital bed made in Australia will cost about \$1600 to \$1800 and it will last 8 to 12 years. Hospitals cannot afford \$1600 to \$1800 immediately, so they continuously buy the cheap beds.<sup>428</sup>

We had one with the CFA recently. A member had lost an order to India for a product that ultimately is going to cost the taxpayer more... We have lost all that for a lousy 2 per cent. We now no longer supply our police departments and our emergency services with local products for a dollar a shirt.<sup>429</sup>

The Committee recognises that the key purpose of the value for money principle is to maximise competition among suppliers. It also shares the view that considering value for money according to whole-of-life economic benefits would place many local manufacturers in an optimal position to participate competitively in tendering processes. It is therefore critical to ensure that Victorian Government agencies are aware of and actively adopt this approach in their procurement activities.

Finding 18: The value for money principle in the Victorian Industry Participation Plan should be applied according to whole-of-life project or product costs rather than simply equating it with lowest capital cost. This will ensure that better quality products are purchased and that local manufacturers participate competitively in tendering processes.

#### 6.1.3.5 Project brief specifications

A number of witnesses told the Committee that the capacity for public projects to maximise local content is often limited because Victorian Government project briefs contain technical specifications relating to international products or standards.<sup>430</sup> In these cases, it becomes more difficult for Australian manufacturers to participate in tendering processes. While there may be circumstances when there are legitimate reasons for sourcing materials from overseas suppliers, the Committee received

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<sup>427</sup> Glenda Graham, Executive Director, Victoria Division, Engineers Australia, *Transcript of evidence*, 7 August 2009.

<sup>428</sup> Paul Dowling, Executive Officer, South East Melbourne Manufacturers Alliance Inc, *Transcript of evidence*, 18 August 2009, p. 3.

<sup>429</sup> Paul Dowling, Executive Officer, South East Melbourne Manufacturers Alliance Inc, *Transcript of evidence*, 18 August 2009, p. 6.

<sup>430</sup> Steve Gregson, National Sales Manager, Bluescope Steel, *Transcript of evidence*, 7 September 2009; Don McDonald, Chief Executive Officer, Australian Steel Institute, *Transcript of evidence*, 29 October 2009; Cesar Melhem, Victorian State Secretary, Australian Workers' Union, *Transcript of evidence*, 18 August 2009; Andrew Spink, Director, Sales and Marketing, Bombardier Transportation Australia, *Transcript of evidence*, 7 September 2009; Peter Yates, Executive Director, Industry Capability Network, *Transcript of evidence*, 18 August 2009.

evidence that local suppliers are being “designed out” of briefs despite having the capacity to submit a competitive “fit for purpose” bids. Of particular concern to some witnesses were missed opportunities to utilise Australian steel in major projects.<sup>431</sup> One example related to the development of the Carlton Football Club:

They took the design to import the steel for the grandstand from China. That is a project that had state and federal government funding. We would have thought that there would be sufficient leverage and leadership to be able to point them in the direction of capable Australian suppliers who, after all, have built things like Docklands, the MCG, the facilities for the Commonwealth Games and the current football stadium under construction. There is plenty of capability and capacity there. We understand the industry was not even engaged in pricing on that. I understand a similar situation is occurring at the St Kilda Football Club, they have a grandstand expansion happening there, and we understand that is also being imported.<sup>432</sup>

Another example refers to the Gorgon liquefied natural gas project in Western Australia, where the design brief was redrafted to Japanese standards, despite tenders for 50,000 tonnes of steel originally being set aside for Australian steel companies.<sup>433</sup> Chevron, the project operator, indicated that amendments to the brief were to reduce the level of risk, however, Mr Don McDonald, the Chief Executive Officer of the Australian Steel Institute (ASI) argued that this was not a plausible excuse:

Chevron said it was to mitigate risk but we don't buy that. There is no risk in supplying 50,000 tonnes because our industry makes 1 million tonnes within that product range. If Chevron is fair dinkum about having the work placed in Australia, then they would do it to Australia sections and standards.<sup>434</sup>

Mr Donald advised the Committee that despite the Gorgon project being Australia's largest, the project brief was designed in London using Japanese industrial standard steel sections.<sup>435</sup>

Lack of awareness of Australian capabilities by project designers was identified as a key reason behind project briefs containing international standards or specifications.<sup>436</sup> This is an issue both within government, and across the private sector, with the private sector typically responsible for tendering government contracts.

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<sup>431</sup> Steve Gregson, National Sales Manager, Bluescope Steel, *Transcript of evidence*, 7 September 2009; Don McDonald, Chief Executive Officer, Australian Steel Institute, *Transcript of evidence*, 29 October 2009; Cesar Melhem, Victorian State Secretary, Australian Workers' Union, *Transcript of evidence*, 18 August 2009.

<sup>432</sup> Don McDonald, Chief Executive Officer, Australian Steel Institute, *Transcript of evidence*, 29 October 2009, p. 5.

<sup>433</sup> Mathew Murphy, 'Gorgon leaves big query over Australian jobs', *The Age*, 20 November 2009.

<sup>434</sup> Mathew Murphy, 'Gorgon leaves big query over Australian jobs', *The Age*, 20 November 2009.

<sup>435</sup> Don McDonald, Chief Executive Officer, Australian Steel Institute, *Transcript of evidence*, 29 October 2009.

<sup>436</sup> Steve Gregson, National Sales Manager, Bluescope Steel, *Transcript of evidence*, 7 September 2009; David Jenkins, Manager, Government Relations, Bluescope Steel, *Transcript of evidence*, 7 September 2009.

The Committee believes that enhancing awareness of Australian manufacturing capabilities should be a shared effort among individual manufacturers, industry groups and associations, and governments particularly through the ICN network. In the context of government support, the Committee commends the work of ICN to assist local companies to access local and international project opportunities by matching their capacity with the requirements of purchasers and procurement managers. The Committee also welcomes the *Supplier Advocate* initiative of the Commonwealth Government to help SMEs in various industries market their capabilities to government buyers in Australia.

The Committee is also aware of the efforts of industry groups to engage with project proponents in both domestic and international markets to educate them about local capabilities. Mr McDonald of the ASI advised the Committee that the core business of many of its members is to promote greater take-up of Australian steel:

We were engaged with Chevron on the Gorgon project from early 2004. We have been meeting with them and looking to influence their specifications, getting to know their industry capabilities. We have been very proactive with proponents. I presented at a conference that had Queensland gas proponents in Gladstone two weeks ago. Our state managers and our national manager of industry and government as well as our national marketing manager are all very much engaged with promoting the industry as a value proposition to proponents and specifiers. The member companies are very active in that.<sup>437</sup>

The Committee commends those manufacturers and industry groups that actively promote themselves and their members' products, but is also aware of the challenges for some manufacturers, particularly SMEs, to undertake this type of promotional activity and to effectively respond to opportunities that may arise through ICN. The Committee is aware of initiatives, such as Enterprise Connect at the Commonwealth level and Grow Your Business at the State level, that aim to assist SMEs enhance their business skills. Increasing the capacity of SMEs to respond to such opportunities could be another area requiring further attention in these programs.

The Committee notes the efforts of the Victorian Government through the VIPP Guidelines to ensure agency project briefs contain Australian specifications:

For the VIPP to have maximum impact, project design specifications need to be performance oriented rather than design specific. Technical specifications should not be an obstacle to the local supply of required goods or services.

In order to specify one or more imported products, designers/contractors must clearly demonstrate that there are no known local alternatives which

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<sup>437</sup> Don McDonald, Chief Executive Officer, Australian Steel Institute, *Transcript of evidence*, 29 October 2009, p. 12.



can deliver competitive performance. Only then may the product(s) be listed with specific design specifications or proprietary brand names.<sup>438</sup>

The Guidelines continue to state that where only one product is specified, the contracting agency should establish a Design Specification Committee to determine and satisfy that the use of a single product is appropriate.<sup>439</sup>

As indicated previously, the PACCER is responsible for conducting information sessions targeting government agencies about purchasing policies. The Committee believes that a similar three-hour information session should be developed on the VIPP which focuses on various topics including value for money and project brief specifications. The session could also reiterate and provide case studies demonstrating the benefits of giving Australian manufacturers full, fair and reasonable opportunities to tender for major public projects in Victoria. All government personnel who use the VIPP in their procurement activities, including managers with financial delegation responsibilities, should be required to attend this information session.

Recommendation 3: That the Victorian Government request that the Procurement and Contracting Centre for Education and Research develop an information session that focuses specifically on the implementation of the VIPP. All personnel with VIPP responsibilities should be required to attend this information session.

## 6.2 Government grants and assistance programs

Direct government support to the manufacturing sector draws on various objectives that aim to enhance the local economy through: employment growth, per capita income growth, innovation and technological advancement, addressing trade imbalances, and social cohesion. Government assistance to the sector can be provided through various mechanisms, such as government outlays, tax concessions, and tariffs. According to the Chairman of the Productivity Commission, Mr Gary Banks AO, measured budgetary assistance for manufacturing has doubled in real terms since the 1960s, although assistance targeting specific industry groups within the sector has increased at a faster rate than assistance provided to the sector overall.<sup>440</sup> Tariffs, on the other hand, have been substantially, and continually, reduced since the 1970s.<sup>441</sup>

Targeted assistance to specific manufacturing industries is typically designed to help minimise the impact of structural adjustment. Aside from this, however, government assistance has moved away from a targeted approach towards offering a broader range of initiatives that support

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<sup>438</sup> Victorian Government, 'Victorian Industry Participation Policy Guidelines', viewed 6 April 2010, <<http://www.diird.vic.gov.au>>.

<sup>439</sup> Victorian Government, 'Victorian Industry Participation Policy Guidelines', viewed 6 April 2010, <<http://www.diird.vic.gov.au>>.

<sup>440</sup> Gary Banks, *Industry policy for a productive Australia*, Productivity Commission, Melbourne, 2008.

<sup>441</sup> Productivity Commission, *Trade & assistance review 2007-08*, Melbourne, 2009.

particular activities rather than particular industries. This trend is common in most developed economies.<sup>442</sup>

The preference for broad sectoral assistance reflects a view that while targeted assistance benefits recipients, it imposes costs on other sectors of the economy. The provision of direct monetary assistance to companies, for example, is funded by governments increasing taxes and charges, or cutting back on other spending.<sup>443</sup> Mr Peter Burn, the Associate Director of Public Policy at the Australian Industry Group (AiG), raised this issue in his presentation to the Committee:

As an organisation I suppose we have got an open mind about this sort of stuff, although we are pretty hesitant about whether it really works and the effectiveness of it and certainly the economy-wide effectiveness of it. That is probably where our biggest reservation is, because you are diverting money from other uses and you are deliberately attempting to divert economic activity into a specific channel into which it otherwise would not go. Who are you taking it away from in order to do that? Is that higher product higher value-added and so forth?<sup>444</sup>

Similarly, in a lecture on *Industry policy for a productive Australia*, Mr Banks of the Productivity Commission indicated that the purpose of industry policy should be to enhance the Australian economy overall:

...nor should the goal of industry policy be merely to achieve an expansion in small business, large business, jobs (in particular sectors) or even innovation. The objective should be to enhance the performance of the Australian economy, so as to enable living standards and community well being to realise their potential, given that the resources available to us and their alternative uses. What those industry policies that target particular industries, activities or groups need to demonstrate is how they can achieve this.<sup>445</sup>

The Committee agrees with this statement and believes there is a role for targeted government assistance to support the manufacturing sector. It is crucial, however, that governments design assistance programs so they effectively address what should be well-defined problems rather than activities that would have occurred without the assistance.

## 6.2.1 The role of government grant systems

In 2008, an independent review of the Commonwealth Government grant system, *Strategic review of administration of Australian Government grant programs*, found that much grant spending in recent years had been of poor quality, and probably ineffective in many cases. In making these criticisms, the report drew attention to the increasing number of grant programs and individual grants awarded, significant weaknesses in

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<sup>442</sup> Gary Banks, *Industry policy for a productive Australia*, Productivity Commission, Melbourne, 2008.

<sup>443</sup> Productivity Commission, *Trade & assistance review 2007-08*, Melbourne, 2009.

<sup>444</sup> Peter Burn, Associate Director of Public Policy, Australian Industry Group, *Transcript of evidence*, 6 August 2009, p. 9.

<sup>445</sup> Gary Banks, *Industry policy for a productive Australia*, Productivity Commission, Melbourne, 2008, p. 11.

program planning and design, and a lack of clear objectives for some programs.<sup>446</sup>

The Committee also received evidence suggesting government grants and assistance programs available to the manufacturing sector, were fragmented, and could be more effectively directed toward specific objectives. Mr Burn of the AiG commented that governments prefer to make easy political decisions and hand out money to many companies rather than adopt the harder political line and attempt to improve the efficiency of product markets.<sup>447</sup> Mr David Pallant, the VIPP Manager at ICN Victoria suggested that government tends to design grants programs to try to help as many people as possible, but as a consequence, the monetary value of grants is typically quite small, which limits their capacity to provide any real assistance.<sup>448</sup>

A recurrent theme from submissions and public hearings was concern about how governments should go about (or avoid) 'picking winners' in terms of which industries or companies to support. Mr Hayden Williams, the Global Leader of the Automotive and Advanced Manufacturing section at Austrade advised the Committee:

We often say within Austrade that we are not allowed to pick winners, but no-one wants to pick losers; and if you pick losers, we know what will happen in terms of employment and the corporations.<sup>449</sup>

Similarly, Dr Mark Trigg, the Managing Director of the Advanced Manufacturing CRC stated:

We need, if you like, to stand up, put our hands on our hearts and say 'These are the things that we are going to fund' and be hard about the activities that we are not going to be able to fund. There are some hard decisions to be made. The same applies very much in advanced manufacturing or future manufacturing, because we cannot do everything, so we need to focus.<sup>450</sup>

Dr Trigg also advised the Committee that grants focus too heavily on inputs rather than on outcomes. Rather than provide companies with just a subsidy, Dr Trigg suggested that grants should be viewed as an investment opportunity to increase growth and wealth. The Committee agrees with this view and is of the opinion that assistance provided by the Victorian Government should be carefully directed to ensure that domestic growth and wealth is generated and, where possible, maintained.

The Committee notes that the independent review of the Commonwealth Government's grant system proposed that all grants include a performance framework that links grant deliverables and outcomes to government

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<sup>446</sup> Peter Grant PSM, *The Administration of Australian Government Grant Programs*, Barton, 2008.

<sup>447</sup> Peter Burn, Associate Director of Public Policy, Australian Industry Group, *Transcript of evidence*, 6 August 2009.

<sup>448</sup> David Pallant, VIPP Manager, Industry Capability Network, *Transcript of evidence*, 18 August 2009.

<sup>449</sup> Hayden Williams, Global Leader, Automotive and Advanced Manufacturing, Australian Trade Commission, *Transcript of evidence*, 22 January 2010, p. 17.

<sup>450</sup> Dr Mark Trigg, Managing Director, Advanced Manufacturing CRC, *Transcript of evidence*, 23 November 2009, p. 3.

priorities.<sup>451</sup> The Committee supports this proposal as it encourages government agencies to focus on the nature and anticipated effect of assistance they are providing, and the types of activities they wish to support. It also provides the foundation to measure and evaluate outcomes upon completion of programs.

Recommendation 4: That the Victorian Government develop a manufacturing-focused performance framework that specifies key areas for government support, and which will contribute to a competitive and sustainable manufacturing sector. The framework should be regularly reviewed and updated, and should also be made publicly available.

## 6.2.2 Administration of the grants system

A joint submission by the Advanced Manufacturing CRC, Advanced Manufacturing Australia, CSIRO and the Australian Graduate School of Engineering at the Swinburne University made the following observations about the administration of government grants and assistance programs available to the advanced manufacturing industry:

- there are too many grants for SMEs to absorb;
- there is too much “red tape” associated with assistance programs, and they are cumbersome and too bureaucratic;
- it is often difficult to invest the required resources into R&D to develop a comprehensive application;
- the application process requires a lot of effort for little return; and
- as grants are rarely provided without companies having to provide matching funds, governments should be more aware of the time and resources required on behalf companies to prepare applications.<sup>452</sup>

Numerous witnesses drew the Committee’s attention to the multitude of grants and assistance programs available to local manufacturers. The Committee is not aware of the exact number of grants and assistance programs offered by the Victorian Government, although in reference to the programs described in Chapter Five, it is clear that a large number are applicable to the manufacturing sector. The review of the Commonwealth Government’s grant system reported that overall there are 250 separate discretionary grant programs across the Commonwealth.<sup>453</sup>

The Committee received evidence that manufacturers, particularly SMEs, experienced difficulties navigating the grants system, with many consequently deciding not to invest the time required to find the appropriate grant for their business operations. In her presentation, Ms

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<sup>451</sup> Peter Grant PSM, *The Administration of Australian Government Grant Programs*, Barton, 2008.

<sup>452</sup> Advanced Manufacturing Cooperative Research Centre, et al., *Submission*, no. 50, 20 August 2009.

<sup>453</sup> Peter Grant PSM, *The Administration of Australian Government Grant Programs*, Barton, 2008.

Angela Krepcik, the Chief Executive Officer of Advanced Manufacturing Australia, advised the Committee that many of her members experienced difficulties due to inconsistencies in grants and assistance programs offered across jurisdictions, which creates confusion about application processes and reporting requirements.

Finding 19: The large number of Commonwealth and Victorian Government grants and assistance programs available to manufacturing firms makes it difficult for smaller firms to navigate the grants system. Many firms do not have the time or resources to determine which support is applicable to them.

There were calls from a number of witnesses to streamline and simplify grants and assistance programs. Ms Glenda Graham of Engineers Australia advised the Committee that governments should increase the capabilities of and access to existing programs deemed effective rather than create new ones.<sup>454</sup> Similarly, the review of Commonwealth Government grant system recommended that:

Grant-administering agencies be encouraged to review the structure of their grant programs with a view to reducing the overall number of programs, achieving greater coherence and clarity of objectives, improving transparency, reducing but sharpening the range of performance indicators, and achieving administrative savings.<sup>455</sup>

The Committee supports this recommendation and believes there is merit in the Victorian Government examining the range of grants and assistance programs it offers, and the feasibility of streamlining these programs. The Government should also examine the grants and assistance programs offered by the Commonwealth Government to determine the level of duplication, and whether this affects the efficiency of support offered at the state level. Ideally, this approach should be conducted in the context of the national manufacturing strategy proposed in Recommendation 8. However, as development of a national strategy would take some time, the Committee recommends that in the interim the Victorian Government work with the Commonwealth to streamline and simplify the range of grants made available to manufacturing businesses.

Recommendation 5: That the Victorian Government examine, simplify and streamline grants and assistance programs offered to the local manufacturing sector. This should also include consideration of grants and assistance programs offered at the commonwealth level.

### 6.2.3 The delivery of assistance to manufacturing businesses

The Committee also heard of difficulties accessing grants and assistance programs as a consequence of information gaps. Ms Graham of Engineers Australia indicated that while there is a range of useful programs available, there are issues with companies finding out about those programs:

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<sup>454</sup> Glenda Graham, Executive Director, Victoria Division, Engineers Australia, *Transcript of evidence*, 7 August 2009.

<sup>455</sup> Peter Grant PSM, *The Administration of Australian Government Grant Programs*, Barton, 2008, p. 31.

Again it is a linkages issue. There is a lot of good stuff out there but how do people find it. If you are a Ford, a Holden or a Toyota, it is fine. Even if you are a tier 2 in that sector, you are fine. But most of our manufacturing is small...Often these are small manufacturers, how do they connect into some of these programs, how can they access good, simple tools to promote what we think are really good recommendations from governments' perspective.<sup>456</sup>

A key issue in this regard concerns how grants and assistance programs are marketed to SMEs. Mr Paul Dowling of SEMMA told the Committee that marketing government programs was once a much easier task as the target group was predominantly multinational corporations.<sup>457</sup> Nowadays, the manufacturing sector is comprised largely of SMEs, creating a more challenging marketing environment for government.

The Committee is aware of existing initiatives of the Commonwealth and State governments to enhance awareness of and accessibility to assistance programs. At the commonwealth level, the Business Entry Point website provides a one stop business portal that is designed to bring together all jurisdictions' assistance programs and government requirements. In Victoria, Business Victoria manages an internet portal that provides information about a range of commonwealth, state and local programs. The Committee commends these types of initiatives but notes that the portals are not manufacturing specific, which may make it difficult for companies to decipher what is relevant to them.

The Committee also heard from witnesses that government grants and assistance programs tend to favour larger companies. In its submission to the Inquiry, the Plenty Food Group indicated there is a perception among its members that government assistance is often restricted to larger companies. This was viewed as a consequence of the conditions placed on grant recipients being too specific, and not always relevant to smaller manufacturers. The Plenty Food Group also expressed concern with the 12 month funding period associated with many grants, given the difficulty for SMEs to plan within and beyond that time period.<sup>458</sup>

The level of resources required to apply for grants and assistance programs was also viewed as favouring larger companies over SMEs. According to the AiG, small business operators typically have limited capacity to seek out sources of government assistance, with many assuming a poor trade-off between search and application and the extent of practical or financial support.<sup>459</sup> Mr Joseph of IP Plastics made a similar point in his presentation to the Committee:

From what we can see – and this is from a number of other smaller companies that we deal with – some of them say, 'Look, we're not interested in going for government grants because we get tied up in the paperwork and presentations. We spend a lot of money, and we don't get

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<sup>456</sup> Glenda Graham, Executive Director, Victoria Division, Engineers Australia, *Transcript of evidence*, 7 August 2009, p. 12.

<sup>457</sup> Paul Dowling, Executive Officer, South East Melbourne Manufacturers Alliance Inc, *Transcript of evidence*, 18 August 2009.

<sup>458</sup> Plenty Food Group, *Submission*, no. 53, 24 August 2009.

<sup>459</sup> Australian Industry Group, *A new Victorian industry and manufacturing strategy*, Melbourne, 2008.

anything at all. We're better off just keeping our money'. It is almost like some money does not go into innovation because it is put into preparing your documentation to try to get a grant, which you may or may not get.<sup>460</sup>

The Committee is also aware that compliance requirements for grants and assistance programs can be costly and overly burdensome, although it recognises that governments need to ensure a level of transparency and accountability when providing funding.

**Finding 20:** The level of resources required to apply for and comply with grants and assistance programs can act as a deterrent for smaller manufacturing firm participation.

During its international investigations, the Committee was impressed by the substantial resources dedicated to providing manufacturing businesses with comprehensive, easy-to-access information about the services and programs available across all levels of government. In Wales, for example, the *Flexible Support for Business* program provides assistance to businesses of all sizes in Wales, and facilitates contact between Welsh businesses and support services within the public, private and voluntary sectors.<sup>461</sup> The service is free of charge and includes a wide variety of advice from business to environment management support. Key features of the service include:

- a gateway that includes a single website, a national phone number, and in-person contact through a network of local centres;
- dedicated relationship managers to support the development of strategically important businesses by building a package of relevant tailored support; and
- a Single Investment Fund from which financial and specialist support to businesses is funded.<sup>462</sup>

The *Flexible Support for Business* program has a team of business managers, each with responsibility for a portfolio of companies, with the aim of each manager to support and expand businesses.<sup>463</sup> The program is structured around a hierarchy of 7 tiers of SMEs and businesses. Tier 1 is comprised of iconic Welsh enterprises, that conduct significant R&D, and are large employers, or are a key employer in a particular site. Tier 2 companies are larger companies or multinationals; most with foreign ownership, and Tier 3 companies are typically smaller SMEs, with less than 50 employees. *Flexible Support for Business* provides one account manager for every ten Tier 1 companies, with Tier 2 account managers

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<sup>460</sup> Lloyd Joseph, Managing Director, IP Plastics Pty Ltd, *Transcript of evidence*, 22 January 2010, p. 4.

<sup>461</sup> Welsh Assembly Government, 'Flexible support for business', viewed 25 May 2010, <[www.fs4b.wales.gov.uk](http://www.fs4b.wales.gov.uk)>.

<sup>462</sup> Welsh Assembly Government, 'Flexible support for business', viewed 25 May 2010, <[www.fs4b.wales.gov.uk](http://www.fs4b.wales.gov.uk)>.

<sup>463</sup> Keith Palmer, Head of Business Support, South East Wales, Business Support Wales, *Meeting*, Cardiff, 8 February 2010.

providing assistance to 25 companies, and each Tier 3 account manager responsible for 50 companies.<sup>464</sup>

The objective of the Single Investment Fund is to provide single, one-stop funding for clients, so that businesses seeking support or assistance are not required to sift through a diverse and confusing range of individual grants and programs. The Committee was interested to hear, however, that the aim of the Single Investment Fund in Wales was not simply to aggregate the various government programs and grants, but rather to simplify the identification and application process for clients.<sup>465</sup> Rather than businesses identifying which grants to apply for, *Flexible Support for Business* identifies opportunities for clients; so that as far as clients are concerned, there is a single fund.<sup>466</sup> This reduces the burden on clients knowing what is out there; identifying which funds to apply for; and making repetitive applications to similar funding programs.

The North West Regional Development Agency no longer offers grants and similar incentives to local manufacturers to relocate to Manchester, instead arguing that the provision of advice about available services, low-cost or free access to lean- and agile-manufacturing consultants, and effective mapping and information about business clusters, provides better assistance to businesses and improved value for money to government.<sup>467</sup> Similarly, a major focus of the government-funded local development agency in London is on the provision of information that draws together, in a comprehensive way, information about all services available from government to businesses. Similar services are provided by governments in France and Germany.<sup>468</sup>

Through the course of its investigations, the Committee has become aware of the range and number of programs available to manufacturing businesses through various levels of government. These programs cover most of the areas addressed by government manufacturing and business support programs internationally, and in the Committee's view, provide a good foundation for development of future programs in support of industry. However, the Committee is concerned that insufficient support is available to manufacturing businesses, particularly SMEs, to identify and participate in the various programs offered by government.

In recognition of the important role of SMEs in the local economy, the Committee believes it essential that SMEs be provided with the same level of access as larger companies to government grants and assistance programs. In particular, SMEs should not be deterred from applying for government assistance as a consequence of resource-intensive application processes and/or reporting requirements. On this basis, it is important that Victorian Government agencies strike a balance when

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<sup>464</sup> Keith Palmer, Head of Business Support, South East Wales, Business Support Wales, *Meeting*, Cardiff, 8 February 2010.

<sup>465</sup> Keith Palmer, Head of Business Support, South East Wales, Business Support Wales, *Meeting*, Cardiff, 8 February 2010.

<sup>466</sup> Keith Palmer, Head of Business Support, South East Wales, Business Support Wales, *Meeting*, Cardiff, 8 February 2010.

<sup>467</sup> Paul Fewtrell, Head, North West Manufacturing Advisory Service, *Meeting*, Manchester, 9 February 2010.

<sup>468</sup> Paolo Fazzi, Executive, London Manufacturing Advisory Service, *Meeting*, London, 11 February 2010.



developing programs, which allow program recipients to meet compliance requirements while not diverting their resources away from their core business.<sup>469</sup>

To minimise the efforts required of manufacturing SMEs to seek and apply for government grants and assistance programs, a network of business advisers should be established, with the intention of placing at least one adviser in each of the Victorian Business Centres. The business advisers should be responsible for working solely with manufacturers to identify appropriate assistance programs; help them complete applications; and guide them through approval processes if necessary. They would also regularly liaise with the Enterprise Connect and ICN networks to ensure they are all updated on new opportunities and emerging areas of growth, as well as provide advisers with an extended reach of potential clients. Upon establishment of the network, the Victorian Government should conduct a targeted promotional campaign to ensure that local manufacturers are aware of the service.

Recommendation 6: That the Victorian Government establish a network of manufacturing business advisers that work solely with manufacturing firms to identify and apply for appropriate assistance programs offered by both the Commonwealth and Victorian Governments.

The Committee also believes there is potential merit in the Victorian Government examining whether a new 'front end' system for grants applications could be introduced for manufacturing businesses, emulating the Single Investment Fund model of the Welsh Assembly Government. The Committee believes the introduction of a standardised process for grants applications, facilitated by the manufacturing business advisors described in Recommendation 6, would reduce the administrative and labour burden on manufacturing businesses – and particularly SMEs – who seek to participate in government support programs.

Recommendation 7: That the Victorian Government consider introduction of a simplified front-end grant identification and application process for manufacturing businesses, based on the Single Investment Fund model employed by the Welsh Assembly Government.

## 6.2.4 Attaching conditions to government grants

Throughout the course of the Inquiry, the Committee heard that there were opportunities for governments to improve the grants system by attaching specific conditions to funds for recipient firms. Some witnesses also argued that, in terms of encouraging medium to long term production in Victoria, incentives such as tax breaks or other ongoing business support from government was more appropriate than one-off grants.

The Committee recognises that there is a role for government in the provision of both one-off grants and support over extended periods, depending on the objectives of a given policy. Particularly in the area of grants provision, however, government should ensure that conditions

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<sup>469</sup> House of Representatives Standing Committee on Economics Finance and Public Administration, *Australian manufacturing: today and tomorrow*, Canberra, 2007.

attached to the grant are transparent, and that the objective of the grant is clear. The Committee was told that, on some occasions, there was insufficient follow up with grant recipients by government to ensure that the grant had been used appropriately:

A lot of these companies get the money and they do not have any post-grant evaluation. They haven't used the grants to better Australia and that is where probity issues—and I am glad it is on the terms of reference. It is ultra critical. If the taxpayers are paying \$1 million for a company to improve itself you expect that the company would improve over a period of time, and return to the economy a return. It is nice going in and buying a new Mercedes with money from the government.<sup>470</sup>

The Committee was interested to hear that in Wales, grant recipients are generally required to remain in the country for a certain period after receiving a grant. In order to ensure that government grants are attached to outcomes, one or more of the following conditions are negotiated under the Single Investment Fund program:

- grant retrospectivity, where grants are paid after agreed targets are performance measures are reached;
- conditional grants, with draw down in tranches rather than as lump sums; and
- legal right of claw back by the government when conditions of agreement are not honoured. In the case of multinational agreements, clawback provisions are entered into with the parent company.<sup>471</sup>

Mr Tim McLean, of TXM Ltd, also suggested that ongoing government incentives, such as tax breaks, should also be structured to ensure that businesses maintain a presence in the country over an agreed period of time – and that if this does not occur, the cost to government is not unreasonable:

I think ongoing incentives — things like payroll tax holidays and other tax incentives that require the company, for instance, to employ people in Australia and pay payroll tax before it can benefit from the payroll tax holiday — are probably a more efficient way of supporting those companies to invest. It is not in your realm, but similarly with company tax breaks you have to actually make a profit in the jurisdiction to pay the company tax to benefit from the company tax break. If you pull up stumps after two years, then you do not get your company tax break.<sup>472</sup>

The Committee recognises that there are probably few occasions when grants to companies for capital purchases result in the transfer of those assets offshore, and that in the vast majority of cases, government incentives such as grants do result in intended, positive outcomes for

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<sup>470</sup> Giuseppe Boemo, Managing Director, Sprint Gas Australia Pty Ltd, *Transcript of evidence*, 7 August 2009, p. 14.

<sup>471</sup> Keith Palmer, Head of Business Support, South East Wales, Business Support Wales, *Meeting*, Cardiff, 8 February 2010.

<sup>472</sup> Timothy McLean, Principal and Director, TXM Pty Ltd, *Transcript of evidence*, 30 November 2009, p. 3.

taxpayers. The Committee also recognises that government grants will generally be contingent on delivery of agreed outcomes.

Finding 21: Mechanisms such as grant retrospectivity, conditional grants and claw back agreements provide governments with security to ensure government support for industry maximises returns to the taxpayer.

## 6.3 National manufacturing strategies

Throughout the course of the Inquiry, the Committee was told by witnesses that inconsistent policies, regulations, and a multitude of grants and assistance programs between various jurisdictions constrained businesses seeking to operate in the national, Australian market. Witnesses argued that the manufacturing sector could potentially benefit from a nationally coordinated approach. The Committee was also told that the manufacturing sector was worthy of a national approach given its current and future contribution to the Australian economy. A national approach would assist strengthen the sector through identification of areas of comparative advantage and barriers to growth, as well as provide justification for the provision of grants and assistance programs.

Engineers Australia was among the organisations in support of this proposal, with its submission stating that:

The overarching recommendation by Engineers Australia is that a strategic vision for the manufacturing sector must be developed and supported by a national manufacturing policy. The manufacturing policy should be directed by the existing Future Manufacturing Industry Innovation Council and guided by a ministerial forum under the Council of the Australian Government COAG to review progress and consider forward strategies.<sup>473</sup>

The AWU also advised in its submission that the AWU - Australian Manufacturing Workers' Union (AMWU) Manufacturing Alliance had identified the need for a national action plan with a focus on the following areas:

1. How best to add value to Australia's natural resources with more investment in downstream processing with world class environmentally sustainable technologies and facilities.
2. How best to develop the capability and proprietary intellectual property to grow a net generation of global firms anchored here in Australia including in the \$6 trillion low carbon and environmental goods and services industry.
3. How best to develop firm and industry level capability to forge work organisation change and skill formation into a major competitive advantage to win international business opportunities at home abroad.
4. How best for manufacturing firms and unions to work with schools, young Australians, their parents and teachers and communities to improve the image of our industry and attract the best and brightest to careers in manufacturing.

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<sup>473</sup> Madeleine McManus, State President, Victoria Division, Engineers Australia, *Transcript of evidence*, 7 August 2009, p. 3.

5. How best to manage the impact of the next boom, its impact through Australia's terms of trade on the exchange rate and the nation's capacity to respond to a downturn should it happen again.<sup>474</sup>

Furthermore, the Commonwealth parliamentary report *Australian manufacturing: today and tomorrow* recommended that the "Government develops a strategic Australian manufacturing policy, including regional strategies, to supplement existing industry policy."<sup>475</sup> The Committee notes the efforts of the State and Territory governments to establish a national manufacturing forum in December 2005, following the facilitation of a national manufacturing summit by ministers with responsibility for manufacturing. The summit was attended by 230 delegates representing industry, industry organisations, trade unions and research institutions. There was broad consensus across the summit that collective action is required for the development of a national manufacturing strategy in order to secure the sector's future as an innovative global supplier.<sup>476</sup>

The Committee heard that policy areas that would potentially benefit from national coordination include the procurement of train rolling stock and standardisation, workforce development, and exporting.<sup>477</sup> In the context of exports, the Committee notes the recommendation of the Victorian Government to the Commonwealth review of export policies and programs that a national export strategy and liberalisation agenda be established to place Australian companies on equal footing with their competitors.<sup>478</sup>

The Committee also notes that there are a number of areas in which government support to industry has become extremely complex, for a number of reasons, including the diverse range of grants and concessions available to businesses; and separate but related services such as the Victorian Business Centres, the ICN, the Enterprise Connect Centres, and the various other industry and research advice and services provided through the three levels of government, and across jurisdictions.

While the support and programs offered across levels of government may be comprehensive, it does not appear to the Committee that they are sufficiently integrated. In order to provide the most effective outcomes for expenditure on manufacturing business support by the Commonwealth, states and local government, programs should be placed within an overall strategy that ensures they are complementary, focused, and sufficiently focused on target segments of industry. Consequently, the Committee believes there is a need to develop a national, integrated approach to coordinate support offered to manufacturing businesses across all levels of government, by means of a national manufacturing strategy.

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<sup>474</sup> Australian Workers' Union, *Submission*, no. 48, 18 August 2009, p. 9.

<sup>475</sup> House of Representatives Standing Committee on Economics Finance and Public Administration, *Australian manufacturing: today and tomorrow*, Canberra, 2007, p. 39.

<sup>476</sup> National Manufacturing Forum, *Strategic actions to boost Australian manufacturing*, 2006.

<sup>477</sup> Australasian Railway Association and Australian Railway Industry Corporation, *Submission*, no. 40, 7 August 2009; Bombardier Transportation Australia Pty Ltd, *Submission*, no. 51, 21 August 2009; David Mortimer, *Winning in world markets: review of export policies and programs*, Canberra, 2008.

<sup>478</sup> Department of Innovation Industry and Regional Development, *Building our industries for the future*, Melbourne, 2008.

The Committee is of the view that a national manufacturing strategy could focus on discrete areas that will enhance the competitiveness of the Australian manufacturing sector. As part of this, State and Territory governments would still maintain responsibility for policy initiatives relevant to their local manufacturing sectors. The development of a national plan could be administered through the Council of Australian Governments (COAG).

Recommendation 8: That the Victorian Government request that the Council of Australian Governments consider development of a national manufacturing strategy.

### 6.3.1 National coordination of rail procurement

In the context of train rolling stock, the Committee heard from a number of witnesses regarding the potential for a coordinated government approach to rail procurement to enhance Australia's rail manufacturing industry. The joint submission of the Australasian Railway Association (ARA) and the Australian Railway Industry Corporation (ARIC) stated that the most significant issue for suppliers within the rail industry is the "boom and bust nature of investment that occurs across the industry."<sup>479</sup> According to the ARA and the ARIC, there has been little coordinated planning on rolling stock requirements for many years, making it very difficult for the industry and its suppliers to plan and invest in R&D. Bombardier, the ARA and ARIC proposed that the Commonwealth, State and Territory governments pursue national co-ordination for the procurement of train and tram rolling stock, including planning and local content requirements.<sup>480</sup> As stated by Bombardier:

There would be considerable benefit to Australian railway producers if there was a co-ordinated States and Territories approach to the procurement of train and tram rolling stock, given that more than \$10 billion worth of orders are already or shortly to be placed. Bombardier believes that such an approach should consider the benefits of similar local content requirements, and smoothing the lumps from procurement orders so that local industry has the capacity to plan, design and produce the rolling stock (which could be up to 5 years).<sup>481</sup>

The Committee is of the opinion that valuable opportunities to support and sustain Australian rail manufacturers are being lost because rail procurement by state governments is conducted independently of one another. This is also likely to occur with various major infrastructure programs across Australia, adversely impacting other industries and their capacity to plan for the future. The Committee believes there is substantial merit in the state government approaching other jurisdictions to consider coordination of major infrastructure projects, including rail procurement, in order to provide a long term and sustainable environment for various industries within the Australian manufacturing sector.

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<sup>479</sup> Australasian Railway Association and Australian Railway Industry Corporation, *Submission*, no. 40, 7 August 2009, p. 7.

<sup>480</sup> Australasian Railway Association and Australian Railway Industry Corporation, *Submission*, no. 40, 7 August 2009; Bombardier Transportation Australia Pty Ltd, *Submission*, no. 51, 21 August 2009.

<sup>481</sup> Bombardier Transportation Australia Pty Ltd, *Submission*, no. 51, 21 August 2009, p. 24.

Recommendation 9: That the Victorian Government approach the Commonwealth and other State and Territory governments with a view to coordinating rail procurement and other major infrastructure projects across Australia.

Another issue of particular importance to the rail industry is the variations in standards, regulations and infrastructure between Australian jurisdictions. In his presentation to the Committee, Mr Bryan Nye, Chief Executive Officer of the ARA, advised of the inefficiencies currently associated with lack of standardisation in the rail industry, and argued for the benefits of moving towards national standardisation of rail components:

We have 22 different radio networks across Australia. The Indian Pacific, when it leaves Sydney to go all the way across to Perth, has eight radio sets and 345 kilograms of equipment, but it cannot talk to another locomotive anywhere across the network.<sup>482</sup>

The national standardisation of components is a huge issue for us. I will give you an example: the same rail carriage is built in Maryborough in Queensland for Queensland Rail and Western Australia. They are both built for narrow gauge rail; they are both the same carriage if you look at them exactly. However, there are 653 differences between them. It is all about different specifications. Each state has a different crash-worthiness test and a different thickness-of-glass standard. I mean the one thing we could change very quickly is we could move to a standardisation of components, because we would actually reduce the cost to Australian manufacturing dramatically. That is something that is part of the history. We all know we have different gauges. We have just grown up that way, but we cannot survive if we are going to continue to do that.<sup>483</sup>

The Committee recognises that discussions surrounding variations in rail standards have occupied Australian governments for some time. However, the Committee would like to draw attention to the substantial benefits integrated rail standards would have for transportation networks within Australia, particularly as improvements in rail transportation would likely substantially assist the Australian manufacturing sector.

Consequently, the Committee recommends that the Victorian Government work with other Australian governments toward minimising variations in standards and regulations across the national rail network. The Victorian Government should work through COAG, and with the National Transport Commission (NTC), to coordinate a program for the development of uniform standards and regulations for rail transport. The program could draw upon experiences of the NTC in developing the office of the National Rail Safety Regulator, which is due to commence in Adelaide in 2012.

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<sup>482</sup> Bryan Nye, Chief Executive Officer, Australasian Railway Association, *Transcript of evidence*, 28 October 2009, p. 4.

<sup>483</sup> Bryan Nye, Chief Executive Officer, Australasian Railway Association, *Transcript of evidence*, 28 October 2009, p. 4.

Recommendation 10: That the Victorian Government request that the Council of Australian Governments and the National Transport Commission (NTC) commence a program toward development of uniform standards and regulations for rail transport, building on experience obtained by the NTC through the establishment of the National Rail Safety Regulator.

## Chapter Seven: Key points

Australian standards can make businesses more competitive through linking locally made products with global markets. Standards also protect the broader community through ensuring quality of goods and manufactured products, as well as provide for the health and safety of Australians.

Standards are most effective when they are harmonised, and are consistently observed and enforced. While there is limited capacity to actively monitor compliance with standards as products are developed or prior to them going to market, there are mechanisms to enhance compliance with standards through the use of third party certification. In particular, governments can encourage higher take-up of certification through their procurement policies.

Regulatory environments can also have a substantial effect on business activity and on the attraction of offshore businesses. An ongoing issue for Australia is inconsistent regulation between the States and Territories, which can create problems for businesses operating across jurisdictions, or for businesses making products for markets across the states. The Victorian Government has undertaken a number of reforms directed toward harmonisation of regulations, and for minimising compliance costs to business.



## Chapter Seven: Enhanced standards and regulations for manufacturing

The regulatory environment created by governments has a substantial effect on the operations of businesses and industries within the economy. As one of the key areas over which the government has influence, most of the submissions and public evidence presented to the Committee considered some aspect of regulation – taxation, local planning requirements, and the enforcement of standards, for example. This Chapter considers some issues surrounding implementation and enforcement in the use of standards in Victoria as they affect the manufacturing sector, and then follows with a consideration of key aspects of the regulatory environment.

The harmonisation of standards and regulations is a recurrent topic of interest for government, and particularly in Australia, where the regulatory requirements of federal, state and local governments interact and, on occasion, overlap. The Committee recognises that refinement of regulations and standards is an ongoing process, that in many cases, will require agreements between different levels of government. Toward this end, the Committee acknowledges the submission from the Australian Food and Grocery Council (AFGC), which suggested that the following principles be observed in the development of regulations for the food and grocery sector (and, by extension, for all regulation):

- a. [that] issues to be addressed and the outcomes to be sought must be clearly identified;
- b. evidence and fact-based approaches, including practicality factors, must underpin any market interventions;
- c. appropriate tools such as science based-risk assessment must be used to determine costs and benefits;
- d. stakeholders, particularly those required to implement and pay for any changes in regulations, must be consulted, and reasonably heeded; and
- e. all potential policy instruments must be considered, with only the most cost effective for the community being adopted.<sup>484</sup>

### 7.1 Australian standards

During the course of the Inquiry, a number of witnesses drew the Committee's attention to the role of Australian standards in the Australian

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<sup>484</sup> Australian Food and Grocery Council, *Submission*, no. 42, 11 August 2009, p. 19.

manufacturing sector, and the impact that the application of (or failure to apply) standards to manufacturing operations can have on local industry.

Standards fulfil an important role in Australia, not only as a means to ensure quality of goods and manufactured products, but also as a means to provide for the health and safety of Australians. According to the Productivity Commission, there is a high usage of standards because:

- they play a pivotal role in facilitating market exchange: distant parties unknown to each other are able to share expectations on the qualities of products and processes, and ensure compatibility;
- international standards facilitate international trade, global transport, communication and technological innovation;
- they provide consumers with greater certainty about the quality and safety of products; and
- they are increasingly used by governments to address concerns about social issues and the environment.<sup>485</sup>

In Australia, standards are principally developed by Standards Australia, which is recognised by the Commonwealth Government as the peak non-government standards body. Standards Australia is a not-for-profit membership-based organisation that coordinates standardisation activities and facilitates the development of Australian standards by working with governments, industry and the community.<sup>486</sup> The Committee was told by Mr Colin Blair, the Deputy Chief Executive Officer of Standards Australia, that Standards Australia facilitates the development of standards according to a consensus model, which involves “rigorous, transparent and unbiased processes, ensuring that all competing interests are heard, that differing points of view are considered and that consensus outcome is reached.”<sup>487</sup>

Standards Australia facilitates the development or amendment of a standard where there is broad stakeholder support and if it can be demonstrated that it will generate net benefit to Australia.<sup>488</sup> Net benefit is defined in this context as “having an overall positive impact on relevant communities”, taking into consideration costs and benefits associated with the following criteria:

- public health and safety;
- social and community impact;
- environmental impact;
- competition; and

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<sup>485</sup> Productivity Commission, *Standard setting and laboratory accreditation*, Canberra, 2006, p. xv.

<sup>486</sup> Standards Australia Limited, *Submission*, no. 64, 22 October 2009.

<sup>487</sup> Colin Blair, Deputy Chief Executive Officer, Standards Australia, *Transcript of evidence*, 29 October 2009, p. 2.

<sup>488</sup> Standards Australia Limited, *Submission*, no. 64, 22 October 2009.

- economic impact.<sup>489</sup>

The Committee was told that Standards Australia currently maintains a catalogue of 7000 Australian standards, with around 400 further standards under development.<sup>490</sup> Approximately one third of the 7000 existing standards are referenced in legislation, providing governments with an important tool to prescribe consumer protection requirements for goods, classes of goods, or practices that may pose risks to consumers.<sup>491</sup>

A key purpose of standards is to facilitate international commerce and trade.<sup>492</sup> Toward this end, the Memorandum of Understanding between the Commonwealth Government and Standards Australia requires that:

[w]hen preparing Australian Standards, Standards Australia will, in accordance with Articles 3 and 4 of the WTO TBT Agreement, utilise accepted international standards to the maximum extent possible and will only depart from this practice where there are compelling reasons to do so.<sup>493</sup>

As part of its role, Standards Australia provides the direct link between national and international standardisation. At present, approximately 35 per cent of Australian standards are adoptions or modifications of international standards.<sup>494</sup>

### 7.1.1 The role of standards in the Australian manufacturing sector

In its submission to the Inquiry, Standards Australia advised that there is a significant overlay of Australian standards that directly impact all aspects of manufacturing operations. Standards Australia argued that the observation of standards by the manufacturing sector provides the following benefits:

- standards boost Australian productivity and production – standards can save companies time and money through cutting production and energy costs, driving economies of scale, promoting use of common parts and specifications, and fostering new technologies;
- standards make Australian businesses more competitive – products that comply with Australian standards are considered to have a competitive edge over products that do not comply. In addition, Australian companies that comply with international standards have an advantage when they move into overseas markets;
- standards protect Australians – complying with standards provides companies and consumers with the confidence that the goods they are developing or using are safe and will achieve their intended

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<sup>489</sup> Standards Australia Limited, *Submission*, no. 64, 22 October 2009.

<sup>490</sup> Standards Australia Limited, *Submission*, no. 64, 22 October 2009.

<sup>491</sup> Colin Blair, Deputy Chief Executive Officer, Standards Australia, *Transcript of evidence*, 29 October 2009.

<sup>492</sup> Standards Australia Limited, *Submission*, no. 64, 22 October 2009.

<sup>493</sup> Standards Australia Limited, *Submission*, no. 64, 22 October 2009, p. 3.

<sup>494</sup> Standards Australia Limited, *Submission*, no. 64, 22 October 2009.

purpose. Standards also help consumers make everyday choices between one product and another;

- standards link Australia to the world – standards ensure that products manufactured in one country can be sold in another. On this basis, standards reduce technical barriers to international trade; and
- standards complement Australian regulation and make markets work better – as indicated previously, around one third of Australian standards are referenced in Commonwealth, State and Territory legislation. They are also referenced in the Building Code of Australia and the *Trade Practices Act 1974*.

Finding 22: Standards play an important role in the Australian manufacturing sector. They boost productivity levels; help businesses enhance their competitiveness; link locally made products with global markets; and make markets work better through complementing the regulatory system.

## 7.1.2 Compliance with standards

While the potential benefits associated with the use of standards are substantial, this can only occur where standards are effectively harmonised with one another, do not overlap, and where they are consistently observed. Furthermore, if standards are to be effective as a means to promote safety or quality, products that comply with the standards must be identifiable – either through a process that ensures all products in a market comply with the standard (through testing or accreditation), or by means of documentation or branding (certification or labelling, for example). Where neither of these occur, there is a risk that manufacturers who comply with standards will be disadvantaged compared with those who do not.

The Committee received extensive evidence about non-compliance of products manufactured outside Australia, with some witnesses describing incidents that posed serious safety risks. For example, Mr Don McDonald, Chief Executive of the Australian Steel Institute, referred to an incident where failure to conform to a standard resulted in a workplace death:

...an iron ore mine in Western Australia, a BHP Billiton mine, that imported floor grating that was not to Australian standards, which meant that the gap in the grating was bigger than it should have been. A piece of scaffold tube fell down and killed a workman as result of that, so BHP put out a hazard alert on that. That was a very serious recent nonconformity.<sup>495</sup>

In providing evidence to the Senate Standing Committee on Environment, Communications and the Arts' *Inquiry into the Energy Efficient Homes Package*, the Polyester Insulation Manufacturers Association of Australia stated that the Commonwealth Government's Home Insulation Program required that Australian standards be met, however, there was no effective mechanism to ensure compliance with the standards:

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<sup>495</sup> Don McDonald, Chief Executive Officer, Australian Steel Institute, *Transcript of evidence*, 29 October 2009, p. 10.

...[c]onsequently there has been a flood of materials imported to Australia which both do not meet Australian standards for performance materials, and represent a significant respiratory health risk to both installers and householders due to excessive levels of formaldehyde which is also a known carcinogen.<sup>496</sup>

The Committee also heard evidence highlighting examples of imported products that were low in quality and did not comply with relevant standards. Mr McDonald noted, for example, the EastLink project:

...where the guardrail posts and gantries were all imported from China. With the guardrail posts there was independent measurement testing. A significant number of them, more than 30 per cent, were under thickness, under spec[ification], by something like 25 per cent...We understand the sign gantries imported from China were so substandard in terms of welding and steel quality that they were sent to the scrap yard.<sup>497</sup>

Furthermore, in its submission to the Inquiry, the Furnishing Industry Association of Australia (Vic/Tas) stated that:

One of the problems with furniture imports is that they very often are not of the quality and standard of the locally made product. However, industry equally has a problem in that there are very few mandatory standards for the industry. Imported product does not have to comply voluntary standards but it must comply with mandatory standards.<sup>498</sup>

The Confectionary Manufacturers of Australia (CMA) stated in its submission:

Over sixty per cent of confectionary on sale is not compliant with Australian food laws. The vast majority of non-compliant products are imported into Australia. While life-threatening breaches are enforced, most go undetected or penalised.<sup>499</sup>

MaxiTRANS Australia stated in its submission:

Semi-trailers imported into Australia must meet Australian Design Rules (ADRs) but they do not have to meet any other Australian standards in respect of safety or welding quality. The result is that imported trailers may be a safety hazard on Australian roads despite meeting the limited requirements of ADRs. Naturally, not all imported trailers are a safety hazard, but the lack of regulation leaves this door open to the unscrupulous importer.<sup>500</sup>

Aside from the safety and quality risks associated with non-compliance of imported products, the Committee notes that these products are more likely to be sold in the domestic market for a lower price than products manufactured locally which comply with relevant standards. Consequently,

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<sup>496</sup> PIMAA, *Submission*, 18 December 2009, Inquiry into Energy Efficient Homes, Senate Standing Committee on Environment, Communications and the Arts, Australian Senate.

<sup>497</sup> Don McDonald, Chief Executive Officer, Australian Steel Institute, *Transcript of evidence*, 29 October 2009, p. 5.

<sup>498</sup> Furnishing Industry Association of Australia (Vic/Tas) Inc, *Submission*, no. 12, 31 July 2009, p. 2.

<sup>499</sup> Confectionery Manufacturers of Australasia Limited, *Submission*, no. 46, 17 August 2009, p. 1.

<sup>500</sup> MaxiTRANS Australia Pty Ltd, *Submission*, no. 22, 3 August 2009, p. 8.

there is a real risk to domestically-manufactured products from the inconsistent application of standards to imported products.

Finding 23: Non-compliance of imported or locally made products with Australian standards may pose serious quality and safety risks to consumers. As these products are often sold in the domestic market for a lower price, manufacturers that comply with standards are also placed at a disadvantage.

In evidence presented to the Committee, Mr Blair of Standards Australia explained that the role of Standards Australia is to facilitate the development of standards rather than to audit compliance.<sup>501</sup> The Committee is aware that avenues exist for the enforcement of standards, with mandatory standards referenced in government regulations, and other voluntary standards being enforced by consumer protection bodies, such as the Australian Competition and Consumer Commission, upon receipt of a complaint about a product. The Committee notes, however, that there is limited capacity to actively monitor compliance with standards as products are developed or prior to them going to market. The Committee expects that while reputable manufacturers would comply with standards in order to generate credibility and signal to consumers that their products are of high quality and safety, there is less certainty about the compliance of imported products, particularly those from developing economies.

In responding to issues of non-compliance, the Committee does not believe that mandating standards is appropriate, particularly when considering the extensive work of the Council of Australian Governments (COAG) to reduce the regulatory burden on businesses. The Committee notes, however, the use of third party certification of products as a mechanism to enhance compliance with standards and provide consumers with a level of quality and safety assurance. In its report on standards, the Productivity Commission discussed the notion of “conformity assessment”, which is used to determine whether certain requirements embodied in standards are fulfilled.<sup>502</sup> The Productivity Commission stated that conformity assessment occurs on two levels: firstly, there is the direct assessment of products through testing, inspection and certification; and secondly, there is the accreditation of the testing bodies, which the Productivity Commission describes as “checking the checkers.”<sup>503</sup>

In Australia, the National Association of Testing Authorities (NATA) is recognised as the national authority for the accreditation of laboratories. Its accreditation provides a means of formally recognising the competence of facilities to perform specific types of testing and inspection. This accreditation then provides facilities with the capacity to officially certify companies’ overall compliance with systems and products standards. The Committee is aware that many manufacturers use NATA accreditation to

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<sup>501</sup> Colin Blair, Deputy Chief Executive Officer, Standards Australia, *Transcript of evidence*, 29 October 2009.

<sup>502</sup> Productivity Commission, *Standard setting and laboratory accreditation*, Canberra, 2006.

<sup>503</sup> Productivity Commission, *Standard setting and laboratory accreditation*, Canberra, 2006, p. XXV.

ensure the testing of their products by their own in-house laboratories is performed correctly.<sup>504</sup>

As part of its accreditation program, NATA is involved in developing uniform laboratory standards across the world to ensure that accreditation arrangements do not act as a barrier to international trade. In this context, uniform laboratory standards aim to provide companies and consumers with the confidence that all accredited laboratories, regardless of their location, are of a similar standard:

...NATA has recently negotiated voluntary mutual recognition arrangements which commit NATA, and other members, to recognise the results of each other's accredited laboratories, and to promote this equivalence in their own country. These arrangements have evolved from a few countries entering agreements ten years ago, to now involving accreditors in over 40 countries, covering 90 per cent of world GDP. Generically, these arrangements reduce the need for retesting, thus increasing the scope for trade...<sup>505</sup>

The Committee acknowledges the value of products receiving third-party certification as a mechanism to ensure compliance with standards, and is of the view that all local manufacturers and suppliers of imported products should be encouraged to obtain certification. The Committee understands that companies cannot be compelled to obtain certification, although it does believe the Victorian Government can encourage a higher take-up of certification through its procurement practices. On this basis, the Committee suggests that the Victorian Government require that agencies specify in project briefs for public projects that materials sourced for the project be tested by NATA or equivalent accredited laboratories. This will provide the Victorian Government with the confidence that projects comply with the relevant standards and are fit for the purpose for which they were sold.

**Recommendation 11: That the Victorian Government ensure that project briefs for public project tenders require materials sourced for the project be certified to comply with relevant Australian standards.**

The Committee is also aware that the Commonwealth Government requires that pathology facilities whose tests attract Medicare benefits be tested by NATA-accredited laboratories.<sup>506</sup> As long as documentation is provided to demonstrate certification, this requirement could be an effective mechanism to ensure products or systems used in government programs comply with relevant standards. The Committee believes the Victorian Government should incorporate this requirement into its programs that involve receipt of a subsidy upon use of prescribed products or systems. Program recipients must provide documentation to demonstrate that products or systems are certified by an accredited testing facility.

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<sup>504</sup> National Association of Testing Authorities, 'About NATA', viewed 24 June 2010, <[www.nata.asn](http://www.nata.asn)>.

<sup>505</sup> Productivity Commission, *Standard setting and laboratory accreditation*, Canberra, 2006, p. XXVIII.

<sup>506</sup> National Association of Testing Authorities, 'What is accreditation?', viewed 24 June 2010, <[www.nata.asn](http://www.nata.asn)>.

Recommendation 12: That the Victorian Government require, as part of its grant and assistance programs that provide subsidies for use of prescribed products or systems, that recipients demonstrate that the products or systems used have received appropriate certification.

## 7.2 Regulatory reform

The Committee received evidence from submissions and witnesses drawing its attention to the deleterious effect inconsistent regulation between the states, Commonwealth and local government can have on businesses.<sup>507</sup> According to the Organisation for Economic Co-operation and Development (OECD), the single most reported demand from the Australian business lobby is the development of nationally consistent regulatory systems where there are shared responsibilities between the Commonwealth, State and Territory governments.<sup>508</sup>

The 2006 final report of the Commonwealth Taskforce on Reducing Regulatory Burdens on Businesses, *Rethinking regulation*, indicated that the unnecessary component of compliance costs on businesses was estimated to be \$3 billion per annum.<sup>509</sup> A more recent estimate was reported in May 2009 in an AiG survey of 551 companies from manufacturing, construction and related sectors. Of the companies surveyed, 69.5 per cent reported spending between 0.1 per cent and 2.0 per cent of their total sales revenue in managing government compliance activities imposed by all levels of government. Based on total ABS sales data for the manufacturing and construction sectors, the AiG calculated that these sectors alone spent \$3.4 billion on compliance costs in 2007-08.<sup>510</sup> In the context of Victorian regulation, in 2007 the Victorian Department of Treasury and Finance estimated the administrative burden imposed by state regulation to be \$1.03 billion per annum.<sup>511</sup>

Regulatory reform has been an ongoing priority for the Commonwealth, State and Territory governments over the last 20 years, with the implementation of various initiatives contributing to significant improvements in regulatory quality. Australia's work in this area has been recognised internationally, with the OECD stating in early 2010 that Australia is regarded as "one of the front-running countries in the OECD in terms of its regulatory reform practices."<sup>512</sup>

One of Australia's most important regulatory reforms was the National Competition Policy (NCP) legislative review program, which involved the

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<sup>507</sup> Dr Geoffrey Annison, Deputy Chief Executive Officer, Australian Food and Grocery Council, *Transcript of evidence*, 23 November 2009; Australian Food and Grocery Council, *Submission*, no. 42, 11 August 2009; Shane Infanti, Chief Executive Officer, Australian Manufacturing Technology Institute Ltd, *Transcript of evidence*, 6 August 2009; Bryan Nye, Chief Executive Officer, Australasian Railway Association, *Transcript of evidence*, 28 October 2009.

<sup>508</sup> Organisation for Economic Co-operation and Development, *Government capacity to assure high-quality regulation in Australia*, Paris, 2010.

<sup>509</sup> Regulation Taskforce, *Rethinking regulation: report of the Taskforce on Reducing Regulatory Burdens on Business*, Canberra, 2006.

<sup>510</sup> Australian Industry Group, 'Ai Group industry snapshot', viewed 13 April 2010, <<http://www.aigroup.com.au>>.

<sup>511</sup> Department of Treasury and Finance, *Reducing the regulatory burden*, Melbourne, 2009.

<sup>512</sup> Organisation for Economic Co-operation and Development, *OECD reviews of regulatory reform: Australia 2010*, Paris, 2010, p. 15.



Commonwealth, State and Territory governments revising all legislation that restricted competition by 2000. The NCP reforms were instrumental in promoting economic growth in Australia in the 1990s, as well as contributing to continued growth in gross domestic product (GDP) since 2000.<sup>513</sup>

Another key initiative was the establishment of the national reform agenda stream in 2006 as a key priority of COAG. This included the three reform streams of human capital; competition; and regulatory reform, with the latter aiming to promote best practice, and reduce the administrative burden associated with identified cross-jurisdictional 'hot spots', where duplication of regulations and inconsistent regimes have adversely impacted economic activity.<sup>514</sup> The COAG Reform Council was subsequently established to assist COAG drive its national reform agenda, reporting directly to COAG.<sup>515</sup>

At the state level, the Victorian Government submission to the Committee stated that it has undertaken the following reforms:

- implemented measures to keep local business costs low and competitive, including reducing the payroll tax from 5.75 per cent in 1999 to its current rate of 4.95 per cent, which is equal second lowest in Australia;
- successive reductions in the WorkCover insurance average premium rates to ensure that WorkCover continues to have one of the lowest average premium rates in Australia;
- providing regulatory certainty for investment and minimising regulatory burdens on business. The Government indicated that it is implementing cuts to red tape worth \$1.6 billion over the next ten years;
- *Reducing the regulatory burden initiative* – an initiative of the Victorian Government to remove unnecessary red tape and support businesses and not-for-profit organisations to improve their productivity. In the 2008-09 Progress Report, the Treasurer announced a net reduction in administrative burden of \$246 million per annum. The Treasurer also announced a new \$500 million target of reduced administrative burdens by July 2012, increased from \$256 million by July 2011.<sup>516</sup>

The Committee notes that in the 2010-11 Victorian Budget the Treasurer indicated payroll tax will be further reduced to 4.9 per cent. The Treasurer also announced a 3.5 per cent cut to WorkCover premiums, reducing the

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<sup>513</sup> Organisation for Economic Co-operation and Development, *Government capacity to assure high-quality regulation in Australia*, Paris, 2010.

<sup>514</sup> COAG Reform Council, *National partnership agreement to deliver a seamless national economy: report on performance 2008-09*, Sydney, 2009.

<sup>515</sup> COAG Reform Council, *National partnership agreement to deliver a seamless national economy: report on performance 2008-09*, Sydney, 2009.

<sup>516</sup> Department of Treasury and Finance, *Reducing the regulatory burden*, Melbourne, 2009; Victorian Government, *Submission*, no. 60, 14 September 2009.

average premium rate to 1.34 per cent of an employer’s rateable remuneration.




Finding 24: Unnecessary regulatory compliance costs, particularly those relating to inconsistent regulatory regimes across Australian jurisdictions, are overly burdensome on Australian businesses. However, regulatory reform has been a stated priority of the Commonwealth, State and Territory governments, with significant improvements to the regulatory system occurring during the last twenty years.

## 7.2.1 Regulatory burden on the manufacturing sector

The Australian manufacturing sector is subject to regulations from all tiers of government, although the states typically hold more constitutional authority over the sector’s regulatory landscape, including in areas relating to land use, transport, and licences and permits.<sup>517</sup> Commonwealth regulations are also applicable to manufacturing, including set taxes and those relating to international trade.

In 2008, the Productivity Commission conducted a review of regulatory burdens on manufacturing and distributive trades businesses. Table 12 shows some of the main regulatory areas that manufacturing businesses are subject to in Australia:

**Table 12: Regulatory requirements relevant to manufacturing businesses.**<sup>518</sup>

<i>Key Australian Government involvement/regulation</i>	<i>Key stages of cycle</i>	<i>Key state/territory government involvement/regulation</i>
<ul style="list-style-type: none"> <li>• financial sector (access to finance)</li> <li>• franchising code</li> </ul>	<p><b>Acquisition of premises</b></p> 	<ul style="list-style-type: none"> <li>• land use and planning</li> <li>• building code</li> <li>• retail tenancy</li> </ul>
<ul style="list-style-type: none"> <li>• national land transport regulatory frameworks</li> <li>• trade practices</li> <li>• product regulation (labelling etc)</li> </ul>	<p><b>Distribution (larger multi-branch retailers)</b></p> 	<ul style="list-style-type: none"> <li>• transport</li> <li>• food safety</li> <li>• OHS</li> <li>• land use and planning</li> <li>• local government rates and charges</li> <li>• hazardous goods handling and transport</li> <li>• product safety</li> </ul>
<ul style="list-style-type: none"> <li>• trade practices</li> <li>• taxation compliance</li> <li>• industrial relations</li> <li>• superannuation</li> <li>• horticulture code of conduct</li> </ul>	<p><b>Operation</b></p> 	<ul style="list-style-type: none"> <li>• consumer protection</li> <li>• trading hours</li> <li>• OHS</li> <li>• industrial relations</li> <li>• food safety</li> </ul>
<ul style="list-style-type: none"> <li>• corporation law</li> <li>• redundancy provisions</li> </ul>	<p><b>Cessation of operations</b></p>	<ul style="list-style-type: none"> <li>• land use and planning</li> </ul>

<sup>517</sup> Productivity Commission, *Annual review of regulatory burdens on business: manufacturing and distributive trades*, Canberra, 2008.

<sup>518</sup> Productivity Commission, *Annual review of regulatory burdens on business: manufacturing and distributive trades*, Canberra, 2008, p. 18.

Some of the issues with regulations identified by manufacturing firms in the Productivity Commission's report included:

- excessive time to receive approval/registration for goods to be supplied to the Australian market;
- inconsistent and/or timely advice from regulators, with reports of businesses experiencing difficulties in accessing correct information on websites, as well as receiving inconsistent advice across a range of regulatory regimes;
- poor communication between regulators and businesses, leading to businesses employing experts in the areas of law, accounting and engineering to interpret regulations. This was found to be particularly problematic for small and medium-size enterprises (SMEs), who were less likely to be able to afford expert assistance;
- ineffective and ad hoc enforcement of some regulations; and
- inconsistency among jurisdictions in developing and administering regulations. This was considered an impediment to encouraging national markets and exploiting economies of scale.<sup>519</sup>

The Committee notes that the concerns raised in the Productivity Commission's report were consistent with the evidence received during the course of this Inquiry.

It is beyond the scope of this Inquiry to assess specific costs faced by each industry group in the manufacturing sector. Below the Committee draws attention to evidence it received from the chemicals and plastics industry, and the food and grocery industry, respectively, to illustrate some of the issues potentially surrounding the effect of regulation on the manufacturing sector.

#### **7.2.1.1 Chemicals and plastics industry**

In its submission to the Committee, the Aerosol Association of Australia indicated that the chemicals and plastics industry is adversely impacted by various regulatory issues.<sup>520</sup> In this regard, the Association referred to the report of the Taskforce on Reducing the Regulatory Burden on Business, *Rethinking Regulation*, which identified the industry as a priority area for review due to:

- the volume and complexity of existing chemicals and plastics regulations;
- duplication and inconsistency between Commonwealth, state and territory regulatory regimes;
- the timeliness and cost of regulatory processes;

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<sup>519</sup> Productivity Commission, *Annual review of regulatory burdens on business: manufacturing and distributive trades*, Canberra, 2008.

<sup>520</sup> Aerosol Association of Australia Inc, *Submission*, no. 35, 3 August 2009.

- inadequate recognition of international standards and approval processes; and
- overly prescriptive regulation of chemicals and plastics labelling.<sup>521</sup>

Following the release of this report, COAG identified chemicals and plastics as one of its regulatory 'hot spots' and agreed to establish a ministerial taskforce to develop measures to achieve a harmonised system of national chemicals and plastics regulation. The Productivity Commission was also commissioned in 2008 to identify how to enhance the efficiency and effectiveness of chemicals and plastics regulation, and proposed various recommendations for consideration and implementation by COAG. In late 2008, COAG agreed to a new governance structure for chemicals and plastics reform, which would involve among other things the establishment of a new Standing Committee on Chemicals to coordinate policy, oversee the institutional and regulatory arrangements and make recommendations to ministerial councils.<sup>522</sup>

The Committee notes that while there has been some progress in this area, the shift to a harmonised national system of chemicals and plastics regulation has been slow overall. The COAG Reform Council's 2008-09 annual report, *National partnership agreement to deliver a seamless national economy: report on performance 2008-09*, identified chemicals and plastics as one of five deregulation priorities "where there is a significant risk that future milestones or the ultimate objective is at risk."<sup>523</sup>

#### 7.2.1.2 Food and grocery industry

Submissions provided by the AFGC and the CMA referred to the multitude of rules and regulations across Australian jurisdictions that the food sector must observe and comply with.<sup>524</sup> According to the AFGC, food regulation in Australia is seriously flawed, with ten governments and more than 20 departments involved in the development of food standards:

The problem for the food industry is that it must observe a multitude of rules and regulations across different States and Territories just to remain in business, let alone innovate new products and processes. With consumers expecting food products to deliver health benefits beyond simple nutrition, food regulations are inhibiting companies from bringing new products onto the market and telling consumers how they protect and promote good health.<sup>525</sup>

Similarly, the CMA advised that the inconsistent nature of food regulations across jurisdictions limited opportunities for innovation with the industry:

As enforcement is determined by your state of business there are up to nine interpretations of food law and differing standards of enforcement. This lack of clarity frustrates existing manufacturers and requires a great

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<sup>521</sup> Productivity Commission, *Chemicals and plastics regulation*, Melbourne, 2008, p. 3.

<sup>522</sup> COAG Reform Council, *National partnership agreement to deliver a seamless national economy: report on performance 2008-09*, Sydney, 2009.

<sup>523</sup> COAG Reform Council, *National partnership agreement to deliver a seamless national economy: report on performance 2008-09*, Sydney, 2009, p. xxiv.

<sup>524</sup> Australian Food and Grocery Council, *Submission*, no. 42, 11 August 2009;

Confectionery Manufacturers of Australasia Limited, *Submission*, no. 46, 17 August 2009.

<sup>525</sup> Australian Food and Grocery Council, *Submission*, no. 42, 11 August 2009, p. 14.

deal on regulatory knowledge to navigate. It also means that there is not always a level playing field within Australia.<sup>526</sup>

These issues were discussed in the Productivity Commission's *Annual review of regulatory burdens on business: manufacturing and distributive trades*, in addition to other food regulatory concerns regarding the delay and difficulty in implementing and amending food standards; improving the operations of the Australia New Zealand Food Regulation Ministerial Council; and the regulation of nutrition, health and related food claims.<sup>527</sup>

In response to ongoing concerns with regulation of the food and grocery industry, COAG added the harmonisation of food regulation to its list of priority areas for accelerated regulatory reform, with an agreement to:

...examine reforms to the voting arrangements of the Australian and New Zealand Food Regulation Ministerial Council. COAG also agreed to consider options to improve national consistency in the monitoring and enforcement of food standards and options to improve food labelling and policy in early 2009.<sup>528</sup>

Similar to chemicals and plastics regulations, the Committee is aware that the implementation of the COAG food reforms in states and territories has not progressed smoothly. The COAG Reform Council reported that the risks to these reforms are "unclear governance arrangements potentially causing further delays and resulting in the overall reform of food regulation lacking direction."<sup>529</sup>

### 7.2.1.3 Occupational health and safety laws

Australia's Occupational Health and Safety (OHS) regulatory system is often criticised for being complex, and overly burdensome on companies that have operations in more than one jurisdiction. While the various state and territory OHS Acts share similar objectives, they impose different conditions on companies, which require them to adopt numerous approaches to meet compliance in different jurisdictions. According to the Productivity Commission, this is an influencing factor in companies' decisions to join Comcare, the Commonwealth Government's OHS regulatory regime:

An indicator of the complexity of the combined OHS regimes of the states and territories is that the costs national firms face under the differing OHS regulatory regimes of the jurisdictions exceed those of the Comcare system. For example, firms operating Australia-wide have to be aware of 3392 pages of regulation – 1068 from primary legislation and 2324 from formal regulations – and face 282 codes of practice at the state and territory level. In contrast, firms operating under Comcare have to be aware of 621 pages of regulation – 147 from the primary legislation and 474 from formal regulations – and 21 codes. The volume and complexity of

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<sup>526</sup> Confectionery Manufacturers of Australasia Limited, *Submission*, no. 46, 17 August 2009, p. 1.

<sup>527</sup> Productivity Commission, *Annual review of regulatory burdens on business: manufacturing and distributive trades*, Canberra, 2008.

<sup>528</sup> Council of Australian Governments, 'Council of Australian Governments' meeting 29 November 2008', viewed 14 April 2010, <<http://www.coag.gov.au/>>.

<sup>529</sup> COAG Reform Council, *National partnership agreement to deliver a seamless national economy: report on performance 2008-09*, Sydney, 2009, p. 175.

the OHS regulatory regimes has been a critical motivation for those companies which have joined the national Comcare scheme.<sup>530</sup>

The Committee notes that the Commonwealth, State and Territory governments have been working together to harmonise OHS legislation. In April 2008, the then Commonwealth Minister for Employment and Workplace Relations, the Hon. Julia Gillard MP established an independent advisory panel to conduct a national review to inform development of a model OHS Act. On 11 December 2009, the Workplace Relations Ministers' Council endorsed the *Model Work Health Safety Bill*, with the intention that this will replace all existing state and territory OHS laws by the end of 2011.<sup>531</sup>

#### 7.2.1.4 Industrial relations

In Australia, a single framework of Commonwealth laws regulates industrial matters, although the states and territories are still responsible for regulating in various areas, some of which relate to: trading hours, long service leave, child employment, owner drivers and forestry contractors, and clothing industry outworkers. In May 2008, the Workplaces Relations Ministers' Council reaffirmed the commitment of the Commonwealth, State and Territory governments to deliver a stable uniform national system, with the endorsement of the Commonwealth Government's *Forward with Fairness* policy.

The *Forward with Fairness* policy replaces the former Commonwealth Government's WorkChoices policy, which enforced voluntary unionism, introduced non-union contracts between employers and employees through Australian Workplace Agreements, and transferred the responsibilities of the Industrial Relations Court to other courts, such as the Federal Court.<sup>532</sup>

Under the *Fair Work Act 2009*, a new body, Fair Work Australia, was established to oversee the national workplace relations system. The Act also endorses enterprise-level collective bargaining, and covers employers and employees under the National Employment Standards (NES), which outline the minimum terms and conditions of employment. The 10 NES entitlements are:

1. A maximum standard working week of 38 hours for full-time employees, plus 'reasonable' additional hours.
2. A right to request flexible working arrangements to care for a child under school age, or a child (under 18) with a disability.
3. Parental and adoption leave of 12 months (unpaid), with a right to request an additional 12 months.
4. Four weeks paid annual leave each year (pro rata).

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<sup>530</sup> Productivity Commission, *Performance benchmarking of Australian business regulation: occupational health and safety*, Canberra, 2010, p. VX.

<sup>531</sup> Australian Industry Group, 'National workplace health and safety laws', viewed 13 April 2010, <<http://www.aigroup.com.au/>>.

<sup>532</sup> COAG Reform Council, *National partnership agreement to deliver a seamless national economy: report on performance 2008-09*, Sydney, 2009.

5. Ten days paid personal/carer's leave each year (pro rata), two days compassionate leave for each permissible occasion, and two days unpaid carer's leave for each permissible occasion.
6. Community service leave for jury service or activities dealing with certain emergencies or natural disasters. This leave is unpaid except for jury service.
7. Long service leave.
8. Public holidays and the entitlement to be paid for ordinary hours on those days.
9. Notice of termination and redundancy pay.
10. The right for new employees to receive the Fair Work Information Statement.<sup>533</sup>

During the Inquiry, the Committee received limited evidence from witnesses regarding their perceptions around the Commonwealth Government's *Fair Work Act 2009*. The Committee received extensive evidence, however, about issues relating to labour costs overall and the impact of these on the competitiveness of the Australian manufacturing sector. In particular, numerous witnesses advised of concerns relating to the collection of payroll tax at the state level.

#### **7.2.1.5 Payroll tax**

Payroll tax is a State and Territory tax that is calculated on wages paid or payable to its employees, when the total amount of wages of an employer (or group of employers) exceeds an exemption threshold amount.<sup>534</sup> In Victoria, this threshold amount is \$550,000.<sup>535</sup>

The regulatory burden arising from payroll tax derives not only from higher labour costs but also from the lack of harmonisation across jurisdictions. On the latter issue, the Committee acknowledges the progress of COAG to achieve harmonisation, and in particular the efforts of the Victorian and NSW Governments to comprehensively harmonise their payroll tax legislation and administration.

As noted in Chapter Four, a number of submissions to the Inquiry suggested that payroll tax disproportionately disadvantages labour intense sectors. AME Systems, a supplier of electrical harness, power and signal distribution systems, stated:

The government is asking us to hold and protect jobs, yet continues to tax us for employing people. It makes little sense. Why not tax us on our results, our profits instead of taxing us for employing people. Labour intensive manufacturing gets unfairly and disproportionately taxed and impeded. If we do not get change we will see many more jobs go offshore.<sup>536</sup>

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<sup>533</sup> Fair Work Ombudsman, 'Fair Work Information Statement', viewed 15 April 2010, <<http://www.fairwork.gov.au>>.

<sup>534</sup> State Revenue Office, 'Overview', viewed 16 April 2010, <<http://www.sro.vic.gov.au/>>.

<sup>535</sup> State Revenue Office, 'Overview', viewed 16 April 2010, <<http://www.sro.vic.gov.au/>>.

<sup>536</sup> AME Systems, *Submission*, no. 29, 3 August 2009, p. 1.

In providing evidence to the Committee, some witnesses proposed changing the structure of payroll taxes. MaxiTRANS, for example, recommended that manufacturing input taxes be replaced with a consumption tax that effects local and imported products equally. According to MaxiTRANS, this would assist those local manufacturers that do not have the capacity to absorb input taxes in the long-term but are competing against imported products with fewer or no input costs at all.<sup>537</sup>

The Committee notes the release of the *Australia's future tax system* review, which proposed that narrow consumption and payroll taxes be replaced with a low-rate broad-based cash flow tax that more effectively utilises the consumption base. The Committee also noted above that the Victorian Government has continued to reduce payroll tax rates, with the Treasurer announcing a reduction of payroll tax to 4.9 per cent in 2010-11. The Committee commends this action and encourages the Victorian Government to continue to assess the structure of state taxation to improve efficiencies and competitiveness in the business sector.

## 7.2.2 Regulatory reform – where to next?

Reducing the regulatory burden and creating a business-friendly environment was a common theme in the evidence received by the Committee, with many witnesses indicating that this should be key priority for governments.<sup>538</sup> The Aerosol Association of Australia stated in its submission that the Victorian Government providing direct financial assistance to the manufacturing sector is not as important as providing “a business friendly environment where the costs of doing business are subject to rigorous scrutiny and attention is constantly focussed on reducing the regulatory compliance and administrative costs being incurred by businesses.”<sup>539</sup>

The Committee commends the work of COAG to achieve substantive reforms in reducing the regulatory burden on all Australian businesses. The Committee acknowledges the challenges in achieving national harmonisation in various regulatory areas but it encourages COAG, and in particular the Victorian Government, to continue their efforts to achieve well-designed and targeted regulation.

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<sup>537</sup> MaxiTRANS Australia Pty Ltd, *Submission*, no. 22, 3 August 2009.

<sup>538</sup> Aerosol Association of Australia Inc, *Submission*, no. 35, 3 August 2009; AME Systems, *Submission*, no. 29, 3 August 2009; AMTIL, *Submission*, no. 41, 10 August 2009; Ararat Rural City, *Submission*, no. 9, 30 July 2009; Australian Food and Grocery Council, *Submission*, no. 42, 11 August 2009; Bombardier Transportation Australia Pty Ltd, *Submission*, no. 51, 21 August 2009; City of Greater Dandenong, *Submission*, no. 20, 3 August 2009; Confectionery Manufacturers of Australasia Limited, *Submission*, no. 46, 17 August 2009; Engineered Wood Products Association of Australasia Limited, *Submission*, no. 21, 3 August 2009; Federal Chamber of Automotive Industries, *Submission*, no. 58, 21 September 2009; Kingston City Council, *Submission*, no. 61, 17 September 2009; Maroondah City Council, *Submission*, no. 45, 17 August 2009; MaxiTRANS Australia Pty Ltd, *Submission*, no. 22, 3 August 2009; MODEC, *Submission*, no. 59, 7 August 2009; Schiavello (Vic) Pty Ltd, *Submission*, no. 14, 31 July 2009; South East Melbourne Manufacturers Alliance Inc, *Submission*, no. 36, 3 August 2009; Toyota Motor Corporation Australia Limited, *Submission*, no. 57, 18 September 2009; TXM Pty Ltd, *Submission*, no. 10, 30 July 2009; Wilson Transformer Company Pty Ltd, *Submission*, no. 28, 3 August 2009; Yarra Ranges Shire Council, *Submission*, no. 55, 7 September 2009.

<sup>539</sup> Aerosol Association of Australia Inc, *Submission*, no. 35, 3 August 2009, p. 2.



The Committee believes that SMEs are the greatest beneficiaries of improved regulation as they typically have fewer resources than larger companies to absorb compliance costs. Reducing the regulatory burden could unlock valuable resources in smaller businesses, allowing them to potentially enhance investment in new opportunities for growth. This is particularly pertinent for SMEs in the manufacturing sector as a greater emphasis on innovation in business operations could lead to enhanced productivity levels. With a manufacturing sector comprised largely of SMEs, a comprehensive and practical regulatory framework is essential to supporting the sustained competitiveness of Australian manufacturing.

**Finding 25:** As the Australian manufacturing sector is subject to regulations from all tiers of government, ongoing regulatory reform will benefit all manufacturers. Small and medium-size firms will receive the most benefits as they typically have fewer resources to absorb compliance costs.

## Chapter Eight: Key points

The Australian manufacturing sector is facing labour skills challenges in some key areas, and in particular, is experiencing a shortage of engineers. The Committee also heard that some skilled workers, such as welder-fabricators, are in short supply. One means of overcoming this shortfall is through increased skilled migration. The ageing Australian workforce is also likely to create some challenges for the manufacturing sector, particularly in ensuring that knowledge transfer from retiring workers to incoming workers occurs.

Manufacturing in Australia is often misrepresented as a 'dead end' sector with dirty, onerous conditions and poor pay, and as a result, there is often a poor perception of manufacturing as a career option for young people. The Committee heard that, in fact, modern manufacturing is often well-remunerated, and that the sector remains healthy and sustainable. There is a need for better promotion of manufacturing as a credible career option to young adults. There is also a need for greater promotion of science, technology, engineering and mathematics skills in schools.

Apprentices play an important role in the manufacturing sector. While apprenticeships schemes receive substantial support from government, there are opportunities for apprenticeship schemes to be enhanced, such as through group training schemes within industries in the manufacturing sector.

Overseas there have also been initiatives to improve interaction and collaboration between universities and manufacturers through student placement programs, known as "knowledge transfer partnerships." There is also a role for higher education in the provision of workforce development education, in collaboration with manufacturing businesses.

## Chapter Eight: Skills for manufacturing

Human capital is central to an innovative and productive economy. The Organisation for Economic Cooperation and Development (OECD) refers to human capital as “the fundamental building block for growth strategies in the knowledge-based economy.”<sup>540</sup> Consequently, a highly skilled workforce is a key strategy to achieving global competitiveness.

Over the last decade, there has been increasing awareness of the role of skills in boosting the economy, and in particular the importance of strengthening skills in order to enhance the productivity of the workforce. In June 2005, the Council of Australian Governments (COAG) agreed that its national reform agenda would focus on developing policies to boost workforce participation and productivity by building on human capital:

This agenda will enable more Australians to realise their potential, and that of the nation. It will have a major impact on the living standards of Australians, and generate significant dividends for the Australian economy. It is an agenda that is both good for people and good for the economy.<sup>541</sup>

More recently, the final report of the National Innovation Review, *Venturous Australia*, supported the proposition that investing in people is necessary to build Australia’s strength in innovation. The review argued that the development of high-quality human capital requires attention at all levels of education, including early childhood and secondary schooling, the vocational education and training (VET) sector, higher tertiary education, and workplace training.

The Committee received extensive evidence regarding the importance of skills in supporting the future of the Australian manufacturing sector.<sup>542</sup> In the future, the Australian manufacturing sector will likely face increased demand for higher level skills as it moves from high volume, low-value

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<sup>540</sup> Council of Australian Governments, *Human capital reform: Report by the COAG National Reform Initiative Working Group*, 2005, p. 2.

<sup>541</sup> Council of Australian Governments, *Human capital reform: Report by the COAG National Reform Initiative Working Group*, 2005, p. 2.

<sup>542</sup> Australia-Taiwan Business Council, *Submission*, no. 25, 3 August 2009; Australian Workers' Union, *Submission*, no. 48, 18 August 2009; Philip Binns, Chair, Future Manufacturing Industry Innovation Council, *Transcript of evidence*, 28 October 2009; City of Greater Dandenong, *Submission*, no. 20, 3 August 2009; Ian Harrison, Chief Executive, Australian Made Campaign Ltd, *Transcript of evidence*, 6 August 2009; Kingston City Council, *Submission*, no. 61, 17 September 2009; Madeleine McManus, State President, Victoria Division, Engineers Australia, *Transcript of evidence*, 7 August 2009; Mark Ross, Managing Director, Boeing Aerostructures Australia, *Transcript of evidence*, 22 January 2010; South East Melbourne Manufacturers Alliance Inc, *Submission*, no. 36, 3 August 2009.

manufacture toward areas of comparative advantage – principally, low-volume, unique and/or high quality manufactures.

In this context, continuous learning and high quality education is critical to underpin the manufacturing sector. Currently, Victoria (and Australia) appear to be well-placed internationally in this regard. The Committee heard that there is a highly skilled workforce in Victoria, particularly in the areas of engineering-related knowledge and skills. Mr Philip Binns, the Chair of the Commonwealth Government's Future Manufacturing Industry Innovation Council (FMIIC) told the Committee:

There are some skill bases that are gradually being lost in the state at the moment but, compared to other states, Victoria has a high level of skills in engineering and certainly the vocational sector as well in the support for those industries that have historically driven the state.<sup>543</sup>

Similarly, Mr Mike Moignard, the General Manager of the Industry Group for the Australian Trade Commission (Austrade) told the Committee that the Victorian manufacturing sector has a flexible workforce, and currently provides a number of opportunities for sector development:

The features of that manufacturing investment that we see as positives for Victoria include a strong focus on design and engineering, and we have very good skills in this area and excellent creativity; niche high-end manufacturing, which has low volumes but high quality and zero error requirements, builds on traditional strengths such as biotech manufacturing, which builds on our medical research strengths; and investment and opportunities that require lots of customisation and variations to cater for changing consumer requirements.<sup>544</sup>

This chapter examines the skills required to ensure the long-term competitiveness and sustainability of the Australian manufacturing sector, and the strategies required to ensure that the sector performs at optimal levels. This chapter also considers the challenges associated with skills shortages, which was identified in the evidence as a key barrier to future growth.

## 8.1 Manufacturing skills and employment profile

In its 2003 review of trends in manufacturing, the Productivity Commission noted that, in terms of skills requirements:

...manufacturing presents a picture of contrasts — it has education-intensive areas associated with research, design, and development and the use of complex manufacturing processes or products, while it also has low skill activities, such as repetitive assembly work. High education intensities are concentrated in particular segments of manufacturing, such as Pharmaceuticals and Scientific and medical instruments. Other sectors, particularly Textiles, clothing and footwear and Food, beverages and tobacco, make more intensive use of less educated workers.<sup>545</sup>

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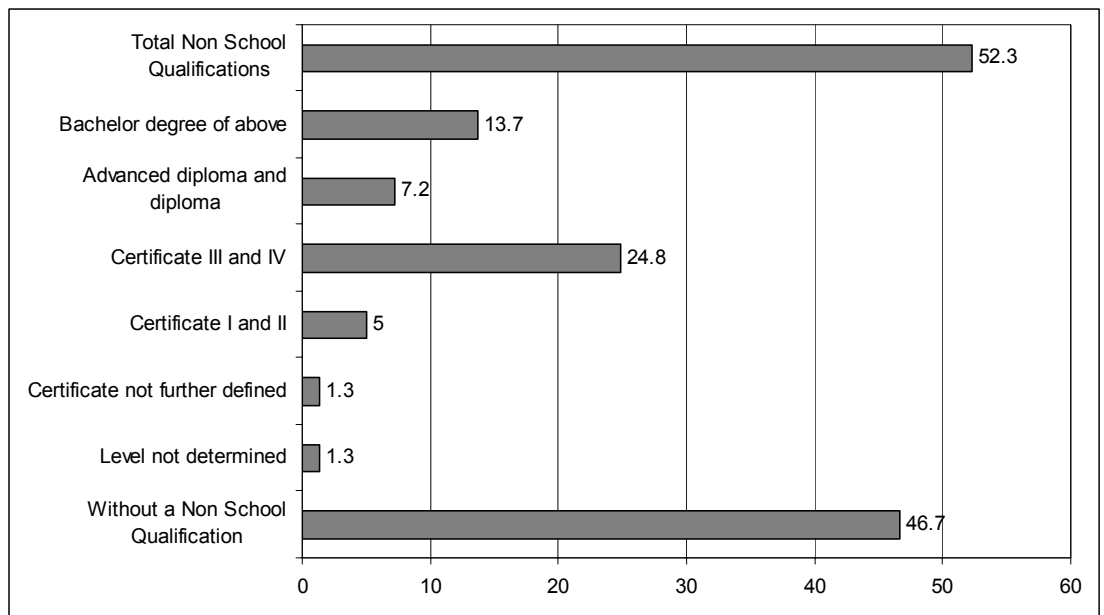
<sup>543</sup> Philip Binns, Chair, Future Manufacturing Industry Innovation Council, *Transcript of evidence*, 28 October 2009, p. 4.

<sup>544</sup> Mike Moignard, General Manager, Industry Group, Australian Trade Commission, *Transcript of evidence*, 22 January 2010, pp. 2-3.

<sup>545</sup> Productivity Commission, *Trends in Australian Manufacturing*, Canberra, 2003, p. 80.

The Australian manufacturing sector provides employment opportunities to workers of all skill levels, from unskilled labourers to highly skilled technicians. This diversity is reflected in surveys of education qualifications within the sector (see Figure 7). In 2008, the most common educational attainment in the manufacturing sector was a non-school qualification (53.3 per cent), and 24.8 per cent of workers held a Certificate III or IV, indicating the importance of trade occupations in manufacturing. Higher education qualifications also have an important role in sector employment, with 13.7 per cent of workers holding at least a Bachelor degree, and 7.2 per cent of workers holding an Advanced Diploma or Diploma. Despite the sector's transition into more specialised and complex areas of manufacture, a large proportion of workers in manufacturing have low educational attainment. In 2008, 46.7 per cent of workers did not have a non-school qualification,<sup>546</sup> which is seven per cent higher than the national average of 40 per cent across all sectors.<sup>547</sup>

**Figure 7: Educational attainment (% share of employment), May 2008.<sup>548</sup>**



Traditionally, craft and trade skills have been utilised in the manufacturing sector. Modernisation of manufacturing processes has increased demand for a different range of skills, including those focused on research, design and development. A report by the Commonwealth Department of Education, Science and Industry into manufacturing skills categorised skill levels of the manufacturing sector into the following streams:

- production – comprising a broad range of skills and education necessary for machine and plant operation, ranging from basic jobs, such as factory hands and labourers, to highly skilled plant operators. Workers in basic jobs do not typically have a formal qualification. On-the-job training is key to skills development;

<sup>546</sup> SkillsInfo, *Employment outlook for manufacturing*, 2009.

<sup>547</sup> Manufacturing Skills Australia, 'National statistics for manufacturing in Australia', viewed 27 April 2010, <<http://www.mskills.com.au>>.

<sup>548</sup> SkillsInfo, *Employment outlook for manufacturing*, 2009, p. 14.

- trades – comprising the traditional manufacturing skills areas, with metals and engineering-related trades dominating. Most trades involve an apprenticeship or traineeship, which has resulted in this stream having a strong association with the VET sector;
- technical – comprising occupations such as laboratory technicians, engineering technicians, computing technicians, applied designers and draftspersons. Most technicians hold a higher qualification than the trades stream. Skills development typically occurs in the VET sector, with initial training taking place in training institutions rather than on-the-job; and
- professional/office-based – comprising occupations in general management and administration, building and engineering, science and computing, technical sales, advertising and marketing, and finance. Skill levels in this stream often require both general knowledge and some technical knowledge of manufacturing processes. Most skill acquisition occurs in the VET and the higher education sectors, with most training taking place at higher education institutions.<sup>549</sup>

The diversity of skill levels and employment opportunities in the Australian manufacturing sector was articulated in a statement made by Mr Robert Paton, the Chief Executive Officer (CEO) of Manufacturing Skills Australia (MSA), in his presentation to the Committee:

If we have a look at the science awards last night where Australia got recognition for developing wi-fi technology and reaping the benefits of that and so on, we promote a lot of those highflying sorts of activities. In science and manufacturing and so on, there are close links with many of those things. The fact is that there are still workers in manufacturing who are not working in sexy jobs, but what they get is a reasonable remuneration for the work they do. They can often accept the situation and say, 'That is fine; that actually suits my need'. Individuals are driven by many different things. But the skills profile of the workforce in manufacturing has a strong bias around the sort of certificate 3 or 4 level. That is driven a lot by tradespeople and high-level production workers, but the majority of workers are sitting below that point. There are certainly jobs that are exciting and interesting and can lead to lots of really good things, but there are others that will probably never be all that exciting.<sup>550</sup>

The Committee notes the growing interest and investment in green industries and new technologies across the manufacturing sector, which will create new opportunities, and an increasing demand, for high quality green skills. The acquisition of green skills will eventually become essential for all manufacturing workers, although currently on the descriptor "green jobs" refers to opportunities to develop cleaner and more sustainable processes and products.<sup>551</sup> The future of green technologies in manufacturing is discussed further in Chapter Nine.

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<sup>549</sup> Department of Education Science and Training, *Industry skills report - manufacturing*, 2007.

<sup>550</sup> Robert Paton, Chief Executive Officer, Manufacturing Skills Australia, *Transcript of evidence*, 29 October 2009, p. 3.

<sup>551</sup> Victorian Government, *Jobs for the future economy*, State of Victoria, Melbourne, 2010.

Finding 26: The Australian manufacturing sector encompasses diverse skill levels and employment opportunities. While historically craft and trade skills were the dominant skills utilised in the sector, the modernisation of manufacturing operations has increased demand for research, design and development, computer technology, and management skills.

## 8.2 Skills-related challenges for future manufacturing

During the course of the Inquiry, the Committee received evidence about skills shortages and gaps in Australia. In the context of manufacturing, the Committee received different opinions about the impact of skills shortages on the Australian sector. Some witnesses suggested that Australia's educated and capable workforce makes a significant contribution to attracting foreign investment to the country,<sup>552</sup> while other witnesses advised that persistent skills shortages could adversely impact the long-term viability of the sector.<sup>553</sup> While the Committee recognises that Victoria has a highly skilled manufacturing workforce, there is a risk of increasing disparity between employment opportunities and the availability of skilled workers, particularly as the economy emerges from the global financial crisis. Ongoing technological advancement in the manufacturing sector is likely to accentuate disparities between the skills levels of existing workers and the diversified skills required for modernised manufacturing processes. If this disparity continues, there is a risk that it will affect the capacity of Australia to maintain competitive advantages in the global market, particularly in the area of innovation. In its final report for the *Skilling the existing workforce* project, the Australian Industry Group (AiG) stated that skills shortages are regarded as one of the infrastructure inhibitors of innovation:

- Possessing the relevant skills is core to firms addressing specific demands from customers, staying ahead of competitors, and expanding market share.
- Skills shortages impact on innovation by limiting ability of firms to source fresh ideas from employees. A lack of skills in science, engineering and technology, other specialist business and management capabilities, and in the soft skills areas all affect a firm's innovative capacity.
- Management skills are vital in extracting value from ideas, developing new products, processes and business models, and implementing knowledge management strategies. Without this capability, firms are challenged in their drive to remain globally competitive.<sup>554</sup>

As part of this project, the AiG surveyed 500 Australian companies across various industry sectors about the impact of skills shortages. Overall, more than 68 per cent of respondents indicated that skills shortages had impacted their business over the past year. Within the manufacturing

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<sup>552</sup> Philip Binns, Chair, Future Manufacturing Industry Innovation Council, *Transcript of evidence*, 28 October 2009; Mike Moignard, General Manager, Industry Group, Australian Trade Commission, *Transcript of evidence*, 22 January 2010; Mark Ross, Managing Director, Boeing Aerostructures Australia, *Transcript of evidence*, 22 January 2010.

<sup>553</sup> Michael Brockhoff, Managing Director, MaxiTRANS Industries Pty Ltd, *Transcript of evidence*, 18 August 2009; Madeleine McManus, State President, Victoria Division, Engineers Australia, *Transcript of evidence*, 7 August 2009; Bryan Nye, Chief Executive Officer, Australasian Railway Association, *Transcript of evidence*, 28 October 2009.

<sup>554</sup> Australian Industry Group, *Skilling the existing workforce*, North Sydney, 2008, p. 8.

sector, machinery and equipment (73 per cent) and metal products (69.2 per cent) reported the highest proportion of respondents citing impacts from skills shortages.<sup>555</sup>

According to the Commonwealth Department of Immigration and Citizenship's *Critical Skills List*, there is currently a shortage of engineers (chemical, civil, electrical, electronics, mechanical and mining) in Australia.<sup>556</sup> This is supported by evidence received by the Committee from Ms Madeleine McManus, Victorian State President of Engineers Australia, who reported a persistent engineering skills shortage across Australia. Ms McManus advised the Committee that Australia's higher education sector produces just half the engineers currently required for the sector.<sup>557</sup>

In Victoria, the *Sponsored Visa Eligibility List* provides an indication of current skills demand within Melbourne and regional Victoria. In the area of manufacturing, skills in demand as of April 2010 included: engineering professionals (electrical, mechanical, production or plant, aircraft maintenance - mechanical and avionics); metal fabricators; welders; sheet metal workers; automotive electricians; electronic equipment tradespersons; and cabinetmakers.<sup>558</sup> Mr Michael Brockhoff, Managing Director of MaxiTRANS, told the Committee that his company had been unable to recruit welder-fabricators locally, and so brought in 40 Chinese highly skilled welders to address the shortage.

The Committee notes that the skilled migration initiatives of the Commonwealth and Victorian Governments comprise an appropriate component of a policy response to address skills demands. The Victorian Government's *Skilled and Business Migration Program* (SBMP), for example, aims to attract overseas skilled professionals and tradespeople to Victoria to meet ongoing workforce needs that cannot be met locally. The program has increased Victoria's share of Australia's skilled migrants from around 17.6 per cent in 1998-99 to 26.9 per cent in 2007-08.<sup>559</sup> These programs fulfil an important role, and will continue to assist in meeting the skill needs of Australian manufacturing employers. However, the Committee also believes that more effort is required on behalf of government, industry and the education sector to enhance the skills and availability of the locally skilled workforce.

Finding 27: As in most industry sectors, the Australian manufacturing sector is experiencing skills shortages and gaps. With ongoing technological advancement in the sector, it is imperative that the skills and availability of the local workforce are enhanced to ensure that Australia's capacity to maintain competitive advantages in the global market are maintained.

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<sup>555</sup> Australian Industry Group, *Skilling the existing workforce*, North Sydney, 2008.

<sup>556</sup> {Department of Immigration and Citizenship, 2010 #297}

<sup>557</sup> Madeleine McManus, State President, Victoria Division, Engineers Australia, *Transcript of evidence*, 7 August 2009.

<sup>558</sup> Department of Innovation Industry and Regional Development, *Skilled - sponsored (176) eligibility list* State of Victoria, Melbourne, 2010.

<sup>559</sup> Live in Victoria, 'Skilled and Business Migration Program', viewed 4 May 2010, <<http://www.liveinvictoria.vic.gov.au>>.



## 8.2.1 Ageing workforce population

An ageing workforce is a common feature of most developed economies, including Australia. A risk for developed countries is that as skilled workers reach retirement, there will be a tendency for skilled workers leaving the workforce to exceed the availability of new entrants to the workforce. The Committee was told that in Germany, for example, for every 100 retiring engineers, only 90 new engineers were being trained.<sup>560</sup> According to the Commonwealth Department of Employment, Education and Workplace Relations (DEEWR), in August 2009, 38.2 per cent of the working age population in Australia was aged 45 and older.<sup>561</sup> The latest data indicates that the median age of workers in all industry sectors was 39 years in 2008, with the manufacturing sector's median age slightly above this average at 41 years.<sup>562</sup>

In Victoria, 37.8 per cent of the workforce is 45 years or older.<sup>563</sup> Based on Australian Bureau of Statistics (ABS) population projections, it is forecast that between 2006 and 2025, Victoria's working-age population will decline by an average of 22,500 per year, and between 2026 and 2035 it will decline to an annual average of 5,800.<sup>564</sup> According to the Productivity Commission, this shift in the age structure of the working population will have many implications for government and industry:

...shift in age structure of the population over the next half century will imply that many more Australians will be in age groups that have lower labour market involvement. Other things being equal, this can be expected to slow labour supply and, in turn, economic growth. Since governments fund services through taxes on current income, a fall in economic growth will affect the future ability of Australian governments to generate revenue to meet health, education and other obligations.<sup>565</sup>

In the context of the manufacturing sector, the largest share of employment is workers aged 35 to 44 years (25 per cent), although there is a similar share of workers aged between 45 and 54 years (23.8 per cent). A smaller share of workers is aged between 25 to 34 years (22.7 per cent).<sup>566</sup> While the age profile of the sector is comparable to the all industries average with a low proportion of both young and mature age workers, the sector comprises a slightly older than average age profile, with 38.2 per cent of workers over the age of 45 years compared to the all industries average of 37.4 per cent. The Committee also notes, that only 1.5 per cent of the sector is aged 65 years and over, compared to 2.4 per cent for all industries, which may indicate that mature workers in the manufacturing

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<sup>560</sup> Dr Matthias Marx, Innovation Policy, Federal Ministry of Economics and Technology, *Meeting*, Berlin, 17 February 2010.

<sup>561</sup> SkillsInfo, *New jobs 2009*, Department of Education, Employment and Workplace Relations, 2009.

<sup>562</sup> SkillsInfo, *New jobs 2009*, Department of Education, Employment and Workplace Relations, 2009.

<sup>563</sup> SkillsInfo, 'Regional employment overview', viewed 4 May 2010, <<http://www.skillsinfo.gov.au>>.

<sup>564</sup> National Industry Skills Committee, *An environmental scan of trends and developments impacting on the Australian workforce*, Melbourne, 2009.

<sup>565</sup> Productivity Commission, *Economic implications of an ageing Australia*, Canberra, 2005, p. 48.

<sup>566</sup> SkillsInfo, *Employment outlook for manufacturing*, 2009.

sector are less likely to continue working after retirement age.<sup>567</sup> A summary of changes to the employment mix by age group in the manufacturing sector from 1998 to 2008 is described below:

In the 10 years to 2008, the number of workers aged 45 years and over increased by 80 000 while employment of workers aged under 45 years has fallen by 87 700. The most notable changes have occurred for workers aged 55 to 64 years, with an increase of 44 200 to 135 500 workers and for workers aged 25 to 34 years, with a decrease of 41 200 to 238 600 workers over the past decade. Much of the shift between age categories can be attributed to workforce ageing, but the concern is the decrease of young workers in manufacturing since 1998, especially those aged 20 to 34 years (down by 69 000), who can assist in meeting future skill needs in the manufacturing industry.<sup>568</sup>

In this context, it is critical that both governments and industry develop initiatives that can be implemented in manufacturing firms to utilise the skills and experiences of older workers prior to their exit from the workforce. In particular, during the time when older workers are making the transition to retirement, their expertise should be harnessed through teaching and mentoring roles. The Committee notes that the notion of knowledge transfer from retiring workers is widely supported among the business community. The AiG survey reported that CEOs highly regarded mentoring as an up-skilling method in workplaces, with 35.9 per cent identifying it as a “very successful” method. CEOs also reported that it was the fourth most adopted method of up-skilling by companies.<sup>569</sup> In recognition of the importance of developing strategies to achieve effective knowledge transfers, the Committee recommends that the Government develops, in collaboration with industry, a mentoring model for adoption by firms. A key feature of the model is that it should focus on enhancing relationships between retiring employees and apprentices or trainees.

**Recommendation 13:** That the Victorian Industry Manufacturing Council collaborate with industry groups and associations to develop a workplace model that aims to utilise the skills of retiring employees and retain their knowledge in the workplace prior to them exiting the workforce.

## 8.2.2 Transfer of skills

Australia’s resource boom has indirectly affected the Australian manufacturing sector by placing upward pressure on the Australian dollar, and reducing the competitiveness of the sector in the global market. The resource boom has also created concerns about the transfer of labour and skills from the manufacturing sector to the mining sector, particularly as the two sectors share a similar skills pool.

The Committee is concerned about the overall impact of a large exodus of locally trained and skilled workers to the mining sector, and in particular, the effect this may have on competitiveness in the manufacturing sector. The Committee is also concerned that the movement of skilled labour into

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<sup>567</sup> SkillsInfo, *Employment outlook for manufacturing*, 2009.

<sup>568</sup> SkillsInfo, *Employment outlook for manufacturing*, 2009, p. 12.

<sup>569</sup> Australian Industry Group, *Skilling the existing workforce*, North Sydney, 2008.

mining may impede the transfer of skilled workers to the manufacturing sector in periods of re-expansion.

Related to the shift of skills away from the manufacturing sector is the concept of “going off the tools”, which refers to skilled manufacturing workers moving into other professions on the basis of higher salaries and improved working conditions. In May 2008, the average median weekly wage for all industry sectors was \$1000. The median weekly wage for full-time employees in the manufacturing sector was below the average at \$950. In comparison, the average weekly wage for full-time employees in the mining sector was \$1750, the highest average earnings for all industry sectors.<sup>570</sup>

The Committee is aware that the working conditions of some industries within the manufacturing sector may lead workers to seek more secure employment opportunities. The Committee heard from various witnesses about the cyclical nature of workflows within some industries.<sup>571</sup> Mr Brockhoff of MaxiTRANS advised the Committee:

The greatest challenge we have is to be able to continually flex our labour force with the cycle. What we see coming under the new award structure in 2010 is that our ability to hire casuals for more than six months will be stopped. We cannot afford to make people redundant – and it is wrong to do so – every time there is a down cycle, so as a company we have tended to have to carry a lot of casuals in the system, far more than we would like. We know it is very hard on them as well, but that is the reality of our business.<sup>572</sup>

As stated in Chapter Four, unions are increasingly taking the view that they and manufacturing workers need to accept the flexible working nature of some manufacturing industries to ensure that manufacturing remains in Australia rather than move offshore.<sup>573</sup>

### 8.2.3 Manufacturing as a career

A commonly identified theme in the evidence provided to the Committee was the lack of interest among young people in pursuing a career in manufacturing. While the Committee heard a wealth of evidence indicating that there was a strong future for manufacturing in Victoria, there appears to be some degree of disconnect between the health of the manufacturing sector, and perceptions of it in the community. The foundation of this disinterest is believed to derive from the poor public image of the manufacturing sector across Australia, including perceptions of it being a “dead duck” and in rapid decline:

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<sup>570</sup> SkillsInfo, *New jobs 2009*, Department of Education, Employment and Workplace Relations, 2009.

<sup>571</sup> Michael Brockhoff, Managing Director, MaxiTRANS Industries Pty Ltd, *Transcript of evidence*, 18 August 2009; Stephen Dargavel, Victorian Secretary, Australian Manufacturing Workers' Union, *Transcript of evidence*, 7 August 2009; Cesar Melhem, Victorian State Secretary, Australian Workers' Union, *Transcript of evidence*, 18 August 2009.

<sup>572</sup> Michael Brockhoff, Managing Director, MaxiTRANS Industries Pty Ltd, *Transcript of evidence*, 18 August 2009, p. 10.

<sup>573</sup> Cesar Melhem, Victorian State Secretary, Australian Workers' Union, *Transcript of evidence*, 18 August 2009.

...every day they pick up a newspaper they read about manufacturing dying, going out, not being competitive – it is all negative. They never hear anything positive about manufacturing, so I do not think it is at the forefront of their choices.<sup>574</sup>

Many witnesses advised that the manufacturing sector does not promote itself well to young people, with images of “Dickensian sweatshops” still arising in people’s minds when talking about manufacturing jobs.<sup>575</sup> Mr Cesar Melhem, the Victorian Secretary of the Australian Workers’ Union, stated in his presentation to the Committee that the sector does not accurately present the benefits of working in manufacturing:

The manufacturing industry probably does not present itself as having sexy jobs, but if we do the research, the manufacturing industry jobs are actually well paid. We have got really well-paid jobs. I do not think we really sell that to young kids and schools. If my 10-year-old son in 10 years time wants to go and work in manufacturing instead of in a white-collar job, I think he can probably do better than a lawyer and some other professions. Some manufacturing jobs pay \$100 000 to \$150 000 a year.<sup>576</sup>

Similarly, Mr Binns of the FMIIC advised the Committee that attracting young people to the manufacturing sector will contribute to its future growth:

The image of manufacturing is still a rusty image, and if you get back to the issues I talked about, which were skills and education and commercialisation acceleration, which is as a result of research, you still come down to how you attract people to the industry or the associated areas around the industry. Image is a big part of that, especially for young people trying to get into some of these industries, or at least consider them as an exciting place to work and not a dull, boring, repetitive place to work, which is something that we have to tackle.<sup>577</sup>

There was also evidence of parents and career advisors in schools steering students away from learning a trade because of a perception that the work is not good enough.<sup>578</sup>

The Committee also recognises that popular perceptions of manufacturing as a dirty, repetitive and menial industry are actively perpetuated in the

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<sup>574</sup> Michael Brockhoff, Managing Director, MaxiTRANS Industries Pty Ltd, *Transcript of evidence*, 18 August 2009, p. 9.

<sup>575</sup> Philip Binns, Chair, Future Manufacturing Industry Innovation Council, *Transcript of evidence*, 28 October 2009; Michael Brockhoff, Managing Director, MaxiTRANS Industries Pty Ltd, *Transcript of evidence*, 18 August 2009; Paul Dowling, Executive Officer, South East Melbourne Manufacturers Alliance Inc, *Transcript of evidence*, 18 August 2009; Angela Krepcik, Chief Executive Officer, Advanced Manufacturing Australia, *Transcript of evidence*, 6 August 2009; MaxiTRANS Australia Pty Ltd, *Submission*, no. 22, 3 August 2009; Cesar Melhem, Victorian State Secretary, Australian Workers’ Union, *Transcript of evidence*, 18 August 2009; John Osmelak, General Manager, Furnishing Industry Association of Australia, *Transcript of evidence*, 18 August 2009; South East Melbourne Manufacturers Alliance Inc, *Submission*, no. 36, 3 August 2009.

<sup>576</sup> Cesar Melhem, Victorian State Secretary, Australian Workers’ Union, *Transcript of evidence*, 18 August 2009, p. 9.

<sup>577</sup> Philip Binns, Chair, Future Manufacturing Industry Innovation Council, *Transcript of evidence*, 28 October 2009, p. 3.

<sup>578</sup> John McCarthy, ‘Get your hands dirty - teens not ‘too good’ for trades’, *Courier Mail*, 23 January 2010.

media. In London, for example, Mr Chris Cassley of the Confederation for British Industry told the Committee of a case where media preferred to represent the manufacturing sector as a traditional, manual-intense industry:

...the BBC wanted to show [a CBI member's] factory, because they were making a film talking about job losses and the recession.... So they turned up, the camera crew, looked at the factory with all these people in white coats, because it was an environment that was sterile, and developing high-end technology, and [the BBC crew] said 'we can't film that, because people won't think of that as manufacturing'... and so as a consequence, [the BBC] didn't film that, because that's not what manufacturing looks like to the man on the street, it looks like the 1970s car parts on strike, people running around in dirt, grease and lots of manual labour.<sup>579</sup>

**Finding 28:** Public perceptions and the media portrayal of manufacturing are outdated and do not accurately represent the types of jobs and career pathways available in the Australian manufacturing sector today. Misconceptions arising from media and public opinion may dissuade young people, parents and career advisors from pursuing a career in the manufacturing sector.

The Committee believes it is the responsibility of both government and industry to promote genuine opportunities and career pathways in the Australian manufacturing sector to young people. According to Mr Paton of MSA, there has been extensive activity undertaken across all levels of government and throughout the sector in this area.<sup>580</sup> A promotional tool employed by Bombardier Transportation Australia to improve perceptions of its operations and career options among young people is described in Text Box 4.

#### **Text Box 4: Industry manufacturing careers promotional tool**

##### **Bombardier Transportation Australia**

In May 2010, Bombardier Transportation hosted a transport manufacturing careers open day at its Dandenong facilities targeting secondary school students and groups from educational institutions located in South East Victoria. The purpose of the event was to enhance attendees' appreciation for manufacturing as a viable career option:

At Bombardier Transportation we are committed to developing manufacturing in the region by investing in people. Bombardier Transportation is determined to ensure the manufacturing industry flourishes in this region and is proactively addressing any future skills shortages in our industry.

The careers day was a joint initiative of Volgren, Jayco and Bombardier, with active support from their supply chain. It was also attended by various other people involved in the Victorian manufacturing sector, including union officials, other local manufacturers and representatives from the Victorian Government and the City of Greater Dandenong.

<sup>579</sup> Chris Cassley, Innovation, Science and Technology Group, Confederation of British Industry, *Meeting*, London, 10 February 2010.

<sup>580</sup> Robert Paton, Chief Executive Officer, Manufacturing Skills Australia, *Transcript of evidence*, 29 October 2009.

The Committee notes that the Victorian Government has undertaken a range of promotional activities in this area. In 2007, for example, the Government conducted the mass media *It's your future* campaign, which aimed to raise interest and awareness in Victorian manufacturing. The campaign ran for six weeks, and comprised four 30 second television commercials, two cinema advertisements, radio advertisements and a dedicated website ([www.itsyourfuture.com.au](http://www.itsyourfuture.com.au)). A key tagline of the campaign was "technology rather than tedium defines manufacturing in the 21<sup>st</sup> century."<sup>581</sup>

The Victorian Government also funds the Careers in Manufacturing (CiM) program, which is administered by the Manufacturing and Engineering Skills Advisory Board (MESAB). The aim of the CiM program is to promote the extensive range of career options available to young people in the manufacturing and engineering sectors. A key project within CiM is the *Young Industry Ambassador Program*, which involves current apprentices, trainees and graduates visiting schools and talking about their own career pathway. In 2010-11, it is expected that the program will visit 200 schools across Victoria.<sup>582</sup> There are currently 110 young industry ambassadors involved in the program, who promote the manufacturing sector as high-tech, highly sustainable, research and development focussed, and an "industry of choice" for enthusiastic and ambitious young people.<sup>583</sup> Mr Shane Infanti, the Chief Executive Officer of the Australian Manufacturing Technology Institute Limited (AMTIL), told the Committee about the benefits of the program:

...it is run through one of the skills advisory boards out in the east – where we take young people through a training course. They go through a two-day training course which is personal development for them on how to speak publicly. The program sends those young people into schools to give talks to other young people, so we have 16-to19-year-olds being told about careers in manufacturing by their peers rather than by some old fellow in a suit, and it works. We have seen an increase in the level of awareness in manufacturing careers by those people who have been shown that. It is a terrific program – it has been running for about five years, and is certainly a program we support – and it has been extended further, again at state level.<sup>584</sup>

The Committee understands that the *Young Industry Ambassador Program* is funded under a two year agreement. The Committee strongly believes that the Victorian Government should extend this funding further based on the success of the existing program in promoting manufacturing as offering viable career opportunities for young people and its potential to be delivered in a significant number of Victorian schools. The Committee also proposes that the next funding agreement be for five years to allow the MESAB to adequately plan the future outlay of the program, as well as

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<sup>581</sup> Victorian Government, 'It's your future: careers in manufacturing', viewed 5 May 2010, <<http://www.itsyourfuture.com.au>>.

<sup>582</sup> Paul Kennett, Executive Director, Manufacturing and Engineering Skills Advisory Board, *personal communication*, 3 June 2010.

<sup>583</sup> Manufacturing and Engineering Skills Advisory Board, 'Careers in manufacturing', viewed 5 May 2010, <<http://www.mesab.com.au>>.

<sup>584</sup> Shane Infanti, Chief Executive Officer, Australian Manufacturing Technology Institute Ltd, *Transcript of evidence*, 6 August 2009, p. 6.

assist in strengthening the commitment of those employers who allow their apprentices to participate in the program as industry ambassadors.

Recommendation 14: That the Victorian Government extend funding of the Young Industry Ambassador Program for an additional five years.

Another key project that has arisen out of the CiM program is the *Girls make it go!* project, which aims to educate young women, their parents, teachers and career advisors about career opportunities in manufacturing, engineering and technology. Similarly, in May 2010 the MSA launched a national study award for women working in the Australian manufacturing sector and the automotive industry. The purpose of the award is to encourage women working in manufacturing to advance their career pathway through further education and training.<sup>585</sup> The Committee is of the opinion that these initiatives will also encourage more women to choose a career in manufacturing.

Finding 29: There can be significant value from manufacturing workers engaging with secondary school students as a mechanism to improve students' perceptions about the manufacturing sector and potentially spark their enthusiasm in pursuing a career in manufacturing.

### 8.2.3.1 Science, technology, engineering and mathematics

The Committee heard from a number of witnesses that a lack of interest in science, technology, engineering and mathematics (STEM) among young people contributed to limited take-up of manufacturing and engineering-related courses at the higher educational level. Mr Binns of the FMIIC advised the Committee that unlike 40 years ago, science and engineering are no longer preferred areas of study for young people. He argued that it is important to reverse this trend, as these skills will be required to drive innovation in manufacturing companies over the next 20 years.<sup>586</sup>

A number of studies suggest declining interest in STEM-related subjects by young people.<sup>587</sup> For example, while more than 80 per cent of Victorian students study STEM subjects during secondary school, few continue to do so at the tertiary level.<sup>588</sup>

This issue is widely acknowledged among governments, with the Commonwealth, State and Territory governments each developing policies to address the issue. As part of the Commonwealth Government's *Building the Education Revolution*, \$821.8 million has been allocated to the Science and Language Centres for 21<sup>st</sup> Secondary Schools, which will deliver funding to 537 schools for the construction of new or refurbishment of

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<sup>585</sup> Australian Manufacturing Technology, 'Women at work - making a difference study award 2010', *Australian Manufacturing Technology*, no. May 2010.

<sup>586</sup> Philip Binns, Chair, Future Manufacturing Industry Innovation Council, *Transcript of evidence*, 28 October 2009.

<sup>587</sup> Professor Russell Tytler, et al., *A review of the literature concerning supports and barriers to science, technology, engineering and mathematics engagement at primary-secondary transition*, 2008.

<sup>588</sup> Department of Education and Early Childhood Development, *Energising science and mathematics education in Victoria* Education Policy and Research Division, Melbourne, 2009.

existing 280 science centres.<sup>589</sup> At the state level, in August 2009 the Victorian Government released its blueprint implementation paper *Energising Science and Mathematics Education in Victoria*, which aims to attract more Victorian students to science and mathematics. The objectives of the strategy are to:

- raise the level of science and mathematics achievement of every Victorian student;
- increase student interest in science and mathematics, and encourage more students to pursue science and mathematics-related careers to support Victoria's future economic, social and environmental needs; and
- expand the knowledge base of science and mathematics teachers and increase their capacity to engage students in contemporary science and mathematics curriculum program.<sup>590</sup>

The Committee believes that there are also opportunities to promote interest in STEM subject in schools, such as through the development of programs that expose secondary schools students at all levels to the application of STEM in real-life or applied situations, as a mechanism to facilitate further interest of young people in these subjects. This would begin to respond to concerns that a lack of interest in these subjects is partly explained by young people not understanding the relevance of science and mathematics in day-to-day living. The Committee notes that the Australian Curriculum, Assessment and Reporting Authority is currently developing the first phase of the Australian curriculum, which includes reviewing the science and mathematics curriculum. The Committee believes this is the most appropriate forum to introduce such a program into schools.

Recommendation 15: That the Victorian Government write to the Australian Curriculum, Assessment and Reporting Authority to ask them to consider the incorporation of real-life examples of the application of science, technology, engineering and mathematics into the science and mathematics curriculum as a mechanism to increase student awareness of the relevance of these subjects in day-to-day living.

### 8.2.3.2 VET in schools

Incorporating pre-vocational training into secondary schools is a useful approach to encouraging young people to pursue a career in manufacturing, and in particular for transitioning young people into apprenticeships or traineeships. The Victorian Government has implemented a number of strategies that allow secondary school students to participate in VET and even pursue an apprenticeship or traineeship while undertaking their Victorian Certificate of Education (VCE) or Victorian Certificate of Applied Learning (VCAL).

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<sup>589</sup> Department of Education Employment and Workplace Relations, 'Building the Education Revolution - Overview', viewed 5 May 2010, <<http://www.deewr.gov.au>>.

<sup>590</sup> Department of Education and Early Childhood Development, *Energising science and mathematics education in Victoria* Education Policy and Research Division, Melbourne, 2009, p. 7.



Since its inception in 1994, the *VET in Schools* program has created partnerships between schools, industry and training providers to provide students with a vocationally oriented program of studies that leads to the achievement of the secondary school certificate, as well as provide students with opportunities to participate in workplace training. In 2007, the total number of VET certificate enrolments in Victorian schools was 48,767 across 548 schools.<sup>591</sup>

As part of the *Securing jobs for your future – skills for Victoria*, the Victorian Government invested \$32 million to establish four new Technical Education Centres (TEC), which are purpose built facilities and organisational hubs for the combined delivery of TAFE and secondary school programs.<sup>592</sup> The purpose of the TECs is to support the early engagement of training by secondary school students and support their transition to apprenticeships or traineeships. A useful example of a TEC is the Northland TEC (Ntec), a \$4 million manufacturing and technology facility that provides high quality training using industry-standard facilities and equipment. The Ntec currently offers VET certificate courses in engineering, automotive, furnishing, electro-technology and manufacturing technology to year 10, 11 and 12 students undertaking either their VCE or VCAL.<sup>593</sup>

The Committee strongly supports the implementation of these types of initiatives in Victorian schools. The use of industry-standard facilities and training equipment for programs also contributes to improving public perceptions around manufacturing, with greater emphasis on modern and complex manufacturing processes. As advised by Mr Allan Ballagh, the Director of RMIT TAFE, these types of learning models are a valuable tool in promoting the benefits of working in the Australian manufacturing sector:

There is nothing more useful than a very exciting space exposing new technologies; project-based work; industries working together with universities; both higher education and TAFE; bringing schoolkids into that as part of their VET in schools and showing them the potential, the excitement that is the new manufacturing environment. We need to do that as much for the kids as for the parents and for the careers people in schools.<sup>594</sup>

**Finding 30:** The participation of secondary school students in vocational education and training (VET) programs can encourage young people to pursue a career in manufacturing. Furthermore, VET programs that allow students to complete their Victorian Certificate of Education or Victorian Certificate of Applied Learning while undertaking workplace training can provide an effective transition of young people into apprenticeships or traineeships.

<sup>591</sup> Department of Innovation Industry and Regional Development, *Securing jobs for your future - skills for Victoria*, Melbourne, 2008.

<sup>592</sup> Department of Innovation Industry and Regional Development, *Securing jobs for your future - skills for Victoria*, Melbourne, 2008.

<sup>593</sup> Northland Secondary College, 'Ntec @NSC', viewed 12 May 2010, <<http://www.northland.vic.edu.au>>.

<sup>594</sup> Allan Ballagh, Director, RMIT TAFE, *Transcript of evidence*, 7 September 2009, p. 15.

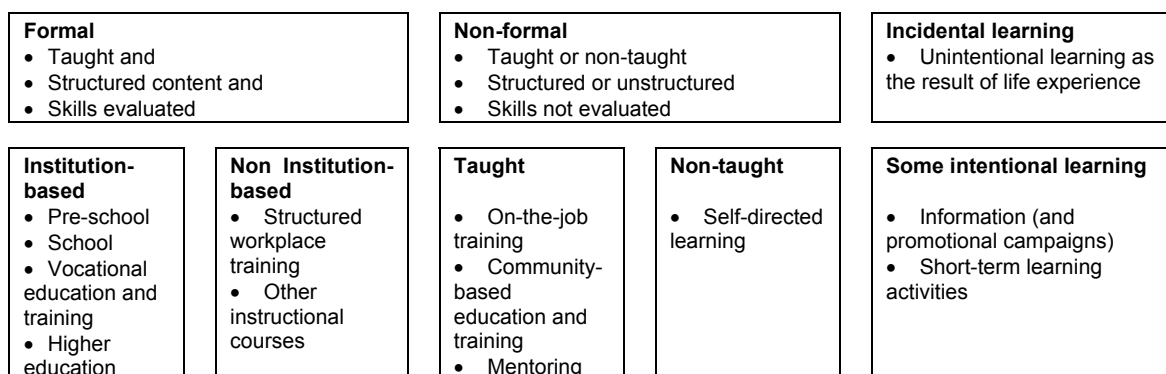
## 8.3 Skills and training

As indicated above, the Australian manufacturing sector provides employment opportunities to workers of all skill levels. To meet the needs of the sector's varying skill levels, a range of education and training programs are available. In its review, *Role of qualifications in promoting life-long learning*, the OECD distinguished between three types of learning:

- formal learning – structured and accredited learning in courses leading to nationally and internationally recognised qualifications;
- non-formal learning – structured but non-accredited training, which is most often utilised when developing skills and knowledge required by workplaces; and
- informal training – non-accredited and non-structured learning, with skills typically acquired through everyday work and life.<sup>595</sup>

These three types of learning are represented in Australia's national training system, as reflected in the framework adopted by the ABS for measured learning in Australia (see Figure 8).

**Figure 8: Types of learning**<sup>596</sup>



A key component of the national training sector is the active involvement of industry. This takes various forms, including the integration of industry-defined training packages into the VET sector, as well as the establishment of partnerships between individual teaching institutions and companies to build upon the traditional methods of skilling new and existing workers. Industry is also considered a key stakeholder, alongside the Commonwealth, State and Territory governments and teaching institutions, in planning and investing in skills priorities, and ensuring a continued supply of skilled individuals to the workforce. This is as much of a priority for industry, as it is for government.

Aside from the national training system, the Committee notes the growing importance of workplaces as training environments, particularly in

<sup>595</sup> OECD as reported in Australian Industry Group, *Skilling the existing workforce*, North Sydney, 2008.

<sup>596</sup> Australian Industry Group, *Skilling the existing workforce background research paper*, North Sydney, 2007, p. 12.

strengthening the skills of the existing workforce through informal and unstructured learning practices.

### 8.3.1 VET sector

The Australian VET sector provides the delivery of training through technical and further education (TAFE) institutes and other government providers, secondary schools, industry organisations and privately owned registered training organisations (RTO). According to the ABS, there are over 4,400 RTOs in Australia, 3,100 of which are privately owned.<sup>597</sup> The Commonwealth, State and Territory governments are largely responsible for funding the VET sector, with them allocating a combined \$4.1 billion to the sector in 2008.<sup>598</sup>

Over time, the VET sector has moved away from a supply driven approach, where nowadays training components are mostly “derived by industry for industry”.<sup>599</sup> Mr Paton of MSA advised the Committee that the VET sector comprises a combination of company needs being met through skills development and through the education and training system also feeding a market demand:

Australia, I think, has an interesting combination of the two. There was a decision made back in the early 1990s that we would have an industry-led training system as opposed to a provider-led or driven one, and that the industry would then specify what they wanted and when they wanted it – that sort of stuff. It is a compromise between the provision of training by providers to meet a market they believe is there, or meeting the needs of industry and enterprises to actually train their people.<sup>600</sup>

#### 8.3.1.1 Manufacturing training packages

A significant percentage of workers in the Australian manufacturing sector obtain their skills through the VET sector, with many national qualifications used in the VET sector developed by MSA. MSA is one of eleven Australian Industry Skills Councils (ISC), which work with various industries to develop nationally relevant VET. MSA is the national manufacturing ISC.

The training packages developed by the ISCs differ from accredited courses as they do not prescribe how individuals should be trained. Rather the training packages specify the outcome or competency that individuals need to perform effectively in the workplace. The units of competency are packaged into qualifications and supported by assessment guidelines, which outline how individuals should be assessed against the competencies.<sup>601</sup> Training packages are endorsed by the National Quality Council (NQC), a committee of the Ministerial Council for Tertiary Education and Employment (MCTEE) that is responsible for overseeing quality assurance and ensuring national consistency.<sup>602</sup> The Manufacturing

<sup>597</sup> Australian Bureau of Statistics, *2008 Australian year book*, Canberra, 2009.

<sup>598</sup> Steering Committee for the Review of Government Service Provision, 'Vocational education and training (Chapter 5)', viewed 5 May 2010, <<http://www.pc.gov.au>>.

<sup>599</sup> Industry Skills Council, *Training packages (a story less told)*, 2007, p. 10.

<sup>600</sup> Robert Paton, Chief Executive Officer, Manufacturing Skills Australia, *Transcript of evidence*, 29 October 2009, p. 3.

<sup>601</sup> Industry Skills Council, *Training packages (a story less told)*, 2007.

<sup>602</sup> National Quality Council, 'The National Quality Council', viewed 10 May 2010, <<http://www.nqc.tvetaustralia.com.au/>>.

training package is a cross-manufacturing package that covers the areas of competitive manufacturing, generic process manufacturing qualifications, pathway qualifications, and manufacturing technology.<sup>603</sup>

Training packages have become an integral component of the national training system, and are considered a useful way to increase workforce participation and productivity. Because training packages are developed in consultation with industry, there is greater capacity to predict and plan future skills needs and develop the core competencies accordingly. On this basis, the packages contribute to the achievement of world class skills, which assist industry sectors enhance their competitiveness in the global market.

**Finding 31:** The manufacturing training package, as developed by Manufacturing Skills Australia, is an integral and constructive component of the national training system.

Training packages have received criticism, however, for consulting too broadly with industry, and accommodating every interest and concern. As a consequence, there is a tendency for some packages to become unmanageable and too complex to follow. An OECD review of Australia's VET sector advised that the training packages require radical reform. It was recommended that they be "replaced with simple and much briefer statements of skills standards".<sup>604</sup> The OECD also recommended that consistency in skills standards should be achieved through a common assessment procedure to determine whether the necessary skills have been acquired.<sup>605</sup>

Given the prominence of training packages in skilling the Australian manufacturing workforce, the Committee believes there is merit in reviewing their effectiveness in meeting the demand for skills. While the packages were reviewed by the former Commonwealth Department of Education, Employment and Workplace Relations in 2003, there was no follow through on the recommendations. The Committee believes it is timely to review them again, particularly in the context of the issues surrounding skills shortages. Consideration of other countries' processes for developing and revising training packages should also form part of the review.

**Recommendation 16:** That the Victorian Government request the Ministerial Council for Tertiary Education and Employment commission a review into the effectiveness of training packages, including the processes used to develop and revise training packages.

### **8.3.1.2 VET staff and training equipment**

During the course of the Inquiry, the Committee heard from a number of witnesses that the teaching resources used in VET institutions were lacking, with sophisticated training equipment often beyond TAFE budgets.

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<sup>603</sup> Manufacturing Skills Australia, 'Manufacturing training package', viewed 10 May 2010, <<http://www.mskills.com.au>>.

<sup>604</sup> Kathrin Hoeckel, et al., *Learning for jobs*, Paris, 2008, p. 35.

<sup>605</sup> Kathrin Hoeckel, et al., *Learning for jobs*, Paris, 2008.

As a consequence, the learning experiences of students are being adversely impacted:

We also have quite a dropout rate with apprentices. They get enormously frustrated by the TAFE system and the lousy equipment they are using which is not even current generation, and the teachers that have been there for 50 years. They just get so frustrated that they explode and just disappear.<sup>606</sup>

In recognition of these concerns, the Commonwealth parliamentary report *Australian manufacturing: today and tomorrow* recommended that “post secondary vocational education providers continue to seek out opportunities to form training partnerships with companies that own costly state-of-the-art equipment – to give apprentices access to the latest technology and maintain the skills of TAFE trainers.”<sup>607</sup> In its submission to the Inquiry, the Shire of Yarra Ranges reported that a number of manufacturers found it beneficial to allow TAFEs to utilise their products as it raised the company profile and awareness of their products.<sup>608</sup>

The Committee notes the *Manufacturing Industry Teacher Up-skill Project* (MITUP), established by the Swinburne University of Technology’s Centre for New Manufacturing as a mechanism to enhance the skills of TAFE teachers from within manufacturing workshops and on-site experience. MITUP also provides hands-on work experience to students in manufacturing environments. A recent MITUP initiative was established with Robert Bosch, the purpose of which is to investigate how to improve efficiencies in specific operations. The work will be undertaken by small teams of TAFE engineering students and will be led by a TAFE engineering teacher. The purpose of the project is to ensure learning and development occurs for both students and teachers:

The Mitup team has identified this project as the perfect vehicle to involve a group of TAFE manufacturing providers. The team believes it is a wonderful opportunity to develop TAFE capability and expose students to ‘live’ learning experiences...If a beneficial, longer term partnership is developed, Bosch will in effect be providing a ‘live’ workplace campus for engineering students and teachers, something which is invaluable for maintaining industry relevance and the ability for TAFE to understand the expectations of manufacturing enterprises.<sup>609</sup>

The Committee supports industry and VET institutions forming training partnerships, like MITUP, in order to provide students with opportunities to use state-of-the-art equipment in their off-the-job training. These partnerships increase the relevance of course work to current manufacturing processes, and will likely enhance the productivity of workplace training. The Victorian Government should investigate the level of interest among other VET institutions and local manufacturing companies in establishing such training partnerships.

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<sup>606</sup> Michael Brockhoff, Managing Director, MaxiTRANS Industries Pty Ltd, *Transcript of evidence*, 18 August 2009, pp. 9-10.

<sup>607</sup> House of Representatives Standing Committee on Economics Finance and Public Administration, *Australian manufacturing: today and tomorrow*, Canberra, 2007, p. 121.

<sup>608</sup> Yarra Ranges Shire Council, *Submission*, no. 55, 7 September 2009.

<sup>609</sup> David Mackieson, ‘Engaging with industry’, *Australian Manufacturing Technology*, no. October 2009.

Recommendation 17: That the Victorian Government encourage and support Victorian vocational education and training institutions and local manufacturing companies to establish training partnerships, and to facilitate such partnerships where appropriate.

As with most of Australia's workforce, the teaching staff within the VET sector is ageing, leading to a shortage of supply of skilled teachers. VET sector education also suffers due to reduced exposure of educators to new and technologically advanced products in manufacturing workplaces. On this basis, teachers have limited opportunities to enhance their own skills levels and the relevancy of their teaching content.

A number of commentators have also observed the challenges in VET institutions retaining skilled staff as they are often competing with industry sectors that also need skilled workers and are in a position to offer attractive remuneration packages.<sup>610</sup> A report by EE-Oz, the official ISC for the electrical and energy industries, found that the mining sector is enticing potential trade teachers with salaries 30 per cent higher than a teacher's wage. This affects off-the-job training for apprentices, with reports of 21 per cent of students wanting to study engineering and related technologies being placed on a waiting list.<sup>611</sup>

In response to concerns about the lack of skilled teaching staff in the VET sector, the Victorian Government invested \$2.5 million in two initiatives to boost the TAFE workforce as part of its *Securing jobs for your future – skills for Victoria* strategy. This included:

- *Industry experts as teachers* – a recruitment program to encourage people with industry experience to make a transition to part-time VET teaching, while continuing to work in industry; and
- *Broadening skills of teachers* – the provision of an accredited qualification in Assessment of Information Learning to TAFE teaching professionals to extend their skills in assessing the prior experience of learners that have not been engaged with the training system and to help them identify the most effective pathways for new learners.<sup>612</sup>

In April 2010, the Productivity Commission was requested to conduct an inquiry into the education and training workforce. As part of this, the Commission is required to provide advice on various components, some of which include the factors affecting the current and future demand for the VET workforce; the composition and skills of the existing workforce; and the productivity of the workforce and scope for productivity improvements. The final report is scheduled for completion in April 2011.<sup>613</sup> The Victorian Government should await the recommendations proposed in this final

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<sup>610</sup> Kathrin Hoeckel, et al., *Learning for jobs*, Paris, 2008.

<sup>611</sup> Paul Bibby, 'Apprentices wait up to a year for training as industry lures teachers away', *Sydney Morning Herald*, 4 May 2010.

<sup>612</sup> Department of Innovation Industry and Regional Development, *Securing jobs for your future – skills for Victoria*, Melbourne, 2008.

<sup>613</sup> Productivity Commission, 'Education and training workforce: vocational education and training', viewed 18 May 2010, <<http://www.pc.gov.au>>.

report as a potential way forward to achieve a highly productive VET workforce.

### 8.3.1.3 Apprentices

The Australian Apprenticeship Scheme provides an important source of skilled workers to the manufacturing sector, and plays a crucial role in building Australia's future skills base to address issues around skills shortages. The Australian manufacturing sector is the third largest employer of apprentices, following the construction and other services sectors, employing almost 24,000 apprentices in 2009.<sup>614</sup> According to data collected by the National Centre for Vocational Education Research (NCVER), 53,407 people commenced an apprenticeship or a traineeship in a qualification from an MSA training package in 2008, while 23,590 people completed an apprenticeship or a traineeship in the same period.<sup>615</sup>

During the global financial crisis (GFC), there was a significant decline in take-up of apprenticeships, with the number of people participating in the Australian Apprenticeship Scheme decreasing by 25,700 from 2008 to 2009. The manufacturing sector experienced the highest decline in the number of apprentice commencements, particularly in the automotive and engineering trade, decreasing from 52,900 in 2008 to 37,300 in 2009.<sup>616</sup>

The impact of economic downturns on apprenticeship numbers is not surprising, as apprenticeships are often concentrated in trade exposed areas that are most severely exposed during downturns, such as the manufacturing sector. Following the 1990s recession, for example, apprentice commencements took almost ten years to return to their pre-recession levels.<sup>617</sup>

**Finding 32:** The Australian Apprenticeship Scheme provides an important source of skilled workers to the manufacturing sector, although in response to the global financial crisis, there has been a significant decline in apprenticeship commencements, particularly in the automotive and engineering trades.

In response to the impact of the GFC on apprenticeship participation levels, the Commonwealth Government announced its commitment in October 2009 to invest \$100 million in the *Apprentice Kickstart* program to support up to 21,000 young people entering traditional trades over the summer. As part of the program, employers who hire traditional trade apprentices received more than triple the first year commencement bonus, which increased from \$1500 to \$2350. They were also eligible to receive an additional \$2500 in the nine month of the apprenticeship.<sup>618</sup>

<sup>614</sup> Australian Bureau of Statistics, *Education and work*, Sydney, 2009.

<sup>615</sup> Manufacturing Skills Australia, 'National statistics for manufacturing in Australia', viewed 27 April 2010, <<http://www.mskills.com.au>>.

<sup>616</sup> Australian Bureau of Statistics, *Education and work*, Sydney, 2009.

<sup>617</sup> Australian Apprentices Taskforce, *Australian Apprentices Taskforce - final report*, 2009; Minister for Employment and Workplace Relations, 'Government stimulus to kickstart apprenticeships', viewed 11 May 2010, <<http://www.deewr.gov.au>>.

<sup>618</sup> Minister for Employment and Workplace Relations, 'Government stimulus to kickstart apprenticeships', viewed 11 May 2010, <<http://www.deewr.gov.au>>.

Furthermore, COAG requested the Australian Apprentices Taskforce investigate and make recommendations that would support the engagement and retention of apprentices during the economic downturn. The Taskforce proposed a number of recommendations that focussed on stimulating a rapid recovery in apprenticeship commencements; ensuring maximum retention of existing apprenticeships; and strengthening the system to address skills shortages. At the end of 2009, COAG agreed to implement ten of the recommendations, some of which included:

- Action 1: Develop and progressively implement a more seamless apprenticeship access, re-entry, deferral and support system with an implementation plan to be finalised and agreed by MCTEE.
- Action 3: Work with Industry Skills Councils to develop and introduce a reformed pre-apprenticeship system with increased opportunities to engage the 2010 senior student and early leaver cohort in 2010 and in subsequent years.
- Action 5: Work with industry to undertake a nationally consistent and targeted communication strategy and messaging to communicate the benefits of the trade apprenticeship system and to strengthen the training and apprenticeship culture and the mutual contribution of the industrial parties and governments to increased participation, employer engagement and quality.<sup>619</sup>

The Committee believes these recommendations could also contribute to overcoming some of the issues identified previously regarding the lack of interest among young people in pursuing a career in manufacturing.

Aside from the GFC, the Committee received evidence indicating that a decline in apprenticeship numbers could be partly explained by the costs of employing and training apprentices. According to the Australian Chamber of Commerce and Industry, the estimated costs of training an apprentice are \$128,000.<sup>620</sup> In providing evidence to the Committee, Mr Michael Brockhoff, the Managing Director of MaxiTRANS, advised of the costs associated with employing apprentices:

It costs our company over \$21,000 a year to have an apprentice on its books. In Victoria last year, when we had about 31, it cost us over \$600,000 off our bottom line to have apprentices going through the company. I think that is generally an unsustainable cost.<sup>621</sup>

Mr Brockhoff also advised of the costs associated with training apprentices:

For 31 employees we are spending \$370,000 on overtime to cover them when they are away at training. There is the cost of mentoring – we estimate that about 10 per cent of our tradesmen's time is on mentoring, and the cost of inefficiency through their inexperience. We estimate that is

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<sup>619</sup> Australian Apprentices Taskforce, *Australian Apprentices Taskforce - final report*, 2009, pp. 2-3.

<sup>620</sup> Australian Chamber of Commerce and Industry, *ACCI response to the Australian Apprenticeship Taskforce discussion paper*, Australian Chamber of Commerce and Industry, Barton, 2009.

<sup>621</sup> Michael Brockhoff, Managing Director, MaxiTRANS Industries Pty Ltd, *Transcript of evidence*, 18 August 2009, p. 3.



about 10 per cent. Again, for 31 apprentices we think it is about a \$650,000 cost.<sup>622</sup>

The Committee acknowledges the apprehension of employers to invest in new apprentices/trainees, especially when they are not fully productive in the workplace and retention rates are low. Evidence cited by the OECD indicates that approximately 40 per cent of apprentices quit before completing their apprenticeship.

The Committee is aware that a potential mechanism to reduce the costs associated with employing apprentices/trainees is removing payroll tax on apprentice/trainee wages. This initiative could also provide companies with the incentive to enhance their participation in the Australian Apprenticeship Scheme.

In Victoria, an exemption from payroll tax for apprentice and trainee wages was removed in 2003. However, the Committee believes that the Government should revisit this issue to examine whether resumption of the payroll tax exemption would encourage companies to employ apprentices/trainees. In particular, the Committee believes that employer perceptions of the Government's support for apprentice training schemes, and the role of apprentices in industry, would be substantially improved if the Government were to signal its support through exempting apprentice wages from the calculation of payroll tax.

**Recommendation 18: That the Victorian Government exempt apprentice wages from the payroll tax.**

The Committee believes there is a clear role for governments to support employers who invest in apprentices/trainees. The Victorian Government's *Apprenticeship/Traineeship Completion Bonus* program provides employers with a bonus payment of \$3,500 per eligible apprentice and \$1,300 per eligible trainee. As part of *Securing jobs for your future – skills for Victoria*, the Victorian Government also committed \$2 million for a series of apprenticeship retention projects to lift levels of retention and completion.<sup>623</sup> In addition, the Commonwealth Government's *Apprentice Kickstart* program was extended as part of the Government's 2010-11 Budget release. Over four years, the Commonwealth Government will invest an additional \$79.4 million to create 22,500 new apprenticeship commencements.<sup>624</sup>

With evidence indicating that the attitudes and actions of employers can have a positive impact on the completion rates of apprentices/trainees, it is important that employers are given the opportunity to enhance their workplace relations and management skills upon committing to take on an apprentice/trainee. The Committee draws on findings of a study examining the management practices of Australian manufacturing companies, which

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<sup>622</sup> Michael Brockhoff, Managing Director, MaxiTRANS Industries Pty Ltd, *Transcript of evidence*, 18 August 2009, p. 3.

<sup>623</sup> Department of Innovation Industry and Regional Development, *Securing jobs for your future - skills for Victoria*, Melbourne, 2008.

<sup>624</sup> Treasurer of the Commonwealth of Australia, 'Investing in skills for sustainable growth', <<http://www.treasurer.gov.au>>.

emphasised the role of people management in enhancing company performance and productivity:

In today's intensely competitive environment, organisations need to leverage their most valuable intangible asset – human capital – for a sustained competitive advantage. Underpinning this, effective people management is paramount, and is achieved when companies follow a structured and focused approach to the attraction, retention and development of talent. In particular, this is characterised by encouraging, motivating and nurturing people through a systematic approach.<sup>625</sup>

On this basis, the Victorian Government should offer subsidised training to employers in the areas of communication skills, performance management and employee relations. The Victorian Employment Chamber of Commerce and Industry (VECCI) has been contracted by the Commonwealth Government to administer apprenticeship support services across Victoria. The Committee believes a similar type of forum is appropriate for the development and implementation of a working with apprentices training package.

The Committee is also of the opinion that there are opportunities for the Victorian Government to build on the development of group training schemes for apprentices and trainees in the manufacturing sector. According to the DEEWR, group training is an employment and training arrangement where an organisation employs apprentices and trainees, and then places them with 'host employers', usually from small to medium-sized enterprises. The group training organisation is responsible for the quality and continuity of the apprentices' and trainees' employment and training and also provides additional support. In Chapter Eleven, the Committee discusses options for encouraging the development of manufacturing 'clusters' in Victoria as a mechanism to improve innovation and collaboration between businesses, and subsequently improve industry competitiveness. These clusters should comprise networks of Tier 1 businesses (major employers in the manufacturing industry, or companies with significant scale) and Tier 2 and Tier 3 businesses, that provide components and products to Tier 1 businesses. The Committee believes that within this structure apprentices would benefit from exposure to businesses of diverse scale, which has the potential to maintain apprentice interest in training programs, and to determine the scale of business in which they feel most comfortable working.

The Committee believes this initiative, alongside the Victorian Government's existing efforts, will contribute to higher retention rates for apprentices/trainees, which may also encourage employers to invest in new apprentices/trainees.

**Recommendation 19:** That, in concert with encouraging the development of industry clusters in Recommendation 42, the Victorian Government assist the manufacturing industry to develop group training schemes for apprentices and trainees, that allow apprentice and trainees to experience work in Tier 1, Tier 2 and Tier 3 manufacturing businesses.

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<sup>625</sup> Department of Innovation Industry Science and Research, *Management matters in Australia: just how productive are we?*, 2009, p. 12.

### 8.3.2 Dual-sector institutions

Dual-sector institutions are characterised as comprising a TAFE and a higher education component in the one institution, which provides industry skills through a combination of academic and vocational education. There are five dual-sector institutions in Australia, including RMIT University, Victoria University, Swinburne University, University of Ballarat and Charles Darwin University.

RMIT University is currently in the process of establishing an Advanced Manufacturing Precinct (AMP), that is intended to deliver practical industry skills training for the design, development, production, marketing, and management processes of the advanced manufacturing sectors. As part of the release of *Building our industries for the future*, the Victorian Government committed \$7 million for the development of the AMP. Professor Aleksander Subic, the Head of School of Aerospace, Mechanical and Manufacturing Engineering at RMIT University, advised the Committee of how the AMP works to incorporate TAFE and higher education components:

This is where the higher ed comes, from the point of view of working out the technology and adding the research and development aspect, both through student training as well as through staff involvement, while TAFE comes in to identify the skills required and in some cases hopefully to develop new training modules and new training techniques for skills that do not exist yet.<sup>626</sup>

Mr Allan Ballagh, the Director of RMIT TAFE, advised the Committee that one of the key reasons for the establishment of the AMP was to initiate a new way of engaging with the manufacturing sector.<sup>627</sup> Professor Subic informed the Committee of existing partnerships between RMIT University and the manufacturing sector, including a partnership with Sage Automation from South Australia to establish automation training at RMIT's Bundoora East Campus. Another collaborative partnership also exists between the AMP and Boeing:

We have established a collaborative agreement with Boeing, and we are now a focal university for Boeing. At the end of this year we are finishing a Boeing aerospace structures lab, which links to the composites and lightweights that I have mentioned. We are taking Boeing corporation further, hopefully into the Advanced Manufacturing Precinct.<sup>628</sup>

In Manchester, the Committee was very interested to hear about the Knowledge Transfer Partnerships initiated through the University of Liverpool. The program places engineering and MSc students into manufacturing businesses for a period of three months, during which time the company is expected to provide the student with resources to conduct a work project, while the student is provided with opportunities to educate the business about cutting-edge developments in manufacturing. The Committee was told that the program was very successful, with students

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<sup>626</sup> Professor Aleksandar Subic, Head of School, Aerospace, Mechanical and Manufacturing Engineering, RMIT University, *Transcript of evidence*, 7 September 2009, p. 5.

<sup>627</sup> Allan Ballagh, Director, RMIT TAFE, *Transcript of evidence*, 7 September 2009.

<sup>628</sup> Professor Aleksandar Subic, Head of School, Aerospace, Mechanical and Manufacturing Engineering, RMIT University, *Transcript of evidence*, 7 September 2009, p. 5.

obtaining valuable skills and insights into manufacturing practice, and with businesses often reporting improvements to manufacturing processes, resulting in cost savings or other efficiencies.

The Committee believes this initiative provides a valuable mechanism to transfer the latest research within universities to cutting edge practice within the manufacturing sector, to the mutual benefit of both parties. Consequently, the Committee recommends that the Victorian Government strongly considers promoting a Knowledge Transfer Partnerships program within Victorian university schools of engineering, or the dedicated higher education manufacturing precincts mentioned above.

**Recommendation 20:** That the Victorian Government consult with Victorian Universities to investigate the feasibility of introducing a Knowledge Transfer Partnerships program for post-graduate students in manufacturing-related disciplines.

Dr Hossan Ismail, of the Knowledge Transfer Partnerships program, also told the Committee that the University of Liverpool was responding to the changing environment for higher education and advanced manufacturing by providing for a “third layer” of academic for manufacturing studies, in a role that bridged the divide between lecturers and researchers. Consequently, the University employs full-time manufacturing analysts, that work with companies on specific project and channel data and findings back to university researchers. Analysts also supervise MSc students in workplace placements. This also provides a means for university research to be directly channelled into manufacturing business process.

The Committee also recommends that the Victorian Government consult with higher education institutions to examine the merit of introducing positions for manufacturing analysts, who are employed by universities and work closely with researchers, lecturers, students and manufacturing businesses to facilitate the flow of information and expertise between academia and industry.

**Recommendation 21:** That the Victorian Government consult with higher education institutions to examine the merit of introducing positions for university-employed manufacturing analysts.

### 8.3.3 Workforce development

Across government and industry, there is growing awareness of the role of workplace training as an effective mechanism to enhance the skills of existing workforces, and to meet current and future skills requirements. The AiG’s *Skills the existing workforce project* identified that workplaces are increasingly being recognised as important sites of learning, whether this involves companies using their own resources or working in partnership with education and training institutions.<sup>629</sup> This recognition has been accompanied by broad acceptance of the concept of “workforce skills development”:

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<sup>629</sup> Australian Industry Group, *Skilling the existing workforce*, North Sydney, 2008.

Workforce Skills Development refers to strategies and programs which increase the skills, knowledge and capabilities of individuals, and groups, in the workforce and those seeking to enter the workforce. It includes formal, accredited education and training programs and informal training including on-the-job training related to the introduction of new technology, compliance and quality assurance, coaching and mentoring, job rotation and professional development.<sup>630</sup>

Support for workforce skills development was demonstrated in the AiG survey of 500 companies, which found that 61.2 per cent of respondents regarded retraining existing staff as the most effective method to meet current skills needs. This figure was almost double the number of respondents who indicated their preference to take on and train unskilled staff (30.4 per cent of respondents). The survey found that manufacturing companies were the strongest supporters of retraining existing staff (83.4 per cent), retraining mature age workers (42.6 per cent), investing in new plant and equipment (39.8 per cent) and taking on and training unskilled staff (39.8 per cent).<sup>631</sup>

In the context of preferred types of workplace training, manufacturing companies were the highest users of informal in-house training (77.3 per cent), and compared to services and construction companies, were significantly less likely to use external formal training (54.8 per cent); formal in-house training (50.2 per cent); and vendor training (19.3 per cent). Nearly 40 per cent of all company CEOs viewed formal in-house training as “very successful” in introducing new skills to existing employees.<sup>632</sup>

**Finding 33:** An ongoing government, industry and vocational education and training sector commitment to workforce skills development is required to enhance skill levels, and skills transferability, of manufacturing workers, and to meet current and future skills requirements.

### 8.3.3.1 Barriers to workforce skills development

While there is wide-spread recognition of the need for workforce skills development among companies, this has not necessarily translated into extensive implementation of workforce training across industry sectors. In the AiG survey, a number of barriers were identified as preventing companies from enhancing the skills of their existing workforce, including:

- cost (51.5 per cent);
- departure of employees following training (40.7 per cent);
- lack of government incentives (36.2 per cent);
- limited knowledge of future needs (31.5 per cent);
- lack of relevant training (29.9 per cent); and

<sup>630</sup> Australian Industry Group, *Skilling the existing workforce: Unlocking productivity in your business*, North Sydney, 2008, p. 2.

<sup>631</sup> Australian Industry Group, *Skilling the existing workforce*, North Sydney, 2008.

<sup>632</sup> Australian Industry Group, *Skilling the existing workforce*, North Sydney, 2008.

- employee resistance (29.7 per cent).<sup>633</sup>

Other evidence provided to the Committee indicated that there is a tendency for employers to restrict training investment to employees who are considered to have greater capacity in the workplace, rather than invest in employees with lower skill levels because of expected low rates of return. According to the AiG, this pattern of investment entrenches inequality as those with the highest skill levels receive more skills training than those with low skill levels.<sup>634</sup> This is particularly common for employees whose primary language is not English or who have low literacy and numeracy skills.

From an employee perspective, low literacy and numeracy skills are believed to be a key barrier to their willingness to participate in training. According to a 2006 Adult Literacy and Life Skills Survey, 40 per cent of employed Australians and 60 per cent of unemployed Australians hold a level of literacy below accepted standards.<sup>635</sup> With other evidence indicating a one per cent increase in a country's literacy score leads to a 2.5 per cent increase in labour productivity, there have been calls for the development of a national literacy strategy. The Committee notes the commitment of the Commonwealth Government to provide as part of its 2010-11 Budget release numeracy, literacy and language courses for up to 14,000 individuals.<sup>636</sup>

The Committee also heard of the reluctance of some employers to invest in training that may lead to employees gaining a higher qualification or skill level, particularly if the skills acquired are not core to company operations. It was suggested that a key concern for employers is likely expectations of increased remuneration among employees as a consequence of their newly acquired higher skill levels:

...there are a lot of businesses out there that have a view that if they invest in training they are going to be penalised through say, government. I get some companies who have a short-sighted view that says, 'If we invest in training, we have then got to pay those people more, and if we pay those people more, we end up paying more payroll tax'.<sup>637</sup>

### 8.3.3.2 Existing workforce development initiatives

To contribute to a culture of continuous skills development across the workforce, the Victorian Government has developed various initiatives to encourage the delivery of training in workplaces, including:

- *Industry Skills Advisers* (ISA) – in 2007, \$2 million was provided for appointed industry ISAs to work with SMEs to facilitate the delivery of training, particularly high level skills, to employees. ISAs were appointed in the areas of advanced manufacturing, competitive

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<sup>633</sup> Australian Industry Group, *Skilling the existing workforce*, North Sydney, 2008.

<sup>634</sup> Australian Industry Group, *Skilling the existing workforce*, North Sydney, 2008.

<sup>635</sup> Skills Australia, *Australian workforces future - a national workforce development strategy*, Barton, 2010.

<sup>636</sup> Treasurer of the Commonwealth of Australia, 'Investing in skills for sustainable growth', <<http://www.treasurer.gov.au>>.

<sup>637</sup> Shane Infanti, Chief Executive Officer, Australian Manufacturing Technology Institute Ltd, *Transcript of evidence*, 6 August 2009, p. 4.

manufacturing, logistics and supply chain management, packaging technologies, scientific and medical equipment instrumentation, and environmental industries. By the end of the program in 2009, ISAs had engaged with over 850 companies, with training programs brokered by the ISAs undertaken by more than 2,500 employees;<sup>638</sup>

- *Skills Stores* - The 13 Skills Stores operating in community locations throughout Victoria provide an access point to the VET sector, and aim to assist individuals update or improve their qualifications. They also work with employers to develop their business by identifying workforce training options. In 2008-09, the Skills Stores received 23,000 inquiries. Over 70 per cent of clients were referred for a recognition of prior learning (RPL) assessment, which resulted in over 9,000 individuals completing a RPL assessment;<sup>639</sup>
- *Specialist Centres* – this initiative provides targeted and customised training solutions to meet the skills needs of priority industry sectors. Specialist networks, which are linked to the specialist centres, facilitate resource sharing across the Victorian TAFE system and provide a single point of entry into the VET sector for companies seeking training in specialised industry areas. There are a number of manufacturing-related specialist centres operating throughout Victoria, including the Automotive Centre of Excellence at Kangan Batman TAFE, Textile and Design Specialist Centre at RMIT TAFE, Furnishing Industry Design and Innovation Centre at Holmesglen Institute of TAFE, and the Centre for New Manufacturing at Swinburne University (TAFE).<sup>640</sup>

Another key initiative of the Victorian Government is the *Skills for growth: the workforce development program*, a \$52 million program to address the skills and training needs of SMEs. The *Skills for growth* program works with SMEs to help them plan their business future, and explore training and education opportunities to develop the skills of their employees.<sup>641</sup> The program, which is based on the Government's previous *My Business, My People* program, aims to provide direct assistance to 1500 SMEs annually across Victoria. The workforce and training specialists are informed by the Government funded Industry Training Advisory Boards, which provide among other services authoritative and independent information on training needs and critical skill shortages through industry intelligence gathering and networking.<sup>642</sup> Text Box 5 provides an example of a manufacturing company that has participated in the program.

The Committee welcomes the efforts of the *Skills for growth* program to facilitate greater take-up of workforce skills development among SMEs. Smaller-sized companies are the least likely to invest in training and skills

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<sup>638</sup> Victorian Skills Commission, *Annual report 2008-09*, Melbourne, 2009.

<sup>639</sup> Victorian Skills Commission, *Annual report 2008-09*, Melbourne, 2009.

<sup>640</sup> Skills Victoria Corporate, 'Specialist centres and networks', viewed 12 May 2010, <<http://www.skills.vic.gov.au>>.

<sup>641</sup> Business Victoria, 'About the program', viewed 12 May 2010, <[http://www.business.vic.gov.au/BUSVIC/STANDARD/PC\\_63495.html](http://www.business.vic.gov.au/BUSVIC/STANDARD/PC_63495.html)>.

<sup>642</sup> Skills Victoria Corporate, 'Industry bodies', viewed 12 May 2010, <<http://www.skills.vic.gov.au/corporate/programs-and-initiatives/industry-bodies>>.

development as they often face greater competitive pressures requiring cost reductions compared to larger companies. Despite its strongly supported capacity to lift productivity, workforce skills development is not commonly identified as a key priority for SMEs.

### **Text Box 5: Skills for growth program case study.**

#### **Aircraft Plastics<sup>643</sup>**

Aircraft Plastics is a Geelong-based company that specialises in the repair and resurfacing of aircraft interior plastics. The company registered for *Skills for growth: the workforce development* program following discussions with Phalanx Consulting Group, one of the 25 service providers tasked to deliver the program.

Through consultation visits from a specialist assigned to Aircraft Plastics, the owners were in a position to discuss where the business was placed in the market and the barriers to it moving forward in the future. A key barrier that was identified was the lack of formalised training for individual employees.

Training plans were created for all employees, which helped the owners realise that they needed to enhance the strength of the younger generations and provide them with a solid career path. As a consequence, employees were enrolled in relevant training courses, with some training occurring on-site to minimise disruption to the workplace and to allow employees to apply theory directly to work practices.

At the Commonwealth level, the Commonwealth Government funds the *Productivity Places Program* (PPP), which aims to deliver 711,000 qualification commencements over a five year period, 392,000 of which are allocated to existing workers wanting to enhance their skills, and 319,000 to job seekers. In November 2009, the Government launched the Enterprise Based PPP (EBPPP), which will provide more than 2,350 businesses with the opportunity to upgrade their workforce to increase the skills of existing workers, especially those on the priority occupations list. Under the EBPPP, the Government will provide up to 90 per cent of the cost of training from Certificate III to Advanced Diploma Level, depending on the size of the business.<sup>644</sup>

#### **8.3.3.3 Management skills**

Throughout the Inquiry, the Committee became aware of an emerging issue around limited management skills among manufacturing companies. This is of concern on the basis of the evidence indicating the role of management skills as a key contributing factor to the growth and competitiveness of manufacturing companies and the overall sector. In particular, the evidence demonstrates a high correlation between superior management behaviour and higher productivity gains.

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<sup>643</sup> Business Victoria, 'New skills help small business take flight', viewed 17 May 2010, <[http://www.business.vic.gov.au/busvicwr/\\_assets/main/lib60188/sbv-sfg-casestudy-aircraftplastics.pdf](http://www.business.vic.gov.au/busvicwr/_assets/main/lib60188/sbv-sfg-casestudy-aircraftplastics.pdf)>.

<sup>644</sup> Minister for Employment and Workplace Relations, 'Government joins industry with \$50 million for more training places', viewed 12 May 2010, <<http://www.deewr.gov.au>>.



In the evidence presented to the Committee there was a general consensus that many SMEs had “traditionally got into management because they had to, not because they are trained to.”<sup>645</sup> Mr Infanti of AMTIL advised of the need to invest in training to achieve improved business knowledge and management skills among smaller manufacturers:

Again, I think an area that we probably do not focus on very highly in the manufacturing sector is the business knowledge and management skills. We have companies that have been built up out of a backyard with a guy who has been very strong in engineering and who has built up a business to a point where it is profitable and surviving but who does not have true management skills and certainly not in the area of marketing his business.<sup>646</sup>

Similarly, the *MSA Environmental Scan 2010*, which drawing from MSA’s own experiences, indicated that many SMEs struggle with various management practices, including skills analysis, workforce planning and development, to business strategy and access effective support. MSA advised that it is crucial to enhance skills in this area and provide the necessary support in order to improve productivity.<sup>647</sup>

In 2009, a study commissioned by the Commonwealth Department of Industry, Innovation, Science and Research, conducted a qualitative survey of 439 medium and large-sized manufacturing firms in Australia and reviewed the link between their management practices and productivity performance. The findings demonstrated that on an international scale, Australian management practices are not in the top rank of performance worldwide, however, they are also not among the worst. When benchmarked globally, Australian management practices were rated as only moderately above average, leading the report to conclude that there is significant scope for improvement across key areas. In particular, the study reported that as Australia ranked low in all people management dimensions, to move forward “Australian businesses must improve their human resource-related practices with a target of attracting, retaining and promoting best talent and more importantly addressing poor performance.”<sup>648</sup>

Finding 34: Continuous learning around best practice and contemporary management models is essential for people in positions of management in manufacturing firms, particularly smaller firms. These types of skills are crucial to improving productivity and future competitiveness of the Australian manufacturing sector.

As a way forward, the Committee understands the limitations in enhancing the management skills of manufacturing companies, particularly SMEs, as it is not often regarded as a key priority in the day-to-day running of

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<sup>645</sup> David Pallant, VIPP Manager, Industry Capability Network, *Transcript of evidence*, 18 August 2009, p. 12.

<sup>646</sup> Shane Infanti, Chief Executive Officer, Australian Manufacturing Technology Institute Ltd, *Transcript of evidence*, 6 August 2009, p. 5.

<sup>647</sup> Manufacturing Skills Australia, *Environmental scan 2010*, North Sydney, 2009.

<sup>648</sup> Department of Innovation Industry Science and Research, *Management matters in Australia: just how productive are we?*, 2009, p. 18.

businesses. In addition, findings from the Australian management survey indicated that a majority of Australian companies are unaware that their management skills could be improved. As a consequence, many miss out on opportunities to improve their skills in this area.

The Committee notes that programs are currently convened by the Victorian and Commonwealth governments to provide specialist advice and access to new skills and technologies, principally through the Enterprise Connect program. However, the Committee is also aware that internationally, assistance provided by government to manufacturing businesses, particularly SMEs and Tier 2 and 3 manufacturers, is far more substantial. For example, the London Manufacturing Advisory Service provides subsidised assistance to companies to make improvements in the following areas of manufacturing: productivity, defect reduction, efficiency of space utilisation, on-time delivery, increased stock turnover, and overall equipment effectiveness. Similar services offered throughout the UK offer low-cost or no-cost manufacturing reviews for businesses, focusing particularly on the introduction of lean manufacturing techniques into business processes.

While the provision of these services is principally by employees of the public service, the Committee also heard from the London Development Agency (LDA) that it has tendered advisory services to the private sector. The LDA subsequently engaged a consortium to deliver the London Manufacturing Advisory Service at what appeared to be a substantial saving compared to expenditure on similar services in Wales and Manchester.

The Committee believes that, while programs such as Enterprise Connect are an important step toward skills and knowledge support for the manufacturing sector, more can be done to enhance the capabilities of businesses working in this sector. Consequently, the Committee recommends that the Victorian Government consider, in concert with the introduction of the business advisors network discussed in Chapter Six, the introduction of subsidised or no-cost diagnostic and advisory services for manufacturing sector SMEs to enhance management practice, and to introduce lean or agile manufacturing techniques into the workplace.

**Recommendation 22:** That the manufacturing business advisory service described in Recommendation 6 provide manufacturing businesses with access to subsidised or no-cost diagnostic and advisory services in management practice and lean manufacturing techniques.

#### **8.3.3.4 Workforce skills development – a way forward**

To date, there has been extensive work undertaken in the area of workforce skills development, although the evidence indicates that more is required to achieve a culture of continuous learning within workplaces, where all workers are given the opportunity to acquire higher level skills. There is a strong consensus regarding the need to be proactive in addressing skills shortages, through the implementation of initiatives that increase participation in the workplace, and deepen existing skills to lift productivity.

The Committee draws on the recent proposal by Skills Australia, the independent statutory body that provides advice to the Minister for

Education, Employment and Workplace Relations, to develop a national workforce skills development strategy. Its report *Australian workforce futures – a national workforce development strategy* was released to Hon. Julia Gillard MP in March 2010, with a number of recommendations that work towards Australia achieving a workforce capability required for a productive, sustainable and inclusive future. Some of Skills Australia's key recommendations include:

Recommendation two: Skills Australia to lead a collaborative workforce and skills planning framework, featuring a new targeted approach to specialised occupations. Skills Australia will develop and maintain a list of specialised occupations based on its methodology and coordinate consortia of industry and professional bodies to prepare skill strategies on an annual basis for these occupations.

Recommendation seven: Australian governments to use public funding to leverage workforce development at industry and enterprise level, with a special focus on small business. Strategies to include the following:

- 7.1 Establish a national program of industry clusters and/or networks to address the collective skills and workforce challenges faced by enterprise in an industry sub-sector or region.
- 7.2 Expand by 50 per cent the Enterprise Connect program to better link the development and use of skills directly with business innovation and growth.
- 7.3 Industry Skills Councils and other intermediaries to use programs like the Productivity Places Program to promote better use of skills in the workplaces through a focus on workforce development.
- 7.4 The Australian Government to introduce new requirements in its supply contracts for medium and large firms to meet criteria related to workforce development.

Recommendation eleven: The Council of Australian Governments; Ministerial Councils for tertiary education, industry, workplace relations and regional development; and industry peak bodies to endorse a National Workforce Development Reform Agreement and commit to cross-jurisdictional and industry wide implementation.<sup>649</sup>

The Victorian Government should consider these recommendations, especially in the context of strategies to avoid future skills shortages in the local manufacturing sector. The Committee believes that recommendations two and seven in particular will contribute to enhancing skills levels among manufacturing workers; meet future skills demands; and improve the capacity of manufacturing companies to maximise the skills of their existing workforces.

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<sup>649</sup> Skills Australia, *Australian workforces future - a national workforce development strategy*, Barton, 2010, p. 10.

## Chapter Nine: Key points

A strong capacity for innovation is likely to be an important factor in maintaining sustainability and success of manufacturing in Australia. Innovation is undertaken in various forms, with the most common being research and development (R&D). Business innovation, where new technologies and knowledge are created and/or diffused into processes, business models and organisational structures, is also critical to the development of knowledge-based economies.

Business expenditure on R&D (BERD) makes an important contribution to total R&D, with BERD increasing at an average annual rate of 12 per cent in the five years to 2007. However, the BERD to gross domestic product ratio of 1.27 per cent remains below the Organisation for Economic Co-operation and Development (OECD) country average of 1.58 per cent.

Despite improvements in business R&D expenditure, international comparisons of innovative performance show the OECD average R&D spend is 2.26 per cent of GDP, while Australia's average R&D spend is just 2.01 per cent, and is increasing at a much slower pace than other countries.

The development of new materials technologies, such as carbon fibre, textiles and composites, represents an important field for innovation in the manufacturing sector. Another important field for future development of the manufacturing sector is in green manufacturing, focusing on the use of innovative solutions to work towards addressing global challenges, such as climate change and energy consumption.

## Chapter Nine: Innovation in the Australian manufacturing sector

Throughout the Inquiry, the Committee heard evidence underlining the importance of innovation to the success and future competitiveness of the Australian manufacturing sector. Innovation is undertaken in various forms, with the most common being research and development (R&D). Another form is business innovation where new technologies and knowledge are created and/or diffused into processes, business models and organisational structures. Both types of innovation are critical for the development of knowledge-based economies.

Innovation is considered a key component of economic policy, due to its potential to lift productivity:

Innovation and diffusion of new and better production methods, and the introduction of new goods and services, are the core drivers of productivity growth – getting more, and more highly valued, outputs from any level of inputs.<sup>650</sup>

According to Australian Bureau of Statistics (ABS) data, Australian businesses that innovate are more than twice as likely to report increased productivity and 63 per cent more likely to report increased profitability than business that do not innovate.<sup>651</sup> Innovative approaches provide manufacturing companies with the capacity to move into niche manufacturing, by differentiating their products and processes in domestic and international markets.

This chapter examines innovation within the Australian manufacturing sector, and considers mechanisms to enhance the capacity of individual manufacturers and the manufacturing sector overall to continuously invent, discover and/or diffuse new knowledge and technologies into business operations.

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<sup>650</sup> Productivity Commission, *Annual report 2007-08*, Melbourne, 2008, p. 1.

<sup>651</sup> Department of Innovation Industry Science and Research, *Powering ideas*, Canberra, 2009.

## 9.1 Innovative performance

### 9.1.1 Australia

In measuring investment in science and technology, R&D expenditure is typically used as a key indicator of a country's innovative capacity and performance. While R&D expenditure is not the only measurement of innovation, it is used as a core statistic to compare national innovation systems on an international scale, through analysis of gross expenditure on research and development (GERD). GERD is measured by two sources of funds – sector expenditure on R&D and R&D performance in sectors.<sup>652</sup>

In 2006-07, Australia's GERD by source of funds was \$21 billion, an increase of \$5 billion from 2004-05. Over the period 1984-85 to 2006-07, Australia's GERD grew consistently at an annual rate of 6.1 per cent in real terms. As demonstrated in Figure 9, the private sector made the largest contribution across all sectors, equal to 66 per cent of the absolute GERD increase in funding during this period. The Commonwealth Government made the second largest contribution of 24 per cent, and the State and Territory governments contributed three per cent.

**Figure 9: Contribution to absolute increase in GERD by source of funds, 1984-85 to 2006-07<sup>653</sup>**

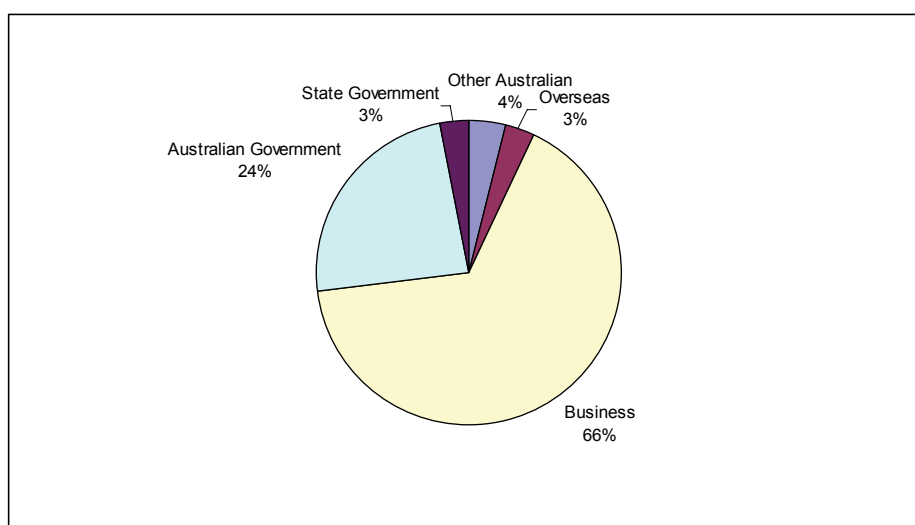


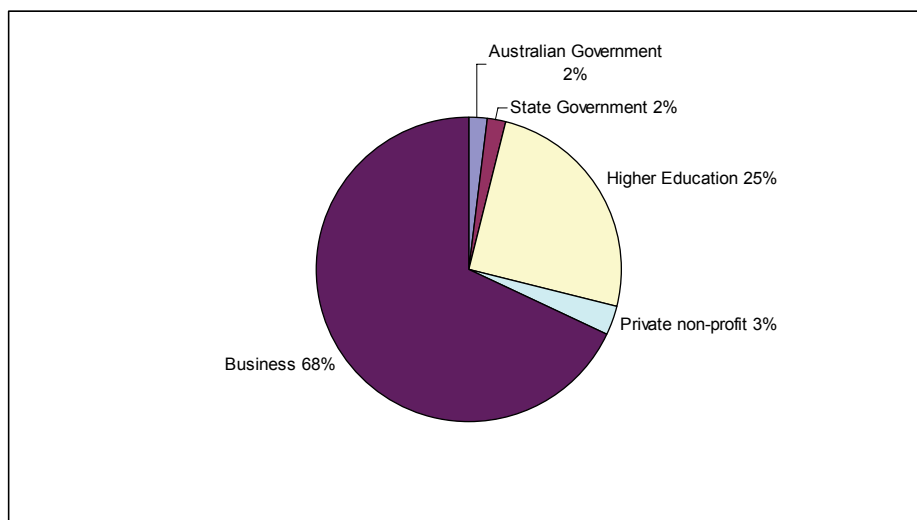
Figure 10 shows that the private sector also made the largest contribution to the absolute increase in GERD based on performance, equal to 68 per cent.<sup>654</sup> The higher education sector made the second largest contribution of 24 per cent, and the Commonwealth Government and the States and Territories governments contributed an equal two per cent to the increase in GERD based on performance.

<sup>652</sup> Department of Innovation Industry Science and Research, *Australian innovation system report 2010*, Canberra, 2010.

<sup>653</sup> Department of Innovation Industry Science and Research, *Australian innovation system report 2010*, Canberra, 2010, p. 15.

<sup>654</sup> Department of Innovation Industry Science and Research, *Australian innovation system report 2010*, Canberra, 2010.

**Figure 10: Contribution to absolute increase in GERD by sector of performance, 1984-85 to 2006-07<sup>655</sup>**



The shift towards business in R&D funding and performance indicates a positive trend in Australian innovation as it will likely result in improvements to the capacity of companies and industry sectors to compete in the global economy. In 2007-08, business expenditure on research and development (BERD) was \$14.38 billion, a 15 per cent increase from 2006-07. In the five years leading to 2007, BERD increased at an average annual rate of 12 per cent. Despite these improvements, the BERD to gross domestic product (GDP) ratio of 1.27 per cent remains below the Organisation for Economic Co-operation and Development (OECD) country average of 1.58 per cent. The Committee notes that this gap is closing, however, with Australia obtaining up to 80 per cent of the OECD average in 2007-08, from just 46 per cent in 1998-99.<sup>656</sup>

Another important measure of innovation by businesses is the extent to which firms diffuse and incorporate new products and processes into their business operations. In 2007-08, 39.1 per cent of Australian companies reported introducing or implementing at least one type innovation into their business:

The most common type of innovation introduced in 2007-08 was new goods or services at 21.9 per cent of businesses surveyed, up 3.2 percentage points from 2006-07. Businesses reporting new operational processes rose slightly from 17 per cent in 2006-07 to 17.6 per cent in 2007-08, while 19 per cent of businesses reported new organisational and managerial processes (up 2.5 percentage points), and 14.6 per cent reported new marketing methods (up 1.7 percentage points).<sup>657</sup>

<sup>655</sup> Department of Innovation Industry Science and Research, *Australian innovation system report 2010*, Canberra, 2010, p. 16.

<sup>656</sup> Department of Innovation Industry Science and Research, *Australian innovation system report 2010*, Canberra, 2010.

<sup>657</sup> Department of Innovation Industry Science and Research, *Australian innovation system report 2010*, Canberra, 2010, p. 18.

Current evidence suggests business sector innovation is widespread in both high-tech and low-tech firms, with the former spending more on R&D, and the latter on technology acquisition.<sup>658</sup>

**Finding 35:** Enhanced funding of, and commitment to, research and development in the private sector indicates a positive trend in Australian innovation, potentially contributing to the improved capacity of Australian firms to effectively compete in the global economy.

Despite improvements in business R&D expenditure, international comparisons of innovative performance show that overall Australia is struggling to keep up with the rest of the world. This is principally due to a higher average public R&D spend in other countries. The OECD average R&D spend is 2.26 per cent of GDP, while Australia's average R&D spend is just 2.01 per cent, and is increasing at a much slower pace than other countries. For example, in China R&D expenditure is growing at an annual rate of 22 per cent, compared with eight per cent in Australia.<sup>659</sup> According to the OECD, developing economies like China are no longer only producing low-value products, but are shifting towards the creation and commercialisation of innovative products, processes and services.<sup>660</sup> As a consequence, the adoption of innovation as a core competitive strategy has become an important defence mechanism for companies in developed economies to move up the value chain.

Another important feature of the Australian national innovation system is international engagement, with an increasing number of multinational companies choosing to conduct R&D in Australia. A number of commentators argue that globalisation is the greatest trend affecting innovation, as a company's motivation to innovate is often influenced by exposure to international markets. An ABS study found that the proportion of exporters undertaking technological innovation was almost 70 per cent compared to only 25 per cent of non-exporters.<sup>661</sup> Due to the relatively small size of Australia and the amount of research it produces, it is important that the national innovation system has access to and incorporates knowledge generated across the international community. Consequently, the future of manufacturing in Australia is dependent on improvements to innovation performance and productivity levels.

**Finding 36:** Because of the relatively small size of Australia, it is crucial that the national innovation system has access to and incorporates knowledge generated across the international community.

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<sup>658</sup> Department of Innovation Industry Science and Research, *Australian innovation system report 2010*, Canberra, 2010.

<sup>659</sup> Department of Innovation Industry Science and Research, *Powering ideas*, Canberra, 2009.

<sup>660</sup> Organisation for Economic Co-operation and Development, *Innovation and growth: rationale for an innovation strategy*, 2007.

<sup>661</sup> Australian Chamber of Commerce and Industry, *The future of Australia's manufacturing sector: a blueprint for success*, Australian Chamber of Commerce and Industry, Barton, 2007.



## 9.1.2 Australian manufacturing sector

The Australian manufacturing sector is made up of a diverse range of small, medium and large-sized companies that are typically involved in medium-technology areas of R&D and innovation. With many Australian manufacturers operating in niche markets, the sector is a major conduit for technological change and an important source of innovation in Australia.<sup>662</sup>

This proposition is supported by evidence about the proportion of innovating companies operating in selected industry sectors, with 45 per cent of Australian manufacturing companies considered innovators in 2007-08, the third highest industry sector behind the wholesale sector (51.4 per cent) and the retail sector (50.9 per cent). The average number of Australian innovating companies across all industries in 2006-07 was 40 per cent.<sup>663</sup>

The most recent data from the ABS indicates that R&D expenditure in the Australian manufacturing sector was approximately \$3.96 billion in 2006-07, an increase of 13.6 per cent from 2004-05. Table 13 demonstrates that the motor vehicle and part and other transport equipment industry contributed the most to manufacturing R&D expenditure (22 per cent); followed by the petroleum, coal, chemical and associated product manufacturing industry (17 per cent); the metal product manufacturing industry (16 per cent); and the photographic and scientific equipment manufacturing industry (11 per cent). According to the ABS, these four industries account for 66 per cent of total R&D expenditure by the manufacturing sector and 21 per cent of the total R&D expenditure by all sectors.<sup>664</sup>

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<sup>662</sup> Australian Business Foundation, 'Innovation - the future of Australian manufacturing', viewed 18 May 2010, <<http://www.nswbusinesschamber.com.au>>.

<sup>663</sup> Department of Innovation Industry Science and Research, *Australian innovation system report 2010*, Canberra, 2010.

<sup>664</sup> Australian Bureau of Statistics, *2009-10 Year book Australia*, Canberra, 2010.

**Table 13: R&D expenditure in manufacturing sector<sup>665</sup>**

<b>ANZSIC Subdivision</b>	<b>2004-05 \$m</b>	<b>2005-06 \$m</b>	<b>2006-07 \$m</b>	<b>% difference 2004-05 – 2006-07</b>
Food, beverage and tobacco manufacturing	343	331	384	10.67
Textile, clothing, footwear and leather manufacturing	35	39	31	-12.9
Wood and paper product manufacturing	115	150	130	11.53
Printing, publishing and recorded media	71	93	145	51.03
Petroleum, coal, chemical and associated product manufacturing	598	707	675	11.4
Non-metallic mineral product manufacturing	70	93	103	32.03
Metal product manufacturing	412	622	618	33.33
Motor vehicle and part and other transport equipment manufacturing	757	859	861	12.07
Photographic and scientific equipment manufacturing	320	223	422	24.17
Electronic and electrical equipment manufacturing	470	487	355	-32.39
Industrial machinery and equipment manufacturing	174	171	192	9.37
Other manufacturing	60	62	47	-27.65
<b>Total manufacturing</b>	<b>3 424</b>	<b>3 837</b>	<b>3 963</b>	<b>13.6</b>

A number of witnesses noted the value of innovation to the manufacturing sector, particularly among Victorian companies. Mr Philip Binns, the Chair of the Commonwealth Government's Future Manufacturing Industry Innovation Council (FMIIC), told the Committee that Victoria is well positioned to be at the forefront of knowledge-based manufacturing in Australia:

There is excellent research in the state through publicly funded research organisations – you have the biggest CSIRO division in Victoria, and we have got world-class universities; I think Melbourne is one of the top five bioprecincts in the world, which is all well-known. Having said that, it is there, and it is a key advantage in the state that there is that research there.

A high percentage that invest in R and D are domiciled in Victoria, so a lot of technology-based companies, or those that would spend in excess of 10 per cent of their sales on R and D, are located in the state in various different areas, and they are significant industries in terms of food, biotech and engineering. They are all industries that have a long-term future, both globally and in Australia. Victoria as a state is very well positioned to be at the forefront in Australia of what you might call knowledge-based manufacturing, focusing on the national issues and problems and then

<sup>665</sup> Australian Bureau of Statistics, *2009-10 Year book Australia*, Canberra, 2010, p. 581.

focusing on how you solve them and generate manufacturing as a downstream activity in Victoria.<sup>666</sup>

Submissions to the Inquiry drew attention to a number of companies and industries that have made innovation a key focus of operations. From a regional perspective, the Geelong Manufacturing Council and the City of Greater Dandenong stated that their respective local manufacturing industries are moving into more specialised areas of manufacturing with a greater focus on R&D, design and engineering.<sup>667</sup> From an industry perspective, the Committee was told that advanced manufacturing was heavily reliant on innovation, with its competitive advantage depending on intellectual property (IP), continued R&D, fast commercialisation and clever marketing.<sup>668</sup> The automotive industry, which is closely aligned with advanced manufacturing, also significantly invests in R&D and innovation. According to the Federal Chamber of Automotive Industries (FCAI), this industry is a vital component of the national innovation system, accounting for around ten per cent of total business R&D and more than 20 per cent of R&D undertaken by the broader manufacturing sector.<sup>669</sup>

Some submissions expressed concern about the level of, and barriers to, innovation within the manufacturing sector.<sup>670</sup> In particular, Engineers Australia outlined in its submission the following key impediments to innovation as identified by its members:

- lack of leadership and commitment from management to innovate;
- unavailability of technology resources and inadequate strategic alliances, including industry/university collaborations;
- uninformed clients and customers;
- complicated government policy and programs; and
- inadequate levels of skilled staff.<sup>671</sup>

A study commissioned by the Australian Business Foundation into the level of innovation in the manufacturing sector found that “while there is evidence of manufacturers engaging in some innovative business practices, especially towards achieving production efficiencies, they generally fail to appreciate and employ innovation as a decisive

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<sup>666</sup> Philip Binns, Chair, Future Manufacturing Industry Innovation Council, *Transcript of evidence*, 28 October 2009, p. 4.

<sup>667</sup> City of Greater Dandenong, *Submission*, no. 20, 3 August 2009; Geelong Manufacturing Council, *Submission*, no. 16, 1 August 2009.

<sup>668</sup> Advanced Manufacturing Cooperative Research Centre, et al., *Submission*, no. 50, 20 August 2009.

<sup>669</sup> Federal Chamber of Automotive Industries, *Submission*, no. 58, 21 September 2009.

<sup>670</sup> Advanced Manufacturing Cooperative Research Centre, et al., *Submission*, no. 50, 20 August 2009; Australasian Railway Association and Australian Railway Industry Corporation, *Submission*, no. 40, 7 August 2009; City of Greater Dandenong, *Submission*, no. 20, 3 August 2009; Confectionery Manufacturers of Australasia Limited, *Submission*, no. 46, 17 August 2009; International Fibre Centre, *Submission*, no. 3, 9 July 2009; Kingston City Council, *Submission*, no. 61, 17 September 2009; Maroondah City Council, *Submission*, no. 45, 17 August 2009; MaxiTRANS Australia Pty Ltd, *Submission*, no. 22, 3 August 2009; South East Melbourne Manufacturers Alliance Inc, *Submission*, no. 36, 3 August 2009; TXM Pty Ltd, *Submission*, no. 10, 30 July 2009; Yarra Ranges Shire Council, *Submission*, no. 55, 7 September 2009.

<sup>671</sup> Engineers Australia, *Submission*, no. 38, 4 August 2009, p. 11.

competitive strategy.”<sup>672</sup> The study also indicated that European companies were two-and-a-half times more likely to consider innovation an important factor for their competitiveness.<sup>673</sup>

The Committee acknowledges that there is significant scope for improving the level of innovation within the sector, particularly among small to medium size enterprises, many of which lack the know-how and appropriate skills to adopt a strategic approach to innovation. The Committee shares the view that future competitiveness of the manufacturing sector will depend on the capacity of manufacturers to move into areas of specialisation, and more specifically their ability to create new and/or better products than are manufactured elsewhere. To achieve this, it is crucial that these manufacturers play to their strengths, rather than “follow the herd.”<sup>674</sup>

## 9.2 Government support for innovation

Over the last decade, there has been growing awareness within Commonwealth, State and Territory governments about the contribution of innovation to GDP. This is reflected in the vast amount of work, particularly at the commonwealth level, aimed at driving innovative activities across all sectors. A significant piece of work in this regard was the Review of the National Innovation System in 2008, commissioned by the Commonwealth Department of Innovation, Industry, Science and Research. The review’s final report *Venturous Australia* contained 72 recommendations, providing a “blueprint for the remodelling of Australia’s innovation system.” In response, the Commonwealth Government released *Powering Ideas*, a ten-year innovation reform agenda detailing the Government’s seven National Innovation Priorities to help focus public sector research, as well as the production, diffusion and application of new knowledge:

Priority 1: Public research funding supports high-quality research that addresses national challenges and opens up new opportunities.

Priority 2: Australia has a strong base of skilled researchers to support the national research effort in both the public and private sectors.

Priority 3: The innovation system fosters industries of the future, securing value from the commercialisation of Australian research and development.

Priority 4: More effective dissemination of new technologies, processes, and ideas increases innovation across the economy, with a particular focus on small and medium-sized enterprises.

Priority 5: The innovation system encourages a culture of collaboration within the research sector and between researchers and industry.

Priority 6: Australian researchers and businesses are involved in more international collaborations on research and development.

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<sup>672</sup> Professor Mark Dodgson and Dr Peter Innes, *Australian innovation in manufacturing: results from an international survey*, Australian Business Foundation, North Sydney, 2006, p. 4.

<sup>673</sup> Professor Mark Dodgson and Dr Peter Innes, *Australian innovation in manufacturing: results from an international survey*, Australian Business Foundation, North Sydney, 2006.

<sup>674</sup> Sarah Box, *OECD work on innovation - a stocktaking of existing work*, Paris, 2009, p. 13.

Priority 7: The public and community sectors work with others in the innovation system to improve policy development and service delivery.<sup>675</sup>

The *Powering Ideas* report committed to the establishment of the Industry Innovation Councils. There are seven councils, four of which operate within the manufacturing sector: automotive; future manufacturing; steel; and textile, clothing and footwear industries. The councils bring together people from industry, unions and professional organisations, science and research agencies, and government, all of whom are working together to build a strong innovation culture. These councils are discussed in Chapter Five.

At the state level, the Victorian Government's innovation statement *Innovation: Victoria's Future* outlines initiatives to further the innovation capacity of various sectors, including the advanced manufacturing industry. The Victorian Government has also been particularly supportive of the highly innovative and specialised biotechnology sector, with Victoria now considered an internationally leading location for various life science areas.<sup>676</sup> The Victorian Government has significantly invested in science, technology and innovation infrastructure and has worked towards providing a competitive business environment to ensure that Victoria continues to be an attractive location for biotechnology investors. The Victorian biotechnology sector is characterised as follows:

- in the first half of 2009, there were 13 profitable listed life science companies, up from five in 2005;
- the total of biotechnology companies' R&D expenditure in June 2009 was \$653 million, an increase of almost 150 per cent since June 2002;
- clinical trial activity within biotechnology companies continues to rise, with 12 Phase III programs underway at October 2009 (compared to three in 2005) and 39 Phase II programs underway (compared to 21 in 2005); and
- in 2009, Victoria's life science sector employed more than 22,000 people, with employment in the core biotechnology companies increasing by over 65 per cent since 2004.<sup>677</sup>

An example of one of Victoria's biotechnology companies is described in Text Box 6.

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<sup>675</sup> Department of Innovation Industry Science and Research, *Powering ideas*, Canberra, 2009, p. 4.

<sup>676</sup> Department of Innovation Industry and Regional Development, *Victorian biotechnology strategic development plan 2007 Towards 2010: year 2 progress report*, Melbourne, 2010.

<sup>677</sup> Department of Innovation Industry and Regional Development, *Victorian biotechnology strategic development plan 2007 Towards 2010: year 2 progress report*, Melbourne, 2010.

### **Text Box 6: Innovative Victorian biotechnology company.<sup>678</sup>**

MiniFAB is a Melbourne-based company that creates advanced products through the implementation of unique scientific engineering and manufacturing know-how. MiniFAB is highly regarded in the global market as a niche manufacturer in the design, development and manufacture of polymer micro-engineered systems for biotech, health, agriculture and the food industries. It has a special focus on the biotechnology and diagnostics sector.

MiniFAB was launched in 2002 and it now employs 30 people. It is one of only a few biotech designers and manufacturers in the world, and is considered one of a kind in Australia. As told by MiniFAB's Chief Executive Officer, Dr Erol Harvey, all of its clients are internationally based:

We've had a long-term collaboration with Amcor here in Australia working on food packaging technology and a few other projects with other clients, but 80 per cent of our business comes from overseas. There isn't much competition in Australia for what we do, but then again, the market isn't big here so we couldn't just rely on local clients to keep the business ticking over.

Dr Harvey is a member of the Commonwealth Government's FMIC, which he believes has many tasks ahead, particularly in determining where Australia fits in the global supply chain.

The Committee believes mechanisms employed by the Victorian Government to support the biotechnology sector provide a useful example of how governments can promote and facilitate innovation within industry sectors. While the Committee believes it is the responsibility of individual companies to prioritise innovation as a core business strategy, it is the responsibility of governments to provide the appropriate business settings to allow innovation in companies to flourish. In this context, one of the key contributions required of governments to encourage greater take up of R&D is a strong economic environment that provides firms with the confidence to invest in projects with long-term returns.

**Finding 37: The provision of a strong economic and business environment is one of the key contributions governments can make to encourage greater take-up of research and development and other innovative activities within the private sector.**

Aside from creating stable business environments, there are strong justifications for governments employing other mechanisms to support innovation. For example, a number of studies demonstrate that investment in R&D is associated with high rates of return.<sup>679</sup> The spillover benefits to the wider community arising from R&D activities conducted by universities, public research agencies and businesses also provides a strong argument for government support in this area. In particular, publicly funded research is valuable because it is more likely to have a long-term focus and

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<sup>678</sup> Nina Hendy, 'A medical marvel', *Australian Manufacturing Technology*, no. July 2009, pp. 28-29.

<sup>679</sup> House of Representatives Standing Committee on Economics Finance and Public Administration, *Australian manufacturing: today and tomorrow*, Canberra, 2007; Organisation for Economic Co-operation and Development, *Innovation and growth: rationale for an innovation strategy*, 2007.

uncertain returns compared to privately funded R&D. The outcomes of publicly funded research can also benefit R&D activities in businesses through knowledge transfers.<sup>680</sup>

According to OECD analysis, a number of government-related factors influence R&D intensity and innovation, including:

- Reduction of anti-competitive product market regulations, which stimulates business R&D and strengthens the incentives to innovate. Moreover, a low level of restrictions on foreign direct investment is important, as it can improve cross-border knowledge transfers;
- Stable macroeconomic conditions and low real interest rates which encourage the growth of innovation activity by creating a stable and low-cost environment for investment in innovation;
- Availability of internal and external finance;
- An expansion in public research, which can support business sector research, although expanding both at the same time will require efforts to raise the supply of human resources;
- Fiscal incentives, which can be effective in raising R&D, especially when firms face financial constraints. Tax relief for private R&D is often found to provide a stronger stimulus to business R&D than direct government support. This may be because much direct support for R&D is aimed at meeting government objectives, such as energy security or defence, and not at stimulating private R&D;
- Openness to foreign R&D, which is associated with higher productivity growth, especially when domestic R&D investment and capabilities are also high.<sup>681</sup>

### 9.2.1 Tax support for R&D

In Australia, the R&D Tax Concession is the largest single mechanism for public funding support of business R&D, with support estimated to be worth \$500 million per annum.<sup>682</sup> The concession is the Commonwealth Government's principal initiative to increase the amount of R&D undertaken in Australia and to encourage innovative, competitive and export-oriented Australian industries. It is available to all Australian companies and offers the following:

- a tax deduction of up to 125 per cent of expenditure incurred on R&D activities;
- a 175 per cent Incremental (Premium) Concession;
- a 175 per cent International Premium Concession; and

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<sup>680</sup> Sarah Box, *OECD work on innovation - a stocktaking of existing work*, Paris, 2009.

<sup>681</sup> Organisation for Economic Co-operation and Development, *Innovation and growth: rationale for an innovation strategy*, 2007, p. 9.

<sup>682</sup> Dr Terry Cutler, *Venturous Australia*, Canberra, 2008.

- the R&D tax offset.<sup>683</sup>

Approximately 8,000 companies of all sizes and from all sectors are currently registered for the Tax Concession.<sup>684</sup>

During the Inquiry process, the Committee became aware of questions around the effectiveness of the R&D Tax Concession, with the Review of the National Innovation System stating that “the evidence around a scheme which has operated for nearly 25 years is astonishingly poor.”<sup>685</sup> The national review found that many of the problems with the concession were addressed by establishing additional components, such as the 175 per cent premium and the tax offset, rather than examining how the concession could be restructured and streamlined. As a consequence, it has become fragmented and overly complex.

In response to these growing concerns, the national review recommended replacing the concession with a tax credit, a proposal that was supported by the Commonwealth Government. Since 1 July 2010, the R&D Tax Credit has replaced all of the Concession and provides the following:

- a 45 per cent refundable tax credit (the equivalent to a 150 per cent concession) for eligible companies with an aggregated turnover of less than \$20 million per annum; and
- a 40 per cent non-refundable tax credit (the equivalent of a 133 per cent deduction) for all other eligible companies.<sup>686</sup>

A significant difference between the two tax incentives is that the Tax Credit has tightened the eligibility criteria to ensure that only genuine R&D receives support. This addresses a key issue with the Tax Concession regarding its limited capacity to screen out R&D that would be conducted regardless of the concession. The Committee notes, however, that the change in definition has led a number of manufacturers to suggest that the new system will stretch their resources and force them to spend more time and money on tax compliance paperwork at the expense of research.<sup>687</sup> This is a particular concern for SMEs, many of which may not have the internal resources to establish compliance procedures to determine which aspects of research are eligible for the Tax Credit. According to the Advanced Manufacturing Coalition, the changed definitions are “too severe” as they rule out “tax credits for essential development work such as tests, trials and troubleshooting needed to take research from the laboratory bench to the marketplace.”<sup>688</sup> As the R&D Tax Credit had not been implemented at the time of writing this report, there was no opportunity to test these concerns.

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<sup>683</sup> AusIndustry, 'R&D Tax Concession', viewed 26 May 2010, <<http://www.ausindustry.gov.au>>.

<sup>684</sup> Department of Innovation Industry Science and Research, *Australian innovation system report 2010*, Canberra, 2010.

<sup>685</sup> Dr Terry Cutler, *Venturous Australia*, Canberra, 2008, p. 101.

<sup>686</sup> AusIndustry, 'R&D Tax Credit', viewed 26 May 2010, <<http://www.ausindustry.gov.au>>.

<sup>687</sup> Rosslyn Beeby, 'Paperwork will replace research, Senate probe told', *The Canberra Times*, 25 May 2010.

<sup>688</sup> Rosslyn Beeby, 'Paperwork will replace research, Senate probe told', *The Canberra Times*, 25 May 2010.



During its investigations, the Committee drew on other evidence which questioned the overall effectiveness of tax incentives in supporting R&D activities as opposed to the provision of direct government grants. A number of commentators applaud tax incentives because of their market driven approach where government agencies are not in a position to 'pick winners' or decide which R&D is of high quality and worthy of public sector funding.<sup>689</sup> On the other hand, there is a common view that this approach provides no quality control, and there is a greater risk of research duplication. In addition, because companies are more inclined to choose R&D that is of benefit to them, R&D is likely to provide a lower rate of social and cross-industry return compared to government selected R&D.<sup>690</sup>

When reviewing the effectiveness of tax incentives, it is important to consider whether they achieve the common purpose of increasing R&D activities in businesses. Analysis of the evidence indicates that tax policies can induce higher business R&D expenditure, with estimates of the elasticity of R&D to its price varying from 1 to 1.5-1.8.<sup>691</sup> The R&D Tax Credit is expected to induce more R&D for the following reasons:

First, it tilts support in favour of small and medium-sized businesses, which are more responsive to fiscal incentives. Second, it makes cash refunds available to more firms, including capital-starved start-ups in biotechnology and other high-tech industries. Third, it is simpler and more predictable than the present tax concession. Fourth, it increases certainty by uncoupling the level of R&D support from the corporate tax rate. And fifth, it is consistent with international best practice.<sup>692</sup>

Another key factor in determining the effectiveness of tax incentives is the extent that they will have a positive influence on the R&D expenditures of SMEs. An OECD report indicated that subsidies typically have a greater impact on SMEs than larger companies, suggesting that tax incentives are used by smaller companies to support activities that would not otherwise be funded.<sup>693</sup> The Committee shares the view that increasing the take-up of R&D among SMEs should be a significant outcome of the R&D Tax Credit. SMEs are considerably less likely to innovate than larger companies, with evidence indicating that 70 per cent of business R&D is conducted by companies with 200 or more employees.<sup>694</sup> With the high proportion of small and medium-size businesses in Australia, there is a significant opportunity to enhance their involvement in the national innovation system. Building their innovation capacity is also critical to the future competitiveness of the Australian manufacturing sector.

While it is too early to evaluate the R&D Tax Credit, it is important that future assessments of its effectiveness focus on its impact for driving R&D among SMEs. Consequently, the Committee recommends that the Victorian Government, through the Small Business Ministerial Council,

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<sup>689</sup> House of Representatives Standing Committee on Economics Finance and Public Administration, *Australian manufacturing: today and tomorrow*, Canberra, 2007.

<sup>690</sup> Sarah Box, *OECD work on innovation - a stocktaking of existing work*, Paris, 2009.

<sup>691</sup> Sarah Box, *OECD work on innovation - a stocktaking of existing work*, Paris, 2009.

<sup>692</sup> Department of Innovation Industry Science and Research, *Powering ideas*, Canberra, 2009, p. 47.

<sup>693</sup> Sarah Box, *OECD work on innovation - a stocktaking of existing work*, Paris, 2009.

<sup>694</sup> Department of Innovation Industry Science and Research, *Powering ideas*, Canberra, 2009.

encourage the Commonwealth Government to continue to monitor the effectiveness of the R&D Tax Credit on small business R&D.

Recommendation 23: That the Victorian Government, through the Small Business Ministerial Council, encourage the Commonwealth Government to assess the efficacy of the Research and Development Tax Credit for stimulating new research and development by small to medium size enterprises.

## 9.2.2 Procurement

As discussed in Chapter Six, governments are major consumers of goods and services, and can act as a catalyst for innovation by paying a premium for it. In this context, the Committee heard from a number of witnesses that the purchasing power of government can stimulate innovation as long as procurement and tendering processes allow it. Mr Peter Burn, the Associate Director of Public Policy at the Australian Industry Group (AiG) told the Committee that in their role as procurers, governments should encourage more innovation among their suppliers to help them develop a competitive edge rather than simply provide them with a protected market.<sup>695</sup> Similarly, Ms Michelle O'Neil, the National Secretary of the Textile, Clothing and Footwear Union of Australia (TCFUA) advised of the role of government procurement in encouraging innovation within the manufacturing sector:

One of the great spin-offs for government policy of its own procurement locally is that it allows innovation and investment because you have a degree of certainty. You are able to think, 'Okay, I know I have this contract for a three-year period,' and that, for a business, allows them to say, 'I'm going to make the commitment in terms of skill development training and innovation and research and design,' that you would not otherwise be able to make in the industry.<sup>696</sup>

Dr Mark Trigg, the Managing Director of the Advanced Manufacturing CRC, described to the Committee a specific product currently under development that would benefit from government procurement. Dr Trigg stated that rather than offer the company, Blade Electrical Vehicles, financial assistance to develop its electrical vehicle, governments could place a future order for the vehicle, which would provide the company with a degree of certainty and reduce its commercial risk:

I think what we need to do, and I think this is where government can come in, is to offer the incentive and reduced commercial risk down the track by getting involved in, say, a procurement type strategy as well as a funding type of strategy. For example, in terms of Blade Electric Vehicles, the commercial risk can greatly be reduced by the fact they know they will get a certain number of sales over a period of time which they can then amortise their research costs.

The other thing is they can go out and get other sources of funding, including non-government funding, to fund the development phase of this

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<sup>695</sup> Peter Burn, Associate Director of Public Policy, Australian Industry Group, *Transcript of evidence*, 6 August 2009.

<sup>696</sup> Michele O'Neil, National Secretary and Victorian Secretary, Textile, Clothing and Footwear Union of Australia, *Transcript of evidence*, 7 August 2009, p. 10.

project. Why? Because they know they will be able to get orders down the track.<sup>697</sup>

A UK House of Commons report *The future of UK manufacturing: public procurement* referred to the concept of “smart” procurement as a way to encourage innovation among manufacturing companies. It was suggested that rather than have government project briefs specify exactly what is required at the cheapest price, project briefs should state what they want to achieve but not how to achieve it. This would consequently stimulate innovation among companies as they attempt to establish various ways of delivering the requirement, which could also potentially provide better value for money over the life of the project. This recommendation was made in response to evidence demonstrating that by concentrating on specifying means rather than ends, purchasers were reducing competition among tenderers and failing to promote innovation and sustainability.<sup>698</sup>

The Committee notes that the Victorian Industry Participation Policy (VIPP) Guidelines is consistent with this approach as it advocates for project briefs to be performance orientated rather than design specific. However, as discussed in Chapter Six, the extent that Victorian Government agencies are aware of and actively employ this approach in their procurement activities is unknown. To help redress this issue, the Committee recommended that the Procurement and Contracting Centre for Education and Research (PCCER) develop an information session on the implementation of the VIPP to target all government personnel that use the VIPP in their procurement activities. As part of this, the Committee proposes that the information session should also focus on the potential for “smart” procurement practices to promote innovation among manufacturing companies.

Recommendation 24: That the Victorian Industry Participation Policy information session, to be developed by the Procurement and Contracting Centre for Education and Research, include a focus on the role of procurement in driving innovation among local manufacturing firms.

The Committee acknowledges challenges associated with using government procurement as a mechanism to drive innovation, especially considering the general aversion across governments to bear risk. The outcomes of innovation efforts are highly uncertain, particularly in the early stages of development, and governments have a responsibility to be accountable in their spending to ensure an efficient use of taxpayers’ money. The Review of the National Innovation System argues, however, that despite the likely risks, governments still have a responsibility to actively participate in the innovation system:

Supporting innovation is somewhat different to other investments that governments make in that the returns are medium to long term and difficult to quantify ahead of time. Only a small proportion of entrepreneurs and innovators succeed but their successes can be so large that they outweigh the costs of failure. Indeed, in the innovation process, the failures are just

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<sup>697</sup> Dr Mark Trigg, Managing Director, Advanced Manufacturing CRC, *Transcript of evidence*, 23 November 2009, p. 7.

<sup>698</sup> House of Commons Trade and Industry Committee, *The future of UK manufacturing: public procurement*, London, 2007.

as important as the successful because, without their willingness to experiment and risk their capital and the capital of others, there would be no innovation process. The role of government is to encourage them to do this.<sup>699</sup>

While the Committee agrees with this statement, it is also aware that increasing government's use of procurement to drive innovation where there is a high level of risk requires an incremental shift in current government culture. In the first instance, the Committee believes that Victorian Government agencies should promote greater innovation in manufacturing firms through changing their approach to procurement as described above. Simultaneously, the Victorian Government should examine the linkages between procurement and innovation within the private sector to better understand the likely effectiveness of this policy initiative, with a view to developing a program that supports the innovative efforts of start-up companies through procurement, as an alternative or in addition to direct financial assistance.

**Recommendation 25:** That the Victorian Government consider the role of government procurement as a driver of innovation, with a view to developing a program that offers support to small and medium-size enterprises, including start-up companies, through procurement as an alternative or in addition to direct financial assistance.

## 9.3 Intellectual property protection

Throughout the course of the Inquiry, the Committee heard from witnesses about the importance of IP rights in facilitating innovation among the private sector.<sup>700</sup> In particular, the use of IP rights supported by a strong legal framework was viewed as providing companies with the freedom to take greater risks and invest in innovation activities.<sup>701</sup> In recognition of the growing importance of IP in international trade, the World Trade Organisation (WTO) facilitated the development among its members of the Trade-Related Aspects of Intellectual Property (TRIPS) Agreement, which aims to narrow the gaps in the way IP rights are protected around the world and bring them under common international rules. The TRIPS

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<sup>699</sup> Dr Terry Cutler, *Venturous Australia*, Canberra, 2008, p. 37.

<sup>700</sup> Advanced Manufacturing Cooperative Research Centre, et al., *Submission*, no. 50, 20 August 2009; Australia-Taiwan Business Council, *Submission*, no. 25, 3 August 2009; Australian Paint Manufacturers' Federation Inc, *Submission*, no. 19, 3 August 2009; CAST CRC Limited, *Submission*, no. 47, 18 August 2009; City of Greater Dandenong, *Submission*, no. 20, 3 August 2009; Engineers Australia, *Submission*, no. 38, 4 August 2009; William Ferme, *Submission*, no. 5, 23 July 2009; Future Manufacturing Industry Innovation Council, *Submission*, no. 15, 31 July 2009; Geelong Manufacturing Council, *Submission*, no. 16, 1 August 2009; International Fibre Centre, *Submission*, no. 3, 9 July 2009; Kingston City Council, *Submission*, no. 61, 17 September 2009; Maroondah City Council, *Submission*, no. 45, 17 August 2009; MaxiTRANS Australia Pty Ltd, *Submission*, no. 22, 3 August 2009; Schiavello (Vic) Pty Ltd, *Submission*, no. 14, 31 July 2009; Science Industry Australia Inc, *Submission*, no. 8, 31 July 2009; South East Melbourne Manufacturers Alliance Inc, *Submission*, no. 36, 3 August 2009; Yarra Ranges Shire Council, *Submission*, no. 55, 7 September 2009.

<sup>701</sup> Advanced Manufacturing Cooperative Research Centre, et al., *Submission*, no. 50, 20 August 2009; Schiavello (Vic) Pty Ltd, *Submission*, no. 14, 31 July 2009; South East Melbourne Manufacturers Alliance Inc, *Submission*, no. 36, 3 August 2009.

Agreement directly acknowledges the long-term benefits of IP protection in encouraging creation and invention.<sup>702</sup>

### 9.3.1 Awareness of IP rights

To achieve a smooth transition of new innovations into commercial products that create wealth for Australia, it is imperative that local manufacturers are aware of the IP rights available to them. Despite this, the Committee heard from witnesses that there is a limited understanding of IP management among many Australian companies.

The joint submission by Advanced Manufacturing Australia, the Australian Graduate School of Entrepreneurship at Swinburne University, CSIRO and the Advanced Manufacturing CRC stated that they often experience a lack of understanding about IP management among innovators, which as a consequence can often lead to the financial benefits of R&D investments flowing offshore. The joint submission indicated that while IP can be very complicated, there are some basic and fundamental concepts that are useful for innovators to know, and should be taught to students at the tertiary level. These points include learning about what IP is, how it is protected, who owns it, and how to conduct a patent search.<sup>703</sup>

Similar to the issue around management skills among SMEs discussed in Chapter Eight, the Committee is aware that many smaller companies also have a limited understanding of the IP system. With companies being offered greater incentives to conduct R&D through the R&D Tax Credit, SMEs will need to improve their understanding of the IP system. A critical factor in these companies securing a viable and competitive future is not only their capacity to be innovative but also an awareness of how to protect and exploit their IP.

**Finding 38:** An awareness of intellectual property rights among manufacturing firms is necessary to ensure that investment in research and development and other innovative activities are realised for the benefit of individual firms and for Australia overall.

As part of the network of manufacturing business advisers, as recommended in Chapter Six, there is a need for dedicated manufacturing advisers to provide education and advisory services to manufacturing companies regarding IP management.

**Recommendation 26:** That the network of manufacturing business advisers, as proposed in Recommendation 6, provide education and advisory services to manufacturing small to medium size enterprises regarding management of intellectual property.

### 9.3.2 Patents

The application of patents is the most appropriate formal mechanism to protect IP within the manufacturing sector, as they aim to provide

<sup>702</sup> World Trade Organisation, 'Intellectual property: protection and enforcement', viewed 27 May 2010, <<http://www.wto.org/>>.

<sup>703</sup> Advanced Manufacturing Cooperative Research Centre, et al., *Submission*, no. 50, 20 August 2009.

protection to manufacturers when they invent a new technology that may lead to the development of a product, composition or process with significant long-term commercial gain. IP Australia defines a patent as a “right granted for any device, substance, method or process which is new, inventive and useful.”<sup>704</sup> In applying for a patent, the inventor is required to prove its worth, although upon approval, the patent owner has the right to exclude, or place conditions on, the use of patented material by others. A key condition upon the grant of patent is that the patent be published, providing the wider community with key information about the product or process. In 2007, IP Australia granted 1,130 patents to Australian residents.<sup>705</sup>

While the Committee understands the value of patents in protecting new inventions, the Committee was told that the application of a patent is not always the most feasible option for some products. Mr Lloyd Joseph, the Managing Director of IP Plastics, a Melbourne-based manufacturing company that develops thermoplastic and thermoplastic composites for the automotive industry, advised the Committee that while the company holds some provisional patents, it is still undecided as to whether the majority of information should remain as trade secret. Mr Joseph indicated that as soon as the information is patented, it is in the public domain where there is the potential risk of the technology being modified and redeveloped as an alternative product by another company:

There is more information that we are basically putting under provisional patent. We have about 18 months before we have to publish that patent information, and we will decide at that point whether it is best to put it out in the open or to withdraw that and you have it purely as a trade secret. I say that because of the process and because you cannot tell by looking at the final part what process has been used. The difficulty we have here is that if we patent it and that is out there, published and we do not have very strong support to protect our intellectual property, we are basically just telling our competitors what they need to do to make a part like ours.<sup>706</sup>

In this context, the Committee notes that the Australian patent system may not offer the appropriate form of protection to all manufacturing companies, particularly start-up companies. On the other hand, the Committee is aware of an emerging view that suggests the current patent system hampers innovation. The Review into the National Innovation System reported that patents are too easily granted, and in instances where they are ambiguously defined, it is difficult for other innovators to determine what innovations might be subject to prior claims of patent holders. This issue was also discussed in the Committee’s previous *Inquiry into Improving Access to Victorian Public Sector Information and Data*, where it was found that “the proliferation and interdependence of patents can act as a barrier to innovation and the delivery of new products to the market.”<sup>707</sup>

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<sup>704</sup> IP Australia, 'What is a patent?', viewed 27 May 2010, <<http://www.ipaustralia.gov.au>>.

<sup>705</sup> Department of Innovation Industry Science and Research, *Australian innovation system report 2010*, Canberra, 2010.

<sup>706</sup> Lloyd Joseph, Managing Director, IP Plastics Pty Ltd, *Transcript of evidence*, 22 January 2010, pp. 7-8.

<sup>707</sup> Economic Development and Infrastructure Committee, *Inquiry into Improving Access to Victorian Public Sector Information and Data*, Parliament of Victoria, East Melbourne, 2009, p. 53.

Given the critical role of IP protection in encouraging innovative activities among local manufacturers, it is necessary to determine whether the existing IP system supports or acts as a barrier to the development of new products and processes. Research should be conducted to examine the types of IP protection, if any, employed by local manufacturers; key concerns regarding the existing IP system; and possible solutions to ensure manufacturers, and other industry sectors, are operating in an environment where innovation is stimulated.

**Recommendation 27:** That the Victorian Government raise with the Council of Australian Governments the need to commission research on the existing IP system to determine whether it adequately stimulates innovation among industry sectors in Australia.

### 9.3.3 Counterfeiting

In regard to the international protection of IP, a number of witnesses expressed concern about the occurrence of product copying, especially in developing economies.<sup>708</sup> The City of Greater Dandenong stated in its submission that a key concern among its business constituents is the enforcement of IP when an international breach occurs:

...manufacturers in Greater Dandenong believe that the issue of enforcement, particularly with the growing economies of the world, remains a matter of grave concern as they see breach of regulation a potential threat to their business sustainability. Consequently, there is strong tendency to source only sub-assemblies overseas and inhibits some companies to compete in a global economy.<sup>709</sup>

In response to this issue, the City of Kingston advised in its submission that some companies deliberately do not install advanced equipment and technologies in China, and prefer only to conduct low-value production there.<sup>710</sup> The Committee acknowledges these concerns, and shares the view that these practices limit the competitiveness of Australian manufacturers. Product copying is also of concern given the potential health and safety consequences that may arise from the expansion in the quantity and range of imitation products.

Part three of the WTO TRIPS Agreement outlines how IP can be enforced under individual government laws, including among other things how enforcement should be handled, rules for obtaining evidence, and appropriate penalties. In particular, the agreement states that courts should have the right, under certain conditions, to order the disposal or destruction of pirated or counterfeit goods.<sup>711</sup> In receiving evidence from the Commonwealth Department of Foreign Affairs and Trade (DFAT), the Committee heard that through DFAT's trade branch, Australia participates in WTO disputes where there are suspected IP breaches:

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<sup>708</sup> City of Greater Dandenong, *Submission*, no. 20, 3 August 2009; Kingston City Council, *Submission*, no. 61, 17 September 2009; MaxiTRANS Australia Pty Ltd, *Submission*, no. 22, 3 August 2009; South East Melbourne Manufacturers Alliance Inc, *Submission*, no. 36, 3 August 2009.

<sup>709</sup> City of Greater Dandenong, *Submission*, no. 20, 3 August 2009, p. 4.

<sup>710</sup> Kingston City Council, *Submission*, no. 61, 17 September 2009.

<sup>711</sup> World Trade Organisation, 'Intellectual property: protection and enforcement', viewed 27 May 2010, <<http://www.wto.org/>>.

We do participate. For Australia the decision to participate in a dispute is taken very carefully, because they are extremely litigious and resource intensive exercises. We have to pick our battles very carefully to make sure that we are positioned well. Yes, we do participate in disputes against other WTO members, including China.<sup>712</sup>

Aside from the TRIPS Agreement, international IP protection is also separately addressed in Australia's free trade agreements (FTA) with various countries. The Commonwealth Government is currently negotiating an FTA with China, which upon completion, may provide further protection against counterfeiting of Australian products. Addressing this issue is crucial on the basis of not only pursuing health and safety precautions, but also ensuring Australian products remain leading-edge in global markets.

Finding 39: Protection of Australian-made products from counterfeiting, particularly in developing economies, should be a priority to ensure the competitiveness of local manufacturers in domestic and global markets is maintained.

## 9.4 Commercialisation

The challenges associated with the commercialisation of R&D in Australia are commonly identified as barriers to enhancing the innovative performance of the Australian manufacturing sector. An issue for many industry sectors, including those directly involved in science and technology R&D, is the propensity for value creation but the limited capacity for value capture.<sup>713</sup> Ms Angela Krepcik, the Chief Executive Officer of Advanced Manufacturing Australia, told the Committee:

...we are good at R&D development and we are good at design and the rest of it but that is about it. We do not know what else to do with it. We might already have hidden secrets in our company. The mindset around IP and commercialisation is just not as effective as other countries.<sup>714</sup>

Similarly, Dr Trigg of the Advanced Manufacturing CRC advised the Committee that many people involved in R&D lack the necessary skills and knowledge to commercialise their ideas and technologies:

Case in point: when you talk about a project, how many of those projects involve people with a commercialisation background to be able to sell the project? Do they know what the path to market for that project is?

What will normally happen is they will extol the virtues of the technical merits of the project. That is fantastic but now tell me how you are going to make money? Tell me how you are going to get to the point of commercialising this? Who are your customers? Who are your customers'

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<sup>712</sup> Remo Moretta, Director, Free Trade Area Commitments and Implementation Section, Office of Trade Negotiations, Department of Foreign Affairs and Trade, *Transcript of evidence*, 28 October 2009, p. 9.

<sup>713</sup> Mark Trigg, 'Can we cross the valley of death to commercialise our best IP?', *On line opinion*, 8 October 2009, viewed [www.onlineopinion.com.au](http://www.onlineopinion.com.au).

<sup>714</sup> Angela Krepcik, Chief Executive Officer, Advanced Manufacturing Australia, *Transcript of evidence*, 6 August 2009, p. 13.



customers? Usually you will get, 'This is research. How could I possibly tell you all this?'. So it is research for research sake.<sup>715</sup>

The Committee heard from various witnesses that it is particularly difficult for SMEs to test new concepts, as they have limited access to the necessary capital, and there is often reluctance among third parties to invest in this capital because of the high risks associated with the early stages of the innovation process. This is commonly referred to as the "valley of death" where innovators and entrepreneurs have limited access to the capital to invest in the appropriate infrastructure required to commercialise their market ready technology and processes.<sup>716</sup> In his presentation to the Committee, Dr Trigg advised of the three phases of commercialisation, the third phase of which Australia is perceived to experience difficulties:

I think there are three phases. There is the initial proof of concept, which is pretty easy to fund – up to \$100 000. There is the next demonstration step which is up to say \$500 000 to \$1 million, and then there is the \$2 million to \$10 million for reducing it to practice. We fund the first one very well, the second one we sort of do all right, and the third one is like the valley of death. What we do is fatten them up to fall in a heap, unfortunately, because we do not want to spend the \$2-\$10 million supporting them.<sup>717</sup>

Some commentators argue that a reluctance to invest in the commercialisation of technology in Australia may lead to a reduced capacity to absorb R&D. While Australia has the capabilities to conduct research locally, without the capital to commercialise, there is the risk that technology will be divested and relocated offshore. Another common scenario is smaller companies not having the capital or the economies of scale to expand their operations until they are integrated into larger companies, typically multinationals who are likely to direct the spillover benefits to their home economy.<sup>718</sup> As a consequence, some witnesses called for a greater focus on helping SMEs to expand their operations rather than focus too heavily on multinationals:

One of the things about trying to attract, say, multinationals, is that a lot of the time, if you are looking for the innovation side of things, most of that innovation will be exploited elsewhere, outside of Australia. We have taken the view that we should be trying to help smaller SMEs grow to incorporate IP rather than offering a subsidy to a large multinational, which can have its research done anywhere and usually can do it much more effectively internally because it has access to large resources, infrastructure and so on...We have to be very careful thinking that we can actually do a lot of groundbreaking research and development in Australia when you are taking on, say, a multinational like GM or Toyota or Ford where they are able to take any knowledge that you might generate and exploit it to make money out of it, and it is probably not going to happen in Australia. That is why we have looked at SMEs. That is why we want to be involved with

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<sup>715</sup> Dr Mark Trigg, Managing Director, Advanced Manufacturing CRC, *Transcript of evidence*, 23 November 2009, pp. 9-10.

<sup>716</sup> Mark Trigg, 'Can we cross the valley of death to commercialise our best IP?', *On line opinion*, 8 October 2009, viewed [www.onlineopinion.com.au](http://www.onlineopinion.com.au).

<sup>717</sup> Dr Mark Trigg, Managing Director, Advanced Manufacturing CRC, *Transcript of evidence*, 23 November 2009, p. 7.

<sup>718</sup> TXM Pty Ltd, *Submission*, no. 10, 30 July 2009.

companies that are actually going to develop IP in Australia for the benefit of Australia.<sup>719</sup>

The Committee also received evidence indicating that countries with innovative SMEs are more attractive to large multinational companies, and that the presence of these smaller companies are important in maintaining a country's overall innovative efforts in instances when multinationals move their R&D offshore.<sup>720</sup>

While the Committee acknowledges the issues arising from multinationals exploiting their IP outside Australia, the Committee is also of the opinion that their presence and the R&D they conduct in Australia is highly beneficial to the local manufacturing sector. Exposure to global markets is likely to increase the necessity and opportunities for innovation among many local SMEs. International engagement also provides Australian companies with access to new technologies that can be diffused into their operations, improving efficiencies and lifting productivity levels further. Furthermore, Ms Nicola Watkinson, the National Manager for Investment at the Australian Trade Commission (Austrade), told the Committee that many small, start-up and smart companies benefit from the presence of large multinational companies as they provide opportunities for involvement in global supply chains, which can then take these companies into third markets:

The size of the companies here alone would make it difficult for them to pick up the work in and of themselves as individual enterprises, but by becoming part of a cluster or a global supply chain of a multinational they actually have very good growth opportunities.<sup>721</sup>

The Committee believes that the Commonwealth and Victorian Governments, in their efforts to support innovative activities among the manufacturing sector, need to create a balance between assisting SMEs pursue more commercialisation opportunities and attracting foreign R&D investment. The overall objective of these initiatives should be generating long-term gains for the Australian economy.

Finding 40: Support for small and medium-size firms to pursue commercialisation opportunities is required to attract foreign investment and reduce barriers to firms commercialising research and development and market-ready technologies.

## 9.4.1 Government support for commercialisation activities

### 9.4.1.1 Commonwealth Government

#### *Commercialisation Australia*

At the national level, the Commonwealth Government established the *Commercialisation Australia* program in February 2010 in response to systematic and market failures in the pathway to early stage

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<sup>719</sup> Dr Mark Trigg, Managing Director, Advanced Manufacturing CRC, *Transcript of evidence*, 23 November 2009, p. 5.

<sup>720</sup> Sarah Box, *OECD work on innovation - a stocktaking of existing work*, Paris, 2009.

<sup>721</sup> Nicola Watkinson, National Manager, Investment, Australian Trade Commission, *Transcript of evidence*, 22 January 2010, p. 14.

commercialisation. The program supports the key stages in the commercialisation process, with funding of \$196.1 million over four years to 2012-2013 and ongoing funding of \$82 million a year thereafter. The policy objective of Commercialisation Australia is to:

...build the capacity of and opportunities for, Australia's researchers, entrepreneurs and innovative firms to convert ideas into successful commercial ventures, enhancing Australia's participation and competitiveness in the global economy and generating commercial returns from Australia's significant investment in public sector research.<sup>722</sup>

The program provides successful applicants with an integrated suite of assistance measures tailored to meet their specific needs. These measures include:

- *Skills and Knowledge* – specialised advice and services to build the skills, knowledge and links required to commercialise new ideas, and includes funding of up to \$50,000 to engage specialist services;
- *Experienced Executives* – offers funding of up to \$200,000 over two years to engage an experienced Chief Executive Officer or other executives in order to give small innovative firms the experienced management skills they need;
- *Proof-of-Concept* – grants of up to \$250,000 to assist with testing the commercial viability of a business model or idea for a product, process or service; and
- *Early Stage Commercialisation* – grants from \$250,000 to \$2 million to support activities focused on enabling a new product, process or service to be developed to the stage where it can be taken to the market. The grants are repayable on success of the project.<sup>723</sup>

All successful applicants are assigned a case manager, and have access to a volunteer business mentor to offer hands-on advice to assist in the process of commercialisation.

#### **9.4.1.2 Victorian Government**

##### ***Science, Technology and Innovation Initiative***

The Victorian Government has implemented a number of policy initiatives and programs to support the commercialisation of IP into marketable products. Since 1999, the Government has invested more than \$3.39 billion in innovation activities, \$638 million of which was through the *Science, Technology and Innovation* (STI) initiative. The STI initiative aimed to foster innovation as a means to stimulate the economy and position Victoria as a globally competitive state. A core component of the

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<sup>722</sup> Department of Innovation Industry Science and Research, *Commercialisation Australia program guidelines*, Commonwealth Government, 2009, p. 2.

<sup>723</sup> Department of Innovation Industry Science and Research, *Australian innovation system report 2010*, Canberra, 2010.

initiative was to improve the environment for the commercialisation of research results.<sup>724</sup>

A key recipient of the STI funding was the Victorian Centre for Advanced Materials Manufacturing (VCAMM), a virtual facility that provides analytical services and materials research to the manufacturing sector. Funding of \$5 million was allocated to VCAMM to allow it to focus on developing capabilities in coating technologies, a vehicle dynamics laboratory, residual stress measurement in materials, and lightweight structures.<sup>725</sup>

The 2009 evaluation of the STI initiative showed it delivered substantial net benefits to the Victorian innovation sector and the wider community. In particular, the evaluation found that between 2001 and 2014, the initiative will generate the equivalent of 7,600 one year full-time jobs and an additional \$1.7 billion in gross state product.<sup>726</sup>

Following on from the success of the STI initiative, the Victorian Government established the *Victorian Science Agenda* (VSA) to provide \$145 million to further boost the State's science and technology base. A key component of the VSA is the *VSA Investment Fund*, which aims to enhance Victoria's capacity to turn new ideas and technologies into valued products, services and solutions.<sup>727</sup>

### ***Boosting Highly Innovative SMEs***

Another commercialisation initiative of the Victorian Government is *Boosting Highly Innovative SMEs* (BHIS) which helps SMEs focus their commercialisation efforts on technology that meets market demand by:

- assembling management capability;
- developing marketing skills;
- accessing appropriate finance; and
- cultivating the skills and networks to effectively identify and adopt knowledge.<sup>728</sup>

The BHIS comprises two key components:

- *Technology Commercialisation Program* – to support the establishment and development of fast growth, technology SMEs by reducing the time and resources needed to bring technology to global markets; and

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<sup>724</sup> Deloitte, *Impact assessment of the Science Technology and Innovation initiative*, Melbourne, 2009.

<sup>725</sup> Business Victoria, 'Victorian Centre for Advanced Materials Manufacturing (V-CAMM)', viewed 28 May 2010, <<http://www.business.vic.gov.au>>.

<sup>726</sup> Deloitte, *Impact assessment of the Science Technology and Innovation initiative*, Melbourne, 2009.

<sup>727</sup> Department of Innovation Industry and Regional Development, *Innovation: Victoria's future*, Victorian Government, Melbourne, 2008.

<sup>728</sup> Department of Innovation Industry and Regional Development, 'Boosting Highly Innovative SMEs', viewed 31 May 2010, <<http://www.business.vic.gov.au>>.

- *Market Validation Program* – to develop a Small Business Innovation Research Fund model utilising Victorian Government technology demand as a driver for technology SME development and commercialisation.<sup>729</sup>

The Committee welcomes initiatives of the Victorian Government to support the efforts of local manufacturing firms to pursue commercialisation opportunities. The Committee believes that these initiatives, in concert with the Commonwealth Government's *Commercialisation Australia* Program and the *Enterprise Connect* Program discussed in Chapter Five, will contribute to a greater identification of new and marketable technologies, and work towards the transformation of those technologies into commercial products.

#### 9.4.1.3 Other government support for commercialisation

As noted earlier, a commonly identified concern for SMEs is that limited access to funds and capital is restricting their capacity to commercialise. Evidence received by the Committee suggested financial institutions were reluctant to lend money to firms for the commercialisation of market ready technology. While the Committee notes that this barrier is not specific to firms in the manufacturing sector, the Committee was told that there is limited awareness of manufacturing within the banking sector, making it difficult for loan assessors to examine the merit of manufacturing-related applications put before them.

In response, the Committee believes there is a role for the Victorian Government to encourage greater collaboration between SMEs and financial institutions. The Committee shares the view that the Victorian Government should examine how it can bridge the gap between innovative SMEs and banks, and potentially create a sustainable working relationship between the two sectors. A key outcome should be the creation of a more dynamic and commercially-driven environment for the local manufacturing sector. Other issues surrounding the relationship of manufacturing firms to financial institutions are discussed in detail in Chapter Ten.

Recommendation 28: That the Victorian Government examine how it can help the local manufacturing sector build a sustainable working relationship with the banking sector to achieve a more dynamic and commercially-driven environment for manufacturers.

## 9.5 Collaboration

According to the OECD, innovation systems increasingly rely on adequate levels of interaction by companies, universities, research institutions and government.<sup>730</sup> In particular, collaboration between companies and universities can assist to stretch research dollars further, spread risk, build critical mass, and reduce research duplication. It also allows companies to expand their range of expertise and knowledge-base, and develop more specialised products. The Review of the National Innovation System reported on findings of the National Review of the Cooperative Research

<sup>729</sup> Department of Innovation Industry and Regional Development, 'Boosting Highly Innovative SMEs', viewed 31 May 2010, <<http://www.business.vic.gov.au>>.

<sup>730</sup> Sarah Box, *OECD work on innovation - a stocktaking of existing work*, Paris, 2009.

Centres (CRC), which emphasised the value of collaboration to Australian productivity. The final report, *Collaborating to a purpose*, stated that collaboration:

- enables intellectual and capital resources to be brought together to create higher quality and more effective, integrated and robust outcomes that cannot effectively be achieved by individual players acting alone;
- can be a means of getting scale and overcoming fragmentation caused by distance, diverse justification and the smaller resource base of Australia;
- enables government and government agencies to be partners not just facilitators, which is of particular relevance in solving social and environmental public good problems;
- promotes cross-fertilisation of ideas and mutual understandings and can help obtain commitment to decisions and outcomes;
- encourages the transfer of skills and knowledge, and the translation of new ideas into products and services; and
- is an important means of providing R&D support to small to medium enterprises (SMEs) and service industries, on which so much of Australia's economy relies.<sup>731</sup>

In the context of the Australian manufacturing sector, evidence suggests that local manufacturers who collaborate are much more likely to develop innovative products that are new to Australia and to the world than those who do not.<sup>732</sup>

Despite the emerging consensus regarding the value of collaboration to the national innovation system, Australia ranked 20<sup>th</sup> in the 2006-07 OECD measure of the proportion of large companies collaborating in innovation with higher education institutions. Australia also ranked 22<sup>nd</sup> in the proportion of large companies collaborating in innovation with government institutions. According to ABS data, in 2006-07, only 3.1 per cent of Australia's SMEs collaborated with higher education institutions and only 2.9 per cent SMEs collaborated with government institutions. On the OECD scale, Australia ranked 13<sup>th</sup> and 9<sup>th</sup> on these two measurements.<sup>733</sup> Australia's links to global research and business networks are also considered poor.<sup>734</sup> As a consequence, the national innovation system is perceived to lack coordination and be weakened by fragmentation.

During the course of the Inquiry, the Committee received evidence from both higher education institutions and manufacturing companies working in collaboration on various projects. One in particular is the partnership between Swinburne University and Boeing through the establishment of the Australian Advanced Manufacturing Research Centre (AusAMRC). The

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<sup>731</sup> Dr Terry Cutler, *Venturous Australia*, Canberra, 2008, p. 116.

<sup>732</sup> Department of Innovation Industry Science and Research, *Powering ideas*, Canberra, 2009.

<sup>733</sup> Department of Innovation Industry Science and Research, *Australian innovation system report 2010*, Canberra, 2010.

<sup>734</sup> Department of Innovation Industry Science and Research, *Powering ideas*, Canberra, 2009.

purpose of the centre is to research and develop new aerospace and other industry sector component materials and manufacturing technologies.<sup>735</sup> According to Professor John Beynon, the principal investigator at AusAMRC, the centre will improve Australia's global competitiveness by developing new aerospace manufacturing technologies.<sup>736</sup>

The Committee also received evidence from Professor Aleksander Subic, the Head of School of Aerospace, Mechanical and Manufacturing Engineering at RMIT University who spoke of the benefits of conducting research in collaboration with industry:

Where the real value is in undertaking such research and in having these kinds of avenues for that – and I can really not emphasise this too strongly – is that this kind of collaboration and this kind of investment is allowing invaluable research to take place in the first place, and it is allowing us to train a lot of students and develop an in-house capacity for research that otherwise you would not be able to do without that kind of funding. That allows you to have repeat research and ongoing relationships, which we are able to have, and to position yourself strategically with respect to industry sectors. I think that is where the real value is.<sup>737</sup>

The Committee also received evidence regarding various government initiatives that aim to facilitate greater collaboration across sectors.

Finding 41: Collaboration between firms, universities, research institutes and government is an essential component of the national innovation sector. Enhanced collaboration between these various groups will improve the innovative capacity of the Australian manufacturing sector, encouraging further investment in research and development; providing valuable experience to existing and future manufacturing workers; and facilitating the development of new and specialised products for sale on the global marketplace.

## 9.5.1 Government support for improved collaboration

### 9.5.1.1 Commonwealth Government

#### *Cooperative Research Centre Program*

The most significant collaborative-driven initiative of the Commonwealth Government is the CRC program, which was established in 1991 and aims to “enhance Australia's industrial, commercial and economic growth through the development of sustained, user-driven, cooperative public-private research centres that achieve high levels of outcomes in adoption and commercialisation.”<sup>738</sup> Since the program's inception, there have been 168 CRCs. There are currently 48 CRCs receiving funding. Overall, all parties have committed more than \$12.3 billion (cash and in-kind) to

<sup>735</sup> Senator the Hon Kim Carr, 'New centre boosts Australian manufacturing', <<http://minister.innovation.gov.au>>.

<sup>736</sup> Nina Hendy, 'AusAMRC to drive new manufacturing techniques', *Australian Manufacturing Technology*, no. March 2010.

<sup>737</sup> Professor Aleksandar Subic, Head of School, Aerospace, Mechanical and Manufacturing Engineering, RMIT University, *Transcript of evidence*, 7 September 2009, p. 8.

<sup>738</sup> Mary O'Kane, *Collaborating to a purpose: Review of the Cooperative Research Centres program*, Canberra 2008, p. xiv.

CRCs, including almost \$3 billion from the CRC program, \$3.1 billion from universities, \$2.5 billion from industry and \$1.2 billion from CSIRO.<sup>739</sup>

To support the CRC program, the Victorian Government established the *Victorian CRC Bid Support Program* to assist the development of CRC proposals with a strong Victorian focus to gain funding through the program. The Government provides assistance through information provision, facilitation support and grant funding.

The CRC program has encouraged numerous collaborations in R&D among higher education and other research institutions and the manufacturing sector, with many leading to the successful development and commercialisation of innovative breakthroughs (see Text Box 7). The Committee received evidence from the Advanced Manufacturing CRC, which is a national industry led collaborative centre to develop the next generation technology, processes, business models and human resource capabilities to support the development of the advanced manufacturing industry in Australia. The core partners are Advanced Manufacturing Australia Inc, Anca Pty Ltd, Bishop Technology Group Ltd, CSIRO, Deakin University, Royal Melbourne Institute of Technology, Swinburne University, University of New South Wales, and VCAMM Ltd. According to Dr Trigg, the CEO of the CRC, it has received \$108 million in cash and in-kind, in addition to \$35 million funding from the Commonwealth Government. It is estimated that the \$35 million will generate benefits worth \$523 million.<sup>740</sup>

#### **Text Box 7: Commercial success of a CRC.<sup>741</sup>**

##### **CRC for Advanced Composite Structures (CRC-ACS)**

Hawker de Havillard's (HdH) investment and involvement in the CRC-ACS led it to winning an order with Boeing worth \$4 billion over a 25 year period to provide wing-trailing devices, including ailerons, spoilers and flags for the Boeing 787. Through its investment in the CRC-ACS, HdH developed the capacity to meet Boeing's demand for structures for the new plane to have twice the life and be supplied at half the cost.

Because of the industry perspective of the CRCs, its research gave HdH the necessary edge to win the Boeing contract. Through the CRCs collaboration with university research projects, HdH also had access to technology from unrelated areas.

Another commercial success for the CRC-ACS was its partnership with Australian Defence Industries, generating business worth \$6 million over three years selling products using new composite technologies.

In December 2009, the Senator Kim Carr announced three additional manufacturing-related CRCs, including:

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<sup>739</sup> Department of Innovation Industry Science and Research, 'Cooperative Research Centres', viewed 31 May 2010, <<https://www.crc.gov.au>>.

<sup>740</sup> Dr Mark Trigg, Managing Director, Advanced Manufacturing CRC, *Transcript of evidence*, 23 November 2009.

<sup>741</sup> Department of Education Science and Training, 'Hawker wins Boeing 787 contract with CRC technologies', viewed 31 May 2010, <<https://www.crc.gov.au>>.



- CRC for Advanced Composite Structures (\$14 million) to connect Australian SMEs in manufacturing materials supply and engineering to international value chains;
- CRC for Infrastructure and Engineering Asset Management (\$12 million) to increase the availability, productivity and useful life of defence assets (including combat aircraft and ships), and of railways and power and water utilities; and
- CRC for Environmental Biotechnology (\$4 million) to commercialise biotechnologies that use natural biological systems to transform waste into useful products and green energy, and rapid microbial monitoring platforms.<sup>742</sup>

The CRC program was reviewed in 2008, with the key findings indicating that the program is strategically aligned with the Commonwealth Government's long-term policy priorities for innovation driving economic growth. It was also determined, however, that the program requires more flexibility, and improved efficiency in the selection and review process. The review also found that a wider diversity of participants should be encouraged to participate in the CRCs, including SMEs. Dr Trigg identified this as an issue in his presentation to the Committee, stating that SMEs are not typically willing to sign up for the seven-year contract. In response, the Advanced Manufacturing CRC has a third-party arrangement where companies can participate on a project-by-project basis rather than sign up for the full-term contract.<sup>743</sup>

### **CSIRO National Research Flagships**

The *National Research Flagships* program was established by the CSIRO in 2003, and it comprises various large-scale multidisciplinary research partnerships that harness world-class expertise to address national priorities. Total investment to the program is expected to reach \$1.5 billion by 2010-2011, with the Commonwealth Government providing funding of \$480 million.<sup>744</sup>

According to the CSIRO, collaboration is critical to the flagships, as it facilitates the formation of innovative teams to develop effective solutions to complex national issues. Overall, there are more than 250 external partners involved in the program.<sup>745</sup>

The Future Manufacturing Flagship was established in 2009 and has a budget of \$36.2 million over four years to create new or significantly transform existing high value-adding, export-oriented sectors to improve the future competitiveness of Australian manufacturing. The key objectives of the Flagship are to:

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<sup>742</sup> Senator the Hon Kim Carr, '\$130m for seven CRCs to address innovation priorities', viewed 31 May 2010, <<http://minister.innovation.gov.au>>.

<sup>743</sup> Dr Mark Trigg, Managing Director, Advanced Manufacturing CRC, *Transcript of evidence*, 23 November 2009.

<sup>744</sup> CSIRO, 'About National Research Flagships', viewed 31 May 2010, <<http://www.csiro.au>>.

<sup>745</sup> CSIRO, 'About National Research Flagships', viewed 31 May 2010, <<http://www.csiro.au>>.

- assist existing high value segments of the manufacturing sector become more competitive in global supply chains;
- develop globally competitive medical products;
- identify next generation fabricated devices;
- capture value from nanotechnology for new materials;
- develop new products and processes exhibiting low environmental footprint, and which address carbon dioxide and other emissions targets; and
- consider health, safety and environmental issues of nanotechnology.<sup>746</sup>

### **9.5.1.2 Victorian Government**

#### ***Victorian Science Agenda Investment Fund***

As stated previously, as part of the VSA, the Victorian Government established the *VSA Investment Agenda*, which is a \$41 million competitive grants program for collaborative projects between business and research organisations. In particular, the *VSA Investment Fund* supports market-focussed collaborative projects that encourage greater industry involvement and investment in innovation.

One of the 24 projects funded under the Fund is the Victorian Direct Manufacturing Technology Centre (VDMTC). The VDMTC is being established by the CSIRO and will focus on the development of alternative direct manufacturing technologies to allow Victorian manufacturers to move away from conventional manufacturing to new direct manufacturing technologies. The VDMTC is being led by a cluster of innovative Victorian companies and draws together leading expertise and facilities from CSIRO, Swinburne University and Deakin University.<sup>747</sup>

### **9.5.1.3 Other government support for enhanced collaboration**

#### ***Collaboration between research and business sectors***

While acknowledging the value of these initiatives to enhance collaboration between higher education and other research institutions and industry, the Committee believes that more work is required to bridge the innovation gap that exists between the pure research conducted by academics and the development of new technologies and processes by companies. The Committee believes that this requires a cultural shift on behalf of both the research and business sectors, with each needing to understand how working collaboratively can extend their capabilities and lead to more-focussed and relevant research. With only one or two per cent of Australian companies generating ideas for innovation from public sector

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<sup>746</sup> CSIRO, 'Future Manufacturing Flagship', viewed 31 May 2010, <<http://www.csiro.au>>.

<sup>747</sup> Business Victoria, 'Victorian Direct Manufacturing Technology Centre (VDMTC)', viewed 31 May 2010, <<http://www.business.vic.gov.au>>.

researchers, there is a significant opportunity to enhance industry's understanding of what the research sector has to offer.<sup>748</sup>

In Chapter Eight, the Committee proposed two recommendations that aim to improve the linkages between higher education manufacturing precincts and manufacturing companies. In particular Recommendation 21 proposes the placement of manufacturing analysts in universities who work with companies on specific projects and channel data and findings back to university researchers. The Committee believes these analysts will provide a useful mechanism to facilitate a sharing of information between the two sectors, and potentially help identify future opportunities for collaborative partnerships.

The Committee also believes there is a role for the Victorian Government to improve linkages and promote collaboration between higher education and other research institutions and the local manufacturing sector. Smaller innovative manufacturing companies, in particular, need to understand the benefits associated with drawing on the capabilities of researchers. The Committee understands, however, that SMEs do not often have the resources or the capacity to identify and pursue collaborative partnerships with the research sector. On this basis, the Victorian Government should establish a brokering service that works with both manufacturing companies and those involved in research to explore opportunities for collaboration. As part of this service, the Government should provide advice on suitable business models to ensure that individual research and commercial needs are aligned and that appropriate and fair IP arrangements are implemented. A key component of the brokering service should be an online directory of research projects for use by firms to identify the types and relevance of projects being conducted. Multimedia Victoria has a similar online directory, *VicIT*, which is a one-stop-shop for businesses seeking the expertise of a Victorian IT firm or information on IT research projects.<sup>749</sup>

Recommendation 29: That the Victorian Government establish a brokering service to assist both manufacturing companies and researchers explore opportunities for collaborative partnerships. The brokering service should include an online and searchable directory of relevant research projects.

### ***International collaboration***

According to the Commonwealth Government's *Powering Ideas* report, Australia's connections to global research and business networks are inadequate. In recognition of the potential contribution of these international connections to the national innovation system, the Committee believes the Victorian Government should review opportunities to develop new models of international collaboration. In the context of the local manufacturing sector, involvement in international markets can enhance efficiencies in manufacturing operations through exposure to and adoption of new technologies and business models. The establishment of collaborative relationships between local manufacturers and overseas

<sup>748</sup> Department of Innovation Industry Science and Research, *Powering ideas*, Canberra, 2009.

<sup>749</sup> Multimedia Victoria, 'VicIT - Director of IT companies in Victoria, Australia', viewed 10 June 2010, <<http://www.mmv.vic.gov.au/>>.

firms and/or research institutes, particularly those in high-tech industries, may achieve similar outcomes, in addition to fostering greater comparative advantage among individual firms and enhancing access to international markets.

The Committee notes the Victoria-Israel Science and Technology R&D Fund (VISTECH), and its role in facilitating and supporting jointly approved R&D projects between Victoria and Israel. VISTECH was established in 2005, with the two states contributing \$US6 million to the fund in order to strengthen Victoria-Israel cooperation and overall economic activity in each state. VISTECH's identified areas of interest include water, biotechnology, nanotechnology, environment and information and communication technologies.<sup>750</sup>

The Committee believes the VISTECH model of collaboration could inform the Victorian Government's review of new models for international collaboration. Furthermore, based on the role of the Victorian Government Business Offices (VGBO) in facilitating network opportunities between Victorian-based exporters and overseas commercial opportunities, the Government should work closely with the VGBOs to identify potential international collaborative opportunities.

Recommendation 30: That the Victorian Government review and pursue opportunities for new models of collaboration between local manufacturing firms and overseas firms and/or research institutes. The Government should work closely with the Victorian Government Business Offices to identify opportunities for collaboration.

## 9.6 New materials technologies

During its overseas investigations, the Committee heard about the development of new manufacturing materials, and the potential role these may have in high-end manufacturing. In Manchester, the Committee heard from Professor Andrew Walker, Strategic Industry Advisor of the Northwest Composites Centre, that advanced composites, particularly those incorporating carbon fibre, were likely to revolutionise aerospace, alternative energy, and automotive design and manufacturing by providing strong, lightweight, and versatile materials for vehicle and component production.<sup>751</sup> The Committee heard that global demand for carbon fibre was expected to increase exponentially over the next decade, with production expected to expand from 30,000 tonnes in 2010 to 300,000 tonnes in 2020.<sup>752</sup>

While the globalisation of manufacturing supply chains means that materials need not be located close to industry, the Committee notes that local access to the production of new, cutting edge materials, such as carbon fibre, will substantially facilitate local research and development of those materials. Furthermore, access to high-technology materials such as

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<sup>750</sup> Business Victoria, 'About VISTECH', viewed 10 June 2010, <<http://www.business.vic.gov.au/>>.

<sup>751</sup> Prof. Andrew Walker, Strategic Industry Advisor, Composites Centre, University of Manchester, *Meeting*, Manchester, 9 February 2010.

<sup>752</sup> Prof. Andrew Walker, Strategic Industry Advisor, Composites Centre, University of Manchester, *Meeting*, Manchester, 9 February 2010.

carbon fibre may stimulate the development of high-technology clusters that benefit from local access, not only to the materials, but to the people developing them.

Consequently, the Committee welcomes the recent announcement of the establishment of the Australian Future Fibres Research and Innovation Centre (AFFRIC) in the Geelong Technology Precinct. The AFFRIC brings together the CSIRO materials and fibres research group, Deakin University's Centre for Materials and Fibre Innovation, and will also form a partnership with the Victorian Centre for Advanced Materials Manufacturing to construct a carbon fibre research pilot plant. AFFRIC will also focus on the development of nanomaterials, smart fibrous products, and green natural fibres. The Committee regards the establishment of AFFRIC, and initiation of the carbon fibre pilot plant, as an extremely positive step towards future competitiveness in the aerospace, alternative energy, and automotive manufacturing industries. It also provides opportunities for the promotion of advanced manufacturing in Victoria, such as through peak bodies, as discussed in Chapter Eleven. The Committee encourages the Victorian Government to ensure that, wherever possible, interaction between the centre and Victorian manufacturing businesses is maximised, to facilitate the commercialisation and application of fibre and composite technologies by the manufacturing sector.

Finding 42: The establishment of advanced materials research facilities, such as the Australian Future Fibres Research and Innovation Centre, provides local manufacturers and manufacturing clusters with invaluable opportunities to develop world-class products based on advanced materials.

## 9.7 Green manufacturing

There is a strong consensus around the use of innovative solutions to work towards addressing global challenges, such as climate change and energy consumption. According to the Australian Chamber of Commerce and Industry (ACCI), the constant availability of reasonably priced energy is fundamental to the international competitiveness of Australian industry sectors.<sup>753</sup> This is particularly relevant to the manufacturing sector, which is highly energy intensive. On a worldwide scale, the energy consumption of manufacturing industries increased by 61 per cent between 1971 and 2004. They currently account for around a third of global energy use.<sup>754</sup>

There is a growing awareness within the Australian manufacturing sector of the need to introduce new strategies to address environmental challenges, with some manufacturers focusing solely on adopting sustainable practices in their manufacturing operations, while others are moving into emerging markets and developing green technologies and processes. The OECD refers to these types of innovation as “eco-innovation”, which is defined as representing activities that result in reduced environmental impacts regardless of whether the effect is intended or not. Eco-innovation can also go beyond the conventional

<sup>753</sup> Australian Chamber of Commerce and Industry, *The future of Australia's manufacturing sector: a blueprint for success*, Australian Chamber of Commerce and Industry, Barton, 2007.

<sup>754</sup> Organisation for Economic Co-operation and Development, *Sustainable manufacturing and eco-innovation*, Paris, 2009.

organisational boundaries of the innovating organisation and involve broader social arrangements that trigger changes in existing socio-cultural norms and institutional structures.<sup>755</sup>

Finding 43: With the high energy intensive nature of manufacturing, there is increased recognition of the need for implementation of “eco-innovation” among Australian manufacturing firms.

At the governmental level, the Commonwealth, State and Territory governments are recognising the need to take decisive action on climate change, and in particular to implement strategies that promote improved environmental performance among all industry sectors. At the beginning of the Committee’s investigations, the Commonwealth Government was attempting to progress its *Carbon Pollution Reduction Scheme* (CPRS) through parliament, which would have introduced trading of emissions permits, allowances or credits among participants to cover emissions. However, in August 2009, the Senate voted down the Government’s legislative package. At the same time, it was agreed that legislation would be passed to expand the Renewable Energy Target (RET), which requires that 20 per cent of 45,000 GWh of Australia’s electricity supply will come from renewable sources by 2020.<sup>756</sup>

Over the last decade, the Victorian Government has introduced a number of initiatives to address climate change, with the most recent being the 2009 release of *Victorian Climate Change Green Paper*, to provide a basis for comment and discussion on the Government’s response to climate change. The feedback received on the Green Paper will inform the Government’s *Climate Change White Paper*, which is scheduled for release in mid 2010.<sup>757</sup>

In April 2010, the Victorian Government also launched its *Jobs for the Future Economy* plan, which sets out actions across the Government to secure jobs in a low carbon economy. The action plan acknowledges that tackling climate change in Victoria requires substantial investment in green industries and technologies. A key initiative of the action plan is investment in electric vehicles, including:

- \$5 million over four years to trial electrical vehicles;
- allocation of \$100,00 to a preliminary study by Standards Australia to ensure that electric vehicles and associated charging infrastructure are introduced with appropriate standards; and
- investment of \$138,300 to partner with Swinburne University to establish the first Australian training course for the retrofitting of conventional vehicles to battery electric vehicles.<sup>758</sup>

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<sup>755</sup> Organisation for Economic Co-operation and Development, *Sustainable manufacturing and eco-innovation*, Paris, 2009.

<sup>756</sup> Environment and Natural Resources Committee, *Inquiry into Approvals Process for Renewable Energy Projects in Victoria*, Parliament of Victoria, East Melbourne, 2010.

<sup>757</sup> Department of Sustainability and Environment, 'Victorian Climate Change Green Paper', viewed 2 June 2010, <<http://www.climatechange.vic.gov.au>>.

<sup>758</sup> Victorian Government, *Jobs for the future economy*, State of Victoria, Melbourne, 2010.

It is intended that this initiative will create new jobs in the manufacturing of electric vehicles; the manufacture and installation of recharge technology; the servicing and repair of electric motors; the conversion of electricity connections in houses; and the installation and checking of metering for those connections.<sup>759</sup>

### 9.7.1 Identifying eco-innovation in the manufacturing sector

The Committee notes that some industries within the manufacturing sector have been particularly proactive in employing innovative solutions to address environmental challenges. For example, the Committee received extensive evidence about the automotive industry's investment in strategies to reduce motor vehicle emissions. The Federal Chamber of Automotive Industries stated in its submission that automotive manufacturers have pursued various approaches, including:

- Development of advances in electric vehicle capability and design, including advanced battery technologies;
- Improvements in vehicle design, including increased thermal efficiency in engines; reduced friction loss; enhanced aerodynamics; reduced rolling resistance; and reductions in vehicle weight;
- Advances in hybrid vehicle technology;
- Development of enhanced alternative fuels capability, including new generation renewable biofuels;
- Hydrogen fuel cell vehicles.<sup>760</sup>

In its submission to the Inquiry, Ford Australia outlined its various investments in sustainability initiatives for its locally manufactured vehicles, including the addition of a new two litre four cylinder 'EcoBoost' engine to its Falcon model, an advanced liquid injection LPG system for the Falcon, and the introduction of a clean diesel engine to its Territory model.<sup>761</sup> The Committee also heard from Dr Geoffrey Annison, the Deputy Chief Executive Officer of the Australian Food and Grocery Council (AFGC) that various food and grocery companies have been adjusting their operations to improve their energy and water usage.<sup>762</sup>

The Committee believes that many other industries within the local manufacturing sector are employing eco-innovative activities in response to climate change, although there has been limited work to determine the prevalence. In its *Sustainable Manufacturing and Eco-Innovation* report, the OECD stated that the "quantitative measurement of eco-innovation activities would improve understanding of the concept and practices and help policy makers to analyse trends and identify drivers and barriers."<sup>763</sup>

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<sup>759</sup> Victorian Government, *Jobs for the future economy*, State of Victoria, Melbourne, 2010.

<sup>760</sup> Federal Chamber of Automotive Industries, *Submission*, no. 58, 21 September 2009, p. 15.

<sup>761</sup> Ford Motor Company of Australia Limited, *Submission*, no. 34, 5 August 2009.

<sup>762</sup> Dr Geoffrey Annison, Deputy Chief Executive Officer, Australian Food and Grocery Council, *Transcript of evidence*, 23 November 2009.

<sup>763</sup> Organisation for Economic Co-operation and Development, *Sustainable manufacturing and eco-innovation*, Paris, 2009, pp. 2-3.

The Committee agrees with this and shares the view that the Victorian Government should conduct a review into local manufacturers' current level of, and priorities around, employing sustainable practices and developing new products that contribute to improved environmental performance. The review should attempt to capture a cross section of the various industries within the local manufacturing sector, and examine individual companies' understanding of the environmental impact of their manufacturing operations; types of eco-innovations employed; and the motivation and/or barriers to companies employing those innovations.

Recommendation 31: That the Victorian Government conduct a review into local manufacturers' current level of, and priorities around, employing sustainable practices and developing new products that contribute to improved environmental performance.

In regard to manufacturing firms working to reduce their environmental impacts, the Committee notes that Environmental Protection Authority (EPA) Victoria, in partnership with Sustainability Victoria, has developed the *Energy and greenhouse management toolkit*, which is designed to help businesses integrate environmentally sound and sustainable practices into their operations.<sup>764</sup>

At the Commonwealth level, the Government established the *Re-tooling for Climate Change* program, which is designed to help manufacturing SMEs improve the energy and/or water efficiency of their production processes to reduce their environmental footprint. The program runs for four years from 2008-09 to 2011-12 and provides grants between \$10,000 and \$500,000, accounting for up to a maximum of half the cost of each project. Eligible applications need to demonstrate that their proposed project:

- has the potential to reduce their environmental footprint;
- is more than routine production, will have a long-term, sustainable impact on the capacity of the business or industry to respond to climate change, and if it offers the potential application of innovative, transferable technology; and
- has the organisation capacity to undertake the project, including access to relevant expertise and experience.<sup>765</sup>

At the end of 2009, it was reported that manufacturers across Australia received a combined total of \$2.8 billion in grants under the program. There were various types of grant recipients, including a brickworks, a dairy and a polyethylene plant. Senator Kim Carr stated:

This program is all about working in partnership with industry to support a sustainable manufacturing sector, now and into the future...The projects covered a range of strategies, including water treatment and recycling, converting production waste into energy, re-using waste heat from the

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<sup>764</sup> Sustainability Victoria, 'Energy and greenhouse management toolkit', viewed 11 June 2010, <<http://www.sustainability.vic.gov.au/>>.

<sup>765</sup> AusIndustry, 'Re-tooling for climate change program', viewed 25 January 2010, <<http://www.ausindustry.gov.au/>>.



production process, technology investment and process re-engineering to cut energy or water consumption.<sup>766</sup>

## 9.7.2 Enhancing eco-innovation in the manufacturing sector

In the same way that the Australian manufacturing sector is considered a conduit for technological change in other industry sectors, the sector also has the potential to be a key driving force behind the creation of a sustainable society. The growing number of 'climate conscious' people in the broader community, alongside the adoption of market incentives by governments to encourage companies and households to reduce their energy usage has opened up new areas of manufacture that innovative firms can move into to create products that will become in strong demand around the world. The Committee believes that the shift into these new areas of manufacturing will contribute to the future competitiveness of the Australian manufacturing sector overall, although it is crucial that governments prioritise and support the expansion of eco-innovation in the manufacturing sector. Renewable energy provides a useful example of an area that reflects the need for government support to ensure that appropriate technologies and processes are developed locally.

**Finding 44:** The growing desire within the community to address climate challenges creates opportunities for green manufacturing to create new and globally in-demand products. Government support and encouragement will ensure that this new area of manufacturing contributes to the future competitiveness of the Australian manufacturing sector.

### 9.7.2.1 Renewable energy

As stated earlier, legislation was passed in August 2009 to expand the RET to require 20 per cent of energy to be derived from renewable sources by 2020. The RET guarantees a market for additional renewable energy generation through a mechanism of tradeable Renewable Energy Certificates (REC).<sup>767</sup>

The RET is considered to be a significant driver of investment in renewable energy, with the development of new renewable energy technologies viewed as providing lucrative commercial opportunities for manufacturers that have the technical knowledge and willingness to move into this still emerging market. In his presentation to the Committee, Mr Brad Crofts, an economist with the Australian Workers' Union, advised that Victoria has a comparative advantage in the renewable energy sector:

An example, I suppose, of where we do have a comparative advantage and we can build on our natural strengths, but in a smart way, would be in the renewable energy sector. In an area where, with the stimulus being provided through the renewable energy target and Victoria's own efforts in that regard, there is the prospect of a significant increase, an up-scaling, in

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<sup>766</sup> Industry Update, '\$2.8m to help manufacturers go green', *Industry Update*, vol. 52, no. February/March, 2010.

<sup>767</sup> Department of Climate Change and Energy Efficiency, 'Solar credits FAQ', viewed 1 June 2010, <<http://www.climatechange.gov.au>>.

the number of megawatt hours being generated through wind energy in the state.<sup>768</sup>

While the Committee is aware that a number of Australian companies currently manufacture wind turbines, it also heard that some manufacturers have experienced difficulties as a consequence of limited government support in the wind energy sector:

I'd like to see much more aggressive policies coming through from the government, which will give this sector life. We need the government to introduce a FIT, (feed in tariff), policy similar to some 60 other countries around the world, which will secure the necessary investments that are required, for the life of the projects.<sup>769</sup>

The Committee notes that the Commonwealth and Victorian Governments have introduced a number of initiatives to support this sector. At the national level, the *Solar Credit Scheme* was introduced in 2009 as part of the RET, which supports households, businesses and community groups that install small-scale solar photovoltaic, wind and hydro electricity systems by multiplying the number of RECs for every megawatt hour of electricity generated.<sup>770</sup> The profits from the sale of RECs are intended to provide an incentive for investment in small-scale renewable generation.

The Commonwealth Government also established the *Renewable Energy Demonstration Program*, a \$435 million competitive grants program designed to facilitate the commercialisation and deployment of new renewable energy technologies for power generation in Australia.

At the state level, the Victorian Government introduced the *Energy Technology Innovation Strategy* that invests \$370 million to drive advances in low emission technologies and to secure Victoria's energy future. The strategy aims to accelerate a variety of pre-commercial energy technologies through R&D, demonstration and deployment stages to prepare them for commercialisation.<sup>771</sup> Through the *Jobs for the Future Economy* action plan, the Victorian Government also committed \$5 million for the new *Solar Energy Hubs* program to assist the creation of ten solar energy hubs across Victoria by 2013. Furthermore, in recognition of regional Victoria's renewable resources in wind, solar, hydro, biomass, geothermal and tidal energy, the Government committed \$7.4 million to develop new green industries in regional Victoria.<sup>772</sup>

In the context of wind power, the Committee notes that it is considered amongst the most competitive forms of renewable energy in Victoria. Wind farms currently operate in Portland, South Gippsland and Waubra.<sup>773</sup> The Committee is aware, however, of current concerns surrounding the

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<sup>768</sup> Brad Crofts, Economist, Australian Workers' Union, *Transcript of evidence*, 18 August 2009, p. 5.

<sup>769</sup> Barbara Schulz, 'Wind gaining momentum', *Australian Manufacturing Technology*, no. May 2010, pp. 32-34.

<sup>770</sup> Department of Climate Change and Energy Efficiency, 'Solar credits FAQ', viewed 1 June 2010, <<http://www.climatechange.gov.au>>.

<sup>771</sup> Department of Primary Industries, 'Energy Technology Innovation Strategy (ETIS)', viewed 1 June 2010, <<http://new.dpi.vic.gov.au>>.

<sup>772</sup> Victorian Government, *Jobs for the future economy*, State of Victoria, Melbourne, 2010.

<sup>773</sup> Environment and Natural Resources Committee, *Inquiry into Approvals Process for Renewable Energy Projects in Victoria*, Parliament of Victoria, East Melbourne, 2010.

application process for wind farms in Victoria. An inquiry by the Victorian Parliament's Environment and Natural Resources Committee into *Approvals Process for Renewable Energy Projects* found that Victoria is the most difficult state in which to obtain planning approval for wind farms.<sup>774</sup>

The Committee believes that greater investment in wind power in Victoria will enhance further growth in the capabilities of the local manufacturing sector's manufacture of wind tower turbines and accompanying components, potentially creating a new and sustainable industry.

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<sup>774</sup> Environment and Natural Resources Committee, *Inquiry into Approvals Process for Renewable Energy Projects in Victoria*, Parliament of Victoria, East Melbourne, 2010.

## Chapter Ten: Key points

The presence of adequate and functioning financial services to the manufacturing sector is a critical component for success of the sector. Businesses require finance for a number of core activities, such as acquisitions activity, the use of overdraft facilities, equipment purchases, working capital, cash-flow maintenance, and/or business expansion. Businesses operating at different scales of enterprise require different approaches to finance. The stage of business development also affects needs for finance and the range of products available to businesses.

A key characteristic of small and medium-size enterprise (SME) finance is the predominant use of internal funds for business finance, either through borrowing from friends and family, or, most commonly, by securing loans against assets held by the business owner, such as the owner's residential property. The reliance of SMEs on owner-equity to obtain finance tends to limit the quantum of finance available, as loans are constrained by the value of residential properties. For most purposes, this form of finance may be adequate for SME needs, but may not be adequate where the business seeks to expand and needs to acquire higher levels of finance. The high utilisation of mortgage-backed business loans for SMEs is also an indicator of the lack of finance options available to SMEs generally.

There may be opportunities for the development of new financial services, in the form of venture capital or expansion capital, to assist SMEs in the manufacturing sector to develop capacity, commercialise products, and to expand into new markets.

## Chapter Ten: Access to finance

Access to sufficient finance is a critical issue for businesses of all sizes. Access to credit is not only an issue at the point when a business looks to expand or start up, but can also be required during ordinary, day to day operations. Consequently, the presence of adequate and functioning financial services to the manufacturing sector is a critical component for success of the sector. Businesses require finance for a number of core activities, such as acquisitions activity, the use of overdraft facilities, equipment purchases, working capital, cash-flow maintenance, and/or business expansion.

One of the key issues raised before the Committee in submissions and during public hearings was the importance of sufficient access to finance for manufacturing businesses. At commencement of this inquiry, issues surrounding access to credit and finance were particularly pertinent as the global financial crisis (GFC) had substantially affected the provision of finance to Australian businesses. While there are still some risks to the global economy, it appears that the effect of the GFC in Australia has moderated for the time being.

Consequently, in this Chapter the Committee focuses on issues it believes are persistent within finance to the manufacturing sector, rather than focusing on issues that are specific to the GFC. The Committee focuses particularly on the provision of finance to small and medium manufacturing businesses.

### 10.1 Business size and access to finance

The manufacturing sector in Australia is comprised of diverse businesses, not only in terms of products manufactured, but in terms of the scale of enterprise. This means that businesses operating at different scales of enterprise (for example, multinationals versus small to medium size enterprises (SMEs)) require different approaches to finance. Furthermore, the stage of business development affects needs for finance and the range of products available to businesses. For example, a start-up manufacturing company generally carries a substantially different risk profile to an established company seeking to expand.

#### 10.1.1 Large companies

In general, businesses at the large-scale end of the manufacturing sector, including major national employers and multinationals, have a greater range of options for finance than is available to smaller businesses. In his submission to the Senate Economics Committee's *Inquiry into Access of Small Business to Finance*, Professor Milind Sathye noted that:

Several sources of funding other than credit are available to large businesses. These include raising equity through public offering, rights issues, or borrowing from the market directly instead of through an intermediary by issue of commercial paper or other debt instrument. As a consequence of limited sources of funding available small businesses have to rely on owner's equity and credit from lending institutions.<sup>775</sup>

For large businesses, options for finance generally include a range of options, including credit notes, shares issues, bonds, and the retention of cash flow for incremental expansion. Multinationals and some large businesses may also be able to access finance from direct access to the wholesale lending market, and may also find it easier to identify and attract investment partners in given activities. For example, Mr Andrew Spink, Director, Sales and Marketing of the multinational company Bombardier Transportation Australia, that has a plant in Dandenong, told the Committee that:

We self finance. There are a number of opportunities whereby we looked to provide finance, and we found a number of organisations that were prepared to work with us. Because we are such a large organisation we find that we seem to attract the appropriate stakeholders for finance. That has not been an issue, particularly since governmental projects are so recognised as being a good place to be. We have not actually found [access to finance] to be an issue in our market.<sup>776</sup>

The Committee is cognisant that finance is an issue for all scales of businesses. At the large-scale end of the manufacturing sector, however, given the range of mechanisms for finance available to large businesses, targeted government grants or other activities (such as procurement policies) are likely to have a greater effect on business location and/or viability or expansion than direct intervention in the market for finance by the State Government.<sup>777</sup> The Committee did not receive evidence suggesting that the Victorian Government could usefully influence the provision of finance to large manufacturing business. Therefore, the Committee's principal focus in the context of manufacturing business finance is on the provision of finance to SMEs.

### 10.1.2 Start-up, small, and medium enterprises

In comparison to large business, mechanisms for finance for start-up businesses and SMEs are limited, principally because they lack the scale of large businesses that makes shares issues and other financing options practical:

...while large businesses can issue corporate bonds and equity as alternative sources of finance, small businesses' funding requirements tend to be too small to make such issuance cost-effective. Consequently,

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<sup>775</sup> Prof. Milind Saythe, *Submission*, no. 32, Inquiry into Access of Small Business to Finance, Economics Committee, Australian Senate, p. 2.

<sup>776</sup> Andrew Spink, Director, Sales and Marketing, Bombardier Transportation Australia, *Transcript of evidence*, 7 September 2009, p. 11.

<sup>777</sup> Jeffrey Williams, Deputy Manager, Australasia and Caribbean Unit, UK Trade and Invest, *Meeting*, London, 10 February 2010.

small businesses do not tend to access wholesale debt and equity markets.<sup>778</sup>

Finance mechanisms available to start-ups and SMEs include internal funding, owner equity, venture capital, secured and unsecured intermediated credit, and bank bills.<sup>779</sup> For start-up businesses, there are often substantial risks to investment, principally because the businesses products or technologies are generally unproven in the market. Typically for these businesses, government grants are useful, or various kinds of venture capital, angel investors, or private finance from the business owners, their family and/or friends. Government support programs also exist for manufacturing (and other business) start-ups, through a number of government agencies.

Manufacturing businesses will also often have specific requirements within the more general field of SMEs. In particular, manufacturing businesses will often require substantial investment in productive capital purchases in order to improve productivity. In either case, a key characteristic of SMEs is the predominant use of internal funds for business finance, either through borrowing from friends and family, or, most commonly, by securing loans against assets held by the business owner, such as the owner's residential property.<sup>780</sup> One advantage for SMEs from mortgage-backed business loans over other business loans is that they may be able to obtain lower comparative interest rates on those loans, although mortgage-backed business loans are still obtained at an interest rate premium to the home-loan rate.<sup>781</sup> On the other hand, in the event of business failure, the effect on a mortgage-backed SME owner will likely be severe due to the entanglement of private and business equity,

The reliance of SMEs on owner-equity to obtain finance tends to limit the quantum of finance available, as loans are constrained by the value of residential properties. For most purposes, this form of finance may be adequate for SME needs, but may not be adequate where the business seeks to expand and needs to acquire higher levels of finance. The high utilisation of mortgage-backed business loans for SMEs is also an indicator of the lack of finance options available to SMEs generally.

All businesses can also self-fund expansion or capital through retention of earnings. This capacity had been generally weakened in the wake of the GFC, however, as cash flows in the manufacturing sector generally have fallen. Mr Guiseppe Boemo, Managing Director of Sprint Gas, told the Committee how this kind of situation had affected expansion plans for his business:

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<sup>778</sup> Treasury of Australia, *Submission*, no. 50, Inquiry into Access of Small Business to Finance, Economics Committee, Australian Senate.

<sup>779</sup> CPA Australia, *Submission*, no. 46, Inquiry into Access of Small Business to Finance, Economics Committee, Australian Senate; Reserve Bank of Australia, *Submission*, no. 2, Inquiry into Access of Small Business to Finance, Economics Committee, Australian Senate; Treasury of Australia, *Submission*, no. 50, Inquiry into Access of Small Business to Finance, Economics Committee, Australian Senate.

<sup>780</sup> CPA Australia, *Submission*, no. 46, Inquiry into Access of Small Business to Finance, Economics Committee, Australian Senate; Reserve Bank of Australia, *Submission*, no. 2, Inquiry into Access of Small Business to Finance, Economics Committee, Australian Senate.

<sup>781</sup> Reserve Bank of Australia, *Submission*, no. 2, Inquiry into Access of Small Business to Finance, Economics Committee, Australian Senate, pp. 4-5.

...when we look at the federal government grants and state government grants, a lot of them match you dollar for dollar, yet we have to make the investment ahead of receiving any of the grant money. Getting that sort of financing for million dollar plus investments at the moment is impossible. Twelve or 18 months ago we could have made the investment out of cash-flow but we were not in the position to do that because we were still going through the feasibility process. Now that we are in a position to proceed, we do not have the cash--flow because of the global financial crisis, and all that the banks say to us is, 'Well, if you want to make it cheaper, make it in China.'<sup>782</sup>

While recovery in the manufacturing sector is underway, it is likely that it will be some months or years before earnings recover to pre-2008 levels for many businesses.<sup>783</sup> In the meantime, there may be important opportunities for growth into new markets that Australian manufacturers could exploit with sufficient access to finance.

Finding 45: The capacity of small and medium-size and start-up firms to secure finance is often limited due to perceived risks from investing in unknown products or technologies, or because they lack the scale to utilise shares issues and other financing options. Consequently, small to medium and start-up enterprises typically rely on internal funds for business finance.

## 10.2 Bank lending

While the immediate attention of the Committee during the initial stages of this Inquiry was on the effects of the GFC on the manufacturing sector, the Committee has also noted that some significant changes in the sector, such as its decreasing share of total employment, have been occurring over an extended period. Another of these changes has been the redistribution of bank lending from commercial loans to home loans. In 1989, for example, the distribution of loans held by Australian banks was roughly \$53 billion home loans and \$90 billion commercial loans. By 2010, this distribution was proportionally reversed, with banks holding \$910 billion in home loans and just \$630 billion in commercial loans.<sup>784</sup> The recalibration of bank lending toward lower-risk home loans, however, contributes to the value of what is essentially consumption (houses) versus activities that are potentially productive (manufacturing and income generation). This trend is exemplified by the tendency, noted above, for business owners to obtain finance through mortgage-backed business loans, rather than exclusively commercial loans.

During the course of the Inquiry, the Committee considered the issue of whether bank lending to the manufacturing sector was tighter than for other industry sectors. The banking sector has a key role to play in the provision of finance to SMEs, and particularly in the wake of the GFC, through the

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<sup>782</sup> Giuseppe Boemo, Managing Director, Sprint Gas Australia Pty Ltd, *Transcript of evidence*, 7 August 2009, p. 3.

<sup>783</sup> Australian Industry Group, 'Australian PMI: Manufacturing fall continues', viewed 3 March 2010, <<http://www.aigroup.com.au>>; Australian Industry Group, 'Australian PMI: Manufacturing records weakest result in 16 years', viewed 3 March 2010, <<http://www.aigroup.com.au>>.

<sup>784</sup> Terry McCrann, 'Old solutions won't fix new economic problems', *The Australian*, 27 February 2010.



provision of facilities such as overdrafts during periods of reduced cash-flow. During the course of the GFC, and subsequently, it appears that bank lending to SMEs generally tightened, with banks moving towards securitised lending at the expense of alternative lending (such as on cash-flow), requiring increased levels of security, and more information prior to making loans.<sup>785</sup>

The Committee was told by Ms Michelle O’Neil, National Secretary and Victorian Secretary, Textile, Clothing and Footwear Union of Australia, that manufacturers in that sector were finding access to finance from banks challenging:

There has been quite a lot of concern expressed to the union from companies in the industry who have felt that a number of the financiers and banks who finance the industry have a particular attitude to the textile, clothing and footwear industry that means that what may be a problem with one business is then read as a problem with the whole industry.<sup>786</sup>

Mr Michael Brockhoff, Managing Director of MaxiTRANS Industries Pty Ltd also suggested to the Committee that some potential lenders, who were not prepared to look closely at the fundamental financial case of the business, “do not want to know that sector of industry in Australia.”<sup>787</sup>

In general, however, submissions and witnesses did not indicate that bank lending to the manufacturing sector was any tighter than for businesses in general. In response to the proposition that venture capital and private equity investors may avoid investing in the manufacturing sector, Dr Katherine Woodthorpe, Chief Executive, Australian Private Equity and Venture Capital Association Ltd, told the Committee:

I do not think [it is more difficult to obtain capital funding for manufacturing businesses]. I think it is just capital is so hard to get full stop. Our sector would not look at manufacturing in any biased way. They would look at the deal, the opportunity for growth and take that at face value. There certainly would not be any predisposition to say, ‘We do not invest in manufacturing’, and many of them do.<sup>788</sup>

However, while there may not be any bias against lending to the manufacturing sector in comparison to other industries by the banking sector, the Committee is aware that lending conditions have generally become more onerous since the onset of the GFC. The Committee notes that CPA Australia’s submission to the inquiry of the Senate Economics References Committee on access of small business to finance, noted that its members reported the following tendencies in bank lending to SMEs:

- banks are still lending, however, it seems that secured lending is nearly the only form of new lending that banks are willing to make;

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<sup>785</sup> CPA Australia, *Submission*, no. 46, Inquiry into Access of Small Business to Finance, Economics Committee, Australian Senate.

<sup>786</sup> Michele O’Neil, National Secretary and Victorian Secretary, Textile, Clothing and Footwear Union of Australia, *Transcript of evidence*, 7 August 2009, p. 10.

<sup>787</sup> Michael Brockhoff, Managing Director, MaxiTRANS Industries Pty Ltd, *Transcript of evidence*, 18 August 2009, p. 10.

<sup>788</sup> Dr Katherine Woodthorpe, Chief Executive, Australian Venture Capital and Private Equity Industry Association Ltd, *Transcript of evidence*, 29 October 2009, p. 3.

- businesses with secured lending facilities have noticed that they have had to increase their level of security;
- the increase in information required by banks to obtain a new loan and extra reporting requirements for those with existing loan facilities;
- the lack of experience of business bankers, the high turnover of staff and their lack of authority;
- the reduction in competition amongst lenders; and
- the economic impact of the downturn and the tighter lending conditions.<sup>789</sup>

One response of banks to increased caution about risk in lending has been to require more evidence from loan applicants about future projections for the business, or analysis of assets and liabilities, in forms that are not ordinarily prepared by SMEs in the course of running their businesses.<sup>790</sup> This can either disadvantage the SME applying for a loan if the information: a) is not adequately prepared; or b) requires the business to redirect labour into the preparation of information; or c) requires the business to hire a third party to assemble information.<sup>791</sup> In some cases, it appears that banks are not introducing new requirements for loans applications, but rather enforcing requirements that were not so rigorously observed prior to the GFC.<sup>792</sup> In either case, some manufacturing SMEs are faced with procedures when applying for loans of which they may not have had prior experience, and may require outside advice in the preparation of materials for the lending institution.

The Committee was also told by some witnesses that awareness of manufacturing businesses within the banking sector was often poor, and that bank loan assessors were not able to properly assess the merit of business cases put before them.<sup>793</sup> As a result, proposals for loans were sometimes declined by banks, apparently because they simply lacked adequate understanding of the business. This was the case even when substantial supporting evidence, such as from established manufacturing consultants, was presented along with the loan application:

We have spent six figures with Invetech doing further feasibility studies to see if it is worth doing. It is all in this document here and I have provided this to the bank we are changing out of at the moment. This is a 200-odd

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<sup>789</sup> CPA Australia, *Submission*, no. 46, Inquiry into Access of Small Business to Finance, Economics Committee, Australian Senate.

<sup>790</sup> CPA Australia, *Submission*, no. 46, Inquiry into Access of Small Business to Finance, Economics Committee, Australian Senate, p. 10.

<sup>791</sup> CPA Australia, *Submission*, no. 46, Inquiry into Access of Small Business to Finance, Economics Committee, Australian Senate.

<sup>792</sup> CPA Australia, *Submission*, no. 46, Inquiry into Access of Small Business to Finance, Economics Committee, Australian Senate.

<sup>793</sup> Giuseppe Boemo, Managing Director, Sprint Gas Australia Pty Ltd, *Transcript of evidence*, 7 August 2009; Michael Brockhoff, Managing Director, MaxiTRANS Industries Pty Ltd, *Transcript of evidence*, 18 August 2009; Lloyd Joseph, Managing Director, IP Plastics Pty Ltd, *Transcript of evidence*, 22 January 2010; Timothy McLean, Principal and Director, TXM Pty Ltd, *Transcript of evidence*, 30 November 2009.

page document about a corporate development, what we want to do with manufacturing in our retail and wholesale distribution and why we want to manufacture. Invetech make up the last 80 to 100-odd pages.... You give this to a bank manager, is he going to read 200 pages? Absolutely no way. Even if you showed them where the numbers are they will not be understand how, what, why. That is the issue. They do not have the knowledge to be able to understand that.<sup>794</sup>

**Finding 46:** In response to the global financial crisis, bank lending to businesses has tightened, with reports of lending conditions becoming more onerous. Consequently, small and medium-size manufacturing firms may experience difficulty applying for loans, which is exacerbated by a lack of awareness of manufacturing business practices by the banking sector.

As noted above, the issue of inexperienced bank lending managers was also raised by the CPA as an issue in its submission to the *Inquiry into Access of Small Business to Finance*:

Strong views were expressed by members that the business bankers they deal with are inexperienced and were therefore unlikely to have the necessary skills to appropriately assess credit applications. Members stated that this is adding to the burden on business in securing finance and maintaining finance facilities as they are having to spend extra time providing additional explanations and information on their industry and business which an experienced banker may not normally require. Members also commented that the turnover in business bankers is adding to this burden as this potentially creates a need to re-explain their business to a new person.<sup>795</sup>

The Committee recognises the important and ongoing role of the banking sector in providing finance to manufacturing businesses of all sizes, and notes the concerns of manufacturers about awareness and expertise within the banking sector about their businesses. Ideally, the specific needs and characteristics of manufacturing businesses should be promoted to bank lending managers, in order to provide them with better tools with which to accurately assess risk associated with investment in the sector. There may be opportunities for government to provide manufacturers with better advice about how to tailor loans applications in a form that satisfies the expectations of the banking sector.

### 10.3 Access to information and advice about finance opportunities

The Committee notes that internationally, extensive support is provided to manufacturing businesses when seeking assistance from the finance sector. In Manchester and London, the Committee heard that the Business Link program in each region provides a one-stop information service for businesses that includes access to finance advisors, who are able to provide advice about financial management, access to third party finance,

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<sup>794</sup> Giuseppe Boemo, Managing Director, Sprint Gas Australia Pty Ltd, *Transcript of evidence*, 7 August 2009, p. 12.

<sup>795</sup> CPA Australia, *Submission*, no. 46, *Inquiry into Access of Small Business to Finance*, Economics Committee, Australian Senate, p. 5.

and access to public and private sources of finance.<sup>796</sup> In Germany, Hessen Argentur in the state of Hesse provides businesses with access to a funding consultant team that provides the following services:

- qualified scouts for all issues relating to business development;
- individual, independent and free advice on financial and non-financial support schemes;
- information about financing tools, subsidies, loans, guarantees and participations;
- valuable suggestions for planning negotiations with banks and venture capital lenders;
- support in the search for additional sources of information and partners.<sup>797</sup>

Regarding Australia, by contrast, the Committee notes comments from Dr Woodthorpe that there is currently no mechanism for brokering SMEs in manufacturing to approach private equity funds, and that as a result, businesses may not be able to easily find out more about finance opportunities from those sources:

On the other part — the expansion, succession and so on — probably one of the biggest problems for those companies is having a form of brokerage almost, having a place they could go to (a) help them understand that private equity is an option; (b) help shape them into a form that private equity might be interested in — and it is not changing the company but the way they present themselves, the information they present, the business planning that they can present and so on — and then (c) just have that brokerage of a place where people could go to find them. It is really hit and miss from both sides. I get a call daily from either a kitchen table entrepreneur right through to a succession style of middle-sized business saying, 'How do I get capital? Where do I go? Who do I turn to?'.<sup>798</sup>

The Committee is also cognisant that there is likely to be increased interest in options for finance and the sale of manufacturing businesses as the owners of family firms approach retirement. The Committee was told by Mr Harry Kras, Family Business Adviser for Family Business Australia that this was an emerging issue for SME manufacturers:

A 2006 family and private business survey was conducted by RMIT.... It found that in 2006 the median age of CEOs of family businesses in Australia was 58 and that 80 per cent of them planned to retire in the next 10 years. Yet over 50 per cent of these owners stated that they are not exit or succession ready. It is just frightening stuff. We are three years into that period now. As an aside, one of the advantages of the current economic

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<sup>796</sup> Paolo Fazzi, Executive, London Manufacturing Advisory Service, *Meeting*, London, 11 February 2010; Brian Richardson, Advanced Engineering Sector Manager, Business Link, *Meeting*, Manchester, 9 February 2010.

<sup>797</sup> Hessen Argentur, 'Funding consultant team', viewed 28 March 2010, <[www.invest-in-hessen.de](http://www.invest-in-hessen.de)>.

<sup>798</sup> Dr Katherine Woodthorpe, Chief Executive, Australian Venture Capital and Private Equity Industry Association Ltd, *Transcript of evidence*, 29 October 2009, p. 7.

climate is that it has deferred the succession plans of many people in business who are recalculating their retirement requirements and the worth of their business.<sup>799</sup>

This point was also articulated in a submission to the Senate *Inquiry into Access of Small Business to Finance*:

Due to the impending retirement of the post-war baby boomer generation, it is anticipated that around 60% of family business owners plan to retire by 2016. Although the majority of family firms intend to pass the business onto the next generation, it is predicted that half will be unable to do so due to a lack of available and / or suitable successors. As a consequence, many family owners will have little option but to sell or close down the business.<sup>800</sup>

All of these issues point to the importance of services that provide manufacturing businesses, and particularly SMEs, with accurate and expert advice on preparing for, sourcing and obtaining finance.

In Recommendation 6, the Committee recommended that the Victorian Government establish a network of manufacturing business advisers that work solely with manufacturing companies to identify and apply for appropriate assistance programs. In Recommendation 22, the Committee suggested Victorian Government consider introducing subsidised or no-cost diagnostic and advisory services for manufacturing sector SMEs in management practice and lean manufacturing techniques. The Committee's intention is that these services be integrated to provide manufacturing businesses with holistic support for their business. The Committee further recommends that the Victorian Government provide manufacturing businesses with information about how to make their businesses 'finance ready', and where appropriate, direct businesses toward independent, qualified advisors that can provide guidance on the preparation of loans applications to financial institutions, including advice about alternative finance measures, such as venture capital or private equity opportunities. The network should work with relevant sections of the finance industry in delivering this service.

Recommendation 32: That the manufacturing business advisory service, described in Recommendation 6, provide manufacturing businesses with information about how to make businesses 'finance ready', and where appropriate, with information to assist businesses identify loans and finance advisors that are independent of the service.

Another option for providing information to manufacturing (and other) SMEs about available finance was suggested in evidence by Mr Mark Brennan, the former Victorian Small Business Commissioner:

...there was a census survey three or four years back now, which found something in excess of 80 percent of small businesses, we're talking presently, saw one professional adviser a year, and it was the accountant.

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<sup>799</sup> Harry Kras, Family Business Adviser, Family Business Australia, *Transcript of evidence*, 23 November 2009, p. 4.

<sup>800</sup> Pi-Shen Seet and Chris Graves, *Submission*, no. 48, Inquiry into Access of Small Business to Finance, Economics Committee, Australian Senate.

Over 80 percent saw an accountant, and that was for tax, and then it dropped down to the low 20s in terms of small business. Low 20 per cent of small businesses who might see some other professional like a lawyer or a financial planner or a marketer, but, they will go and see the accountant for the tax thing. I've tried to engage the accounting bodies. They are in a unique position to be at least a port of call for maybe 80 percent of people.<sup>801</sup>

While the Committee believes there is a role for the provision of specialist business advisors to the manufacturing industry, as described in Recommendation 32, the Committee also believes there is significant potential for bodies such as CPA Australia and the National Institute of Accountants to contribute to SME knowledge about finance. Consequently, the Committee recommends that the Victorian Government engage with professional accountant bodies, such as CPA Australia and the National Institute of Accountants, to discuss opportunities for appropriately-qualified accounting professionals to provide business owners with advice about finance options for business expansion and consolidation. The Victorian Government should encourage collaboration between the banking sector, the private equity and venture capital sectors, and accountant bodies. The Committee anticipates that the provision of advice would have the positive effect of enhancing the professional image of accountants, while potentially providing valuable information to clients.

Recommendation 33: That the Victorian Government engage with professional accountant groups to encourage members to provide information about finance options to small and medium size enterprise clients where appropriate.

## 10.4 Venture capital

Venture capital is funding provided for businesses that have not yet established a product to market or cash-flow, to start up. Typically, provision of venture capital is high-risk, with the potential for significant gains to investors, but also a significant risk of business failure. Funds for venture capital are largely provided by the superannuation industry, by means of intermediary companies. These companies generally obtain 40 to 45 per cent equity in the start up business.

The Committee was told that, in terms of national distribution of venture capital, Victoria is relatively well represented, although in general the venture capital industry has been under stress in recent years:

Actually at the venture capital end Victoria does very well. Victoria has roughly as many venture capital companies as Sydney, and we are talking about a very small pool. Victoria actually had the lion's share of venture capital investment in the last 12 months, not least because of the large life sciences public sector research agencies that get a lot of investment out of the venture capital sector.<sup>802</sup>

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<sup>801</sup> Mark Brennan, Victorian Small Business Commissioner, *Transcript of evidence*, Melbourne, 28 April 2010, p. 9.

<sup>802</sup> Dr Katherine Woodthorpe, Chief Executive, Australian Venture Capital and Private Equity Industry Association Ltd, *Transcript of evidence*, 29 October 2009, p. 4.

### 10.4.1 Commonwealth support for venture capital

Venture capital investment is supported by the Commonwealth through programs that provide direct support or tax concessions. The *Innovation Investment Fund* (IIF) program was announced in 1997 and is currently in its third round of investment, with \$200 million allocated for investment under the latest round, and \$482.85 million allocated over the life of the program. Under the program, licences are allocated to fund managers who are responsible for all investment decisions, which are made on a commercial basis in accordance with their own investment practices, subject to the IIF program guidelines. The program enables private sector investors to leverage off public equity capital, and the aim of the program is to encourage additional private sector investment by demonstrating returns achievable from investing in such companies.<sup>803</sup>

The *Early Stage Venture Capital Limited Partnership* program allows fund managers seeking to raise new venture capital funds of between \$10m and \$100m for investment in Australian businesses to register for assistance. Registration entitles a fund to flow-through tax treatment so that its investors (whether resident or non-resident) receive a complete tax exemption on their share of the fund's income (both revenue and capital).

Similarly, the *Venture Capital Limited Partnerships* program allows fund managers seeking to raise new venture capital funds of at least \$10m for investing in Australian businesses with assets of up to \$250m to apply for registration. Registration entitles a fund to flow-through tax treatment. Eligible foreign limited partners also receive a capital gains tax exemption for gains made on eligible investments.

### 10.4.2 Venture capital support for manufacturing

In July 2007, the House of Representatives Standing Committee on Economics, Finance and Public Administration conducted the Inquiry *Australian Manufacturing: today and tomorrow*, which found that 2006 data provided by the Australian Bureau of Statistics (ABS) suggested that “if there is any problem in the venture capital market, it is not the lack of money coming in but either the poor quality of the companies seeking funding or excessive conservatism of the venture capital fund managers.”<sup>804</sup> The Standing Committee observed that improvements in the collection of data about the venture capital industry may be required, and referred to evidence from the Victorian Government that venture capital may be under funded in Australia as a proportion of gross domestic product (GDP) compared to other countries.<sup>805</sup> Regarding the venture capital industry, the Standing Committee’s report included recommendations that: the ABS and Department of Industry, Tourism and Resources improve data on venture capital; the Government form an inter-departmental working party to report on whether market failures hindered the venture capital industry; and that Australian Industry Productivity

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<sup>803</sup> Department of Innovation Industry Science and Research, 'Innovation investment fund', viewed 16 June 2010, <[www.innovation.gov.au](http://www.innovation.gov.au)>.

<sup>804</sup> House of Representatives Standing Committee on Economics Finance and Public Administration, *Australian manufacturing: today and tomorrow*, Canberra, 2007, p. 89.

<sup>805</sup> House of Representatives Standing Committee on Economics Finance and Public Administration, *Australian manufacturing: today and tomorrow*, Canberra, 2007.

Centres provide “adequate information about venture capital” to manufacturers.

The Government Response to the Inquiry was tabled in February 2010, in which the Commonwealth Government supported-in-principal the proposition that better information be collected on venture capital by the ABS; noted that the main market failure for venture capital was inadequate access to information; and supported providing manufacturers with information about Government venture capital programs, by means of *Enterprise Connect*, which subsumed the Australian Industry Productivity Centres.

During the course of this Inquiry, the Committee heard about the importance of start-up manufacturing companies, particularly regarding the contribution these companies may make to Victoria in terms of innovation. While the Committee is aware of some of the factors that could be improved for these businesses – such as ensuring start-up businesses have access to adequate entrepreneurship skills as well as research capability – the Committee did not receive compelling evidence that venture capital for manufacturing is disproportionately under represented in Victoria.

## 10.5 Expansion capital

Expansion capital is the provision of resources to develop and grow a business, to expand into new markets and, ideally, increase earnings. The provision of expansion capital provides a means for established SMEs to become large businesses, and so is an important component of financial services to industry. The main options available to businesses in order to raise expansion capital is through retention of earnings, bank loans, or through private equity.

### 10.5.1 Bank lending

As noted above, access to bank lending for expansion capital has become tighter since prior to the GFC. Furthermore, in a recent submission to the Senate *Inquiry into Small Business Finance*, CPA Australia noted views of some of its members suggesting that banks had re-evaluated their lending criteria following the GFC, and consequently tighter lending conditions were likely to persist for some time.<sup>806</sup> In any case, the tendency of banks to focus on equity for lending may make obtaining bank loans for expansion capital more difficult to obtain. Both of these themes were addressed in evidence from Mr Paul Dowling, Executive Officer of the South East Melbourne Manufacturers’ Alliance:

Most of our manufacturers... have not experienced a rate reduction in their overdraft in the last 18 months. What the banks are doing is re-assessing you as a risk. And the rate they are paying over the margin now is absolutely criminal. Moreover, what we are getting right now is every time you go to roll your facility they are bringing up this risk management, and things that have been happening for 20 or 30 years between bank and customer are now being raised. You are now as the customer requested to

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<sup>806</sup> CPA Australia, *Submission*, no. 46, Inquiry into Access of Small Business to Finance, Economics Committee, Australian Senate.



go and employ a consultant to do a risk analysis on something that is not really a risk. So it is turning manufacturers away from finance. What we do not understand, I think, is it is inhibiting their business. We have one member who is a small company. He has now worked with a multinational and two others to develop this product that is going to be a real hit around the world. They have been approached by Europe and America. He has moved premises to a larger premises, and he needs to move again, and he is under \$5 million. The banks will not even look at financing him.

The CHAIR — All he wants is less than \$5 million, did you say?

Mr DOWLING — Yes. His facility is nowhere near that. His turnover is only \$5 million. Now he just needs working capital. He can be guaranteed by anybody he likes, but the point is he should not have to. But the banks have absolutely refused to have anything to do with him. He is profitable, well-managed, a great business.<sup>807</sup>

While a number of witnesses told the Committee that more stringent lending conditions were being exercised by banks, the Committee heard that bank lending was still available to some manufacturing businesses. Mr Tim Haymes, of Haymes Paint, told the Committee that for family-owned businesses, the reluctance of the founder/owner of the business was a greater barrier to accessing expansion capital than limited access to funds:

Access to capital is there. We get approached by a number of banks and other people, but there is that generational thing. Sometimes it is the founder of the business who has built it from the ground up so they have been very conservative and they do not like borrowing, even if it is to the detriment of the business. To expand you have got to find the money, and for a family-owned business to find that money and self fund is virtually impossible to a degree.<sup>808</sup>

## 10.5.2 Private equity

Private equity is the term used to describe the provision of funds to businesses by companies that are not publicly listed (i.e. private companies). In Australia, money for the private equity sector is typically provided by the superannuation industry to collected vehicles for investment. The private equity funds then provide capital to businesses in exchange for some form of equity in the businesses. The majority of private equity investment is conducted over the medium term, around 3 to 5 years, with the object of improving the value of the business in order to maximise returns to the fund:

...[private equity funds] really are the joint-venture partner who is there to help drive and assist management in growing the business, but ultimately with the intent of crystallising value in a three-to-five-year period. In a simplistic fashion, if we find a business that, say, has profits of \$5 million to \$10 million, the question we will ask ourselves is: 'Is there a feasible plan that we could take this business through to make \$20 million to \$30 million in a three-to-five-year period; and if so, is there a plan; is it executable; and how do we do it?'. That might probably be a mixture of rejuvenating an

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<sup>807</sup> Paul Dowling, Executive Officer, South East Melbourne Manufacturers Alliance Inc, *Transcript of evidence*, 18 August 2009, p. 7.

<sup>808</sup> Tim Haymes, Haymes Paint, *Transcript of evidence*, 23 November 2009, p. 8.

existing business and then adding on some acquisitions and so forth and some organic growth. We are really trying to create value and as a consequence share in the upside associated with the value that we have created.<sup>809</sup>

The Committee heard that, while venture capital was proportionately well represented in Victoria, private equity was not so well represented in the state. Mr Terry Charalambous, Investment Manager of Australian Super, told the Committee:

The experience within our fund of the large majority of Australian managers being headquartered in Sydney is certainly reflective of the broader market that the managers within the private equity market are concentrated in Sydney. I can only put it down to the fact that the financial services industry in Australia has historically had a larger footprint in Sydney than in Melbourne.<sup>810</sup>

Dr Katherine Woodthorpe, of the Australian Private Equity and Venture Capital Association Ltd., also told the Committee:

...in that expansion area there is very much less representation. There is literally a very small handful in Melbourne, and by far the big bulk of them are in Sydney. If you talk to the ones who are based in Melbourne, they would very specifically say, 'We like being down here because the opportunities are down here.'<sup>811</sup>

Private equity can be an effective means to expanding businesses in some cases. In particular, when private equity firms obtain equity in a business, they often bring expertise in managing the transition of SMEs to large businesses, as these skills are often lacking in small business owners.

However, the Committee is also aware that in the manufacturing sector, many businesses at this stage of development are wary of equity investment, and of the effect of private equity investment on their businesses. In Wales, the Committee was told by Mr Mike Davies, Executive Director for Risk, Finance Wales that its portfolio comprised 30 per cent equity investment and 70 per cent loans, and although manufacturing comprised 45 per cent of loans, no manufacturing business had obtained equity funding. While Finance Wales was willing to provide equity funding to manufacturing businesses, manufacturers as a group were reluctant to give up equity (i.e. ownership) in their businesses. The Committee received evidence that this could sometimes also be the case in Australian family-owned manufacturing companies:

One thing that is really important to remember right across the private equity spectrum is that you buy a company with a view to selling it. The funds are all roughly 10-year, closed-end funds. You are only ever buying with a view to selling it at a profit, and that is something that at the family business end can sometimes be difficult to get across: 'I am really buying your company because I want to sell it and make money out of it. I am not

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<sup>809</sup> Rupert Harrington, Managing Director, Advent Private Capital, *Transcript of evidence*, 30 November 2009, p. 2.

<sup>810</sup> Terry Charalambous, Investment Manager, Australian Super, *Transcript of evidence*, 7 September 2009, pp. 8-9.

<sup>811</sup> Dr Katherine Woodthorpe, Chief Executive, Australian Venture Capital and Private Equity Industry Association Ltd, *Transcript of evidence*, 29 October 2009, pp. 4-5.

buying it because I love this thing and will run it for the rest of my life'. That can be a bit of a psychological barrier for some people.<sup>812</sup>

Finding 47: The provision of funds through venture capital or private equity is an option for manufacturing firms, although in the case of private equity, it will not always be an appropriate form of finance as manufacturers are often reluctant to cede ownership and/or control of their business.

### 10.5.3 International government finance for businesses.

The Committee heard, while overseas, that access to expansion capital was a problem for manufacturing firms overseas, where there was a gap in the finance market for SMEs seeking to expand.<sup>813</sup> The Committee was very interested to hear of an initiative by the Wales Assembly Government to address this problem, through its state-owned corporation, Finance Wales. One of the key features of Finance Wales is that it lends based on businesses' forward-looking cash flows, rather than on equity. This means that although equity valuations may fluctuate, the companies are still able to maintain a trading position. As of February 2010, none of the businesses Finance Wales has entered into arrangements with appear likely to default.

As a consequence of its willingness to provide loans based on cash-flow, Finance Wales now appears to fill a role complementary to Welsh Banks. According to Finance Wales, many of its referrals now come from traditional banks, who have become "major introducers" for businesses that do not meet equity-based banking criteria. The Committee was told that Finance Wales funds have been very successful – a second joint government and private equity fund was launched in 2007, and Finance Wales is currently initiating a new fund that is entirely funded from private investment. Finance Wales has an unusual corporate structure, in that it is owned by the National Assembly of Wales, and so is accountable to the parliament as shareholders in the company, as well as to the relevant Minister.

The Committee was also told of other measures introduced overseas to provide finance to SMEs, including manufacturing businesses. In Germany, substantial support has been provided for businesses over many years, beginning with the formation in 1948 of the government-owned development bank, Kreditanstalt für Wiederaufbau (KfW), with USA government support as part of post-war reconstruction programs. As a public-owned agency, the KfW is exempt from corporate taxes, which allows it to extend loans at low rates to commercial banks, with commercial banks then lending to institutions and individuals for purposes that support government policy objectives. The KfW is able to offer commercial banks liquidity at low rates and with long maturities, and is able to offer risk transfer through guarantees. Repayments to the KfW are channelled back into lending, with the KfW using existing funds, and by borrowing at low

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<sup>812</sup> Dr Katherine Woodthorpe, Chief Executive, Australian Venture Capital and Private Equity Industry Association Ltd, *Transcript of evidence*, 29 October 2009, p. 6.

<sup>813</sup> Andrew Davies, Head, Regional Competitiveness and Governance Division, Organisation for Economic Co-operation and Development, *Meeting*, Paris, 12 February 2010; Mike Davies, Executive Director for Risk, Finance Wales, *Meeting*, Cardiff, 8 February 2010; Keith Palmer, Head of Business Support, South East Wales, Business Support Wales, *Meeting*, Cardiff, 8 February 2010; Jeffrey Williams, Deputy Manager, Australasia and Caribbean Unit, UK Trade and Invest, *Meeting*, London, 10 February 2010.

rates from capital markets through bonds guaranteed by the federal government.

In Germany loans and guarantees are provided through the länder (state government), the Federal Government and local banks to businesses, with the Federal Government or the länder government respectively guaranteeing 60 per cent of loan liability on working capital loans for SMEs, and 90 per cent of liability on investment loans for SMEs.<sup>814</sup> Between October 2008 and November 2009, €15 billion in loans was provided to SMEs and €25 billion to large businesses, with a further €75 billion in guarantees also provided. The Committee was told that the loans program had saved or had facilitated saving 740,700 jobs through the GFC, and the guarantees program had saved 212,150 jobs.<sup>815</sup>

In its evidence to the small business inquiry, the Federal Treasury argued that these and similar programs in Canada and Sweden had not been effective in producing desired outcomes:

...unless a specific market gap exists, the use of such banks can result in distortions in the financing market. Such distortions could include, for example:

- assisting lenders rather than borrowers, by providing a cheap source of funding that can be lent onwards at normal market rates;
- stimulating lending to borrowers who would not meet standard credit conditions, and who are not in a position to repay their loans; and/or
- 'crowding out' existing commercial providers of credit (or depositors and investors if loans are made through a commercial provider), leading to reduced competition.<sup>816</sup>

While the Committee recognises the vulnerability of some schemes to these criticisms, the Committee also notes that some government-backed loans systems, such as through the KfW in Germany, have a long track record of successful support for industrial development.

#### 10.5.4 Government-initiated finance for manufacturing

The issues discussed above, in regard to the particular difficulties experienced by SMEs in access to finance, are by no means new issues for industry or in Victoria. In 1984, the Victorian Government released an economic strategy document describing what it saw as deficiencies in the capital market for Victorian businesses:

- a) the underdevelopment of the market for the supply of equity funds and management support for companies with growth potential (i.e. venture capital);

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<sup>814</sup> By comparison, guarantees for large company loans were 50 per cent of liability on working capital loans, and 75 per cent on investment loans.

<sup>815</sup> Dr Gilan Tober, Fiscal and Monetary Policy, Federal Ministry of Economics and Technology, *Meeting*, Berlin, 17 February 2010.

<sup>816</sup> Treasury of Australia, *Submission*, no. 50, Inquiry into Access of Small Business to Finance, Economics Committee, Australian Senate, p. 21.

- b) the limited supply of longer term debt capital available to small to medium sized firms on reasonable terms and conditions; and
- c) the lack of specific types of development finance, such as export pre-shipment finance, for small to medium sized companies.<sup>817</sup>

In response to these issues, the Victorian Economic Development Corporation (VEDC) was formed to provide finance in areas where risk was greater than conventional financial institutions were willing to undertake. The VEDC was subsequently wound down, with a review of the body finding that the VEDC had failed essentially due to “inadequate and ineffective” management and investment procedures by the board and senior management, and through exceeding its brief to “carry out its legislative charter without excessive risk being taken.”<sup>818</sup>

Despite the failure of the VEDC, the Committee heard that some of the corporation’s investments did achieve their aims without undue risk to the state. The Committee was told by Mr Patrick Boland, Joint Managing Director of ANCA Pty Ltd., who appeared before the Committee on behalf of the Future Manufacturing Industry Innovation Council, that the VEDC and other government vehicles for industry support were important to the development of his business:

We are a start-up company that started in Melbourne in 1977, and we have reached a reasonable size — around a \$100 million turnover now. And what was one of the key factors which helped us go from a start-up company to a niche global player was that during our growth period — and this is getting some years ago now — there was a lot of government assistance available at that time. Key programs which in our history I believe kicked us along in terms of growth included the commonwealth project, the R and D grant scheme, which was at the time a very generous scheme in terms of funding research and development programs. The other one which was particularly important for us was the VEDC, which was the Victorian Economic Development Corporation; it really had a significant impact on us in terms of getting our first factories and equipment and so on. There was also another commonwealth program called the machine tool bounty. My point is really that there is nothing like that available today on any of those three schemes, and thinking back I just do not know whether the same people would have been involved, the same ideas and so on, and whether we would have been able to crack the barrier to jump into becoming a viable international company.<sup>819</sup>

The Committee notes that the Commonwealth currently provides some funding, in cooperation with private finance, to industry by means of the IIF. However, programs under the IIF that are broadly applicable to the manufacturing sector generally focus on venture capital programs or support for research and development, whereas the Committee has heard that there may be a need for expansion capital loans to industry based on future cash-flow, rather than on equity security.

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<sup>817</sup> Victorian Government, *Victoria: The next step*, Government of Victoria, Melbourne, 1984.

<sup>818</sup> Fergus Ryan, *Report of the Inquiry into the Victorian Economic Development Corporation*, Government Printer, Melbourne, 1989, p. 8.

<sup>819</sup> Patrick Boland, Future Manufacturing Industry Innovation Council, *Transcript of evidence*, 28 October 2009, p. 6.

The Committee recognises that experiences with the VEDC makes consideration of market intervention to provide finance to business by Victorian governments awkward. However, the Committee also notes that a great number of governments in developed nations currently have programs that provide seed and expansion capital to manufacturing businesses, and that in most cases these schemes have proved successful. The Committee also believes that developments in models for the provision of seed- and expansion capital finance, such as exercised by Finance Wales, provide lessons for the development of robust, transparent and sustainable finance models in Victoria.

**Finding 48:** If applied stringently, the availability of seed and expansion capital funding to manufacturing firms based on future cash-flow rather than on equity security could potentially provide firms with the necessary resources to expand their operations to improve future business viability.

For this reason, the Committee suggests that the Victorian Government investigate whether, in its view, there is a need for government assistance to industry in the provision of seed and expansion capital – particularly with a view to the provision of finance based on a rigorous estimate of business future cash-flow. The Committee expects that contemporary standards for accountability, and rigorous and independent oversight, would be applied to any program or body established to address the need for expansion capital in the market. The Committee would also expect that any program or resulting body would operate on a balanced, or net profit basis, and that it would facilitate, or require, engagement of private investment as well as public sector funding. Finally, any resulting program or body should ensure, as part of its core activities, that adequate expertise is present in the subject business, or offered during the provision of capital assistance, to facilitate the transition from a SME scale business to a large business, or to provide appropriate advice to start-up businesses. The Committee also suggests that the Government examine the business model employed by Finance Wales when considering its response to the Committee's recommendation. In the Committee's view, key strengths of the business model employed by Finance Wales include:

- the requirement for commercial return on investments;
- a focus on forward cash-flows for lending rather than equity;
- the increasing use of private funds for investment, indicating the commercial sustainability of the enterprise; and
- that Finance Wales appears to be filling a gap in the finance market, rather than competing with existing financial services companies.

**Recommendation 34:** That the Victorian Government explore opportunities to encourage and/or establish seed and expansion capital funds for Victorian manufacturing businesses.

## **10.6 Superannuation industry investment in manufacturing**

One issue raised during the course of this Inquiry was whether there were opportunities for a small proportion of the superannuation funds to be redirected into investment in the manufacturing sector. Some witnesses

suggested that there may be opportunities for government to require superannuation and/or pension funds to invest more substantially in the manufacturing component of the venture capital and private equity markets. According to Dr Katherine Woodthorpe, superannuation funds in particular owed a large proportion of their income to government legislation and policy, so that it would not be inconsistent for government to direct where part of that income was invested:

I fly a kite regularly any time I speak to members of the Federal Government and say that I do not see why, given that superannuation funds exist by mandate, they should not also be mandated to do certain things which are nation building. One superannuation fund ex-CEO said to me the other day, 'And frankly the 0.1 per cent that we would put into a VC fund, we can afford to lose without our members being affected'. The 0.1 per cent is not going to affect them so dramatically.<sup>820</sup>

However, the Committee also heard from Australian Super that the proportion of that fund's investment in Australian manufacturing was not insignificant. Appearing before the Committee, Mr Ian Silk, Chief Executive of Australia Super, told the Committee that Australian Super did not invest in debt funding for businesses, but that it did provide equity funding via its private equity partners.<sup>821</sup> Mr Silk told the Committee that of \$28 billion in assets held by the fund, around \$8.8 billion was invested in Australian listed markets:

As far as listed markets are concerned, we have invested around \$8.8 billion in Australian equities. About \$1.5 billion of that is in the manufacturing sector. We have been unable to break that down in any meaningful sense for the Victorian manufacturing sector, but we can, on the basis of Victoria's role in national manufacturing, assume that there is a greater than proportionate representation in Victoria....<sup>822</sup>

Regarding unlisted assets, Mr Terry Charalambous told the Committee that of approximately \$1 billion of private equity investment held by the fund in September 2009, \$651 million was invested in Australia, with \$75 million of that invested in the Australian manufacturing sector.<sup>823</sup> In evidence, Mr Charalambous and Mr Silk told the Committee that Australian Super's level of investment in manufacturing industries, of around 15 to 17 per cent of funds allocated to the Australian market, was relatively consistent across the superannuation industry.<sup>824</sup>

While the Committee recognises there may be opportunities to compel superannuation funds to provide increased funding for private equity and venture capital in Australia, the Committee also acknowledges that the objective of the superannuation funds is principally to maximise economic returns to their clients. The Committee also notes that any attempt to

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<sup>820</sup> Dr Katherine Woodthorpe, Chief Executive, Australian Venture Capital and Private Equity Industry Association Ltd, *Transcript of evidence*, 29 October 2009, p. 9.

<sup>821</sup> Ian Silk, Chief Executive, Australian Super, *Transcript of evidence*, 7 September 2009.

<sup>822</sup> Ian Silk, Chief Executive, Australian Super, *Transcript of evidence*, 7 September 2009, p. 3.

<sup>823</sup> Terry Charalambous, Investment Manager, Australian Super, *Transcript of evidence*, 7 September 2009.

<sup>824</sup> Terry Charalambous, Investment Manager, Australian Super, *Transcript of evidence*, 7 September 2009; Ian Silk, Chief Executive, Australian Super, *Transcript of evidence*, 7 September 2009.

compel the super funds to undertake mandated investment policies would likely have both positive and negative flow-on effects, not all of which would be easily anticipated. For this reason, the Committee does not support the proposal that super funds be compelled to invest in certain market segments in Australia.

The Committee nevertheless believes that there are significant commercial opportunities for investment in manufacturing that are underutilised by superannuation and pension funds, and other financial institutions, in Australia. For this reason, the Committee recommends that the Victorian Government promote opportunities for investment in the manufacturing sector to these components of the financial sector.

**Recommendation 35:** That the Victorian Government encourage financial institutions to investigate opportunities for investment in Victorian manufacturing businesses.





## Chapter Eleven: Key points

Country of origin branding, such as the Australian Made, Australian Grown campaign logos, provide a useful marketing strategy for the promotion of products in global markets. There are opportunities for Victorian manufacturers to better employ country of origin branding for the marketing of products.

Succession planning for family-owned manufacturing businesses is emerging as an issue, particularly as a proportion of 'baby boomer' business owners consider retirement. A recent survey indicated that only 15 per cent of 613 family firms reported having a formal succession plan in place, although 31 per cent said they were currently working on one. There is a need to encourage family-owned manufacturing businesses to develop succession plans, in order to ensure family-owned manufacturing businesses continue to operate upon retirement of current business owners, and to assist manufacturing businesses to remain in Australia, rather than be sold and moved offshore.

Victorian trade fair participation and trade missions provide an important mechanism to promote Victorian manufacturing businesses in overseas markets, and to overseas businesses. When planning trade fairs and missions, it is important to recognise that trade fairs and missions are not an end to themselves but rather should be integrated with broader strategic business plans. In this context, assessment of the success or failure of trade fairs and missions should not be solely dependant on the immediate realisation of export sales. Export sales following attendance at a trade fair or mission requires ongoing follow-up with contacts once participants are back in their home country.

Manufacturing business clusters provide an important means to promote the competitiveness of local firms, through labour market pooling, localised provision of intermediate goods, and greater spillover of information about new technologies, processes, goods and services. A number of successful manufacturing clusters already exist in Victoria, and demonstrate that the concentration of similar and/or related firms in a location can improve the competitiveness and viability of all firms. Internationally, substantial government resources have been allocated to support the development of industry clusters. There are opportunities for further promotion of industry clusters in Victoria.

## Chapter Eleven: Business growth and competitiveness

The Inquiry's Terms of Reference required the Committee to examine the state of manufacturing in Victoria. As part of its investigations, the Committee focussed on distinct areas that influence the growth and competitiveness of manufacturing firms in Victoria, including skills, access to finance, government support and innovation. This chapter continues with this focus and considers a range of different issues, some of which are not relevant to all firms but still contribute to the ongoing sustainability of the sector overall. The issues covered in this chapter include branding and promotion, succession planning, the role of clusters, and enhancing export activity.

### 11.1 Branding and promotion

Throughout the Inquiry, the Committee became aware of public misconceptions around the health of the Australian manufacturing sector. In particular, the Committee heard that the manufacturing sector does not promote itself as offering interesting and smart career opportunities to young people. Nor does the sector promote itself well on a broader scale, with a common view citing the rapid decline of manufacturing in Australia. In providing evidence to the Committee, Mr Ian Harrison, Chief Executive of the Australian Made Campaign Ltd (AMCL), advised that there is also limited promotion of the Australian manufacturing sector on an international scale:

It is really interesting to recognise that we do not do enough – we simply do not do enough to sell the benefits of being Australian...We do not ever talk about innovative, creative, high-quality manufacturing operations. We do not talk about the research capacities we have. We know we have got them here; we just keep that to ourselves. Brand Australia was rated the no.1 nation brand in the world, which it was, in 2005. It is usually no.5 or 6 now, a bit lower down the list. It is because of our stability of government, our perceived clean and green environment, our nice people and our sporting prowess and all that sort of stuff. It is not actually because of our exports and what they know about us as a sophisticated manufacturing economy, because they do not know that.<sup>825</sup>

While not specific to the manufacturing sector, the ACML has undertaken extensive work since 1999 to assist businesses promote their products as Australian Made/Australian Grown. The Australian Made, Australian Grown (AMAG) logo was created in 1986 and is currently used by over 1500

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<sup>825</sup> Ian Harrison, Chief Executive, Australian Made Campaign Ltd, *Transcript of evidence*, 6 August 2009, p. 6.

businesses on approximately 10,000 products. The number of businesses using the logo has grown 70 per cent in the last four years.<sup>826</sup>

Mr Ian Harrison of the AMCL told the Committee that there is high level international awareness and trust of the AMAG logo. As an example, Mr Harrison stated that he had received feedback from an Invest Australia representative, who had been working with Indian companies that wished to move their operations to Australia and export out of Australia, using the AMAG logo as a selling tool:

He saw it as valuable, because he had had it said to him by companies he was then trying to attract to Australia from India that they would want to get into Australia and then export their product out of Australia and use the Australian Made attribute as a major selling tool. They could see that going into Asia they would be better placed; their product and their process would be more highly regarded if it were seen to be Australian than if it were seen to be coming from – in this case the company is a significant company in India.<sup>827</sup>

The Committee is aware of the value of country of origin branding as a marketing strategy, particularly in global markets, where logos such as AMAG make it easier for consumers to identify Australian products. According to the ACML, small and medium-size enterprises (SMEs) find these logos useful as they often do not have the resources to establish their own brand profiles. As a consequence, smaller exporters “can derive the benefit of the collective marketing profile of the logo for very low cost.”<sup>828</sup>

Finding 49: Country of origin branding, such as the Australian Made, Australian Grown logos, provide a useful marketing strategy for the promotion of products in global markets.

The review of export policies and programs *Winning in world markets* commissioned by the Commonwealth Government in 2008 identified the need to raise the international profile of Australia’s commercial capabilities and recommended that the Government “adopt a national brand and develop a national approach to the promotion of all dimensions of that brand – including trade and investment – by the Commonwealth and state and territory governments.”<sup>829</sup> The review noted that promoting Australia’s strengths and capabilities was an important public sector responsibility, which would contribute to building a positive image of Australia’s business environment, as well as ensuring Australia is visible in global markets.

This recommendation was supported by the Commonwealth Government, with the then Minister for Trade, the Hon. Simon Crean MP announcing in May 2010 that Australia’s new national brand is *Australia Unlimited*. The brand was launched internationally at the Shanghai Expo on 20 May 2010. The objective of the four year \$20 million campaign is to position Australia

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<sup>826</sup> Australian Made Campaign Ltd, *Submission*, no. 39, 5 August 2009.

<sup>827</sup> Ian Harrison, Chief Executive, Australian Made Campaign Ltd, *Transcript of evidence*, 6 August 2009, p. 8.

<sup>828</sup> Australian Made Australian Grown Campaign, *Supplementary evidence*, p. 16.

<sup>829</sup> David Mortimer, *Winning in world markets: review of export policies and programs*, Canberra, 2008, p. 121.

as a strong global citizen and global business partner.<sup>830</sup> The Committee welcomes this initiative as it believes greater international recognition of Australia's achievements will assist local manufacturers wishing to move into new or existing export markets.

As part of its recommendations to the Committee, the ACML proposed that it work with the Victorian Government to develop a Victorian Made logo to be used by the Government and businesses to promote the State's strengths in manufacturing. While the Committee recognises the value of this type of branding, it does not believe it necessary to develop a logo specifically for Victoria. The Committee also believes it is important that the *Australia Unlimited* campaign be given the opportunity to promote a consistent brand and message, without disruption of another logo.

At the state level, the Committee notes the role of the *Victorian Manufacturing Hall of Fame* as a mechanism to reverse negative public opinions about the local manufacturing sector. The Manufacturing Hall of Fame was established by the Victorian Government in 2001 to celebrate locally based manufacturers whose innovative solutions to manufacturing challenges are world class. Since its inception, 105 companies, 22 honour roll recipients, two lifetime members, and seven Young Manufacturers of the Year have been recognised by the program. The 2010 awards were presented on Wednesday 2 June by the Minister for Industry and Trade, the Hon. Jacinta Allan MP.

The Committee believes the *Victorian Manufacturing Hall of Fame* is an important promotional tool, however, more work is required to publicise its existence in general media forums, particularly leading up to and following the awards night. The Committee understands that The Age newspaper is an official media partner of the Hall of Fame, which provides the Government with an initial avenue to investigate options for further media coverage. Reporting on award nominees and Hall of Fame inductees in local and state media outlets would be a useful way to raise the profile of the local manufacturing sector among the broader community.

Recommendation 36: That the Victorian Government investigate media and communication strategies to publicise the Victorian Manufacturing Hall of Fame, and effectively raise the profile of the local manufacturing sector among the broader community.

At the national level, the Committee believes the development of a national manufacturing strategy, as proposed in Chapter Six, will help promote the manufacturing sector across Australia, and in particular draw attention to the sector's contribution to the Australian economy. As part of its development, the Commonwealth, State and Territory governments should consider a joint campaign to champion the achievements of individual firms within the sector. In particular, the campaign should highlight the transformation of the sector from "antiquated factories and repetitive shop floors to sustainability, clean production lines and cutting edge scientific research."

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<sup>830</sup> Brand Australia, 'About Brand Australia', viewed 7 June 2010, <<http://www.australiaunlimited.com.au/>>.

Recommendation 37: That the Victorian Government request that, as part of the development of a national manufacturing strategy, the Council of Australian Governments consider a joint campaign to publicly champion the achievements of the Australian manufacturing sector.

## 11.2 Succession planning

A commonly identified theme in the evidence received by the Committee was the concept of succession planning as it relates to family-owned manufacturing firms. Succession planning is described as:

...the process of making the preparations necessary to ensure family harmony and continuity of the business through to subsequent generations, emphasising that these preparations relate to the future needs of both the business and the family.<sup>831</sup>

Family-owned firms make an important contribution to the Australian economy. They are the dominant business form in Australia, accounting for around two thirds of all businesses operating in this country.<sup>832</sup> According to the MGI Australian Family and Private Business Survey, family businesses generate more than half of Australia's employment growth and account for about 40 per cent of Australia's private sector output.<sup>833</sup> Furthermore, there is extensive research from the United States and Europe that indicates family-owned and managed businesses substantially outperform non-family businesses in the areas of profitability and return on investment.<sup>834</sup>

The Committee received evidence from Family Business Australia (FBA), a national not-for-profit organisation and peak body for family and private business in Australia. Mr Harry Kras, a Family Business Adviser with the FBA, described to the Committee typical characteristics of FBA's members, including:

- approximately 18 per cent have a turnover of between \$1 million to \$5 million. Another 18 per cent have a turnover of between \$11 million to \$50 million;
- because the business is the foundation of the family's wealth, they tend to adopt a long-term perspective rather than look for a quick return on their investment;
- they are more conservatively managed and financed than non-family businesses;
- the organisation structure is typically quite flat, with managers being closely involved in operations;
- they have closer relationships with their employees and as a consequence they have lower staff turnover rates; and

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<sup>831</sup> Professor Kosmas X Smymios and Lucio Dana, *MGI Australian family and private business survey*, RMIT University, Melbourne, 2006, p. 21.

<sup>832</sup> KPMG and Family Business Australia, *KPMG and Family Business Australia survey of family businesses 2009*, Melbourne, 2009.

<sup>833</sup> Professor Kosmas X Smymios and Lucio Dana, *MGI Australian family and private business survey*, RMIT University, Melbourne, 2006.

<sup>834</sup> KPMG and Family Business Australia, *KPMG and Family Business Australia survey of family businesses 2009*, Melbourne, 2009.

- there is a strong commitment to the local community where they live and work.

Mr Kras also advised that 23 per cent of its members are in manufacturing.<sup>835</sup>

In regard to the awareness of the need for and level of succession planning among family firms, research by KPMG and FBA found that only 15 per cent of the 613 family firms surveyed reported having a formal succession plan in place, although 31 per cent said they were currently working on one.<sup>836</sup> This is concerning to the Committee, especially in the context of other evidence which indicates that the majority of family business owners intend to retire in the next five to ten years.<sup>837</sup> Mr Kras told the Committee of the adverse impacts likely to arise from family firms not undertaking a planned transition into the next line of management upon retirement of business owners:

...business transfer is not a question of 'if'; it is a question of 'when'. The baby boomer generation will inevitably be handing over the reins whether they like it or not. The implications, if these transitions are not handled well, do not really bear thinking about. For example, other surveys, both in Australia and internationally, have indicated that family enterprises remain the largest employer group, employing over 50 per cent of the private sector workforce. It only takes a small percentage of badly handled transitions to impact on employment numbers.

In regional areas, where a family business can be the significant employer, if the transfer of the businesses within the family or sale of the business cannot be negotiated, jobs will be lost and the viability of some townships could be at risk. The need to prepare for business transfer in the light of the current lack of exit readiness appears to be the biggest issue currently facing privately owned businesses in Australia.<sup>838</sup>

Similarly, Mr Giuseppe Boemo, the Managing Director of Sprint Gas Australia, advised the Committee that without succession planning, there is a risk that businesses will be sold offshore:

They have no succession planning. Twenty-odd years ago, they would have spent \$10 million or \$15 million back then doing their facilities up. Now they are getting to 70 years of age and they are thinking, 'I'm not going to spend that sort of money. Look, there's a Chinese guy we used to manufacture for, he wants to buy us and take it to China. He's going to give me X million dollars. See you later.'<sup>839</sup>

The Committee notes that for those business owners who have considered succession planning, most intend to keep the business family-owned. The KPMG and FBA research found that 42 per cent of surveyed firms

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<sup>835</sup> Harry Kras, Family Business Adviser, Family Business Australia, *Transcript of evidence*, 23 November 2009.

<sup>836</sup> KPMG and Family Business Australia, *KPMG and Family Business Australia survey of family businesses 2009*, Melbourne, 2009.

<sup>837</sup> Professor Kosmas X Smyrios and Lucio Dana, *MGI Australian family and private business survey*, RMIT University, Melbourne, 2006.

<sup>838</sup> Harry Kras, Family Business Adviser, Family Business Australia, *Transcript of evidence*, 23 November 2009, p. 4.

<sup>839</sup> Giuseppe Boemo, Managing Director, Sprint Gas Australia Pty Ltd, *Transcript of evidence*, 7 August 2009, p. 11.

indicated they intend to pass the business onto the next generation (28.8 per cent) or another family member (12.9 per cent). Over a third of surveyed firms stated that they intend to sell their business either to other owners or employees (19.8 per cent) or on the open market (16.4 per cent).<sup>840</sup>

Based on the available evidence, the Committee believes it is imperative that family firms, particularly those in the local manufacturing sector, be encouraged to develop and implement appropriate succession plans. The implementation of functioning succession plans will contribute to their long-term sustainability and ensure that they remain in Australia, rather than be sold and moved offshore.

**Finding 50:** Based on the significant contribution of family-owned businesses to the Australian economy, it is important that these business owners enhance their understanding of the need for well-considered succession plans to ensure the long-term sustainability and competitiveness of their business.

The Committee is aware that FBA offers a number of services and support programs to family-owned firms, one of which is facilitation of the *Next Generation Group*, a national committee of next generation family business members. The purpose of the group is to assist participants with the challenges of working in the family business. Its key objective is to reinforce the need for Next Generation members to employ a proactive role in planning for succession. The Committee heard from Mr Tim Haymes of Haymes Paint about the benefits of his involvement in the *Next Generation Group*:

...that connecting force is working through those aspects of succession. That is the major driver. That was the interesting thing when we first joined the Family Business Australia group five years ago. We were scratching our heads and thinking: we were at the stage where dad wanted to get out of the business. We had all come back into the business but how that was all going to work, we had no idea, and we are still working through many of those aspects.

What Family Business Australia offers and the Next Generation Group offers is the acknowledgement that everyone is in the same boat...there is exactly the same issue. And it is a massive issue because, generally, it is left until too late in the business development.

What we work with as a group is, really, a communication talk and working with people...Everyone is at a different stage in their journey of succession. What we have learned is that the earlier you start thinking about succession, the better, even if it is 20 years before the owner is actually looking at getting out.<sup>841</sup>

Mr Kras advised the Committee of FBA's attempt to establish a mentoring program involving retired family business owners acting as mentors to other family businesses in the areas of succession planning and finding a new purpose in life for future retirees. Mr Kras indicated, however, that

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<sup>840</sup> KPMG and Family Business Australia, *KMPG and Family Business Australia survey of family businesses 2009*, Melbourne, 2009.

<sup>841</sup> Tim Haymes, Haymes Paint, *Transcript of evidence*, 23 November 2009, pp. 9-10.



FBA experienced difficulties in getting the program off the ground.<sup>842</sup> The Committee believes this initiative has the potential to be highly valuable in promoting the need for succession planning and working with family-owned firms to start the planning process. As a consequence, the Committee sees value in re-establishing the mentoring program.

To assist the program become fully operational, the FBA should work in partnership with another organisation of a similar nature. A potential candidate is the Small Business Mentoring Service (SBMS), a not-for-profit association of mentors that provides mentoring services and other programs to small businesses. SBMS is supported by the Victorian Government, and is conducted through the Victorian Business Centres. The Committee proposes that the Victorian Government facilitate the partnering of FBA with the SBMS or another organisation to re-establish the mentoring program. The Government should also support the program's implementation across Victoria.

**Recommendation 38:** That the Victorian Government facilitate re-establishment of the Family Business Australia mentoring program and implement it across Victoria.

### 11.3 Exports and global supply chains

Within the Australian manufacturing sector, there is an emerging consensus around the need to participate in international trade to contribute to the continued growth of the sector. This notion has coincided with the increasing globalisation of trade, which has significantly changed the way the domestic sector operates. Nowadays, manufacturing operations are structured so that “the set of productive activities that leads a product from conception to the market is increasingly spread across several enterprises and countries.”<sup>843</sup> As a consequence, the cross-border flows of both intermediate and final goods are increasing.

Chapter Two provides an overview of the Australian manufacturing sector's export performance, including evidence that the sector accounts for a significant proportion of Australia's total exports. While the evidence suggests a decline in the sector's share of total value of merchandise exports, the Committee is aware that there is an increasing focus among manufacturers of exporting and the associated benefits to their business operations and profitability.

Based on the relatively small size of the domestic market, a key benefit of exporting for local manufacturers is achieving economies of scale and greater stability in their work volume. Furthermore, participation in international markets is considered to enhance the productivity levels of exporters and export industries through exposure to and incorporation of new technologies, and new management and marketing techniques into existing manufacturing operations.<sup>844</sup> In the context of SMEs, the Committee heard that exposure to export markets is a useful way for them

<sup>842</sup> Harry Kras, Family Business Adviser, Family Business Australia, *Transcript of evidence*, 23 November 2009.

<sup>843</sup> Mariarosa Lunati, 'Enhancing the role of SMEs in global value chains', in *Staying competitive in the global economy*, Organisation for Economic Development and Co-operation, 2008, p. 66.

<sup>844</sup> David Mortimer, *Winning in world markets: review of export policies and programs*, Canberra, 2008.

to learn about new markets, and alternative options for diversification of existing operations.<sup>845</sup>

A key avenue for manufacturers to export their goods is through greater participation in global supply chains. However, as is the case with export markets overall, many firms, particularly SMEs, experience difficulties identifying and securing opportunities. This is typically the consequence of insufficient financial resources to expand their operations or a limited understanding of the global environment. On this basis, there is a clear role for government to provide support to firms to improve their global competitiveness. The Committee notes the various initiatives of the Commonwealth and Victorian Governments to assist manufacturing firms increase their involvement in export markets and global supply chains, as described in Chapter Five. These initiatives offer support to a broad range of firms, including those that are yet to export and others that are already exporting but may need further assistance to match their capabilities with additional international opportunities.

Finding 51: Involvement in global supply chains is highly beneficial to local manufacturing firms through the potential for creation of economies of scale in production; broadened customer bases; enhanced productivity as a consequence of exposure to and incorporation of new technologies into manufacturing operations; and introduction to alternative markets.

### 11.3.1 Victorian Government trade fairs and missions

As described in Chapter Five, the *Trades Fairs and Missions* program provides financial assistance to Victorian-based firms to assist them enter or expand their presence in international markets and to increase their knowledge of export market requirements and opportunities. In his presentation to the Committee, Minister Pakula advised how the *Trade Fairs and Missions* program operates:

The way it works is we have an overall trade fairs and missions budget and various entities and associations apply for support. Most of the costs of trade fairs and missions are borne by the participants, but we generally provide support to and auspice an organisation to help defray and offset some of those costs. Last financial year...317 companies participated in 32 DIIRD-supported trade fairs and missions. It is obviously difficult to extract about the export outcomes of them, because sometimes these things are slow burning.<sup>846</sup>

Minister Pakula also advised that as part of the program, participants are followed up by the Department of Innovation, Industry and Regional Development (DIIRD) to seek feedback about export expectations. In 2008-09, the expected increase in mature exports was \$240 million. Examples of recent results are:

...there is a company – Gascom – which makes flares, heaters and regenerative thermal oxidisers. It participated in a trade mission to the Middle East and as a result signed a contract worth \$10 million to supply

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<sup>845</sup> Angela Krepcik, Chief Executive Officer, Advanced Manufacturing Australia, *Transcript of evidence*, 6 August 2009.

<sup>846</sup> Hon Martin Pakula, Minister for Industry and Trade and Minister for Industrial Relations, *Transcript of evidence*, 14 September 2009, p. 6.

equipment to the region. Air International, which makes car heating and cooling – air conditioners and other things for cars – has developed some significant business in China after participating in several missions. ANCA, which is out in Bayswater, is a specialist manufacturer of grinding machines. It was the Victorian exporter of the year in 2006. It participated in a trade fair to the International Manufacturing Technology Show in Chicago back in 2006 and achieved immediate export sales of \$1 million.<sup>847</sup>

While achieving export sales is an important component of trade fairs and missions, the Committee received evidence that this should not be the only intended outcome of these events. Mr Mike Moignard, General Manager, Industry Group of the Australian Trade Commission told the Committee that trade fairs and missions are not an end to themselves but rather should be incorporated into broader strategic business plans. In this context, the success or failure of trade fairs and missions are not dependant on the immediate realisation of export sales.<sup>848</sup>

The Committee is aware that to achieve export sales following attendance at a trade fair or mission requires ongoing follow-up with contacts once participants are back in their home country. Mr Roger James, Special Advisor of the Australian Institute of Export, advised that in the past this has been lacking among individual firms:

The follow-up really has to come from the individual companies. I have to say that in my experience one of the ways that Australian companies have not tended to sell themselves as well as they could have in the past is that there has been a lack of follow-up. As a trade commissioner I would see companies come into a particular market, develop good contacts, good connections, get to learn about the market, and 5 minutes later they had disappeared; we never saw them again.<sup>849</sup>

The Committee believes that following up with contacts is largely the responsibility of individual firms, although governments need to take an active role in encouraging local firms to do so, and to also stay informed about intended and achieved outcomes once the trade fair or mission is complete.

**Recommendation 39:** That the Victorian Government, as part of its Trade Fairs and Missions program, provide an ongoing advisory service to individual firms following attendance at a trade fair or mission to encourage follow-up with international contacts and work towards the realisation of export opportunities.

The Committee received evidence from the Victorian Commissioner for Europe, the Hon. Andre Haermeyer, regarding the need for Victoria's trade delegations to adopt a more consolidated approach, with a greater representation of clusters and networks. Similarly, Ms Angela Krepcik, the Chief Executive Officer of Advanced Manufacturing Australia, told the

<sup>847</sup> Hon Martin Pakula, Minister for Industry and Trade and Minister for Industrial Relations, *Transcript of evidence*, 14 September 2009, p. 7.

<sup>848</sup> Mike Moignard, General Manager, Industry Group, Australian Trade Commission, *Transcript of evidence*, 22 January 2010.

<sup>849</sup> Roger James, Special Advisor, Australian Institute of Export, *Transcript of evidence*, 6 August 2009, p. 7.

Committee that more was required on behalf of the Victorian Government to work collaboratively with firms and industry groups as parts of its *Trade Fairs and Missions* program:

...for \$35 000 that will help you assist getting companies overseas. It is probably not good enough. I say that it should not be a paperwork exercise, where you go, 'Here's my \$35 000; I'm going to take a group of people overseas and we are going to do this'. I think we have to do this with better buy-in, so it is not just an application. We need to get together – the industry association, the government and the industry – and say, 'Look, this is a potential opportunity; what do you think? How can we work together to get that potential opportunity in a clustering-type of environment overseas, rather than just a strait-out standard mission grant?'.<sup>850</sup>

The Committee notes that the program offers financial support of up to \$200,000 for industry capability networks, which is available for a minimum of ten companies to participate in trade missions.

The European Commissioner, Mr Haermeyer, also advised the Committee that better quality information on Victoria is required for international companies that are interested in investing in Victoria, whether this information is provided upfront at trade fairs and missions or through their direct contact with the Victorian Government Business Offices (VGBOs). In providing evidence to the Committee, the Minister for Industry and Trade, the Hon. Jacinta Allan MP, stated that rather than provide a booklet on Victoria's business environment, the VGBOs undertake individual consultations with potential international investors:

There is a lot of if you like – someone at a very senior level of the Department is assigned to that company, that person is required to do exactly what you describe in terms of taking them through both the government support that's available, the best locations to look at establishing, issues around where you can source your workforce from, issues around understanding things like the taxation regime, all those sorts of things.<sup>851</sup>

Mr Randall Straw, the Deputy Secretary of DIIRD, also advised the Committee that the Department has developed "Why Victoria" and "Why Melbourne" materials, which are available on the internet.<sup>852</sup>

The Committee acknowledges the purpose and value of liaising directly with individual firms about investment opportunities. The Committee also believes there is value in the Government developing a complementary and simple booklet that can be handed directly to firms or potential investors upon their expression of interest in Victoria. The booklet could include information published on the Invest Victoria website, such as the

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<sup>850</sup> Angela Krepcik, Chief Executive Officer, Advanced Manufacturing Australia, *Transcript of evidence*, 6 August 2009, pp. 9-10.

<sup>851</sup> Hon. Jacinta Allan, Minister for Industry, Trade, and Industrial Relations, *Transcript of evidence*, Melbourne, 28 April 2010, p. 12.

<sup>852</sup> Randall Straw, Deputy Secretary, Industry and Trade & Innovation and Technology, Department of Innovation, Industry and Regional Development, *Transcript of evidence*, Melbourne, 28 April 2010.

prominent industry sectors in Victoria, the business environment, an economic overview, and the availability of government services.

Recommendation 40: That the Victorian Government produce a booklet about Victoria's business environment to target potential international investors.

### 11.3.1.1 Additional government support for exporting activities

In his presentation to the Committee, Mr Moignard of Austrade advised of the strong relationship between the Austrade international offices and the other State and Territory government international offices. He stated that Austrade and the state and territory offices often work together, particularly on supporting trade fairs and missions to ensure Austrade is well-informed about state and territory capabilities. Mr Moignard also indicated, however, that better collaboration is required to strategically identify opportunities in particular markets, and plan appropriate models to pursue such opportunities and the available resources:

We need joint strategies to determine what resources we need and what are the objectives in a particular market. Really I think you need to go market by market: do we have those resources for that objective and therefore how are we going to deliver the opportunities that we are seeing in markets such as China, India or Europe back into Australia? That is really the important thing, that you have a strategic business association, a joint venture if you want to call it that, between Austrade as the federal agency and the state governments, and from there issues around where you will put your offices and how much resource you need flow.

As I said, I think that really does come back to determining more strategically where we see the opportunities, what markets are they, what sort of resources we have in those markets and then how we develop a business plan together.<sup>853</sup>

This issue was discussed in the Commonwealth review of export policies and programs *Winning in world markets*, which identified that the Queensland, South Australian, Western Australian and Victorian Governments operate a network of 43 trade offices, with the Commonwealth Government also having an office in each of those locations except for one. The other state and territory governments do not operate offshore, although the NSW Government has a formal agreement with Austrade that it undertake activities on behalf of the NSW Government.<sup>854</sup> The Committee notes that the Victorian Government has a similar agreement with Austrade in China where the Government contributed money for Austrade to establish a new four-person team in Asia. As a consequence, the Victorian Government owns 25 per cent of the office and collaborates with Austrade in planning and approval of client admissions.<sup>855</sup>

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<sup>853</sup> Mike Moignard, General Manager, Industry Group, Australian Trade Commission, *Transcript of evidence*, 22 January 2010, p. 6.

<sup>854</sup> David Mortimer, *Winning in world markets: review of export policies and programs*, Canberra, 2008.

<sup>855</sup> Hayden Williams, Global Leader, Automotive and Advanced Manufacturing, Australian Trade Commission, *Transcript of evidence*, 22 January 2010.

While the review of exports and policies acknowledged that the state governments' international offices perform functions other than trade development, such as tourism promotion, it concluded that a single point of national representation is preferred to overcome concerns of duplication and inefficient use of resources, as well as to enhance Australia's international branding efforts. On this basis, it recommended that the Commonwealth Government:

Adopt the following hierarchy to inform decisions on the establishment of stand-alone overseas representative offices by state and territory governments:

- consolidation of overseas representation through a single point of national representation where such an outcome is possible
- employment by Austrade of staff on behalf of state and territory governments in existing trade offices
- co-location in 'Australia Business Centres' of all government representatives where critical mass permits.<sup>856</sup>

The review also recommended that this joint planning process be initiated through the Council of Australian Government's (COAG) Ministerial Council on International Trade. The Committee agrees with these conclusions and recommendations. It is also of the view that COAG is the appropriate forum for this recommendation to be considered to ensure that any amendments to the existing structure of international trade offices are undertaken in consultation with State and Territory governments.

Finding 52: While Austrade and the other State and Territory government international offices work well together to promote Australian business capabilities, there is scope to improve collaboration when identifying opportunities in particular markets, and for optimising the use of existing resources.

## 11.4 Manufacturing clusters

Throughout the course of the Inquiry, the Committee heard of the potential advantages to manufacturing firms from participation in industry 'clusters'. In his presentation to the Committee, Mr Peter Burn, Associate Director of Public Policy at the Australian Industry Group described clusters as:

...the phenomenon that businesses will tend to come together around a geographical close location because they learn from each other and there are external economies of scale.<sup>857</sup>

The phenomenon of clustering illustrates that while developments in technology, transport and the reduction of trade barriers have facilitated the globalisation of supply chains, very often there are substantial advantages to manufacturing firms locating close to one another. This was described in the 1920s by the economist Alfred Marshall, who observed the advantages of 'external economies' to similar firms located within the

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<sup>856</sup> David Mortimer, *Winning in world markets: review of export policies and programs*, Canberra, 2008, p. 149.

<sup>857</sup> Peter Burn, Associate Director of Public Policy, Australian Industry Group, *Transcript of evidence*, 6 August 2009, p. 5.

same jurisdiction, and particularly in the same city or region. These advantages have subsequently been described and confirmed in a number of studies, and include:<sup>858</sup>

- labour market pooling: the concentration of firms in an area creates a pool of skilled workers from which industry can draw;
- localised provision of intermediate inputs: the proximity of businesses within an industry cluster means that the region can support a greater number of businesses that supply services or products to the industry, providing greater variety at lower cost. Furthermore, “the existence of economies of scale and scope allows for larger centres of production to have more diverse and efficient suppliers than small ones”; and<sup>859</sup>
- greater spillover within the industry: localisation of industry facilitates the flow of information about new technologies, goods and services.

Similarly, the Europe Innova Cluster Mapping Project, documented the following advantages arising from the development of industry clusters:

1. companies can operate with a higher level of efficiency, drawing on more specialised assets and suppliers with shorter reaction times than they would be able to in isolation;
2. companies and research institutions can achieve higher levels of innovation. Knowledge spillovers and the close interaction with customers and other companies create more new ideas and provide intense pressure to innovation while the cluster environment lowers the cost of experimenting; and
3. the level of business formulations tends to be higher in clusters. Start-ups are more reliant on external suppliers and partners, all of which they find in a cluster. Clusters also reduce the costs of failure, as entrepreneurs can fall back on local employment opportunities in the many other companies in the same field.<sup>860</sup>

A recent study of Swedish businesses found that “cluster agglomeration is associated with higher employment growth, higher value added tax (VAT) payments, higher salary payments, and higher survival rates.”<sup>861</sup>

The Committee received evidence from a number of witnesses about successful manufacturing clusters within Victoria. These included manufacturing clusters supported by the South East Melbourne Manufacturing Alliance (SEMMA), in the aerospace and automotive

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<sup>858</sup> Rui Baptista, 'Research round-up: industrial clusters and technological innovation', *Business Strategy Review*, vol. 7, no. 2, 1996; Paul Krugman, *Geography and trade*, The MIT Press, Cambridge, MA, 1991; Alfred Marshall, *Principles of economics*, Macmillan and Co., Ltd. , London 1920; Michael Porter, *The competitive advantage of nations*, Free Press, New York, 1990.

<sup>859</sup> Rui Baptista, 'Research round-up: industrial clusters and technological innovation', *Business Strategy Review*, vol. 7, no. 2, 1996, p. 3.

<sup>860</sup> Oxford Research AS, *Cluster policy in Europe*, Oxford Research AS, Kristiansand, 2008, p. 5.

<sup>861</sup> Göran Lindqvist, *Disentangling Clusters*, PhD, Stockholm University, 2009, p. 62.

industries, in the aerosol industry, and in the Plenty Food Group. The Committee also heard of strong support for the development of clusters in Victoria by a number of witnesses, including the Minister for Regional and Rural Development, and Minister for Skills and Workforce Participation, the Hon. Jacinta Allan MP, who told the Committee that she thought business clusters were “the way of the future.”<sup>862</sup> Dr Mark Trigg, Managing Director of the Advanced Manufacturing CRC, told the Committee:

...if we want to be successful, we have to create clusters. It is no good just helping an individual firm to be successful. You had a paint manufacturer in before. For that paint manufacturer to be successful they need to have a whole supply chain around them. If they are the only ones doing the actual manufacture of paint, they will soon disappear. It might be somebody involved in nanotechnology making particles to go into their paint. If they have to import those and the master batches from overseas and they have to import the base chemicals from overseas, why not just import the whole lot from overseas? I think if we want industry to be successful, we have to establish those clusters that are sustainable.<sup>863</sup>

Finding 53: There are substantial advantages to manufacturing firms locating close to one another and forming industry clusters, some of which include the increased availability of skilled workers in an area; localised provision of intermediate inputs and support services; enhanced flow of information about new products, technologies and services between firms; and higher levels of efficiencies in individual manufacturing firms.

The Committee heard that throughout Europe substantial government resources have been allocated to support the development of industry clusters. In France, for example, the Paris Region Economic Development Agency (PERDA) provides funding for cluster development. There are nine major clusters in the Paris region, and 71 clusters throughout France. For the nine clusters in its region, PERDA has provided finance for 700 projects with public funding of €840 million, compared with an overall investment within the clusters of €1,860 million. In order to receive funding, clusters within France must demonstrate links between businesses participating in the cluster, and may be nationally based or internationally based, but must demonstrate a substantial domestic production or research component or presence. Clusters, and their participants, are mapped, with researcher expertise and company names recorded. Upon registering, clusters must apply for recognition, and then receive funding for recruitment of teams to coordinate cluster activities. Cluster teams may be comprised of public servants, or be recruited from industry.<sup>864</sup> Information about the industry clusters is also provided on an interactive online website, [www.econovista.com](http://www.econovista.com).

In Germany, the Federal Ministry of Education and Research *Leading Edge Cluster Competition* provides for support of high technology clusters through financial aid for five cutting-edge clusters, up to a maximum of €50

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<sup>862</sup> Hon. Jacinta Allan, Minister for Regional and Rural Development and Minister for Skills and Workforce Participation, *Transcript of evidence*, 14 September 2009, p. 10.

<sup>863</sup> Dr Mark Trigg, Managing Director, Advanced Manufacturing CRC, *Transcript of evidence*, 23 November 2009, p. 3.

<sup>864</sup> Florence Humbert, Executive Manager, Economic and Regional Information Center, Paris Region Economic Development Agency, *Meeting*, Paris, 12 February 2010.



million per cluster. The intention is to support the entire innovation chain in a particular cluster, from an initial idea through to commercial exploitation.<sup>865</sup> Applicants must demonstrate significant investment held by the private sector. A maximum €200 million is provided for each of three funding rounds under the program.

The Committee was also told that in Manchester, substantial work has been done on supply chain mapping. This means that analyses of chain mapping, including value stream mapping for individual companies, can allow Business Link and the North West Development Agency to identify areas where production efficiency can be improved, and even identify product gaps and advise companies of potential emerging markets or product needs.<sup>866</sup>

Support has been offered in Australia and Victoria for the development of manufacturing clusters, such as through state and local governments in support of SEMMA and the Plenty Food Group. The Commonwealth Government Global Opportunities program also provides export and investment facilitation services and funding support of up to \$1.8 million until 2012 to eight industry clusters of Australian companies, to help them expand their international business activities.<sup>867</sup>

While the Committee notes activities in Europe and support for the development of clusters by the World Bank, and in Australia, the Committee is also cognisant that there are limits to the capacity of governments to force the creation of effective social groupings. For example, the Committee was told by Mr Paul Dowling, Executive Officer of SEMMA:

...what gets me — and again it is over time, you cannot create it — like clustering, when the State Government tried to take that up 10 years ago, was ‘Get people in a room right now and within 12 months we will have a cluster’, by industry. The fallback of that is, one, you are trying to pick winners, and, two, you do not create that feeling of camaraderie and ‘I can trust you’. Once it is created, I can assure you it is one of the most powerful tools. Virtually a day does not go by where one member will talk to another member. ‘You need to come down and do this’ or ‘Can you come up and do that?’<sup>868</sup>

In the implementation of programs or policies to encourage the development of manufacturing clusters, there is a danger that government will be tempted to ‘pick winners’, or to try and force the creation of social networks that are unsustainable without substantial government support and participation. Consequently, the provision of indirect incentives for the creation of industry clusters may be more effective than direct government

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<sup>865</sup> Federal Ministry of Education and Research, ‘Leading Edge Cluster Competition’, viewed 20 June 2010, <[www.bmbf.de](http://www.bmbf.de)>; Dr Matthias Marx, Innovation Policy, Federal Ministry of Economics and Technology, *Meeting*, Berlin, 17 February 2010.

<sup>866</sup> Dr Sami Falou, Supply Chain Manager, North West Regional Development Agency, *Meeting*, Manchester, 9 February 2010; Brian Richardson, Advanced Engineering Sector Manager, Business Link, *Meeting*, Manchester, 9 February 2010.

<sup>867</sup> Hon Simon Crean, ‘Global Opportunities program to help industry clusters access export markets’, viewed 5 February 2010, <[www.trademinister.gov.au](http://www.trademinister.gov.au)>.

<sup>868</sup> Paul Dowling, Executive Officer, South East Melbourne Manufacturers Alliance Inc, *Transcript of evidence*, 18 August 2009, p. 10.

support. In this context, the Committee notes recommendations from the World Bank for policy makers contemplating programs to support the development of industry clusters:

- the creation of clusters should not be a government-driven effort but should be the result of market-induced and market-led initiatives;
- government policy should not have a strong orientation towards directly subsidizing industries and firms or to limiting the rivalry in the market;
- government policy should shift from direct intervention to indirect inducement;
- government should not try to take the direct lead or ownership in cluster initiatives but basically should work as a catalyst and broker that brings actors together and supplies supporting structures and incentives to facilitate the clustering and innovation process;
- cluster policy should not ignore small and emerging clusters; nor should it focus only on 'classic' and existing clusters;
- while cluster policy needs cluster analysis and cluster studies, the government should not focus on analysis alone without action. An effective cluster policy means interaction between researchers, captains of industry, policy-makers and scientists and creating a forum for constructive dialogue; and
- clusters should not be created from "scratch" or from declining markets and industries.<sup>869</sup>

In the development of successful clusters in Victoria, the Committee notes the key role played by local governments and research institutions in support of business leaders.<sup>870</sup> The development of successful and sustainable clusters is therefore dependent on multiple factors – first and most obviously, innovative and active businesses within an industry, but also supported by and in collaboration with training and research institutions, local government, and supporting businesses.

In Berlin, the German Aerospace Industries Association (BLDI) told the Committee that the creation of industry clusters, and of industry associations, could enhance collaboration between businesses of different scale; create opportunities for the diffusion of technology and innovative practices; and increase the profile of an industry.<sup>871</sup> The BLDI told the Committee that significant events, such as the Berlin Air Show, or in Melbourne, the Avalon Australian International Air Show, could also generate business opportunities for manufacturers through promoting the industry internationally. The BLDI suggested that the formation of a peak

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<sup>869</sup> World Bank, 'More Information on Cluster and/or Sector Development', viewed 14 June 2010, <[www.worldbank.org](http://www.worldbank.org)>.

<sup>870</sup> City of Greater Dandenong, *Submission*, no. 20, 3 August 2009; Geelong Manufacturing Council, *Submission*, no. 16, 1 August 2009; Kingston City Council, *Submission*, no. 61, 17 September 2009; Maroondah City Council, *Submission*, no. 45, 17 August 2009; South East Melbourne Manufacturers Alliance Inc, *Submission*, no. 36, 3 August 2009; Whitehorse City Council, *Submission*, no. 18, 3 August 2009.

<sup>871</sup> Dietmar Schrick, Managing Director, Member Board of Directors, BLDI, *Meeting*, Berlin, 17 February 2010.

body in Australia would be of substantial benefit to the aerospace industry. Given the important role of the aerospace industry to manufacturing in Victoria, the Committee recommends that the Victorian Government consider encouraging key participants in the industry to consider formation of a peak group. The peak group should take advantage of major events, such as the Avalon Australian International Air Show, to promote Victorian advanced manufacturing and aerospace manufacturing expertise to the world.

**Recommendation 41:** That the Victorian Government encourage firms in the aerospace industry to consider formation of a peak body.

The Committee believes that government has a role in the facilitation of manufacturing industry clusters in Victoria. Consequently the Committee recommends that the Victorian Government examine what incentives can be provided to support businesses to form industry clusters.

In considering incentives that may be provided for the development of industry clusters, the Committee does not believe the Government has a useful role in identifying and initiating which industry sectors receive support. The object of government incentives should be to support initiatives by businesses to form industry clusters, so that they may subsequently approach the Government for support. However, any incentives offered by Government to support clusters should remain firmly focused on cluster performance in market identification; product development; commercialisation; and market participation and success. Effective clusters will have commercial benefit to participants, so that ongoing government support for clusters should not be required.

**Recommendation 42:** That the Victorian Government examine its capacity for offering incentives to expand the creation of industry clusters.

Should the Victorian Government provide support for industry in this regard, however, it is important that both the State, and other businesses, be provided with sufficient information to learn from, and participate in, further development of industry. Consequently, the Committee recommends that any support provided by Government be on condition that – provided that commercial-in-confidence issues do not apply – information about participating businesses, products, and research be made publicly available. This will allow policy makers and other researchers to further refine knowledge about the dynamics of industry clusters, and help to ensure that the development of industry clusters does not create barriers to other businesses entering the industry.

**Recommendation 43:** That where support is offered by the Victorian Government for industry clusters, the cluster be required to provide information about participant businesses, products, and areas of research, and that where such information is not commercial-in-confidence, the Victorian Government make this information publicly available.

One role for the Victorian Government in this regard may be to provide part funding for industry cluster coordinator positions, with businesses within the cluster contributing an equal, or greater, share for salaried positions. This will ensure that participating businesses are committed to the program

through the provision of salary or other resources for the position, and that to some extent, the Government is defraying expenses associated with its informational requirements. The Committee suggests that the majority of salary and on-costs for any such positions be provided by the industry cluster.

**Recommendation 44:** That the Victorian Government consider introducing a pilot program to provide part-funding for industry cluster coordinators, in collaboration with industry, with funding limited to a set period of time.

Another option available to government to provide incentives for industry clustering is the provision of funding for collaborative research between research institutions and businesses within the cluster. This would provide an incentive for businesses within a cluster to conduct R&D on issues that they may not have had the resources to pursue individually, and may also provide research institutions with improved access to diverse businesses and resources. Collaborative research with multiple businesses would likely incur specific costs associated with coordination of resources, and Government incentives should include funding to offset these expenses.

**Recommendation 45:** That the Victorian Government consider the development of a program to further collaboration between research institutions and multiple businesses.

In Chapter Eight, the Committee recommended that the Victorian Government assist the manufacturing sector to develop group training schemes for apprentices and trainees, that allow apprentice and trainees to experience work in Tier 1, Tier 2 and Tier 3 manufacturing businesses. The Committee suggests that this program be implemented in concert with incentives for the development of industry clusters, as clusters will provide a valuable mechanism through which to expose apprentices to a range of working environments, while enhancing interaction and collaboration between businesses.

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# Appendix One:

## List of submissions

Advanced Manufacturing CRC  
Aerosol Association of Australia Inc  
AME Systems  
Ararat Rural City  
ASSA ABLOY Australia Pty Ltd  
Australasian Railway Association Inc and Australian Railway Industry Corporation  
Australian Council of Wool Exporters & Processors Inc  
Australian Food and Grocery Council  
Australian Made Campaign Ltd  
Australian Manufacturing Technology Institute Ltd (AMTIL)  
Australian Paint Manufacturers' Federation Inc  
Australian Trade Commission (Austrade)  
Australia-Taiwan Business Council  
Automotive Industry Innovation Council  
Beacon Cove Pty Ltd  
Bombardier Transportation Australia Pty Ltd  
CAST CRC Ltd  
City of Greater Dandenong  
Clyne Foods  
Confectionery Manufacturers of Australasia Ltd  
Department of Foreign Affairs and Trade – Australian Government  
Electrical Trades Union of Australia - Victorian Branch  
Engineered Wood Products Association of Australasia Ltd  
Engineers Australia  
Federal Chamber of Automotive Industries  
Mr William Ferme  
Fonterra Australia Pty Ltd  
Ford Motor Company of Australia Ltd  
Furnishing Industry Association of Australia (Vic/Tas) Inc  
Future Manufacturing Industry Innovation Council  
Geelong Manufacturing Council  
Horsham Rural City Council

Industry Capability Network (Victoria) Ltd  
International Fibre Centre  
Kingston City Council  
Lovells Springs Pty Ltd  
Maroondah City Council  
MaxiTRANS Industries Ltd  
Mitchell Shire Council  
MODEC  
Moreland City Council  
Philip Morris (Australia) Ltd  
Plenty Food Group  
Printing Industries Association of Australia  
Qenos Pty Ltd  
Robert Bosch (Australia) Pty Ltd  
Schiavello (Vic) Pty Ltd  
Mr Maurice Schinkel  
Science Industry Australia Inc  
South East Melbourne Manufacturers Alliance Inc  
South Gippsland Shire Council  
Standards Australia Ltd  
Strathbogie Shire Council  
Mr James Sutton  
Technical Textiles and Nonwoven Association, and Composites Victoria  
The Australian Workers' Union – Victorian Branch  
The Just Group  
Toyota Motor Corporation Australia Ltd  
TXM Pty Ltd  
Victorian Government  
Whitehorse City Council  
Wilson Transformer Company Pty Ltd  
Wimmera Development Association Inc  
Wodonga City Council  
Yarra Ranges Shire Council

# Appendix Two: List of witnesses

## Public hearings

### Melbourne 6 August 2009

Mr Ian Harrison	Chief Executive <b>Australian Made Campaign Ltd</b>
Mr Roger James	Special Advisor <b>Australian Institute of Export</b>
Mr Peter Burn	Associate Director Public Policy <b>Australian Industry Group</b>
Ms Angela Krepcik	Chief Executive Officer <b>Advanced Manufacturing Australia</b>
Mr Shane Infanti	Chief Executive Officer <b>AMTIL</b>

### Melbourne 7 August 2009

Mr Giuseppe Boemo	Managing Director <b>Sprint Gas (Aust) Pty Ltd</b>
Mr Steve Dargavel	Victorian Secretary <b>Australian Manufacturing Workers' Union</b>
Ms Madeleine McManus Ms Glenda Graham	State President, Victoria Division Executive Director <b>Engineers Australia</b>
Ms Michele O'Neill Mr Manu Peters	National Secretary and Victorian Secretary Researcher <b>Textile, Clothing and Footwear Union of Australia</b>

## Melbourne 18 August 2009

Mr Ron Patterson	General Manager for Victoria and Tasmania <b>Printing Industries Association of Australia</b>
Mr Peter Yates	Executive Director
Mr David Pallant	VIPP Manager <b>Industry Capability Network (Victoria) Ltd</b>
Mr Paul Dowling	Executive Officer <b>South East Melbourne Manufacturers Alliance Inc</b>
Mr Michael Brockhoff	Managing Director
Mr Stuart McMurtrie	Group Marketing Manager <b>MaxiTRANS Australia Pty Ltd</b>
Mr John Osmelak	General Manager <b>Furnishing Industry Association of Australia (Vic/Tas) Inc</b>
Mr Cesar Melhem	Victorian State Secretary
Mr Brad Crofts	Economist <b>Australian Workers' Union</b>

## Melbourne 7 September 2009

Mr Allan Ballagh	Director, RMIT TAFE
Mr Marcus Anastassiou	Senior Manager Office of the Director, RMIT TAFE
Professor Aleksandar Subic	Head of School, Aerospace Mechanical and Manufacturing Engineering <b>Royal Melbourne Institute of Technology University</b>
Mr Steve Gregson	National Sales Manager
Mr David Jenkins	Manager, Government Relations <b>Bluescope Steel Ltd</b>

Mr Ian Silk	Chief Executive
Mr Terry Charalambous	Investment Manager
	<b>Australian Super Pty Ltd</b>
Mr Andrew Spink	Director, Sales and Marketing
	<b>Bombardier Transportation Australia Pty Ltd</b>
Mr Allan Burns	Manufacturing Consultant
	<b>Strategic Connections Group</b>
Mr Grant Meyer	Manager, Economic Development
	<b>Hume City Council</b>

## Melbourne 14 September 2009

Hon. Martin Pakula MLC	Minister for Industry and Trade and Minister for Industrial Relations
Mr David Latina	Executive Director, Sector Development
Mr Alf Smith	Acting Secretary
Mr Peter Collens	Acting Deputy Secretary, Industry and Trade
Mr Dean Wickenton	Acting Director, Policy and Research
	<b>Department of Innovation, Industry and Regional Development</b>
Hon. Jacinta Allan MP	Minister for Regional and Rural Development and Minister for Skills and Workforce Participation
Mr Anthony Sherry	Executive Director, Food and Beverage
	<b>Regional Development Victoria</b>

## Canberra 28 October 2009

Mr Shane Brittle	Acting Manager, Monetary and Fiscal Policy Unit, Macroeconomic Policy Division
Mr Paul Gardiner	Manager, Forecasting Unit, Domestic Economy Division
	<b>Federal Treasury</b>
Mr Remo Moretta	Director, Free Trade Area Commitments and Implementation Section, Trade Commitments Branch, Office of Trade Negotiations

Mr Russell Wild  
Director, World Trade Organisation  
Subsidies and Trade Remedies Section,  
Trade Law Branch, Office of Trade  
Negotiations

Mr Andrew Ford  
Director, Trade Competitiveness Section,  
Trade Competitiveness and Advocacy  
Branch, Trade and Economic Policy Division  
**Department of Foreign Affairs and Trade**

Mr Philip Binns  
Chair  
Mr Pat Boland  
Member  
**Future Manufacturing Industry  
Innovation Council**

Mr Bryan Nye  
Chief Executive Officer  
Mr Gary Whiting  
General Manager, Suppliers  
**Australasian Railway Association**

## Sydney 29 October 2009

Mr Don McDonald  
Chief Executive Officer  
**Australian Steel Institute**

Mr Robert Paton  
Chief Executive Officer  
**Manufacturing Skills Australia**

Dr Katherine Woodthorpe  
Chief Executive  
**Australian Private Equity and Venture  
Capital Association**

Mr Colin Blair  
Deputy Chief Executive Officer  
**Standards Australia Ltd**

## Melbourne 23 November 2009

Dr Geoffrey Annison  
Deputy Chief Executive Officer  
**Australian Food and Grocery Council**



Mr David Langworthy	Chief Executive Officer
Mr Gerald Meade	General Manager, Franchising
	<b>Bev Marks Australia</b>
Mr Harry Kras	Family Business Adviser
	<b>Family Business Australia</b>
Mr Tim Haymes	<b>Haymes Paint</b>
Dr Mark Trigg	Managing Director
	<b>Advanced Manufacturing CRC</b>

### Melbourne 30 November 2009

Mr Rupert Harrington	Managing Director
	<b>Advent Private Capital Pty Ltd</b>
Mr Simon Dighton	Managing Director
	<b>Catalyst Investment Managers Pty Ltd</b>
Mr Tim McLean	Principal
	<b>TXM Pty Ltd</b>

### Melbourne 22 January 2010

Mr Mike Moignard	General Manager, Government and Communications, Corporate and Government Services
Mr Hayden Williams	Global Leader, Automotive and Advanced Manufacturing
Ms Nicola Watkinson	National Manager, Investment
	<b>Australian Trade Commission</b>
Mr Mark Ross	Managing Director
	<b>Boeing Aerostructures Australia</b>
Mr Lloyd Joseph	Managing Director
	<b>IP Plastics Pty Ltd</b>

Melbourne 28 April 2010

Mr Mark Brennan

**Small Business Commissioner**

Hon. Jacinta Allan, MP

Minister for Industry and Trade and Minister  
for Regional and Rural Development

Mr Randall Straw

Deputy Secretary for Industry and Trade,  
and Deputy Secretary for Innovation and  
Technology

Mr David Latina

Executive Director, Sector Development

**Department of Innovation, Industry and  
Regional Development**

# Appendix Three: List of briefings

## Briefings

### Cardiff 8 February 2010

Mr Meurig Watts	Head of UK Operations & Sector Sales <b>International Business Wales</b>
Mr Keith Palmer	Head of Business Support <b>Business Support Wales (Flexible Support for Business)</b>
Mr Mike Davies	Executive Director for Risk <b>Finance Wales</b>
Mr Gareth Hall	Director <b>Welsh Assembly Government, Department for the Economy and Transport</b>
Dr Tim Coombs	Chief Executive Officer <b>Biozyme Laboratories</b>

### Manchester 9 February 2010

Mr Andrew Young	Head of Investor Development <b>Manchester Investment Development Agency Service</b>
Ms Rebecca Weinrich	Business Manager, International Trade and Investment
Dr Sami Falou	Supply Chain Manager <b>North West Development Agency</b>
Mr Paul Fewtrell	Head of MAS <b>North West Manufacturing Advisory Service</b>

Mr Brian Richardson  
Advanced Engineering Sector Manager  
**Business Link**

Dr Hossam Ismail  
The Agility Centre, Operations Management  
and EBusiness Group  
**University of Liverpool Management  
School**

Prof Andrew Walker  
Strategic Industry Advisor  
**Northwest Composites Centre**

## London 10 February 2010

Ms Sally Capp  
Mr Ian Marland  
Ms Karla Lampe  
Agent-General  
Director, Trade and Investment  
Manager: Government Liaison – UK and  
Europe  
**Office of the Victorian Agent General**

Mr Jeffrey Williams  
Mr Jeetej S Jandu  
Mr Ian S Lockhart  
Deputy Manager, Australasia and Caribbean  
Unit  
Business Specialist  
Head of Automotive, Advanced  
Manufacturing Sector  
**UK Trade and Invest**

Mr Chris Cassley  
Innovation, Science and Technology Group  
**Confederation of British Industry**

## London 11 February 2010

Mr Paolo Fazzi  
Mr Simon Littlewood  
Ms Amy Pointon  
Executive  
Associate Director  
Manager  
**London Manufacturing Advisory Service**

Mr William Clark  
Senior Project Manager  
**London Development Agency**

Mr Timothy Page  
Policy Advisor  
**Trades Union Council**

## Paris 12 February 2010

Mr Dirk Pilat	Head
Dr Chiara Criscuolo	Principal Administrator
Mr Koen De Backer	Senior Economist (Globalisation)
Mr Tomoo Machiba	Senior Policy Analyst
	<b>Structural Policy Division, Directorate for Science, Technology and Industry, Organisation for Economic Co-operation and Development.</b>
Mr Claude Giorno	Senior Economist
	<b>Country Studies Division (Australia), Economics Directorate, Organisation for Economic Co-operation and Development.</b>
Dr Asa Johansson	Senior Economist
Mr Hansjörg Bloechliger	Senior Economist
	<b>Structural Policy Analysis Division, Economics Directorate, Organisation for Economic Co-operation and Development.</b>
Mr Andrew Davies	Head
	<b>Regional Competitiveness and Governance Division, Public Governance and Territorial Development Directorate Organisation for Economic Co-operation and Development.</b>
Mr Jerome Clausen	Senior Project Manager
	<b>Invest in France</b>
Ms Florence Humbert	Executive Manager, Economic and Regional Information Center
	<b>Paris Region Economic Development Agency</b>
Dr Nicholas Baker	Trade Commissioner
	<b>Australian Trade Commission</b>

## Brussels 15 February 2010

Ms Cathy Aston	Deputy Head of Mission <b>Australian Embassy and Mission to the European Communities</b>
Mr Roland Eisenberg	Senior Economist <b>Directorate General for Economic and Financial Affairs, European Commission</b>
Jean-Pierre de Laet Gaetan Nicodeme	Head of Unit Head of Section <b>Directorate General Taxation and Customs Union, European Commission</b>
Mr Christian Siebert Mr Serafin Gonzalez Sanchez Mr Ronald Mackay	Head of Unit, International Affairs Administrator, International Affairs Policy Officer, Development of Industrial Policy <b>Directorate General for Enterprise and Industry, European Commission</b>

## Berlin 16 February 2010

Dr Tobias Thomas Dr Dieter Kreikenbaum	Director Economic Policy Director Energy and Climate Policy <b>German Chamber of Commerce and Industry</b>
Mr Hermann Albers Ms Claudia Grotz	President Policy Director <b>German Wind Energy Association</b>
Dr Robert Hermann Ms Anne Neumann	Managing Director, Investor Consulting Manager <b>Germany Trade and Invest</b>

## Berlin 17 February 2010

Dr Lutz Reimers Ms Birgit Ogami	National and International Industrial Policy Economic Relations to Japan, Australia, New Zealand and Vietnam
------------------------------------	-----------------------------------------------------------------------------------------------------------------

Dr Matthias Marx	Innovation Policy
Dr Gilan Tober	Fiscal and Monetary Policy
	<b>Federal Ministry of Economics and Technology</b>

Mr Jan Michael Knaack	Project Manager
	<b>German Solar Industry Association</b>

Mr Dietmar Schrick	Managing Director, Member Board of Directors
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Dr Stefan Berndes	Head of Air Transport, Equipment and Materials
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Ms Nicole Thalhofer	Lawyer / Manager, Defence and Space
	<b>German Aerospace Industries Association</b>

## Frankfurt 18 February 2010

Mr Philippe Moutot	Deputy Director General Economics
Mr Ad Van Riet	Head of Fiscal Policies Division
Mr António Afonso	Principal Economist, Fiscal Policies Division
	<b>European Central Bank</b>

## Frankfurt 19 February 2010

Hon. Andre Haermeyer	Commissioner
Mr Kristian Schnack	Manager, Trade and Investment
	<b>Office of the Victorian Commissioner</b>

Mr Wolfgang Rhode	Board Member
Mr Kai Burmeister	Policy Advisor
	<b>IG Metall</b>

Dr Khaled Snouber	Head of International Affairs
Mr Oliver Beil	Director North America, Europe, International Affairs
	<b>Hessen Argentur</b>