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Ms Sharon Bryant
Committee Secretary
Standing Committee on Economics, Finance and Public Administration
House of Representatives
PO Box 6021
Parliament House
CANBERRA ACT 2600

Dear Ms Bryant

INQUIRY INTO THE STATE OF AUSTRALIA'S MANUFACTURING INDUSTRY NOW AND BEYOND THE RESOURCES BOOM

I refer to your telephone conversation with Mr Mark Mussared on 21 July 2006 in which we advised that the Department of Industry, Tourism and Resources would be providing a submission to the Inquiry.

The Department of Industry, Tourism and Resources plays a significant role in helping to facilitate innovation, investment and international competitiveness within Australian industry, including the manufacturing sector. The attached submission provides what I hope the Committee will find to be useful information on the manufacturing sector and the Government's role in relation to that sector.

Officers from the Department will be available to appear before the Committee to elaborate on issues identified in the submission and to answer questions which members of the Committee might have.

Yours sincerely

Peter Clarke
A/g Head of Division
Manufacturing, Engineering and Construction Division

15 August 2006

Australian Government

Department of Industry
Tourism and Resources

House of Representatives Standing Committee on Economics, Finance and Public Administration

Inquiry into the state of Australia's manufacturing industry now and beyond the resources boom

Submission by the Department of Industry, Tourism and Resources

August 2006

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Introduction and Executive Summary

Terms of Reference

On 3 May 2006 the Treasurer, The Hon. Peter Costello MP, asked the House of Representatives Standing Committee on Economics, Finance and Public Administration to inquire and report on the state of Australia's manufactured export and import competing base now and beyond the resources boom.

The Committee will be focusing on, but not limited to:

- Australia's dominance in commodities exports and the impacts of this on the economy following the resources boom;
- the state of the country's manufacturing sector (and the goods and associated services) including opportunities and challenges from the expansion in global trade (in particular by China); and
- policies for realising these opportunities.

Role of the Department

The Department of Industry, Tourism and Resources (DITR) advises the Australian Government and develops and implements a range of industry policies and business assistance programs that build on the Australian Government's four key drivers of economic growth – innovation, investment, international competitiveness and global integration. These policies and programs are designed to increase the international competitiveness of Australian manufacturing, resources and service industries, develop Australia's innovation and technology capabilities and infrastructure, and facilitate an increased level of foreign investment in Australia.

Summary

The structure of this submission follows the terms of reference for the Inquiry. That is, the submission opens with a discussion of the short and long-term impacts of the increase in commodity prices on the economy in general. It then discusses recent trends in key manufacturing indicators to present a broad picture of the state of the manufacturing sector before briefly examining the impact of an expansion in global trade, particularly by China. The submission concludes with an overview of economic and industry policies aimed at improving the international competitiveness of Australian industries.

The submission shows that the Australian manufacturing sector has been performing well in recent years in terms of exports, industry value added, profits and investment. It has benefited from solid growth in the region and there through the ongoing reforms to improve the competitiveness of the Australian economy and to reduce the costs of business. It has also benefited from Government programs which assist industry to invest, innovate, integrate into global supply chains and improve their international competitiveness.

However, the increase in resource commodity prices has supported a level of the exchange rate somewhat above what might otherwise have been the case, and this has

presented ongoing international competitiveness challenges for those export industries not enjoying increased prices for their products and also for those industries that are primarily import competing – both these groups comprise mostly elaborately transformed manufactures (ETMs). On the other hand an exchange rate higher than might otherwise have been the case means that certain imported inputs such as information and communications technology (ICT) and other electronic equipment, some major machinery and plant, and other material inputs remain considerably cheaper in $A terms.

It is also the case that some manufacturing sectors, such as transport and equipment manufacturing, have been adversely affected by rising input costs and static output prices which are squeezing margins. The increase in input prices (for manufacturing internationally) is largely a result of the strong global demand for commodities, including by China, which has led to input price increases while output prices have been effectively "capped" due to strong competition from imported manufactures. Other sectors, such as building materials manufacturing and construction are benefiting by providing goods and services to the mining industry. Manufacturers of petroleum and coal products are also benefiting from strong global demand for their products.

Continuing growth in the world economy, as well as the domestic economy, provide opportunities for the Australian manufacturing sector to increase its industry value added and exports. The growing importance of China as a source of manufactured goods for the world also provides opportunities for Australian manufacturers. These opportunities can be through increased inputs to Chinese production as well as through increased investment in China so as to integrate into the supply chains of global manufacturers located there. The strong growth in investment in R&D and capital expenditure also helps position manufacturers to meet the competitive pressures from imports from China and other industrialising economies.

There are a number of challenges facing Australian manufacturers, including those posed by China. This includes not only greater competition in the domestic market, but increased competition from Chinese-made manufactures in third markets. In addition, the strong demand for Australian commodities is not only driving up input prices (as discussed above), but is also having an impact on the labour costs for the manufacturing sector, particularly on the wages of skilled employees whose skills are transferable across different industries (such as engineers). The large inflows of foreign direct investment (FDI) into China as manufacturers and others set up operations there could have an adverse impact on FDI into the Australian manufacturing sector, especially given the small size and maturity of the Australian market relative to China.

Australian Industry Minister, Ian Macfarlane, announced on 10 July 2006 that the Australian Government will finalise, early next year, an Industry Statement to set policy directions for the next 2 to 3 decades. The Industry Statement will consider a plan to tackle the challenges facing Australian industry, including the rise of low-cost competitors like China and India. A copy of the Minister's media release announcing this is at Appendix A.

The Impact of the Increase in Commodity Prices on the Economy

Very rapid increases in certain mineral commodity prices that began in earnest in early 2004 have contributed to a strong rise in Australia's terms of trade (the ratio of aggregate export prices to aggregate import prices) as shown in Figure 1. This, combined with strong demand, has led to very strong growth in the value of Australia's exports from the mining sector as shown in Figure 2. The figure shows that the value of exports of the manufacturing sector has also continued to grow, although with considerable variations between different manufacturing sectors (refer to next section for a discussion of this). This has led to significantly higher growth in real gross domestic income (GDI) than in real gross domestic product (GDP), as the purchasing power of our exports rise relative to the price of imports – a positive outcome for aggregate income in Australia.

Figure 1. Terms of Trade

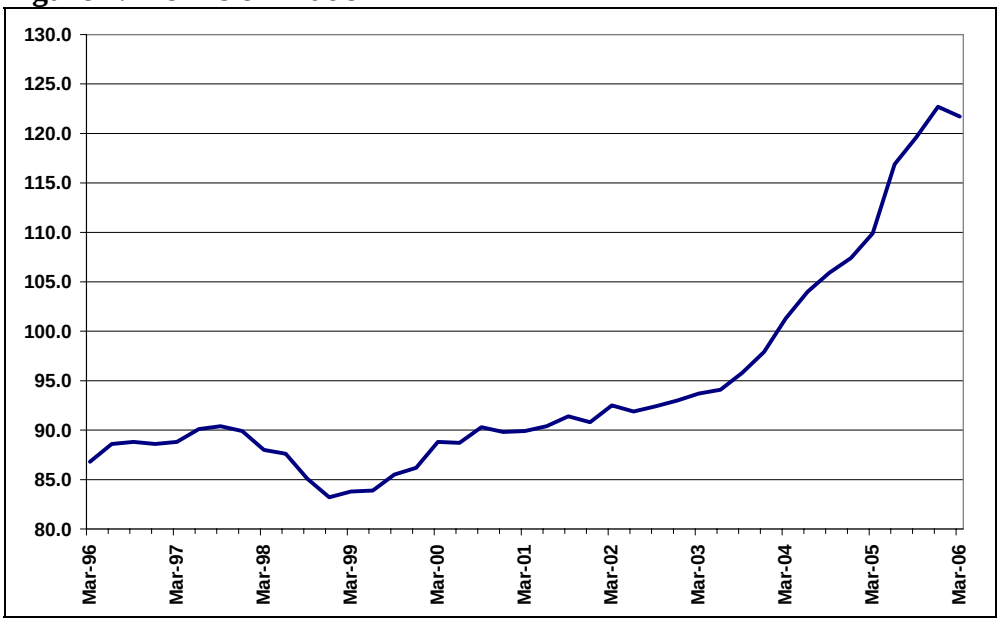
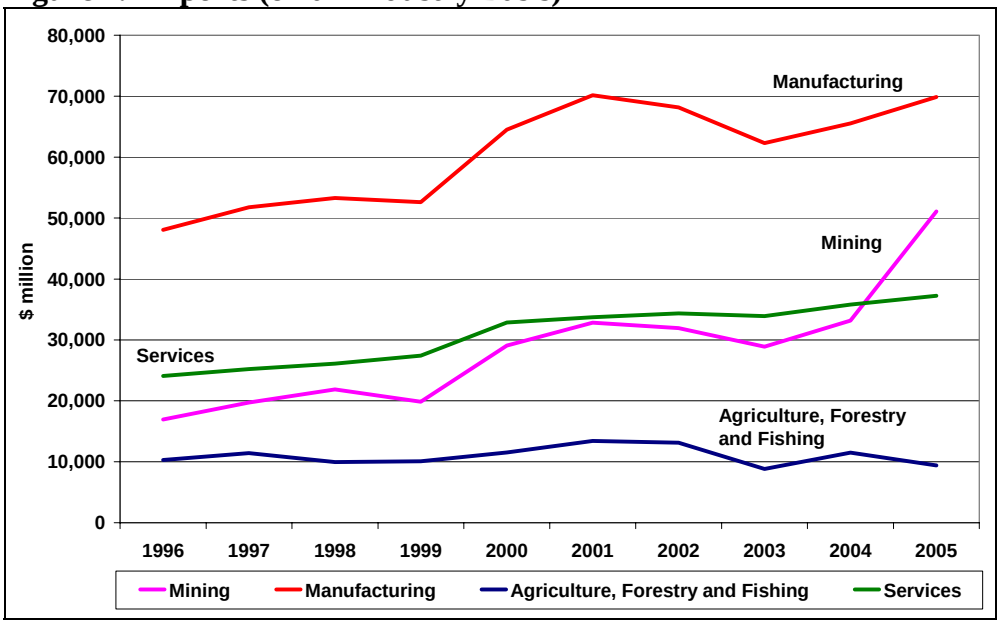


Figure 2. Exports (on an Industry Basis)



However, higher global prices for Australia's resources exports make investment and employment prospects in the resources industries relatively more attractive. For example, unemployment rates have fallen by much more in the resource-rich states when compared to the other states and the mining sector's share of total business investment has grown strongly in recent years. This has led to concerns being expressed in some quarters that Australia faces the risk of becoming a 'two speed' economy, where industries positively affected by the resources boom will grow rapidly, while those not so affected will decline as the economic resources in the economy are reallocated. As discussed below, the impact of higher commodity prices is likely to have quite different impacts in the short term from the longer term, and that these impacts will have diverse effects across various industry groupings.

In the short run, the resources sector has been unable to expand capacity sufficiently to meet the rapidly rising global demand for certain minerals and mineral based simply transformed manufactures (STMs). As a result, prices for these products have risen dramatically and profits in these areas are strong. This has led to strong demand for additional capacity (resource related capital and associated infrastructure capital) needed to better meet global demand for resources.

In this resource 'gearing up' stage there has been significant new activity in those industries directly (and indirectly) involved in supplying additional capacity for the resources sector. These industries include in particular the construction industry, parts of the manufacturing sector that provide the materials used by the construction industry, and certain business support services. The labour market implications of this are more likely to be intra-sector rather than inter-sector.

The increase in resource commodity prices also results in a $A exchange rate higher than would otherwise be the case, and this, in general, adversely affects the international competitiveness of those export industries not enjoying increased prices for their products and also of those industries that are primarily import competing – both these groups comprise mostly ETMs – though imported capital and intermediate inputs would be cheaper than otherwise.

Some of those parts of the manufacturing sector producing STMs based on certain mineral resources may not be adversely affected by these short-term developments, though there are some areas in this sector not enjoying such strong growth conditions. However, the production of ETMs is more exposed to the impact of a relatively strong $A on its international competitiveness because it generally has not enjoyed an increase in the price of its exports. It is more likely to find it difficult to compete both in product markets and in the labour market.

If the rate of growth in demand for Australia's mineral resources continues at the extraordinary pace it has over recent years, the gearing up phase for the resources sector could be of extended duration, with a more permanent reallocation of capital and labour within the manufacturing and services sectors. However, in terms of the overall size of these sectors, this reallocation is likely to be relatively small.

On the other hand, should the growth rate in demand for mineral resources settle back, then the strength in the gearing up phase will be unlikely to be of such duration as to

permanently impact in any significant way upon the allocation of economic resources within the services and manufacturing sectors. Once the gearing up of the resources sector settles back, the economic resource reallocation within the economy is likely largely to revert to its earlier configuration.

In the longer term, as the increased output capacity of the resources sector is taken up there will be a need for some additional labour in that sector. However, as the resources sector is a small part of the economy (accounting for around 5% of industry value added and 1% of employment) and is particularly capital intensive, the additional call on labour is likely to be small in relation to the numbers employed in the manufacturing and the services sectors as a whole.

Further discussion on the impacts of the resources boom on non-resources sectors (with a focus on manufacturing) is at Appendix B.

State of the Manufacturing Sector

The performance of Australia's manufacturing industry is strongly influenced by the international and domestic economic environment. The sustained appreciation of the $A, the emergence of new sources of low cost competition, especially from China, the upward pressure on raw input material costs, including steel and chemical feedstocks, and the ongoing shortage of skills is making the general operating environment for manufacturing a difficult one.

Offsetting these pressures, the Australian domestic economy has continued to grow strongly. There has been solid growth in the region and there have been ongoing reforms to improve the competitiveness of the Australian economy and to reduce the costs of business. Of particular benefit to manufacturing has been the removal of the tariff on imported business inputs and the GST tax reforms which removed $4.5 billion from the costs of exporting industries. The negotiation of Free Trade Agreements (FTAs) with the United States and Thailand has also opened new opportunities. Industrial relations reforms will provide more flexible and responsive workplaces and the ongoing reductions in red tape will assist the industry to reduce costs and enable it to respond quickly to global opportunities.

The trading environment for manufacturing is likely to continue to be difficult over the next 12 months. Industry will need to continue to work hard to reposition itself to meet the competitive challenges and to secure new opportunities in global markets.

Despite the difficult trading environment, manufacturing has continued to perform strongly. Industry value added, exports of ETMs, investment and profits are at record levels. In addition, manufacturing continues to be a large and important contributor to the Australian economy, as reflected by its contribution to national employment and GDP. A further detailed analysis of the state of the manufacturing industry is below.

Industry Value Added

Manufacturing in recent times has grown more slowly than the economy as a whole, which has been driven by growth in mining (over the past two years), agriculture and services. Nevertheless, real manufacturing industry value added (as measured in

price-adjusted chain volume terms) was at a record high in 2005 due to strong growth in non-metallic mineral products and machinery and equipment manufacturing, which offset declines in other sectors such as textile, clothing and footwear, other manufacturing and petroleum, coal, chemical and associated product manufacturing.

The manufacturing industry's share of GDP has fallen over the past 20 years from around 18% to its current level of 11.1%[1]. This long-term trend is evident in other advanced economies. It is important to note that industrial production has not declined over this period but, rather, other sectors of the economy have grown more rapidly. For instance, the increasing role of the services industries within advanced economies, especially the proliferation of information and communication services and health and community services is one explanation for manufacturing's relative decline.

Exports

The value of Australia's manufacturing exports (on an industry basis) fell by more than 11% over the period 2001-2003 reflecting a slow down in growth in major export markets (i.e. real GDP growth in major economies such as Japan and Euro area dropped to an average annual rate of around 1%), the SARS outbreak, appreciation of the $A by over 28% and strong growth of domestic demand (average annual growth of 2.3%).

Manufactured exports have rebounded since 2003 to a near record of $69.8 billion in 2005. This was due to increases in both export volumes and the terms of trade (refer below). The sectors which have experienced strong growth include petroleum, coal, chemical & associated product manufacturing, metal product manufacturing, food, beverage & tobacco manufacturing and other manufacturing. The growth in these sectors more than offset the declines in textile, clothing, footwear & leather manufacturing, and printing, publishing & recorded media. Manufacturing exports have continued to grow, and in March 2006 were 18.7% higher than for March 2005.

Exports of ETMs followed a similar pattern. The value of ETMs exports increased by nearly 9% to a record $26 billion in 2005. This growth has dipped slightly in the first two months of 2006, however exports of ETMs in February 2006 was still up almost 12% on the same month of the previous year.

New Zealand, the United States, and Japan are Australia's three largest export markets for manufactures. However, the nature of these exports is very different with the vast majority of manufactured exports to Japan being STMs, while to New Zealand and the United States the vast majority are ETMs. Exports of manufactures to China grew by 15% between 2004 and 2005 to $2.1 billion, the major portion of which were ETMs.

[1] Manufacturing's share of gross value added (at basic prices) is 12.2%. GDP equates to gross value added plus taxes less subsidies (plus statistical discrepancies).

Employment

The manufacturing sector employed over 1 million persons as at May 2006. This is a fall of 1.1% from May 2005. Manufacturing employment has declined over recent years, as a result of industry rationalisations and improvements in labour productivity. The largest employer among manufacturing sectors is machinery and equipment manufacturing, followed by food, beverage and tobacco manufacturing.

Wages

Average weekly adult full time total earnings for manufacturing employees rose by 4.3% for the 12 months to February 2006. This is slightly larger than for all industries in general (3.8%), but is less than the increase in average weekly adult full time total earnings for mining employees which increased by over 5% for the same period. This may have been due, in part, to increased demand for labour in the mining sector.

Productivity

Labour productivity (measured as gross value added per hour worked) in the manufacturing sector has increased at an average annual rate of 2.7% since 1995-96, compared to 2.1% for all industries. However, labour productivity in the manufacturing sector declined by 2.8% in 2004-05.

Innovation

Innovation is an important driver of future competitiveness, and is more than just research and development (R&D). The 2005 report on the ABS survey of Business Innovation has data on the performance of the manufacturing sector. It reports that the proportion of manufacturing firms which innovate is higher than for all industries (45% vs 35%), manufacturing firms spend more on innovation than other sectors (they make up 18% of innovating businesses but undertake 27% of innovation expenditure, and spend $3.5b on non R&D related innovation), and the number of manufacturing firms that introduced new goods and services dropped between the 1991-94 survey and the 2003 survey (from 37% to 27%).

Business expenditure on R&D (current prices) by the manufacturing sector has grown strongly since 1999-00. In 2003-04, business expenditure on R&D by the manufacturing sector grew by over 13% to a record $3.3 billion (latest statistics). Around 36% of this growth was a result of increased expenditure by the motor vehicles and part and other transport equipment sector - the largest manufacturing spender on R&D. There were also increases in the number of manufacturing businesses undertaking R&D (up 19%) and human resources devoted to R&D (up 5%) in 2003-04. Around ½ of manufacturing expenditure on R&D is other current expenditure, closely followed by labour costs. Around 91% of business expenditure on R&D by the manufacturing sector is sourced from own funds, which is higher than that for all industries in general.

Input and Output Prices

Total Australian manufacturing input prices increased nearly 8.5% in 2005. This was largely as a result of a very significant rise in prices of petroleum & coal and basic metal products. For example, the price of oil has risen by around 30% in the past year, mirroring the large increases in consumption, particularly by China. Similarly, the price of ores has also significantly increased, with iron ore fines rising by around 70% in 2005.

The prices paid by manufacturers for their inputs continued to increase in the March quarter 2006, rising by 2.7%. This was largely as a result of price increases for crude oil, copper oxides and other ores.

In 2005, manufacturing output prices increased by 4.8% as manufacturers passed on some of the increased input costs to end-users/consumers. However, this was much less than the increase in input prices, indicating that the scope for manufacturers to fully pass on cost increases is limited by import competition in most manufacturing sectors. For example, the output prices received by transport and equipment manufacturers fell by 0.6% last year, as local manufacturers faced greater import competition due to a drop in the tariff on passenger motor vehicles. On the other hand, output prices for petroleum & coal and basic metal product manufactures rose much faster than the manufacturing industry average indicating the scope for price rises due to strong demand for such products.

Profits

Manufacturing company profits (before income tax and in current prices) have been increasing since 1999, and grew by 1.3% to a record (calendar year) high of $23.5 billion in 2005. This was driven by record company profits of $6.5 billion in the September quarter. However, company profits in the manufacturing sector have grown much less than for all industries in general due to strong profit growth in the mining, construction and wholesale trade sectors. This reflects, in part, the strong global demand for mining/resource-related products which has assisted this (and the construction) sector but has also contributed to rising input costs for manufacturers.

Company profits in the manufacturing sector have grown by 1.1% in the March quarter 2006 compared to the same quarter in the previous year.

Capital Expenditure

Private new capital expenditure by the manufacturing sector has grown quite strongly since 2001, and rose by over 30% (in current prices) to a (calendar year) record high of nearly $15 billion in 2005. This was due, in part, to over $4 billion of capital expenditure in the December quarter. Over $10.3 billion of private new capital expenditure by the manufacturing sector in 2005 was equipment, plant and machinery.

The strong growth in capital expenditure by the manufacturing sector was also a result of strong growth in expenditure by the petroleum, coal & chemicals, non-metallic mineral and metal products manufacturing. This could be a result of strong demand and hence price increases for the outputs of these industries.

Manufacturing Inputs to Other Industries

Manufacturing has strong linkages to other parts of the economy, including mining. As such, any increase in the demand for mining output has flow-on benefits to the manufacturing sector. For example, manufacturing provides around 27% of all direct intermediate inputs into mining, accounting for about 2.5% of the value of all manufacturing output. In addition, there are secondary effects, with manufacturing providing around one-half of all intermediate inputs to other construction which, in turn, provides over 5% of all direct intermediate inputs to mining.

Manufacturing Surveys

The Australian Industry Group (AiG) (April 2006) has released a report, "Manufacturing Futures: Achieving Global Fitness". The report found that Australian manufacturing has entered a distinct new phase of global engagement, as the drive for competitiveness increasingly involves "off-shoring" and "outsourcing" of labour intensive operations. The report advocates measures such as facilitating the further integration of Australian firms into global supply chains, and continued pursuit of trade liberalisation at multilateral, regional and bilateral levels.

The AiG-PricewaterhouseCoopers Performance of Manufacturing Index has varied around a mean value of about 51 points over the past few months (a figure above 50 indicates an expansion in activity). The latest outcome (released on 1 August 2006) reported an easing of the index to 49.7 in July following an increase of 5.6 index points to 54.5 in June. In respect of the latest outcome PricewaterhouseCoopers Industrial Products Leader, Graeme Billings noted that '…the immediate outlook for the sector remains challenging, and suggests manufacturers cannot simply wait for stronger volume growth to deliver improved profitability. Manufacturers must constantly search for ways to become more innovative in both products and processes, and strive to become leaner and more cost competitive'. The index appears to be varying from month to month around.

The ACCI/Westpac Survey of Industrial Trends shows a further softening of major activity indicators in June 2006, although business confidence has continued to firm after the Budget. The survey reported a further recovery, on balance, in expectations of general business conditions for the next six months.

Opportunities and Challenges

As mentioned in the previous section, Australia's manufacturing industry's share of GDP has declined over the long-term. The OECD February 2006 draft paper "The Changing Nature of Manufacturing in OECD Economies" indicates clearly the long-term decline in the share of employment in manufacturing in most OECD countries. The developments in Australia's manufacturing industry reflect the impact of ongoing industrialisation around the globe, hand in hand with increased global integration; that is, globalisation.

One of the manifestations of global integration is the increase in the ratio of manufactured exports (and imports) to total production of manufactures, especially in

wealthier countries at similar levels of development and which are geographically close. While this is phenomenon is also clearly visible in Australia, our geography means that we will need to make significant efforts to ensure that we are optimally placed as developments in global intra-industry trade proceed.

OECD data show also that Australia's rate of labour productivity growth in manufacturing has tended to be slower than that in most other comparably advanced industrialised economies. While this is consistent with Australia's slower rate of decline in manufacturing employment than in those comparable countries, it does present a challenge to Australia successfully competing in the emerging global manufacturing environment.

However, Australian manufacturing has responded to significant challenges previously. Since the period of tariff reductions manufacturing export volumes have increased at a faster rate than in other sectors, and productivity growth has generally outpaced that of the market sector as a whole.

As part of the Australian Government's new Industry Statement process, to be finalised in 2007, Minister Macfarlane released the "Global Integration Background Paper" to stimulate a government/industry dialogue. As discussed in the paper, accelerating global economic integration is changing forever the volume and composition of international trade. By global standards, Australia is an affluent but relatively small market. To achieve international competitiveness, many Australian businesses must produce for the global market to achieve the necessary economies of scale and scope.

Succeeding in the global market can demand new and more complex strategies. Inputs may need to be obtained offshore. Overseas capital and strategic alliances may need to be found.

The fate of many firms will depend on securing a place in international supply chains. Trade is increasingly concentrated around a relatively small number of international supply chains. As these supply chains are developed, there has been widespread rationalisation of firms. This has been driven by the need to capture economies of scale and spread product development costs.

Flexibility may be necessary across a range of company operations and strategy – what is produced and bundled in the market, where it is produced and how the final offering comes together, what niches are targeted, and the sources used for innovation. Firms may need to change their core business – firms that were once manufacturers may shift to brand management, design and logistics. Their skill set may move away from process work to these high value added activities.

Such developments continue to present challenges to established manufacturers, but they also offer opportunities to those manufacturers that can display the flexibility and initiative to find new supply opportunities in the development of industrialising economies.

The degree of success with which these challenges are met will be enhanced by a policy environment that facilitates business flexibility through ensuring effective

competition and workplace relations systems that allow industry to respond to challenges and capitalise on opportunities. A strong focus on innovation by businesses will continue to be a vital component of business strategy, as will be policies and strategies to enhance the human resource base of the economy through strengthened skills upgrading and training.

The globalisation process has seen the rise of China (and other countries such as India) as a major industrialised economy. Many of the challenges posed by globalisation would have occurred irrespective of the emergence of China. The growth of China will add to the particular opportunities and challenges facing Australian manufacturers. Some of these opportunities and challenges are outlined below.

Opportunities

World Trade Organization economists predict 7% growth in the volume of world goods trade and 3.5% growth in the world economy in 2006. This provides opportunities for Australian manufacturers to not only increase exports, but also to provide manufactured goods such as plant and equipment to the mining industry which is experiencing a period of high commodity prices (and which has led to strong profits and increased capital spending). Manufacturing could also benefit through the provision of goods to industries which cater to mining such as the construction industry. The 2006-07 Budget estimates that Australia's exports of goods and services would grow by 2% in 2005-06 and is forecast to grow by a further 7% in 2006-07. It also estimates total business investment to grow by 14% in 2005-06 and forecasts a further 8% growth in 2006-07.

Of more importance, however, is forecast (by the Economist Intelligence Unit) growth by China's economy of 9.5% this year and 8.1% in 2007. As Australia's second largest market for merchandise exports, and its continued growth as a trading partner, this provides opportunities for Australian manufacturers to service this rapidly expanding economy, subject to adequate market access. The AiG has noted that sectors which could benefit include building products and mining & energy technologies. China's strong demand for commodities, particularly mining commodities, has been and will continue to be of benefit to Australian manufacturers of basic metal products and petroleum & coal products manufacturers. These sectors have benefited from rising prices for their outputs.

Also of importance is the growth in incomes of Chinese citizens and an expansion in its middle class which provides opportunities for manufacturers of food and beverages and niche consumer goods.

The growing importance of China as a source of manufactured goods for the world provides opportunities for Australian manufacturers. These opportunities can be through increased inputs to Chinese production as well as through increased investment in China so as to integrate into the supply chains of global manufacturers located there. A number of Australian companies in sectors such as automotive, building materials manufacturing and others have already located manufacturing operations in China to service its domestic market and also to supply global manufacturers located there. Local manufacturers can also benefit through the use of

imported capital equipment and intermediate inputs – the AiG estimates that currently, around 15% of Australian manufacturing is derived offshore, either from offshore production or through the use of imported materials.

It should be recognised that the relocation of manufacturing operations to other countries results in a direct reduction in measured Australian GDP if the operation was previously located in Australia. If the operation was previously an exporting activity, export volumes will also decline. The profit from an operation located outside Australia would appear in the Balance of Payments through the Current Account component relating to Australia's net income position.

Continued growth in the domestic economy will also provide opportunities for Australian manufacturers to increase their industry value added. The 2006-07 Budget estimates that GDP will increase by 2.5% in 2005-06 and by a further 3.75% in 2006-07.

Challenges

There are a number of challenges facing Australian manufacturers, including those posed by China. One such challenge is the competition from Chinese-made manufactures in third markets. As China continues to move up the value chain it is becoming more of a direct competitor to Australian-manufactured goods. For example, China is expected to become a major exporter of automotive goods within the next decade which could adversely impact on Australian automotive exports, particularly exports of vehicles to the Middle East (our largest export market). For a detailed analysis of the impact of China's growth on automotive and other selected industry sectors see the ABARE study cited in the footnote[2]. Similarly, imports of Chinese-manufactured goods are placing competitive pressures on Australian firms supplying the domestic market. This is currently in sectors such as textiles, clothing & footwear, electronics and chemicals & plastics. In future, this could also include machinery and equipment products and those firms supplying products to these industries (such as machine tooling).

China's (and others) appetite for commodities such as iron ore and petroleum are driving up the input costs of local manufacturers. The continuation of this strong demand for commodities will further act to drive up input prices, particularly for those manufacturers which use large amounts of petroleum and ore-based products such as the transport equipment & parts and the rubber & plastics industries. The strong demand for Australian commodities is also having an impact on the labour costs for the manufacturing sector, particularly on the wages of skilled employees whose skills are transferable across different industries (such as engineers).

These input cost pressures, when combined with greater import competition from China which has acted as a "cap" on price increases, will continue to squeeze the profit margins of manufacturers in certain industry sectors, such as the two industries mentioned above. It is vital therefore that industries exposed in this way make every

[2] Fairhead, L. and Ahammad, H. 2005, *China's Future Growth: Implications for Selected Australian Industries,* ABARE *e*Report 05.13 Prepared for the Australian Government Department of Industry, Tourism and Resources, Canberra, December.

effort to lift productivity growth through adopting best practice and by seeking out innovations which will enhance efficiency and add to product value.

China has benefited from large inflows of foreign direct investment (FDI) as manufacturers and others set up operations in China. This could have an adverse impact on FDI into the Australian manufacturing sector, especially given the small size and maturity of the Australian market relative to China.

As announced by Minister Macfarlane on 10 July 2006, the Government's new Industry Statement will consider a plan to tackle the challenges facing Australian industry, including the rise of low-cost competitors like China and India.

Policies

Economic Environment

The Australian Government's general policy for industry is aimed at providing an attractive macroeconomic environment for investment and removing impediments for growth through ongoing microeconomic reform.

Sound macroeconomic policy settings, such as balanced budgets or underlying surpluses, act to boost national savings and lessen pressure on official interest rates and inflation. In addition, a low interest rate/low inflation environment is favourable to increased business investment. Australia's inflation rate and interest rates (the cash rate target) are currently at historically low levels, being 3% and 6% respectively.

The Government also helps Australian business through the pursuit of microeconomic reforms which are important in helping reduce business costs and stimulate productivity gains, thus improving international competitiveness of Australian industry. Such microeconomic reforms include the National Competition Policy reforms such as the development of a national access regime to nationally significant infrastructure and labour market reforms which have linked wages outcomes to productivity growth.

The 2006-07 Budget contained a number of measures to further improve the business environment, including continuing tax reform and significant additional funding for Australian road and rail infrastructure.

Exports and Market Access

Australia has a small domestic economy in world terms and, no matter how competitive industry becomes, export success will not be achieved unless Australian products have good access to overseas markets. Australian industry need to expand markets to grow and prosper. Exporting firms are, on average, faster growing, more efficient, achieve higher productivity and profitability.

The Australian Government has a number of initiatives in place to encourage Australian businesses to export, such as the Export Market Development Grants (EMDG) scheme and the Export Finance and Insurance Corporation (EFIC).

Also, the Australian Government pursues a combined multilateral, regional and bilateral approach to trade policy. As part of this policy, Australia committed to the WTO Doha Development Agenda. It is also open to concluding regional or bilateral agreements that deliver substantial gains to Australia and which cannot be achieved in a similar timeframe elsewhere. Free Trade Agreements (FTAs) that are comprehensive in scope and coverage can complement and provide momentum to our wider multilateral trade objectives. Australia has FTAs with Singapore, New Zealand, the US and Thailand, and is currently negotiating possible FTAs with Malaysia, ASEAN-New Zealand and China.

Industry Policies

The Australian Government has a range of industry policies and programs which complement its economic and trade policies, and which are aimed at facilitating improvements in Australia's international competitiveness. A detailed outline of Australia's industry policies is contained in Appendix C but, generally speaking, they are framed around the key themes of investment, innovation and international competitiveness.

Investment

Foreign direct investment (FDI) enables Australia to sustain higher living standards now and in the future by providing higher rates of economic activity than could be achieved from domestic savings. In particular, FDI creates jobs, generates exports, encourages R&D and results in technology and skills transfer for the benefit of Australian industry. Removing barriers to foreign investment lowers the cost of such an investment and enhances technological transfer (and hence competitiveness). Invest Australia is the Australian Government's national inward investment agency. It facilitates new investment through a range of free services and programs, including the Major Project Facilitation service and the Supported Skills Program,

Investment in capital, skills upgrading and innovation are also central to upgrading technology and improving productivity and hence competitiveness. In recognition of this, the Government has in place a suite of programs to encourage in these areas.

For example, the Government's Innovation Investment Fund program seeks to promote the commercialisation of Australian R&D and the development of a self-sustaining venture capital market. It is complemented by the Pooled Development Funds program which seeks to increase the supply of equity capital for Australian small and medium-sized enterprises and the Venture Capital Limited program.

Further investment initiatives include the announcement in the 2006-07 Budget of funding of $2.3 billion to accelerate major projects for Australia's road and rail infrastructure and enhancements to tax depreciation arrangements to encourage additional investment in plant and equipment.

Innovation

In 2005-06, the Government provided $5.9 billion to support science and innovation. Total expenditure on the business enterprise elements of science and innovation have

grown at an annual compound rate of 5.8% since 2000-01; these business enterprise elements represent 18.6% of all science and innovation expenditure.

An important integrated sub element of this support is *Backing Australia's Ability - Building Our Future through Science and Innovation*, the Government's $5.3 billion science and innovation package to follow on from the $3 billion *Backing Australia's Ability* strategy announced in 2001. Together these initiatives constitute an additional $8.3 billion integrated 10-year commitment to science and innovation. Combined with other science and innovation programs, the Australian Government's 10-year commitment (2001-02 to 2010-11) is some $52 billion.

The Department is responsible for delivering a number of the specific initiatives of the *Backing Australia's Ability*. These initiatives include Commercial Ready, Commercialising Emerging Technologies (COMET), and the R&D Tax Concession.

Skills Development

The 2006-07 Budget provides for an additional $181.6 million for vocational and technical education over and above the $2.5 billion committed in the 2005-06 Budget. As part of the range of measures to address skills needs, the Australian Government is funding the establishment of 25 Australian Technical Colleges to increase the pool of skilled workers available to business.

Global Integration

The Australian Government and Australian industry can work together to identify ways to more closely integrate Australian suppliers into the global supply chains of major producers. For example, under the Joint Strike Fighter (JSF) Program the Australian Government and Australian companies are working together to secure opportunities to supply high technology aerospace components to the next generation of air combat fighter aircraft being developed by Lockheed Martin in the US. Under the JSF Program to date, Australian companies have been successful in winning US$60 million in work. Also, the Minister for ITR has led automotive delegations to Japan and the United States, which included discussions on ways to more closely integrate Australian component producers into the supply chains of major automotive producers.

Structural Adjustment

As mentioned earlier, the Government aims to provide an environment that enables industries to compete successfully in the global marketplace. Reductions in industry protection have stimulated an improvement in the international competitiveness of Australian industry. Notwithstanding this, the Government recognises that some industries need assistance to help them adjust to the increased competitive pressures from a lower tariff environment. As such, the Government has specific sectoral programs for the automotive and textiles, clothing and footwear industries as their level of protection falls.

Australian Industry Participation

Also, the Australian Government recognises the challenges many Australian firms face in gaining access to major investment projects. The Australian Industry Participation policy initiatives promote Australian capability and maximise opportunities for Australian industry participation in major projects both in Australia and overseas. These initiatives include the Supplier Access to Major Projects Program (which is administered by Industry Capability Network Limited) and the Enhanced Project By-laws Scheme.

Other

Other programs and policies in place aimed at facilitating improvements in Australia's international competitiveness include Action Agendas, the Certain Inputs to Manufacture Program, Tradex, the Industry Cooperative Innovation Program and the Tariff Concession System. These, as well as industry-specific programs for the automotive, textiles, clothing & footwear and pharmaceuticals industries are outlined in Appendix C.

Appendix A – Media Release announcing Government's Industry Statement

Media Release
The Hon Ian Macfarlane, MP

10 July 2006

INDUSTRY STATEMENT TO SET FUTURE DIRECTIONS

Australian Industry Minister Ian Macfarlane today announced a landmark development in setting the future policy direction for Australian industry.

"The Government's new Industry Statement, to be finalised by early next year, will set the policy directions to maintain the country's present economic momentum over the next 20 to 30 years," said Mr Macfarlane.

"Australia's recent economic performance is the envy of the world – low interest rates, low unemployment and strong growth – and current industry policy settings have served the country well."

"However we are now entering an era of true globalisation, of communications advances that mean business without borders and the need for industry sectors to become regular contributors to global supply chains."

"We have a window of opportunity now, while our economic performance is so strong, to determine what comes next and build a foundation to ensure our strong business momentum is maintained," he said.

Mr Macfarlane will hold a series of state-based business roundtables, from the end of this month, to draw out company and industry association opinion.

An issues paper will be circulated this week to focus the roundtables of matters including: export directions; development of global linkages; support for innovation; new industry sector emergence; and better creating value.

"There are many new challenges facing our industries, including the rise of low-cost competitors like China and India. The Statement will be a considered plan to tackle the challenges while also highlighting opportunity."

"The next decade will be pivotal to Australian industry. Now is the time to consolidate all that has been achieved in recent times while adjusting to powerful new trends in the global market," said Mr Macfarlane.

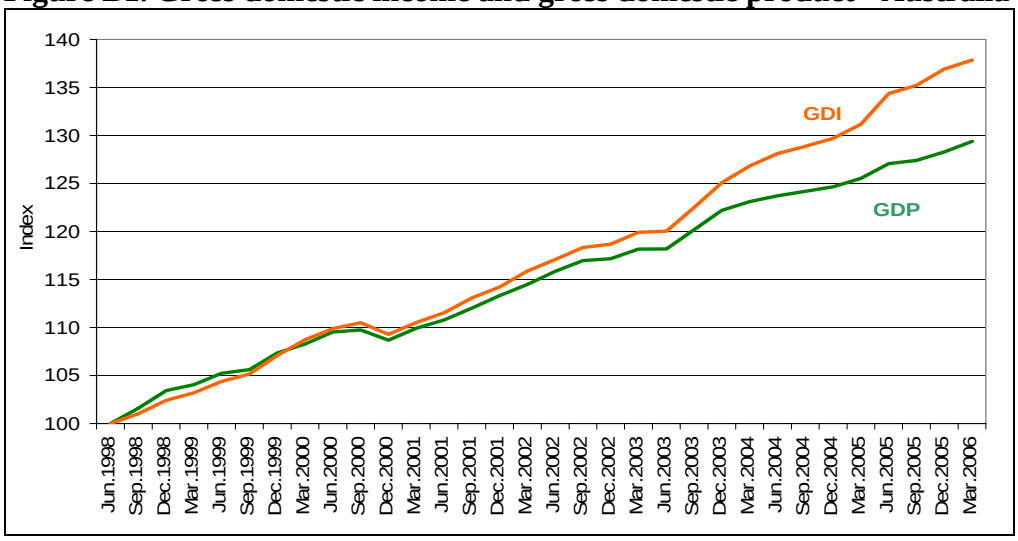
The first business roundtable will be convened in Sydney on July 26 and public submissions are also invited. All submissions can be lodged at industry.statement@industry.gov.au

Appendix B – Some Impacts of the Resources Boom on Non-Resource Sectors with a Focus on Certain Manufacturing

Summary

Very rapid increases in certain mineral commodity prices that began in earnest in early 2004 have contributed to a strong rise in Australia's terms of trade (the ratio of aggregate export prices to aggregate import prices). This has led to significantly higher growth in real gross domestic income (GDI) than real gross domestic product (GDP), as the purchasing power of our exports rise relative to the price of imports - an unambiguously positive outcome for aggregate income in Australia.

Figure B1. Gross domestic income and gross domestic product - Australia



However, higher global prices for Australia's resources exports make investment and employment prospects in the resources industries relatively more attractive. This has led to concerns being expressed in some quarters that Australia faces the risk of becoming a 'two speed' economy where industries positively affected by the resources boom will grow rapidly while those not so affected will decline as the economic resources in the economy are reallocated. Such an outcome, it is argued, would leave Australia exposed down the track to a hollowed out manufacturing sector (particularly elaborately transformed manufactures) with little chance of revitalisation once the resources boom passes.

The analysis and discussion set out below suggests that there are likely to be quite different impacts in the short term from the longer term, and that these impacts will have diverse effects across various industry groupings.

In the short run the resources sector has been unable to expand capacity sufficiently to meet the rapidly rising global demand for certain of its minerals and mineral based simply transformed manufactures. As a result, prices for these products have risen dramatically and profits in these areas are strong. This has led to strong demand for additional capacity (resource related capital and associated infrastructure capital) needed to better meet global demand for resources.

In this resource 'gearing up' stage there has been significant new activity in those industries directly (and indirectly) involved in supplying additional capacity for the resources sector. These industries include in particular the construction industry, parts of the manufacturing sector that provide the materials used by the construction industry, and certain business support services. The labour market implications of this are more likely to be intra-sector rather than inter-sector.

The increase in resource commodity prices also results in a $A exchange rate higher than would otherwise be the case, and this undermines the international competitiveness of those export industries not enjoying increased prices for their products and also of those industries that are primarily import competing – both these groups are mostly elaborately transformed manufactures.

Some of those parts of the manufacturing sector producing simply transformed manufactures based on certain mineral resources, as well as inputs into these industries, may not be negatively impacted by these short term developments, though there are some areas in this sector not enjoying such strong growth conditions. However, the production of many elaborately transformed manufactures is more exposed to the impact of a relatively strong $A on its international competitiveness because it generally has not enjoyed an increase in the price of its exports. It is more likely to find it difficult to compete both in product markets and in the labour market.

It must be acknowledged in this respect however that fortuitous timing of the US (and global) economic recovery together with the associated increase in US interest rates has meant that the $A exchange rate is not as high as it might otherwise have been had the US recovery been slower in arriving. This brake on the rise in the $A has attenuated what might otherwise have been a significantly sharper impact on Australia's exchange rate exposed industries.

If the rate of growth in demand for Australia's mineral resources continues at the extraordinary pace it has over recent years, the gearing up phase for the resources sector could be of extended duration with a more permanent reallocation of capital and labour within the manufacturing and services sectors. However, in terms of the overall size of these sectors this reallocation is likely to be relatively small.

On the other hand, should the growth rate in demand for mineral resources settle back then the strength in the gearing up phase, while perhaps still having a couple of years to run, will be unlikely to be of such duration as to permanently impact in any significant way upon the allocation of economic resources within the services and manufacturing sectors. Once the gearing up of the resources sector settles back, the nature of the economic resource reallocation within the economy is likely largely to revert back towards its earlier configuration.

In the longer term, as the increased output capacity of the resources sector is taken up there will be a need for some additional labour in that sector. However, as the resources sector is a small part of the economy and is particularly capital intensive the additional call on labour is likely to be small in relation to the numbers employed in the manufacturing and the services sectors as a whole.

1. Introduction and Theoretical Considerations

The following sections of this paper provide a high level, essentially macroeconomic and largely qualitative analysis of the likely impact of developments in the terms of trade on the Australian economy in general with specific references to likely developments of note in the manufacturing sector. The analysis does not utilise general equilibrium modelling and as a result cannot offer precise quantitative impacts on various industry sectors. It does, however, employ readily available data together with economic theory to indicate the relative magnitudes of various impacts across the economy and across certain industries. It is also important to note that there are many domestic and global developments that influence the structure of the Australian economy, and that the following discussion focuses only on the direct impact of the resources boom on that structure.

It is instructive to set out the framework and implications of the basic theoretical model of an economy's response to a permanent increase in the terms of trade (a rise in export prices relative to import prices) before going on to explore more carefully some of the assumptions and implications of that model and how they stand in relation to the emerging shape of the economic data for relevant parts of the Australian economy.

The fundamental long-term outcomes from a permanent increase in the terms of trade follow from the standard simplified Hechscher-Ohlin model with two industry sectors in the economy: (a) a purely exporting sector, and (b) an import competing sector. For simplicity of exposition, and following Henry (2006), the exporting sector is referred to in this simplified analysis as 'resources' and the purely import competing sector as 'manufacturing'. It is also assumed in the model that 'resources' is a labour using industry but is more capital intensive than 'manufacturing'. It is also assumed that in the economy as a whole labour is in fixed supply and is fully employed. The qualitative outcomes are expressed relative to what would have obtained in the absence of the increase in the terms of trade. So, where an increase (decrease) in an item is indicated that is to be interpreted as an increase (decrease) relative to what would have otherwise been the case – not necessarily an absolute increase (decrease).

Ignoring independent developments in other matters that drive economic activity, a permanent improvement in the terms of trade will result, amongst other things, in:

1. an increase in the volume output of the exporting sector and a decline in the volume output of the import competing sector;

2. consumers being better off, enjoying higher real income in aggregate;

3. an expansion in the volume of trade – imports and exports both expand; and

4. the exporting sector employing a higher proportion of the economy's capital and labour than prior to the increase in the terms of trade.

The increase in the export price of resources leads to some shift in the economic resources of the economy towards the resources sector where higher returns than hitherto are on offer. As labour is in fixed supply and fully employed there will be a

reduction in the supply of labour to the manufacturing sector. Thus output will rise in the resources sector and fall in the manufacturing sector. Exports will rise as exporting is what the resources sector does, and imports will also rise to offset the reduction in manufacturing production within the economy. The shift in labour resources may also result in some geographical migration of labour and capital to the resource rich states. Property owners in resource rich parts of the country will derive capital gains while others (eg. those holding manufacturing specific capital) may experience capital loss.

As a result of the higher return to exports, domestic and foreign shareholders in Australian 'resources' companies receive higher dividends per share and increased wealth from share price growth – outcome 2.

2. Some practical considerations

The above are comparative static results (they compare equilibrium prior to the change in the terms of trade with that once the adjustment to the new terms of trade is complete). In reality the economy does not shift from one equilibrium to another instantaneously. The reallocation of resources within the economy is associated with adjustment costs and other frictions which together may result in the adjustment taking some years to complete. That is, there will be a 'gearing up' period during which the reallocation of capital and labour towards the resources sector takes place, and this period may be characterised by quite different outcomes from those of the eventual equilibrium.

Some of the more obvious and time consuming adjustments include the construction of new housing to accommodate geographical movements in the labour force; the construction of new physical capital (eg. mining capital and associated transport infrastructure) necessary to support increased output in the resources sector; and the retraining of those elements of the labour force shifting out of one sector and into another.

The issue of the impact of adjustment through the gearing up period will be considered further below in the context of an examination of recent developments in the relevant economic data.

Also relevant is the fact that there are not simply two entirely divorced sectors in the economy. Certainly both the manufacturing and the services sectors (as defined in the ANZSIC classification system) have significant complex input/output relationships with the mining sector, and with each other. This means that an increase in output from the mining sector will also stimulate some areas of both the manufacturing and services sectors through the increased call on intermediate inputs used by the mining sector and produced by other sectors. By way of example, the current ABS input/output tables indicate that (in 1998-99) approximately 27 per cent of all mining sector intermediate inputs to production were sourced from the manufacturing sector.

However, the increased demands on the manufacturing sector will not be uniform. There will be a reallocation of resources within manufacturing towards those industries that supply goods used as intermediate inputs by the mining sector (and possibly towards some key simply transformed resource based manufacture). Such

reallocations are unlikely in general to favour the key elaborately transformed exporting industries within the manufacturing sector.

3. Some key facts about the structure of the Australian economy

In order to gain an appreciation of the approximate orders of magnitude that might be associated with the changes in the economy discussed above (and further below) it is instructive to review some of the key relevant structural characteristics of the Australian economy.

Table B1. Australian industry sector shares: 2004-05

	Share of industry value added (%)	Share of total employment (%)	Share of total investment (%)	Share of total export receipts (%)
Mining	5.0	1.1	15.9	26.7
Manufacturing	13.5	11.1	15.8	43.9
Services	77.9	84.1	60.1	22.8
Agriculture	3.6	3.7	8.2	6.6

Table B1 shows that mining accounts for only a very small proportion (1.1 per cent) of economy wide employment. While it is true that there are some resource dominated industries within the manufacturing sector as defined under ANZSIC, it remains the case that the sector overall puts a very small proportionate call on the labour resources of the economy.

Thus, when it comes to questions about the longer term impact of an increase in resources activity we would not expect a large direct shift of employment from the manufacturing (or services) sector to mining or resources in general. The National Institute of Labour Studies (NILS) (Lowry and Lester, 2005) predict that employment in the Western Australian resources sector will increase from 102,600 in 2004 to 145,100 in 2015 or by just over 41 per cent over the period. Despite this being a very large proportionate increase in that sector, it would amount to less than one half of one per cent of total employment in the manufacturing and services sectors together.

However, it is also the case that any shift of labour into mining would not be sourced uniformly from within the manufacturing and services sectors. The areas where skills matching those sought by the mining sector, and by the manufacturing and services industries from which mining sources its intermediate inputs, would be more likely to be affected. Recent work by NCVER and NILS cites consultations with the minerals sector having identified current skills shortages in:

- Mechanical fitters
- Electrical trades
- Boilermakers
- Jumbo drill operators
- Skilled miners
- General mine operators
- Process technicians

- Explosives operators
- Truck drivers
- Dragline operators
- Technical and computing personnel
- Ventilation officers
- Statutory positions (eg. mine deputies and open cut examiners)
- Supervisory and management personnel

It might be expected that some of these skill shortage areas, for example mechanical fitters, electrical trades, boilermakers, truck drivers, and computing personnel could be filled by transfers of labour from specific industries in both the manufacturing and services sectors.

The same NCVER/NILS study cites Argus (2004) research suggesting that during the project design/construction stage up to 5 times the demand for labour that would obtain in the operations/maintenance stage could be expected, though this would not necessarily be formally employed by the resources sector itself as much of this labour would remain within the services and manufacturing industries that were providing goods and services for mining design/construction activities. Figures B2 and B3 show that the mining sector's shares of total business investment, and of employment, have both recently grown very rapidly, although the latter has done so from a very small base (less than 1 per cent).

Figure B2. Mining sector share of total business investment

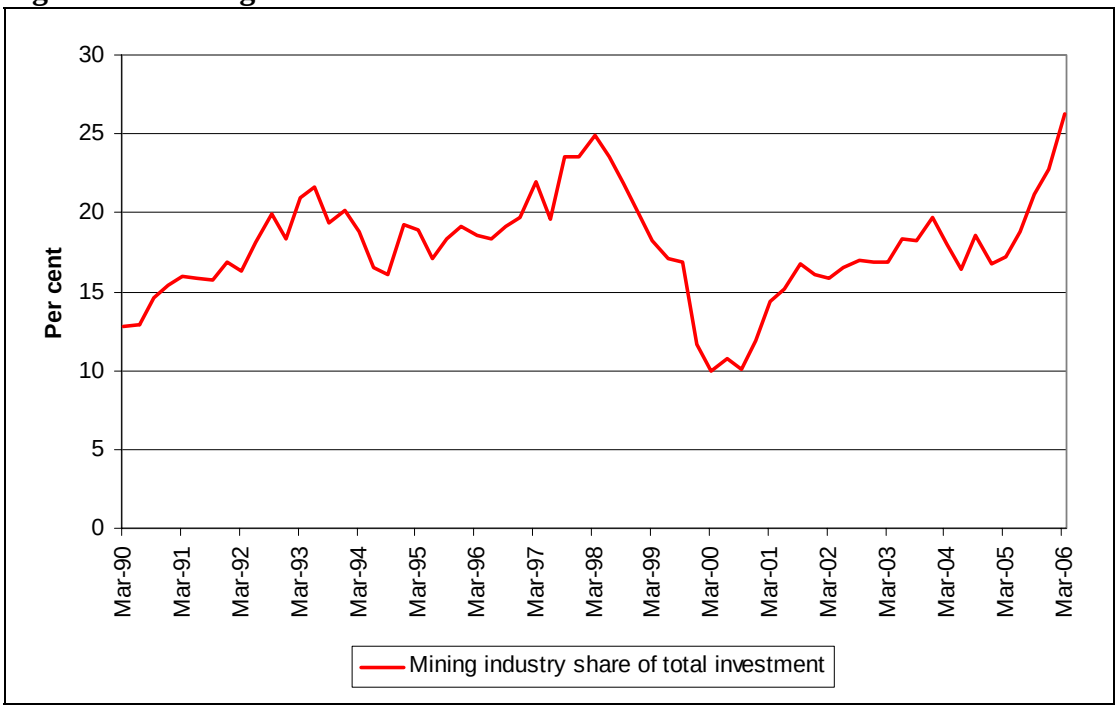
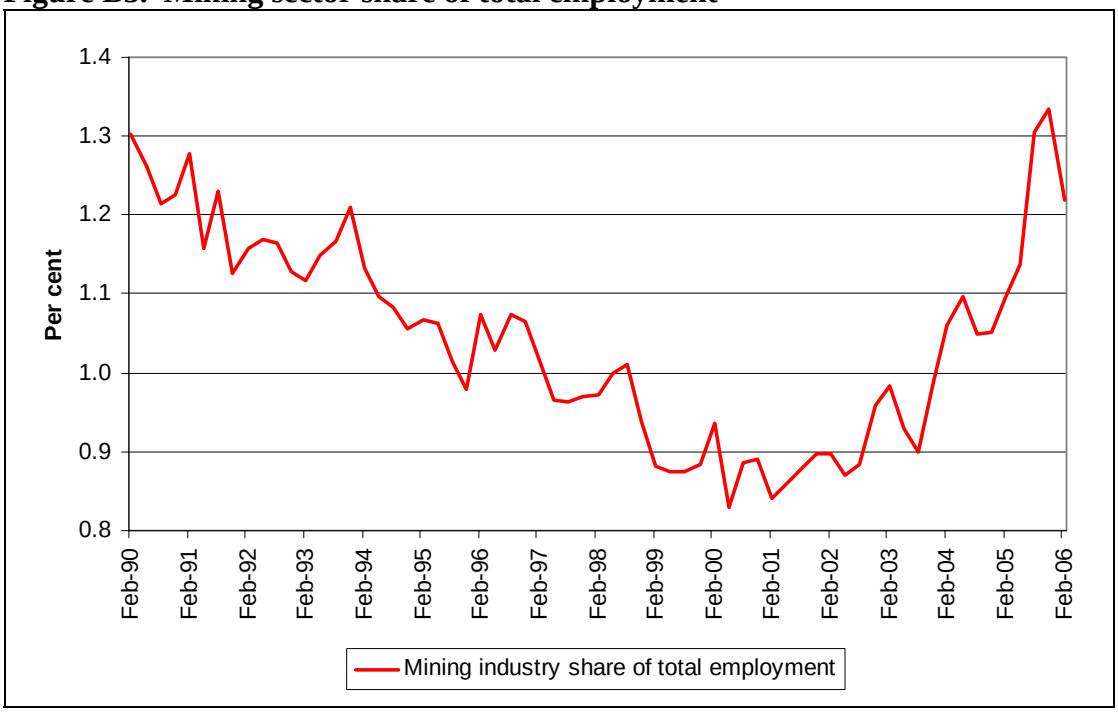
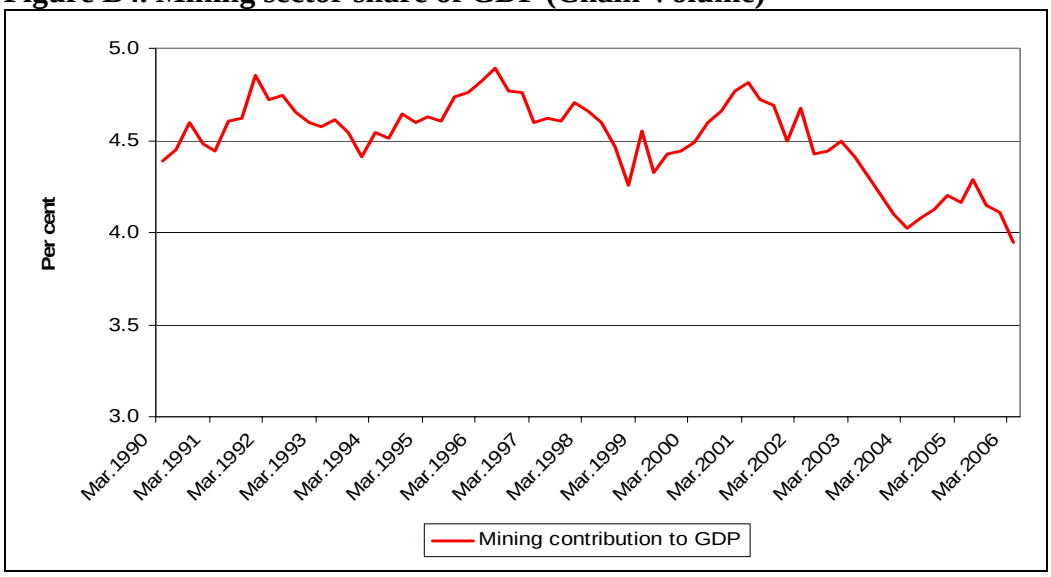


Figure B3. Mining sector share of total employment



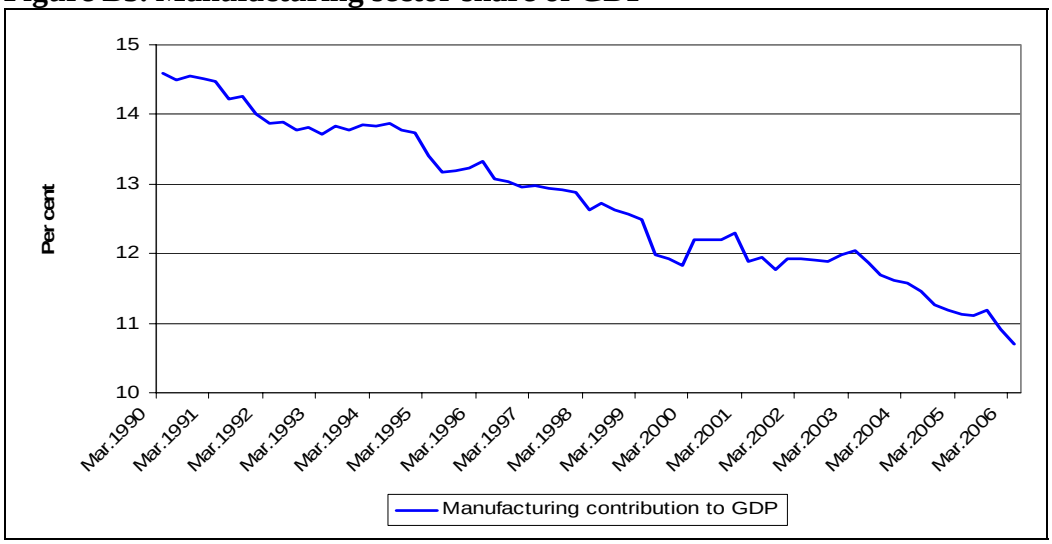
However, it is clear from Figure B4 that much of this shift in the share of employment and business investment towards the mining sector is related to 'gearing up' in the sector as there is little or no evidence of a corresponding increase in the volume of output to this time; indeed mining's share of GDP has fallen significantly over the past 5 years.

Figure B4. Mining sector share of GDP (Chain Volume)



Time series data (Figure B5) show the manufacturing share of industry gross value added to have declined at a trend rate of around 1.9 per cent per annum since 1990, and this trend has been largely consistent over the period. It is true that over the most recent two quarters the fall in the sector's share of GDP has been quite steep, but it is too early to conclude that this is directly symptomatic of the resources boom – see for example a very similar drop in share in 1999.

Figure B5. Manufacturing sector share of GDP



4. Intermediate inputs into mining

When the resources sector booms there is a direct substitution effect out of non-resources based industries and into resource based industries. Capital and labour flow into the resources sector and out of the other sectors at an aggregate level, although the size of the flow of labour is likely to be very small (discussed above). However, indirect effects may work quite strongly in the other direction, stimulating certain non-resource based industries as they increase the production of intermediate inputs into resource industries. This stimulatory effect on certain non-resource based industries is likely to be much larger in the short run as the resources sector 'gears-up' for higher levels of production.

The input/output (I/O) tables for Australia suggest that the manufacturing sector as a whole is the direct source of about 27% of the mining sector's use of intermediate inputs. Nearly 50% of the manufacturing product that forms a direct intermediate input to mining arises from just 3 of the 55
4-digit manufacturing industries – viz: agricultural, mining etc machinery; other machinery and equipment; and petroleum and coal products – and about 83% from the 10 most significant. The value of manufacturing production used directly as an intermediate mining input makes up about 2.5% of the value of all manufacturing production.

The 2 digit manufacturing industry experiencing the highest growth in value added over the past 2 years is non-metallic mineral products, with real value added growth of about 24 per cent over the two years together, and more than 18 per cent growth March 2006 on March 2005. The I/O tables indicate that the value of output from this industry amounts to more than 4 per cent of the total value of manufacturing output. The 2 digit manufacturing industry with the next highest growth over the year to March 2006 is printing, publishing and recorded media at around 3.7 per cent. Machinery and equipment recorded 0.4 per cent growth over the year and all others recorded a decline.

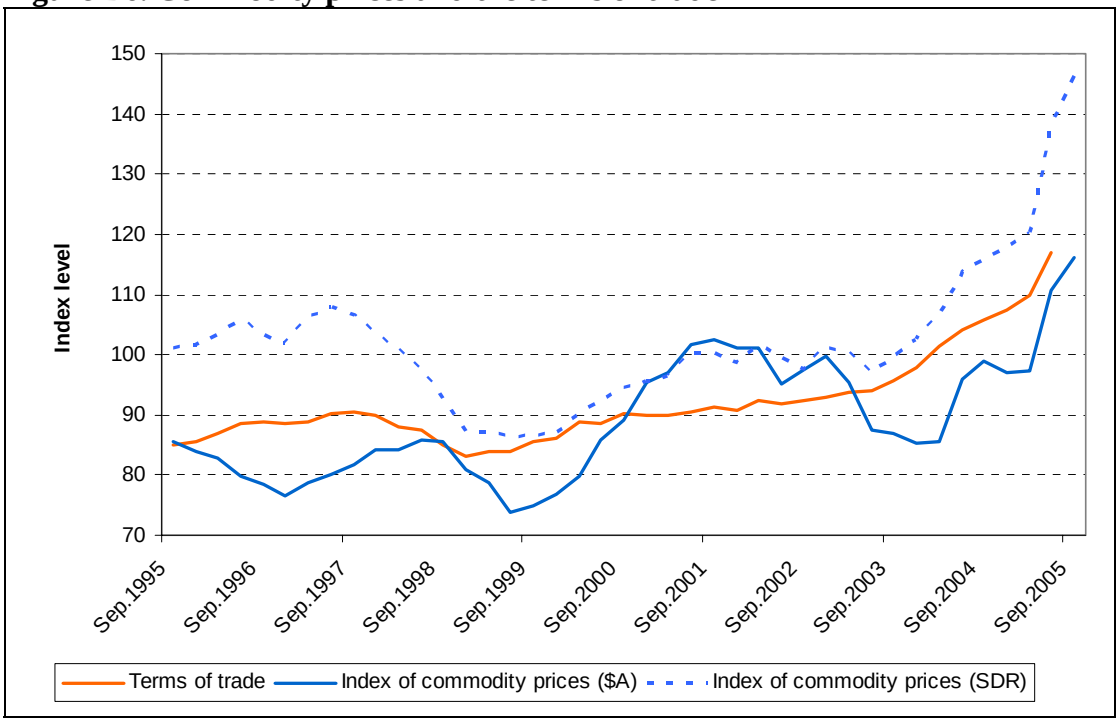
Most of the product from non-metallic mineral products (bricks, cement etc) is used as an intermediate input into the construction industry which itself has experienced real value added growth of nearly 11 per cent over the past two years and more than 7 per cent over the twelve months to March 2006. These data reflect the direct and indirect impact of the gearing up of the resources sector evident in the very rapid recent increase in its share of business investment.

It is unclear how much longer these strong growth rates in the construction and the non-metallic minerals sectors will persist. That depends upon how quickly resources sector capacity can catch up with demand for minerals exports.

5. Exchange rate issues

The strong growth in demand for key Australian resource commodities in the face of limited global supply has driven commodity prices strongly upward. This has been a key factor in the recent strong growth in Australia's terms of trade (Figure B6) and has a direct upward influence on the value of the $A as transactions demand for the currency rises (as well as an increase in demand for Australian resource based assets).

Figure B6. Commodity prices and the terms of trade



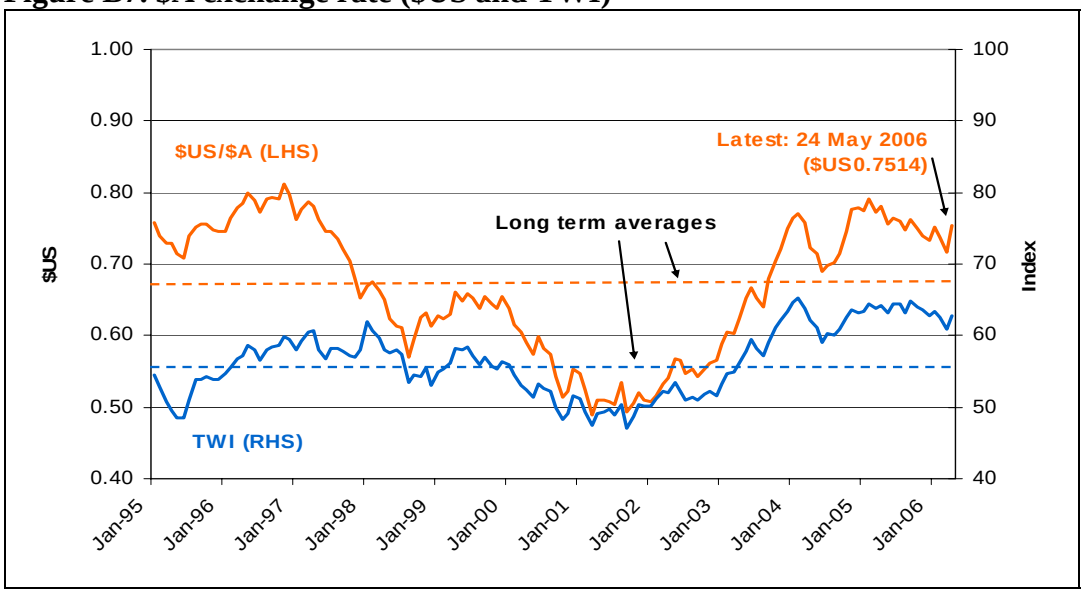
All other things equal this upward pressure on the $A makes Australia's manufactured exports less competitive either because those export goods are denominated in $A and therefore become more expensive to foreign buyers, or because the $A return on those exports are diminished if they are denominated in a foreign currency. At the same time, the higher $A reduces the price of imports relative to domestically produced goods, reducing the competitiveness of the Australian import competing sector.

It should be noted however that resource exporting industries also face the same exchange rate effect, though for those resources enjoying the price rises it is more than offset by the increased prices and demand for the product. Also, while a rise in

the value of the $A has a negative effect on Australia's competitiveness, it also results in many cases in cheaper capital and material input costs where these are imported.

An examination of the time series for the value of the $A (Figure B7) and Australia's terms of trade confirms a general positive correlation between the two, although that relationship was reversed for a short period between 1999 and 2001 when the $A continued to fall in the presence of a rising terms of trade. This anomalous behaviour was largely associated with the impact of the US asset boom of the late 1990's on global capital markets. The usual relationship between the two was resumed in 2002.

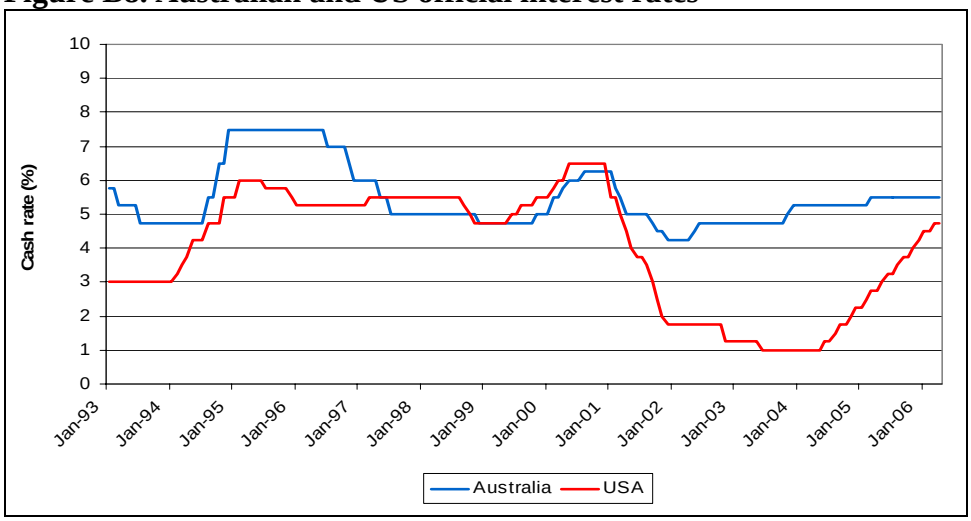
Figure B7. $A exchange rate ($US and TWI)



In the Reserve Bank of Australia 1991 Research Discussion Paper titled "*Australia's Real Exchange Rate – Is it Explained by the Terms of Trade or by Real Interest Differentials*" by Gruen and Wilkinson, it is estimated that a 1 per cent increase in the terms of trade will lead to a real exchange rate appreciation of between 0.3 and 0.5 per cent, while a 1 percentage point increase in the real interest differential will lead to a real exchange rate appreciation of between 2 and 3.5 per cent. These figures suggest that since 2004 the terms of trade effect on the real exchange rate would have been very significantly offset by the reduction in the interest differential. Indeed, over that period there has been little systematic trend movement in the value of the $A despite the very strong increase in the terms of trade.

However, there are many other factors that influence the value of the $A. For example, during the period 2002 to 2005 when US official interest rates (as well as most other rates around the world) were well below those in Australia (see Figure B8) the value of the $A was very strong – stronger than justified solely by the relatively modest increase in the terms of trade at that time - as footloose capital sought out the higher yields offered by Australian securities.

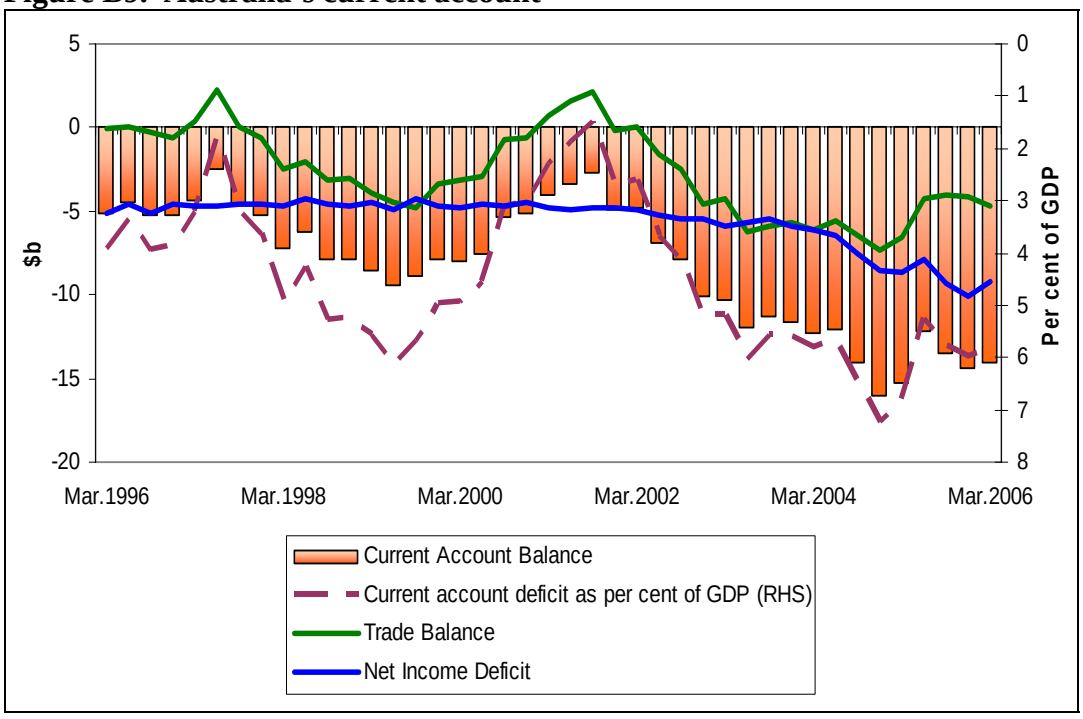
Figure B8. Australian and US official interest rates



6. Impact on the Current Account

There are several avenues through which the current commodity price boom has, and may further, influence the Current Account. The most obvious and direct of these is the positive impact higher prices for our commodity exports have on the trade balance. The trade balance component of the Current Account balance is shown by the green line in Figure B9. The impact of the sudden and very substantial rise in coal and iron ore prices during the first half of 2005 can be seen in the significant reduction in the March and June 2005 quarterly trade deficits.

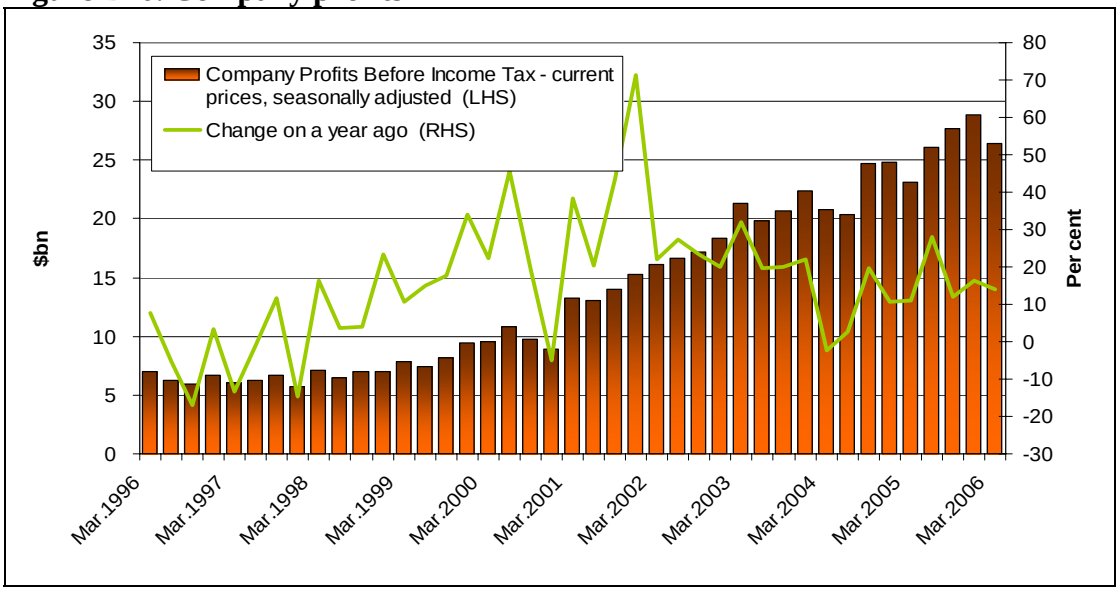
Figure B9. Australia's current account



The direct and indirect impacts of the current very high prices for many resource commodities are giving rise to unusually high profitability, particularly in the resources sector, but in certain other areas of business also (Figure B10). As a

significant part of the resources sector is directly (and indirectly) owned by foreigners much of the Current Account benefit arising from the increased value of Australia's resource exports is offset in that Account by the proportion of these profits being repatriated (on an accrual basis) to foreign owners of these businesses. That is, the net income deficit (the difference between the outflows of interest payments and dividends to foreigners, and the inflow of interest and dividends arising from Australia's holdings of overseas assets - shown by the blue line in Figure 8) has grown in line with the increase in business profits.

Figure B10. Company profits



Other influences on the Current Account that have their origins in the increase in Australia's terms of trade arise in the context of imports. The increase in the terms of trade gives rise to higher growth in real gross domestic income than in real gross domestic product. This higher growth in income allows for increased expenditure on imports. The increased demand for Australia's minerals and mineral related manufactures means that capital stocks in these industries need to be augmented. As much of this capital (as well as some intermediate inputs) are imported into Australia, imports of capital, intermediate inputs and final consumption goods can be expected to rise, especially during the 'gearing up' stage of the expansion in resources capacity. Once the new capacity becomes fully operational a resultant lift in export volumes can be expected.

The overall impact on the Current Account is ambiguous. The higher prices for our resource exports improve the trade balance and higher GDI improves the scope for national savings. Working in the opposite direction is additional imports of capital and intermediate goods and higher imports of certain manufactured final consumption goods. The net income deficit component of the Current Account also grows as foreigners owning resource based assets in Australia repatriate more by way of dividends.

Appendix C – Australian Government Policies and Programs

Major Project Facilitation (MPF) service

The MPF service supports major investment projects by providing information, advice and support for clients through the approvals process.

Supported Skills Program

The Supported Skills Program is designed to encourage international firms to choose Australia as a location for foreign direct investment. It provides streamlined immigration arrangements that allow companies which make a significant investment in Australia to bring key managerial and specialist employees to help establish operations in Australia.

Innovation Investment Fund (IIF) Program

The IIF Program seeks to promote the commercialisation of Australian R&D and the development of a self sustaining venture capital market, through the provision of venture capital to early stage, high-tech companies. The IIF currently has a total of $358 million to support new technology companies, including $138 million of private sector funding. In May 2006 the Government announced it will commit $200 million for a further round of funding of the IIF. The new round of funding will involve appointing up to two new managers each year for five consecutive years with $40 million per annum in funding available for successful fund managers.

Pooled Development Funds (PDF) Program

The PDF Program seeks to increase the supply of equity capital for growing Australian small and medium-sized enterprises. PDFs are private sector investment companies established under the PDF Act which raise capital from investors and use it to invest in Australian companies. PDF investments in eligible Australian companies receive a more competitive tax treatment than might otherwise apply. In May 2006 the Government announced that the existing PDF programme will be closed to new registrations after 31 December 2006. It will be progressively replaced by a new early stage venture capital limited partnership investment vehicle.

Venture Capital Limited Partnership Framework

The Venture Capital Limited Partnership (VCLP) Framework provides an internationally competitive framework for encouraging investment across the whole spectrum of venture capital opportunities, including expansion stage investments and management buy-outs. In May 2006 the Government announced that the operation of the existing VCLPs will be enhanced by removing and relaxing a range of restrictions to give greater commercial flexibility without undermining the intent and integrity.

In May 2006 the Government also announced an early stage venture capital limited partnership (ESVCLP) investment vehicle. The ESVCLP will provide flow through tax treatment and a complete tax exemption for income, both revenue and capital, received by its domestic and foreign partners in early stage investments.

Commercial Ready

Commercial Ready supports innovation and its commercialisation. It provides over $200 million per year in competitive grants to small and medium-sized businesses to support a wide range of project activities, extending from initial research and development (R&D), through proof of concept to early-stage commercialisation activities.

Commercialising Emerging Technologies (COMET)

COMET supports early-growth stage and spin off companies to successfully commercialise their innovations. COMET is delivered through private sector Business Advisers who help customers commercialise innovation through: raising capital from business angels or venture capital funds; borrowing money; licensing; and joint ventures or strategic alliances.

Research and Development (R&D) Tax Concession

The R&D Tax Concession is a broad-based, market driven tax concession which allows companies to deduct up to 125% of qualifying expenditure incurred on R&D activities when lodging their corporate tax return. A 175% Incremental (Premium) Tax Concession for additional investment in R&D, and an R&D Tax Offset for small companies enabling them to 'cash out' any tax losses, are also available.

Export Market Development Grants (EMDG) scheme

The EMDG scheme is the Australian Government's principal financial assistance program for aspiring and current exporters. The scheme is administered by Austrade and is aimed at encouraging small and medium sized Australian businesses to develop export markets by reimbursing up to 50% of export promotion expenses above $15,000.

Export Finance and Insurance Corporation (EFIC)

The EFIC provides competitive finance and insurance services to Australian exporters and Australian companies investing in new projects overseas. EFIC provides medium to long-term finance facilities to the buyers of Australian exports, or to their financiers, to assist with the purchase of exports, usually capital good and/or services rather than commodities or other consumables.

Action Agendas

Action Agendas encourage firms to export, invest and innovate more in response to the dynamic Australian economic environment. They help industries develop strategies for growth, agree on priorities, and commit to change. Action Agenda industries work with government on priorities for reform in areas such as education and training, workplace relations, regulations, innovation and cutting red tape.

Certain Inputs to Manufacture (CIM) Program

The CIM Program provides import duty concessions on certain imported raw materials, intermediate goods as well as prescribed metal materials and goods. The goods must be intended for use in export enhancement or import replacement activities that would generate a quantifiable and significant benefit to Australia.

Tradex

Tradex assists Australian industry by allowing goods to be imported without up-front payment of customs duty or other taxes, provided that the goods are subsequently exported or incorporated in goods that are exported, within one year, or another approved period.

Biofuels Capital Grants Program

The $37.6 million *Biofuels Capital Grants* program was announced by the Government in July 2003 with the aim of increasing the availability of biofuels for Australia's domestic transport market. The *Biofuels Capital Grants* program was a competitive, merit-based program which provided one-off capital grants for the development of new or expanded biofuels production capacity.

The Biofuels Capital Grants program is now closed and all funds have been committed.

Ethanol Production Grants

The *Ethanol Production Grants* program was introduced in September 2002 to provide a targeted means of maintaining the use of biofuels in the Australian transport market. Grants are payable to ethanol producers at a rate of 38.143 cents per litre for eligible ethanol.

Ethanol producers that meet the eligibility requirements may submit an application for funding at any time during the life of the program. The program will continue until June 2011.

Industry Cooperative Innovation Program (ICIP)

The ICIP is a $25 million commitment to encourage business-to-business cooperation on innovation projects that enhance productivity, growth and the international competitiveness of Australian industries.

Tariff Concession System (TCS)

The TCS assists industry to become more internationally competitive and reduces costs to the general community by providing for duty free entry of certain goods where there is no local industry to protect that produces those goods. During 2004-05 the Australian Government removed the 3% revenue duty on business inputs subject

to a Tariff Concession Order (TCO). The effect of this measure will be to provide savings to industry of approximately $300 million per annum.

Automotive sectoral assistance

The Automotive Competitiveness and Investment Scheme (ACIS) commenced in 2001. It is designed to provide transitional assistance to encourage competitive investment and innovation in the Australian automotive industry in the context of trade liberalisation. ACIS is expected to deliver an estimated $7 billion to the Australian automotive industry over the period 2001 to 2015.

The ACIS Motor Vehicle Producer Research and Development Scheme (MVP R&D Scheme) will run for the duration of ACIS Stage 2 (2005-2010 inclusive). It is expected to cost $150 million and aims to increase the amount of research and development undertaken by motor vehicle producers in Australia. All motor vehicle producers registered as ACIS participants are eligible to take part in the MVP R&D Scheme.

Textiles, Clothing and Footwear sectoral assistance

The Textiles, Clothing and Footwear (TCF) TCF Post-2005 (SIP) Scheme is a ten-year scheme to foster the development of a sustainable and internationally competitive TCF manufacturing industry and TCF design industry in Australia by providing incentives which will promote investment and innovation. The Scheme provides for two grant types which provide subsidies for capital expenditure and innovation activities.

Pharmaceuticals sectoral assistance

The Governments $150 million Pharmaceuticals Partnerships Program will support an additional $500 million (over 2004-05 to 2009-10) of high quality R&D in Australia by originator, generic and biotechnology companies. By supporting the portfolio of R&D undertaken by a company and its related bodies corporate, the program supports company growth and adds to critical mass which can help anchor manufacturing activity in Australia. From the Program the Government will specifically provide $10 million to establish a Small Scale Mammalian Cell Production Facility to bridge the infrastructure gap in the national biotechnology manufacturing chain.

Supplier Access to Major Projects (SAMP) Program

The SAMP program provides funds for specialist consultants to work with project developers to identify supply opportunities for capable and competitive Australian companies. SAMP funding is provided for major projects of national or regional economic significance. The Industry Capability Network Limited (ICNL) administers the SAMP program on behalf of the Australian Government.

Budget 2006–07 provides an additional $4.2 million over 4 years for SAMP to increase opportunity for Australian industry participation in major projects overseas. Since its inception in July 1997, SAMP funds have assisted 88 projects at a cost of $5.9 million. ICNL estimates that under SAMP, Australian companies have won

contracts worth around $1.6 billion for work that might otherwise have gone to overseas competitors.

Industry Capability Network Limited (ICNL)

The ICNL's core functions are to nationally coordinate the State based Industry Capability Network including New Zealand, manage the Industry Capability Showcase (a national data base on Australian industry capability), and to administer the SAMP Program for the Australian Government. The ICNL also develops and markets information on Australian industry capability.

Enhanced Project By-law Scheme (EPBS)

The EPBS provides concessions from tariff duty for eligible goods for inclusion in projects, where expenditure on capital goods for the project is $10 million or more. Applicants in implementing an approved Australian Industry Participation (AIP) Plan show how they provide Australian suppliers with full, fair and reasonable opportunity to participate in major projects.

Appendix D – Key Manufacturing Indicators (statistical tables)

Industry Gross Value Added, Chain Volume Measures ($ million)

	1996	2001	2002	2003	2004	2005	% Year on Year Change	Ave Annual Growth (since 1996)
Food, beverage and tobacco	16056	18560	19070	18591	19087	19116	0.2%	2.0%
Textile, clothing, footwear	4649	3964	3692	3297	2966	2422	-18.3%	-7.0%
Wood and paper products	6351	6729	6797	6896	7058	6831	-3.2%	0.8%
Printing, publishing and recorded media	8455	9782	9786	10124	10418	10066	-3.4%	2.0%
Petroleum, coal, chemical, etc	11509	12548	13058	13247	12751	12649	-0.8%	1.1%
Non-metallic mineral products	3134	3768	4501	4455	4625	5164	11.7%	5.7%
Metal products	16253	16165	17794	17841	17530	17497	-0.2%	0.8%
Machinery and equipment	14406	15784	16277	18043	17790	19360	8.8%	3.3%
Other manufacturing	3003	3630	4186	4285	4391	3734	-15.0%	2.5%
Total Manufacturing	**83152**	**90553**	**95009**	**96720**	**96616**	**96838**	**0.2%**	**1.7%**
Gross value added at basic prices	577092	697986	725920	746543	773050	793453	2.6%	3.6%
Taxes less subsidies on products	57966	67513	70913	74550	76846	77503	0.9%	3.3%
Statistical discrepancy (P)	-220	-145	-1354	942	-1410	534	-137.9%	-210.4%
Gross domestic product	**634533**	**765407**	**795520**	**821988**	**848507**	**871489**	**2.7%**	**3.6%**

Source: Australian National Accounts (ABS Cat No 5206.0)

Manufacturing Exports (FOB) Calendar Year ($m) Original Data

	1996	2001	2002	2003	2004	2005	% Year on Year Change	Ave Annual Growth (since 1996)
Food, Beverage and Tobacco Manufacturing	10730	17573	16754	14702	16889	16935	0.3%	5.2%
Textile, Clothing, Footwear and Leather Manufacturing	2745	2854	2870	2380	2082	1748	-16.0%	-4.9%
Wood and Paper Product Manufacturing	1017	1675	1897	1822	1988	1996	0.4%	7.8%
Printing, Publishing and Recorded Media	414	553	610	564	553	528	-4.5%	2.7%
Petroleum, Coal, Chemical and Associated Product Manufacturing	5309	8654	8013	7886	8249	9838	19.3%	7.1%
Non-Metallic Mineral Product Manufacturing	388	367	322	311	305	314	3.0%	-2.3%
Metal Product Manufacturing	15440	21006	20019	18764	19980	21736	8.8%	3.9%
Machinery and Equipment Manufacturing	11284	16573	16563	14660	14217	15407	8.4%	3.5%
Other Manufacturing	726	876	1111	1207	1253	1382	10.3%	7.4%
Total Manufacturing	**48053**	**70131**	**68159**	**62296**	**65516**	**69884**	**6.7%**	**4.2%**

Source: International Trade in Goods and Services (ABS Cat No 5368.0)

Manufacturing Imports (Customs Value) Calendar Year ($m) Original Data

	1996	2001	2002	2003	2004	2005	% Year on Year Change	Ave Annual Growth (since 1996)
Food, Beverage and Tobacco Manufacturing	3337	5313	5624	5953	6244	6743	8.0%	8.1%
Textile, Clothing, Footwear and Leather Manufacturing	5276	7291	7764	7485	7776	8175	5.1%	5.0%
Wood and Paper Product Manufacturing	2496	3348	3650	3712	3781	3767	-0.4%	4.7%
Printing, Publishing and Recorded Media	1560	1917	2239	2072	2076	2043	-1.6%	3.0%
Petroleum, Coal, Chemical and Associated Product Manufacturing	12564	19860	20524	21452	24331	28454	16.9%	9.5%
Non-Metallic Mineral Product Manufacturing	1015	1430	1559	1603	1655	1606	-3.0%	5.2%
Metal Product Manufacturing	4851	8041	9100	9873	10250	12221	19.2%	10.8%
Machinery and Equipment Manufacturing	40382	57687	64016	64778	70349	75230	6.9%	7.2%
Other Manufacturing	2049	3603	4088	4224	4773	5105	7.0%	10.7%
Total Manufacturing	**73530**	**108490**	**118564**	**121152**	**131235**	**143344**	**9.2%**	**7.7%**

Source: International Trade in Goods and Services (ABS Cat No 5368.0)

Australia's Exports of ETMs and STMs to the World by Calendar Year (A$'000)

Trec2-TREC	1996	2001	2002	2003	2004	2005	% Year on Year Change	Ave Annual Growth (since 1996)
Total Merchandise Exports to the World	76,983,091	122,530,212	119,471,822	107,955,989	117,757,410	138,714,613	17.8%	6.8%
- Manufactures	**25,588,320**	**38,286,835**	**37,624,373**	**33,510,467**	**34,028,435**	**36,988,453**	**8.7%**	**4.2%**
- STMs	7,251,797	12,464,482	12,040,202	9,967,832	10,136,970	10,961,593	8.1%	4.7%
- ETMs	18,336,523	25,822,353	25,584,171	23,542,635	23,891,465	26,026,860	8.9%	4.0%

Source: DFAT Stars Database

Australia's Imports of ETMs and STMs from the World by Calendar Year (A$'000)

Sitc3-Supertrec	1996	2001	2002	2003	2004	2005	% Year on Year Change	Ave Annual Growth (since 1996)
Total Merchandise Imports from the World	78,409,876	117,710,082	127,666,221	129,983,181	141,246,492	155,808,060	10.3%	7.9%
- Manufactures	**67,548,489**	**98,030,752**	**107,194,823**	**108,258,243**	**117,182,046**	**126,440,319**	**7.9%**	**7.2%**
- STMs	8,601,481	11,376,682	11,533,679	11,304,509	11,846,134	13,016,959	9.9%	4.7%
- ETMs	58,947,008	86,654,070	95,661,144	96,953,734	105,335,912	113,423,360	7.7%	7.5%

Source: DFAT Stars Database

Units of foreign currency per A$ (average over calendar year)

	1996	2001	2002	2003	2004	2005	% Year on Year Change	Ave Annual Growth (since 1996)
United States Dollar	0.7846	0.5128	0.5461	0.6574	0.7364	0.7606	3.3%	-0.3%
Trade Weighted Index*	57.6417	49.2917	51.6814	58.0919	62.2062	63.8456	2.6%	1.1%

Source: Reserve Bank of Australia

*May 1970 = 100

Domestic Final Demand

	1995-96	2000-01	2001-02	2002-03	2003-04	2004-05	% Year on Year Change	Ave Annual Growth (since 1995-96)
Domestic final demand chain price index	85.9	94.4	96.8	98.8	100.0	102.4	2.4%	2.0%

Source: Australian National Accounts (ABS Cat No 5206.0)

Manufacturing Employment, Full and Part Time, Persons ('000)

	May-1996	May-2002	May-2003	May-2004	May-2005	May-2006	% Year on Year Change	Ave Annual Growth (since 1996)
Food, Beverage and Tobacco Manufacturing	182.0	182.8	173.0	178.5	196.6	178.2	-9.4%	-0.2%
Textile, Clothing, Footwear and Leather Manufacturing	96.1	74.0	66.8	59.2	52.5	54.1	3.1%	-5.6%
Wood and Paper Product Manufacturing	65.7	71.9	73.4	75.8	70.1	67.8	-3.3%	0.3%
Printing, Publishing and Recorded Media	109.7	104.6	115.2	111.1	109.3	102.2	-6.5%	-0.7%
Petroleum, Coal, Chemical and Associated Product Manufacturing	96.2	110.8	105.5	100.8	91.4	84.0	-8.1%	-1.3%
Non-Metallic Mineral Product Manufacturing	46.0	41.0	48.7	43.5	39.4	45.0	14.1%	-0.2%
Metal Product Manufacturing	180.2	163.3	161.3	148.5	149.9	168.1	12.2%	-0.7%
Machinery and Equipment Manufacturing	246.3	242.6	245.7	241.1	211.2	236.5	12.0%	-0.4%
Other Manufacturing	81.6	85.9	82.0	81.1	71.6	67.2	-6.1%	-1.9%
Manufacturing - nfd	0.0	16.8	20.5	53.9	81.8	58.4	-28.6%	n/a
Manufacturing	**1103.7**	**1093.7**	**1092.0**	**1093.5**	**1073.9**	**1061.5**	**-1.1%**	**-0.4%**

Source: Labour Force, Australia, Detailed, Quarterly (ABS Cat No 6291.0.55.003)

Note: Other Manufacturing and Manufacturing - nfd include figures which are subject to sampling variability. There are no figures available pre August 2000 for Manufacturing – nfd

Average Weekly Earnings, Industry, Australia (Dollars) - Original - Persons, Full Time Adult Total Earnings

	Feb-1996	Feb-2001	Feb-2002	Feb-2003	Feb-2004	Feb-2005	Feb-2006	% Year on Year Change	Ave Annual Growth (since 1996)
Manufacturing	700.1	787.3	859.4	941.5	993.2	1013.2	1057.1	4.3%	4.2%
All Industries	707.1	844.5	897.5	940.3	993.9	1045.3	1085.1	3.8%	4.4%

Source: Average Weekly Earnings, Australia (ABS Cat No 6302.0)

Labour Productivity, Gross value added per hour worked – By industry (index)(a)

	1995-96	2000-01	2001-02	2002-03	2003-04	2004-05	% Year on Year Change	Ave Annual Growth (since 1996)
Agriculture, forestry and fishing	64.0	81.2	81.7	74.3	100.0	96.4	-3.6%	4.7%
Mining	94.4	125.7	125.3	113.0	100.0	94.7	-5.3%	0.0%
Manufacturing	**76.7**	**89.2**	**94.5**	**94.5**	**100.0**	**97.2**	**-2.8%**	**2.7%**
Electricity, gas and water supply	93.6	113.6	107.2	104.7	100.0	97.4	-2.6%	0.4%
Construction	84.7	83.7	92.1	102.4	100.0	97.9	-2.1%	1.6%
Wholesale trade	72.9	89.8	93.0	95.9	100.0	105.4	5.4%	4.2%
Retail trade	80.9	93.4	94.5	95.5	100.0	99.9	-0.1%	2.4%
Accommodation, cafes and restaurants	82.7	87.8	93.0	97.6	100.0	99.2	-0.8%	2.0%
Transport and storage	80.3	88.7	94.0	101.5	100.0	101.8	1.8%	2.7%
Communication services	63.4	82.8	94.1	98.0	100.0	96.0	-4.0%	4.7%
Finance and insurance	78.6	93.5	94.5	96.1	100.0	98.5	-1.5%	2.5%
Health and community services	89.3	93.8	96.0	98.6	100.0	100.4	0.4%	1.3%
Cultural and recreational services	86.0	94.6	91.2	90.9	100.0	99.5	-0.5%	1.6%
All industries	**82.5**	**92.8**	**96.4**	**97.7**	**100.0**	**99.4**	**-0.6%**	**2.1%**

Source: Australian System of National Accounts (ABS Cat No 5204.0)

Business Expenditure on Research and Development ($million), Current prices

	1995-96	2000-01	2001-02	2002-03	2003-04	% Year on Year Growth	Av Annual growth (since 1995-96)
Manufacturing industry subdivision							
Food, beverage and tobacco manufacturing	291	202	231	237	260	9.7%	-1.4%
Textile, clothing, footwear and leather manufacturing	26	27	22	28	41	46.4%	5.9%
Wood and paper product manufacturing	184	100	84	98	126	28.6%	-4.6%
Printing, publishing and recorded media	23	17	18	17	26	52.9%	1.5%
Petroleum, coal, chemical and associated product manufacturing	327	395	430	517	584	13.0%	7.5%
Non-metallic mineral product manufacturing	82	41	74	87	97	11.5%	2.1%
Metal product manufacturing	326	221	256	342	345	0.9%	0.7%
Motor vehicle and part and other transport equipment manufacturing	415	473	555	731	868	18.7%	9.7%
Photographic and scientific equipment manufacturing	131	220	279	305	333	9.2%	12.4%
Electronic and electrical equipment and appliance manufacturing	389	430	429	362	389	7.5%	0.0%
Industrial machinery and equipment manufacturing	128	108	134	165	201	21.8%	5.8%
Other manufacturing	16	21	24	21	24	14.3%	5.2%
Total manufacturing	**2339**	**2255**	**2536**	**2910**	**3294**	**13.2%**	**4.4%**
TOTAL BERD	4321	4983	6192	6571	7220	9.9%	6.6%
Manufacturing's Share %	54.1%	45.3%	41.0%	44.3%	45.6%		

Source: Research and Experimental Development, Businesses, Australia (ABS Cat No 8104.0)

Materials Used in Manufacturing Industries, ANZSIC Subdivision and Group Indexes

Index Number (As at December)	1996	2001	2002	2003	2004	2005	% Year on Year Change	Ave Annual Growth (since Dec 1996)
Manufacturing division	**106.1**	**132.0**	**131.3**	**126.4**	**138.6**	**150.4**	**8.5%**	**4.0%**
Food, beverages and tobacco (21)	104.9	138.8	135.8	137.6	143.7	142.0	-1.2%	3.4%
Textiles and textile products (221-222)	91.9	104.2	112.1	100.8	100.2	99.2	-1.0%	0.9%
Knitting mills and clothing (223-224)	105.2	110.5	108.3	103.2	104.9	102.8	-2.0%	-0.3%
Footwear (225)	111.0	132.0	130.1	124.4	121.6	120.6	-0.8%	0.9%
Leather and leather products (226)	95.9	107.1	103.9	89.9	89.8	84.8	-5.6%	-1.4%
Log sawmilling and other wood products (231-232)	113.2	137.1	130.1	125.5	125.9	132.6	5.3%	1.8%
Paper and paper products (233)	97.8	111.5	104.5	103.5	101.3	104.7	3.4%	0.8%
Printing, publishing and recorded media (24)	106.7	118.8	116.9	111.9	107.8	108.6	0.7%	0.2%
Petroleum and coal products (251-252)	123.8	168.8	184.5	163.6	229.1	279.9	22.2%	9.5%
Chemicals (253-254)	110.5	123.4	118.6	116.4	121.5	122.4	0.7%	1.1%
Rubber and plastics (255-256)	113.5	122.9	123.4	116.6	140.0	135.7	-3.1%	2.0%
Non-metallic mineral products (26)	112.5	112.7	122.7	127.3	135.9	137.7	1.3%	2.3%
Basic metal products (271-273)	91.7	105.3	104.8	101.3	114.5	139.1	21.5%	4.7%
Fabricated metal products (274-276)	104.9	110.3	110.5	111.7	125.8	136.9	8.8%	3.0%
Transport equipment and parts (281-282)	109.8	125.0	125.4	120.8	125.7	131.0	4.2%	2.0%
Electronic equipment and other machinery (283-286)	102.3	107.3	107.4	106.5	116.6	122.5	5.1%	2.0%
Other manufacturing (29)	110.3	125.5	124.2	120.2	131.6	138.7	5.4%	2.6%

Source: Producer Price Indexes (ABS Cat No 6427.0)

Articles Produced by Manufacturing Industries, Manufacturing Subdivisions Index and Group

Index Number (As at December)	1996	2001	2002	2003	2004	2005	% Year on Year Growth	Ave Annual Growth Rate (since Dec 1996)
Manufacturing division	**114.1**	**128.4**	**130.5**	**129.1**	**139.7**	**146.4**	**4.8%**	**2.8%**
Food, beverages and tobacco (21)	118.9	140.6	139.5	140.1	146.4	149.4	2.0%	2.6%
Textiles and textile products (221-222)	103.1	109.3	123.4	117.0	116.0	116.1	0.1%	1.3%
Knitting mills, clothing, footwear and leather (223-226)	114.1	122.0	124.8	124.7	124.0	124.9	0.7%	1.0%
Log sawmilling and other wood products (231-232)	116.3	132.0	134.0	138.7	140.5	144.9	3.1%	2.5%
Paper and paper products (233)	111.6	115.2	119.5	118.0	116.9	118.2	1.1%	0.6%
Printing, publishing and recorded media (24)	136.2	155.1	154.6	155.9	157.6	158.7	0.7%	1.7%
Petroleum and coal products (251-252)	113.9	155.4	173.2	164.5	234.1	279.4	19.4%	10.5%
Chemicals (253-254)	111.0	113.7	115.1	114.0	121.6	123.5	1.6%	1.2%
Rubber and plastics (255-256)	114.1	123.9	125.4	124.3	130.5	136.1	4.3%	2.0%
Non-metallic mineral products (26)	115.1	117.8	125.6	128.9	131.3	133.8	1.9%	1.7%
Basic metal products (271-273)	96.2	107.4	106.1	101.8	126.7	141.1	11.4%	4.3%
Fabricated metal products (274-276)	111.7	118.3	121.8	124.6	132.5	141.1	6.5%	2.6%
Transport equipment and parts (281-282)	115.3	128.2	130.0	126.9	126.6	125.9	-0.6%	1.0%
Electronic equipment and other machinery (283-286)	108.8	114.5	114.0	112.2	115.6	117.9	2.0%	0.9%
Other manufacturing (29)	118.9	130.6	127.9	127.4	131.6	136.3	3.6%	1.5%

Source: Producer Price Indexes (ABS Cat No 6427.0)

Company Profits Before Income Tax, Total at Current Price, ($million)

	1996	2001	2002	2003	2004	2005	% Year on Year Change	Ave Annual Growth (since 1996)
Mining	6687	15303	14131	15416	12791	26537	107.5%	16.6%
Manufacturing	**10228**	**12972**	**17206**	**18654**	**23110**	**23419**	**1.3%**	**9.6%**
Construction	768	3877	4723	4204	4556	4836	6.1%	22.7%
Wholesale trade	2845	7424	9753	10363	10898	11553	6.0%	16.8%
Retail trade	1708	3201	4838	5904	6656	6786	2.0%	16.6%
Transport and storage	819	1909	3310	2940	4238	3953	-6.7%	19.1%
Property and business services	83	8018	9181	11736	13632	12869	-5.6%	75.1%
Other selected industries	2821	3007	5383	15030	15193	15702	3.4%	21.0%
Total (Industry)	**25901**	**55763**	**68584**	**84247**	**91075**	**105654**	**16.0%**	**16.9%**

Source: Business Indicators, Australia (ABS Cat No 5676.0)

Private New Capital Expenditure, Current Prices, ($million)

	1996	2001	2002	2003	2004	2005	% Year on Year Change	Ave Annual Growth Rate (since 1996)
Food, Beverage and Tobacco Manufacturing	1881	2226	2261	2666	2253	2468	9.5%	3.1%
Textile Clothing Footwear and Leather Manufacture	246	237	221	221	217	254	17.1%	0.4%
Wood and Paper Products	1049	639	610	848	811	738	-9.0%	-3.8%
Printing, Publication and Recording Media	630	637	710	490	545	719	31.9%	1.5%
Petroleum, Coal, Chemicals etc	1780	1384	1277	2003	2057	2800	36.1%	5.2%
Non-Metallic Minerals Products	869	507	654	883	590	867	46.9%	0.0%
Metal Products	2012	1266	1992	2395	2802	4401	57.1%	9.1%
Machinery and Equipment	1789	1609	2181	2035	1796	2280	26.9%	2.7%
Other Manufacturing	201	210	336	327	299	368	23.1%	7.0%
Total Manufacturing	**10453**	**8714**	**10243**	**11866**	**11367**	**14896**	**31.0%**	**4.0%**

Source: Private New Capital Expenditure and Expected Expenditure (ABS Cat No 5625.0)