

Chapter 13

Manufacturing

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Portland smelter

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OVERVIEW

Manufacturing broadly relates to the physical or chemical transformation of materials or components into new products, whether the work is performed by power-driven machines or by hand.

Manufacturing remains Victoria's most important industry, despite a fall in Gross State Product at Factor Cost (GSP(fc)) since 1984–85 from 22% to 18% (\$19,880 million) in 1995–96. The second largest contributor to GSP(fc) was Property and Business Services (10%) which recorded a 7% increase over the same period.

Victorian employment in the manufacturing sector accounts for 32% of total manufacturing employment in Australia. Victorian employment in the Manufacturing industry over the last 22 years has declined from 470,000 at 30 June 1974 to 292,600 at 30 June 1996.

This chapter presents a range of data about employment, wages and salaries, production, Gross State Product at factor cost, turnover and exports for the manufacturing sector as a whole. This chapter also contains a special feature from the Australian Chamber of Manufactures which outlines the history, trends and forecasts for the manufacturing industry in Victoria and Australia.

13.1 INDUSTRY CONTRIBUTION TO GSP(fc), 1995–96(a)

	Victoria %	Australia %
Agriculture, forestry and fishing	3	4
Mining	3	5
Manufacturing	18	15
Electricity, gas and water	3	3
Construction	6	7
Wholesale trade	7	6
Retail trade	7	8
Accommodation, cafes and restaurants	2	2
Transport and storage	5	5
Communication	3	3
Finance and insurance	4	4
Property and business services	10	9
Government administration and defence	3	4
Education	5	5
Health and community services	7	6
Culture and recreational services	2	2
Personal and other services	2	2
Ownership of dwellings	9	10
General government(b)	2	2
Total	100	100

(a) Industries may not add to total due to rounding differences. (b) State details for general government gross operating surplus by industry are not available.

Source: *Australian National Accounts: State Accounts (Cat. no. 5220.0)*.

Turnover

Turnover is a key measure of the performance of establishments in an industry. It covers the sales of goods and services by an establishment (together with transfers of goods to other parts of the same business) and also includes all other operating revenue generated by the establishment.

Turnover for the Manufacturing industry in Victoria was \$63,768 million for 1995–96 recording an increase of 4.8% over the last twelve months and 15.6% over the last five years. The largest industry subdivisions contributing to total Victorian turnover were Machinery (24.9%), Food (20.1%), Petroleum (16.9%) and Metal (13.2%). These subdivisions have consistently dominated over the last five years and all industries recorded an increase over this period with the exception of Textile, clothing, footwear and leather which recorded a drop of 5.6%.

13.2 TURNOVER(a) BY MANUFACTURING SUBDIVISION, VICTORIA

Industry subdivision	1990–91 \$m	1991–92 \$m	1992–93 \$m	1993–94 \$m	1994–95 \$m	1995–96 \$m
Food, beverage and tobacco	10 548.8	10 599.5	11 114.4	11 704.9	12 300.6	12 817.9
Textile, clothing, footwear and leather	4 755.7	4 618.9	4 444.3	4 670.3	4 344.4	4 487.7
Wood and paper product	2 626.6	2 518.7	2 825.8	3 017.2	3 154.3	3 257.5
Printing, publishing and recorded media	3 346.5	3 348.7	3 654.1	3 883.9	4 169.4	4 369.8
Petroleum, coal, chemical and associated product	9 612.9	9 516.0	9 626.2	9 976.7	10 387.7	10 798.6
Non-metallic mineral product	1 923.3	1 742.1	2 082.0	2 089.1	2 010.1	2 117.0
Metal product	7 837.3	7 484.2	7 189.0	7 438.4	7 703.6	8 385.6
Machinery and equipment	13 010.9	12 112.3	13 254.0	14 306.2	15 063.1	15 886.2
Other manufacturing	1 491.3	1 401.3	1 477.9	1 658.6	1 721.8	1 647.6
Total manufacturing	55 153.3	53 341.5	55 667.8	58 745.2	60 855.1	63 768.0

(a) Value data are at current prices and, therefore, do not discount the impact of price changes.

Source: *Manufacturing Industry, Victoria, 1995–96 (8221.2)*.

Employment

Employment in the Victorian manufacturing industry increased by 0.4% to 292,600 persons over the last twelve months. 71,000 or 24.4% of persons were employed in the Machinery and equipment manufacturing subdivision followed by 43,000 (14.7%) for Food, beverage and tobacco. The highest recorded employment increase occurred in the Machinery and equipment manufacturing subdivision (4.3%) while the largest decrease was recorded in Other manufacturing (4.9%).

Over a five year period the Textile, clothing and footwear subdivision recorded the largest decline in employment (17.9%), while the largest growth occurred in Printing, publishing and recorded media (7.9%).

13.3 EMPLOYMENT(a) BY MANUFACTURING SUBDIVISION

Industry subdivision	1990–91 '000	1991–92 '000	1992–93 '000	1993–94 '000	1994–95 '000	1995–96 '000
Food, beverage and tobacco	48.2	46.3	44.2	44.1	45.1	43.0
Textile, clothing, footwear and leather	43.8	39.4	38.1	36.1	35.4	36.0
Wood and paper product	15.9	15.0	15.4	16.0	16.6	17.0
Printing, publishing and recorded media	27.4	26.1	27.2	26.4	28.5	29.5
Petroleum, coal, chemical and associated product	35.3	34.5	34.1	33.5	35.6	34.6
Non-metallic mineral product	11.1	10.2	10.0	9.9	9.5	9.4
Metal product	39.9	36.7	35.2	35.4	36.2	36.5
Machinery and equipment	84.8	75.4	72.8	69.0	68.4	71.3
Other manufacturing	15.9	14.9	15.3	15.5	15.9	15.2
Total manufacturing	322.3	298.5	292.2	285.9	291.4	292.6

(a) Includes working proprietors.

Source: *Manufacturing Industry, Victoria (8221.2)*.

Production

In 1996–97 Victorian enterprises accounted for more than half the national production of whole milk (62%), butter and butteroil (82%), cheese (62%), cotton yarn (61%), wool yarn (86%) and plastics in primary forms (67%).

Victorian manufacturers also accounted for a large proportion of national production of vehicles for goods and materials (48%), cotton and wool woven fabric (36% and 42% respectively) and the production of lamb (41%).

13.4 PRODUCTION OF SELECTED MANUFACTURING COMMODITIES, 1996–97

Item	Unit	Victoria	Australia	Victoria as % of Australia
Meat (carcass weight)				
Beef and veal	'000 tonnes	388 130	1813 569	21.4
Mutton	'000 tonnes	55 417	307 947	18.0
Lamb	'000 tonnes	111 362	274 646	40.5
Pig meats	'000 tonnes	85 756	324 468	26.4
Dairy products(a)				
Whole milk	million litres	5 622	9 024	62.3
Butter and butteroil	tonnes	120 041	146 949	81.7
Cheese	tonnes	164 079	264 689	62.0
Wheat flour (other than self-raising)	tonnes	227 170	1 555 850	14.6
Yarns				
Cotton	tonnes	24 115	39 853	60.5
Wool	tonnes	15 692	18 285	85.8
Woven fabric				
Cotton	'000 sq m	21 737	60 617	35.9
Wool	'000 sq m	2 674	6 300	42.4
Vehicles for goods and materials	'000	13	27	47.7
Plastics in primary forms	'000 tonnes	825	1 236	66.8
Building materials				
Clay bricks for structural purposes	million	264	1 467	18.0
Ready mix concrete	'000 cu metres	3 169	15 394	20.6

Source: *Livestock products, Australia (7215.0)*; *Manufacturing Production, Australia (8301.0)*; *Australian Dairy Corporation*.

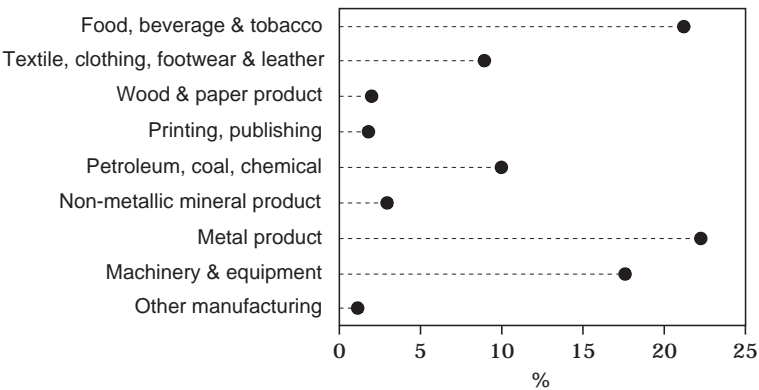
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ACM automated assembly
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Exports by
manufacturers

Exports by manufacturers relates to the percentage of sales of goods produced, plus transfers out of goods produced by the manufacturing establishment for sale, which are exported by the business or an agent on the organisation's behalf.

During 1995–96 the percentage of the sales of goods produced in the Victorian manufacturing industry which were subsequently exported by the manufacturer or its agent was 14.6% and were valued at \$68,454.3 million. The industry subdivisions with the highest percentage contributions were Metal product (22.3%), Food, beverage and tobacco (21.3%) and Machinery and equipment (17.7%). However the Machinery and equipment (\$2,660 million) and Food, beverage and tobacco (\$2,654 million) recorded the highest values of goods exported.

EXPORTS OF GOODS PRODUCED BY MANUFACTURERS, VICTORIA, 1995–96



Source: Manufacturing Industry, Victoria (Cat. no. 8221.2).

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Toyota factory
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MANUFACTURING PROSPECTS LOOK POSITIVE FOR VICTORIA OVER 1998

This article has been supplied by the Australian Chamber of Manufactures and was prepared in December 1997.

The article will outline the history, trends and forecasts for the manufacturing industry in Victoria and Australia over 1998. The forecasts are based on the Australian Chamber of Manufactures Survey of Australian Manufacturing which covers over 750 manufacturers throughout Australia which is approximately 15% of national manufacturing turnover.

The manufacturing industry is a major sector of the economy in Victoria and Australia. Manufacturing activity nationally accounts for over 15% of national production (18.7% in Victoria), has an annual turnover of \$192 billion (\$62 billion in Victoria), employs over 1.1 million people (over 295,500 people in Victoria) and accounts for more than \$48 billion in export earnings.

**Manufacturing
production**

The manufacturing industry in Victoria and Australia has been characterised by two significant downturns in activity over the past three years. However, the difference for Victorian Gross State Product (GSP) (see chart below) is that the first downturn in activity remained relatively mild with the second downturn in activity having a major impact on the State.

Nationally, in a period of only 12 months, the trend rate of annual manufacturing production fell from 7.97% in the September 1994 quarter to -0.95% in the September 1995 quarter. Over this period, the manufacturing industry was characterised by recessionary demand, weak production, intense market competition and plummeting profits, particularly for those firms closely linked to the housing market. However, these trends took some time to filter through and effect Victorian GSP due to the importance of the pharmaceutical and automotive sectors to the Victorian economy and Victoria's strong export orientation.

From the revised ABS data series, the annual trend in national manufacturing production did recover to grow by 4.04% in the March 1996 quarter. Since this quarter, manufacturing production again declined until the June 1997 quarter. This period was where Victorian GSP fell considerably, from 6.3% in December 1995 to 4.1% in December 1996.

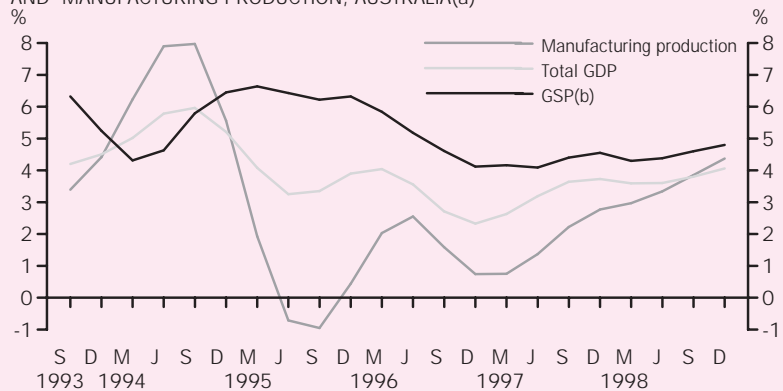
Overall growth for Australia for the year to June 1997 has been 3.2% and is forecast to improve over 1998 as shown in the chart below (forecast to be 4.1% in the December 1998 quarter). This compares with overall growth in the manufacturing sector running at around 4.4% by December 1998. For Victoria, GSP growth has remained relatively stable at around 4.1% for the June 1997 quarter and this is expected to show improvement over 1998 reaching 4.8% by December 1998.

The combined effects of reduced interest rates, a low inflation environment, a pick-up in domestic demand as real wage rises and the beginning of the recovery in the housing market have all added to the positive outlook for the manufacturing industry over 1998.

The slow but steady lift in the overall business climate has also assisted the positive outlook for the manufacturing sector in Victoria and nationally over 1998 even in the light of recent downward movements in share prices and currencies in South East Asia. The countries mainly affected by these negative movements are the developing countries of Thailand, Indonesia, Malaysia, and the Philippines. For Australia this downturn will result in falling exports dampening production and growth trends for Australia and the manufacturing sector over 1998.

A further hindrance which manufacturing and the Australian economy still faces is weak consumer confidence in terms of job security which is continuing to dampen consumer demand and growth.

ANNUAL TREND CHANGES IN GROSS DOMESTIC PRODUCT AND MANUFACTURING PRODUCTION, AUSTRALIA(a)



(a) From September 1997 figures are forecasts. (b) Gross State Product.

Individual manufacturing sectors

The improvement in manufacturing activity over 1998 should benefit all sectors. However, an upward cycle in one sector does not necessarily flow to all sectors or within sectors. For example, the textile, clothing and footwear sector has seen some growth over the latter part of 1996 and into 1997, however, the sectors have also experienced sizeable downturns in the production of particular goods such as women's and men's shirts and blouses over the same period.

Victorian manufacturing is characterised by several predominant sectors, including the machinery and equipment sector with a turnover of more than \$15.4 billion, the food, beverages and tobacco industry with annual turnover in excess of \$12.8 billion and the petroleum, coal, chemical and associated products sector with an annual turnover of more than \$10.5 billion.

The big improvers over 1998 will be the wood, wood products and furniture and non-metallic minerals sectors, both lifting from the slump of activity in the building sector. Food, beverages and tobacco should also show modest gains as consumers increase their spending on these items, however, production in the food industry will continue to be dampened by the effects of El Nino over 1998. Given the size of this sector in Victoria this will be a serious concern.

**Manufacturing
input and
output prices**

The textiles and clothing and footwear sectors will remain weak, with further reductions in tariffs and a rationalisation of the domestic industry. These sectors will also face increased import competition over 1998.

Manufacturing production in the chemical, petroleum and coal products sector is forecast to show only modest growth over 1998. The machinery and equipment sector remained weak and eased over 1997 but is forecast to show a lift in production growth over 1998.

The transport equipment sector should continue to improve through 1998 given the forecast growth in the economy and the increasing pace of export activity for the sector. The basic metals and fabricated metal products sectors can expect modest improvement over 1998, but this will be delayed until general manufacturing conditions and the overall economy improve. Similarly, the forecast lift in the paper, printing and publishing sector is expected to be moderate.

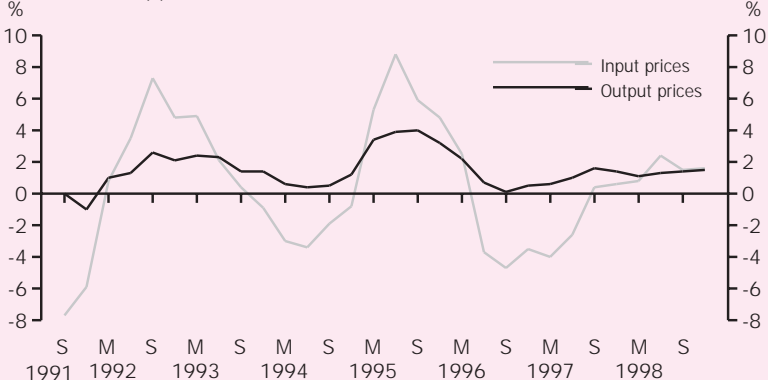
Throughout the latter part of 1995 and into 1996 selling prices for manufactured goods fell sharply (see chart below) as a direct result of the downturn in manufacturing demand. For example in the June 1996 quarter, manufacturers' selling prices fell by 0.3% as manufacturers attempted to maintain their market share and move existing stock through cutting margins and reducing selling prices. This was especially so for Victoria over the 1996 calendar year.

Over the same period, the input costs of raw materials for production fell sharply with a fall of 2.3% and 1.9% over the June 1996 and September 1996 quarters respectively. Regardless of these significant falls in the cost of raw materials, manufacturing profits continued to decline over the period due to weak demand.

Over 1997 raw material costs have again increased with this forecast to continue well into 1998 (see chart on next page). Raw material costs are forecast to grow 1.5% and 1.6% for the September and December 1998 quarters respectively as a result of increasing output prices for second tier producers.

The ACM Survey of Australian Manufacturing forecasts that manufacturers will no longer be able to continue to cut margins but rather will be forced to pass on any cost increases through to consumers. As such, the ACM expects overall inflation to begin to rise over 1998 as the prices of manufactured goods increase.

EXPECTED ANNUAL PERCENTAGE MOVEMENTS IN MANUFACTURING INPUT AND OUTPUT PRICES(a), AUSTRALIA

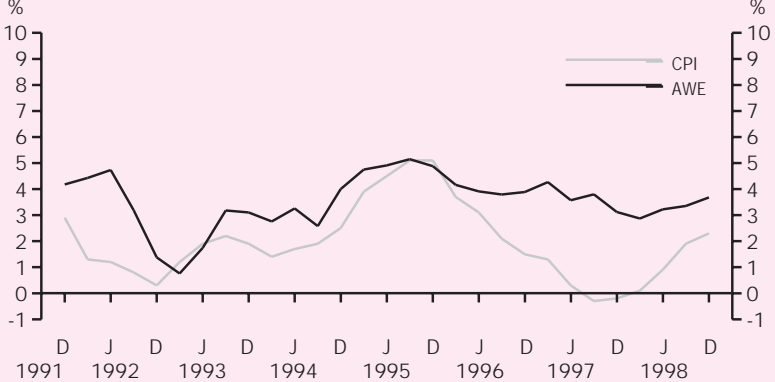


(a) From December 1997 figures are forecasts.

CPI
movements
and wages

The CPI in Australia has been falling steadily since March 1996 to a low of -0.3% for the year in September 1997 (see chart below). By the December 1998 quarter cost and demand pressures will see the CPI rise to around 2.3%. In Victoria, the same trend has been present, falling from 5.8% in December 1995 to -0.1 for September 1997. However, as activity picks up so too will cost and wage pressures, causing an increase in the Victorian CPI over 1998.

EXPECTED ANNUAL MOVEMENTS IN THE CONSUMER PRICE INDEX AND AVERAGE WEEKLY EARNINGS, AUSTRALIA



Since the March 1996 quarter, ordinary time average weekly earnings have also eased, but not to the same extent as the fall in the CPI, leading to growth in real wages and spending power for consumers. Traditionally, real wage increases have been a trigger for a lift in domestic demand and economic activity and is further boosted through a low interest rate environment.

Capacity utilisation and new investment

Currently, low consumer sentiment regarding job security is holding back growth in the economy by dampening demand, however, as the economy lifts over 1998, we can expect to see both consumer expectations and sentiment also improving. The forecast for average weekly ordinary time earnings for the December 1998 quarter is between 3.6% to 3.7%.

Enterprise bargaining agreements in manufacturing over 1997 have been running at around 4.3%, and as such, are continuing to lift real wages growth in this low CPI increase environment. In addition, enterprise bargaining has also led to some substantial lifts in productivity within the manufacturing industry, which is improving efficiency but at the cost of minimal, if any, significant rises in employment.

Historically, movements in new capital expenditure are generally very closely aligned to changes in capacity utilisation within the industry.

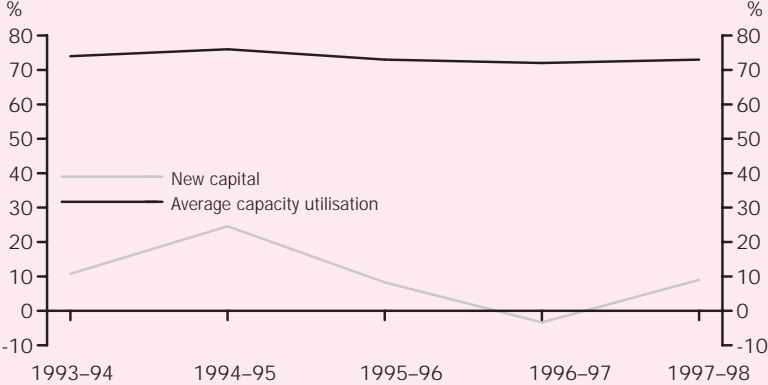
After a period of strong manufacturing investment over the 1994–95 financial year (22%), investment by manufacturers has eased considerably to an average of 8.3% over 1995–96 and falling to negative 3.4% over 1996–97.

Changes in the rate of average capacity utilisation also followed this downward trend, falling from 76% over 1994–95 to 72% in 1996–97.

The ACM Survey of Australian Manufacturing indicates that investment trends in 1997–98 will remain weak but improve in the critical sectors of food; textiles; paper, printing and publishing; basic metal products and the chemicals, petroleum and coal products sector. Investment will also continue to lift in the high technology sectors of machinery and equipment; and transport again promoting growth in the Victorian economy over 1998.

As forecast, the pace of manufacturing investment is likely to lift over 1997–98 to around 8% (see chart). However, this lift will be dampened through excess capacity in the manufacturing sector from the peak in investment in 1994–95, and labour productivity also lifting in response to the shift by many firms to enterprise bargaining agreements, many investment decisions will be held off until the later half of 1998.

EXPECTED MOVEMENTS IN MANUFACTURING INVESTMENT AND AVERAGE CAPACITY UTILISATION(a), AUSTRALIA



(a) 1997-98 figure is a forecast.

Manufacturing stocks and employment

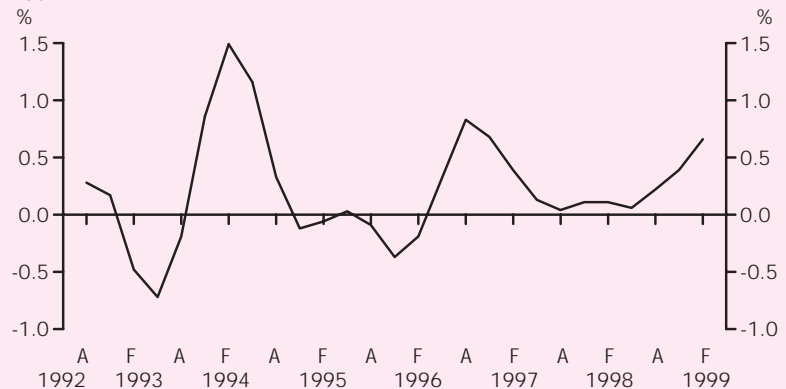
Manufacturing employment remained weak over 1995 both nationally and in Victoria then lifted in response to the expected increase in production in late 1996 and early 1997. Traditionally, manufacturers will increase overtime hours and part-time employees to accommodate lifts in production before any decision will be made to increase full time employment levels.

Stock levels are also a strong indicator and guide to forecasting growth and employment, especially in the manufacturing industry. However, it takes manufacturers several quarters to adjust production to accommodate either increasing or decreasing demand which result in adjustments to stock levels, with a stock decline indicating to many manufacturers that better times are ahead.

In 1993 strong national economic activity led to falling stock levels, and indicated to manufacturers that they should lift production to accommodate increasing demand. However, as we now know, sales fell away following this period and as such, stock levels again rose as manufacturers took some time to again reduce production levels.

Through 1996 there was a major buildup of stock levels within manufacturing. This build up meant that manufacturers, rather than increasing production during the lift in activity over latter part of 1996, chose to lower stock levels instead. The ACM Survey of Australian Manufacturing suggests that this has been a major factor inhibiting the growth in manufacturing production and employment. Employment is forecast to remain weak over 1998 but will strengthen over the latter part of 1998.

EXPECTED QUARTERLY MOVEMENTS IN MANUFACTURING EMPLOYMENT(a), AUSTRALIA



(a) From November 1997 figures are forecasts.

Company profits

Manufacturing profits eased considerably in the latter part of 1995 and into 1996 following a strong period of growth in early 1994 (see chart on next page). Manufacturing profits lifted in the September and December 1996 quarters following significant falls in input costs and a lift in manufacturing demand. However, company profits in the manufacturing industry again eased following the downturn in manufacturing demand over the early part of 1997.

Overall, company profits are forecast to increase over 1998 (see chart below) based on improved manufacturing demand and production, increasing profit margins and increased productivity. Nevertheless, the manufacturing sector is still likely to under perform in terms of profits relative to other sectors of the economy as they rebuild following several weak years.

EXPECTED QUARTERLY MOVEMENTS IN MANUFACTURING NET PROFITS(a), AUSTRALIA



(a) From September 1997 figures are forecasts.

Manufactured exports

Exports are a vital component of Australia's manufacturing industry (see chart on next page) and accounts for over \$16 billion of trade in Victoria. The proportion of national manufacturing production which is exported has risen from 15.6% in 1990 to 27.3% in 1996.

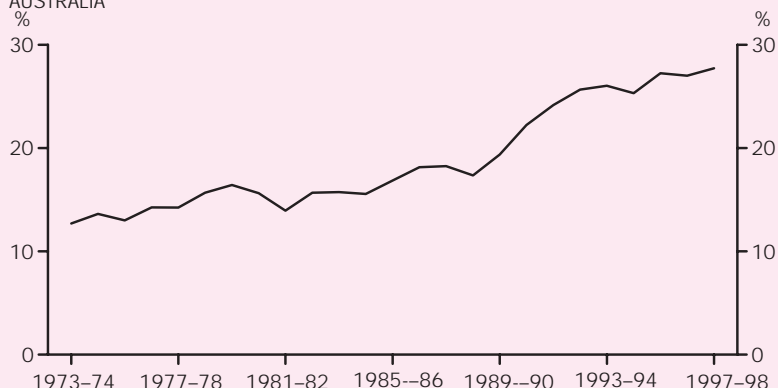
However, in recent years the rate of export growth for Australia has slowed to become negative for manufactured goods in the latter part of 1996 and into 1997 but has again been rising to around 8% in the June 1996 quarter.

Australian exports are very reactive to movements of the Australian dollar. In 1998, the annual growth in manufactured exports is expected to be between 7% to 9%.

Industry sectors anticipating relatively strong export growth during 1998 and beyond include: chemicals, petroleum and coal products; basic metal products; transport equipment and other machinery and equipment. These sectors are strongly represented in Victorian manufacturing and should also be assisted through the forecast weak Australian dollar over 1998.

Slower growth is anticipated in the clothing and footwear; paper products, printing and publishing with the production in the food, beverages and tobacco sectors being dampened further through the effects of El Nino on production.

EXPECTED MANUFACTURED EXPORTS AS A PERCENTAGE OF TOTAL SALES(a),
AUSTRALIA
%



(a) From 1996-97 figures are forecasts.

The weakening of the Asian economies will dampen forecasts for Australian exports over 1998 with the extent of this fall depending on the degree that North Asia is effected by the fall. However, China, Malaysia and Indonesia will still be key new markets for manufacturing firms who are seeking new export markets. For firms not currently exporting, the United States, New Zealand and Japan, will continue to offer opportunities for Australian manufacturers.

Victorian manufacturing outlook

Overall, 1998 is forecast to be a positive growth period for Victorian manufacturing following the slide in production over 1996.

In an environment of increased real wages, low interest rates, low inflation and rising overtime and employment, we can expect to see significant increases in demand and production for Victorian and Australian manufacturers. This improving trend will strengthen towards the latter part of 1998 with growth in the Victorian manufacturing sector forecast to be in the 4.6% to 4.8% range by the December quarter 1998.

The sectors which will be anticipating export growth over 1998, including the machinery and equipment and the chemicals sector will place Victorian manufacturing in a prime position to take advantage of these opportunities.



Photo:

Oil refinery

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Source: Economic Services, The Australian Chamber of Manufactures.

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Australian Dairy Corporation

Australian Chamber of Manufactures
