



Australian Government
Department of Employment

Industry Outlook

Manufacturing

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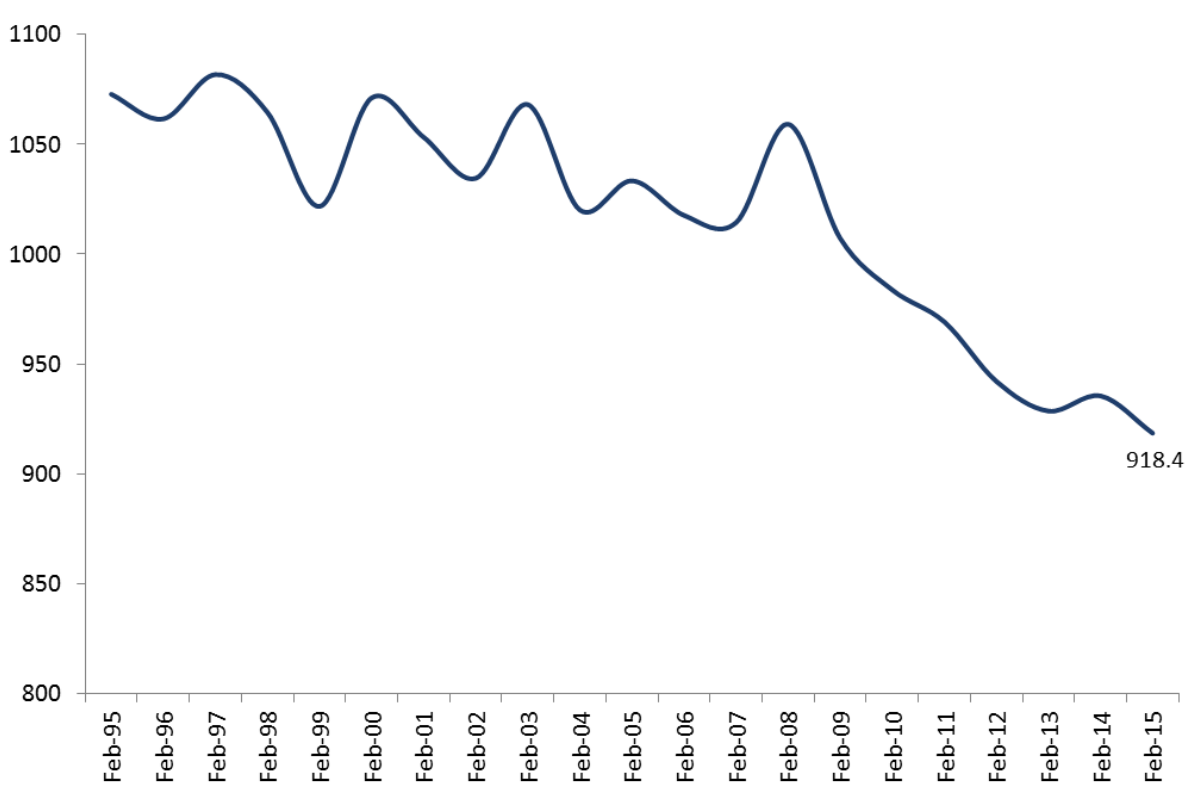
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Employment

Manufacturing is the fifth largest employing industry in Australia, employing 918,400 people (or 7.9 per cent of the total workforce) as at February 2015. Although the Manufacturing industry remains a large employing industry, the last decade has seen the continuation of an ongoing decline in its share of employment in Australia. Employment in the Manufacturing industry has declined by 114,900 (or 11.1 per cent) over the 10 years to February 2015, one of only three industries to experience a fall in employment over the period (the other two being Agriculture, Forestry and Fishing and Information Media and Telecommunications).

A high Australian dollar, subdued global growth, competitive pressures and lower consumer confidence have seen employment in the industry fall by 65,200 (or 6.6 per cent) over the five years to February 2015.

Figure 1: Manufacturing industry employment level, February 1995 to February 2015 ('000)



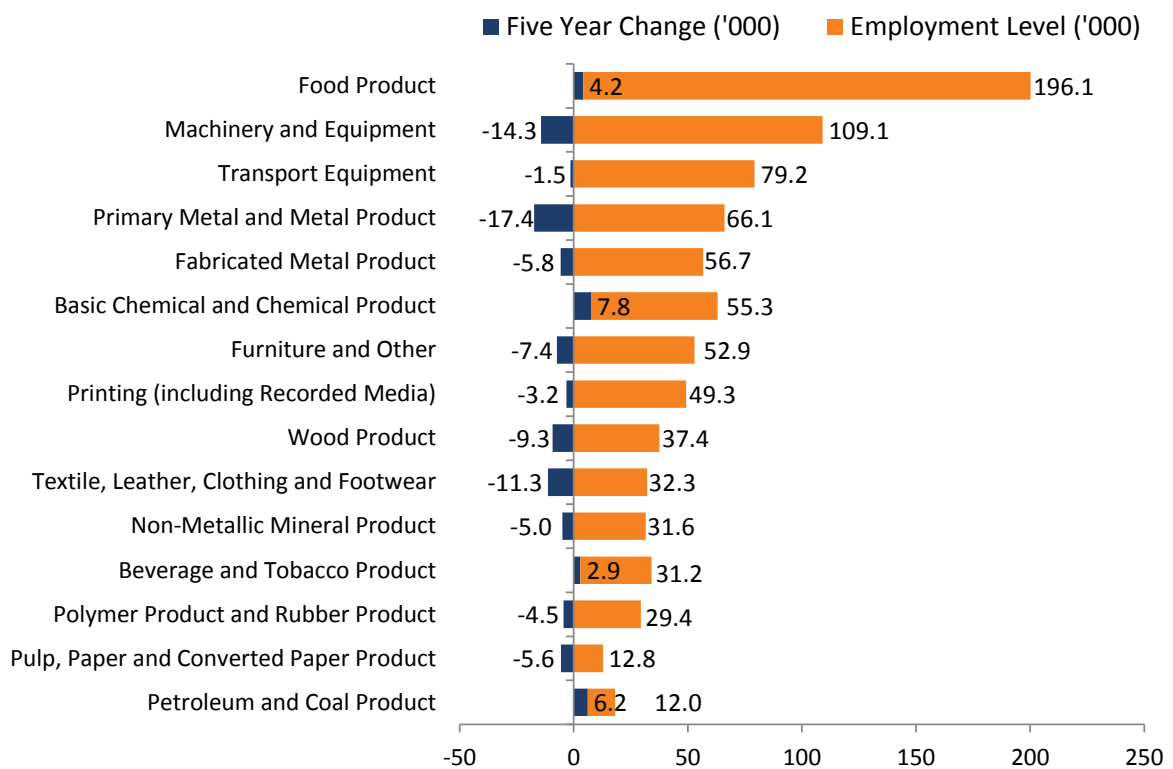
Source: ABS, *Labour Force, Australia, Detailed, Quarterly*, cat. no. 6291.0.55.003, trend.

Sectoral Employment

Against the backdrop of declining employment in the industry as a whole, 11 of the 15 Manufacturing sectors recorded a decline in employment over the five years to February 2015. The largest employment declines were recorded for Primary Metal and Metal Product Manufacturing (down by 17,400 or 20.8 per cent), followed by Machinery and Equipment Manufacturing (14,300 or 11.6 per cent), Textile, Leather, Clothing and Footwear Manufacturing (11,300 or 25.9 per cent) and Wood Product Manufacturing (9,300 or 19.9 per cent).

Sectors which recorded employment gains over the same period include Basic Chemical and Chemical Product Manufacturing (up by 7,800 or 16.3 per cent), Petroleum and Coal Product Manufacturing (6,200 or 106.6 per cent, albeit from a small base¹), Food Product Manufacturing (4,200 or 2.2 per cent) and Beverage and Tobacco Product Manufacturing (2,900 or 10.1 per cent). Growth in Basic Chemical and Chemical Product Manufacturing was predominantly driven by growth in Pharmaceutical and Medicinal Product Manufacturing.

Figure 2: Employment level and five year change to February 2015, by industry sector



Source: ABS, *Labour Force, Australia, Detailed, Quarterly*, cat. no. 6291.0.55.003, Department of Employment trend.

¹ Small estimates can be volatile and often exhibit considerable variability between points in time. Accordingly, changes in sectoral employment should be interpreted with caution.

Geographic Distribution

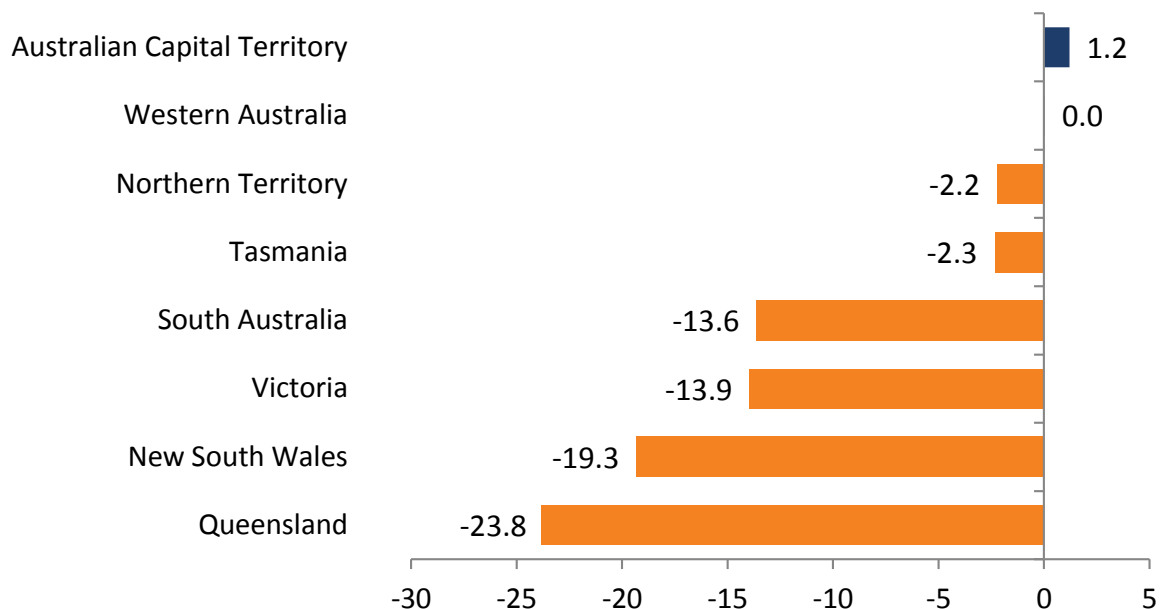
The distribution of Manufacturing employment across the States and Territories is generally in line with total employment. Victoria and New South Wales employed the largest proportion of the Manufacturing workforce in February 2015 (31 per cent each, or 283,400 and 276,200, respectively), with Queensland employing a further 158,700 workers (or 18 per cent).

Victoria and South Australia have the largest proportions of their workforces employed in Manufacturing, accounting for 9.6 and 8.7 per cent of employment in those states respectively, compared with 7.9 per cent of employment nationally.

As shown in Figure 3, over the five years to February 2015 employment in Manufacturing has declined in most states and territories, in line with the national trend, with the exception of the Australian Capital Territory (up by 1,200 or 33.6 per cent)² and Western Australia (where employment was stable). The largest falls were recorded in Queensland (down by 23,800 or 13.1 per cent) and New South Wales (19,300 or 6.5 per cent), followed by Victoria (13,900 or 4.7 per cent) and South Australia (13,600 or 16.3 per cent).

The Manufacturing decline in Queensland was driven by losses in Machinery and Equipment Manufacturing and in Textile, Leather, Clothing and Footwear Manufacturing while the fall in Victoria was driven by losses in Textile, Leather, Clothing and Footwear Manufacturing and in Primary Metal and Metal Product Manufacturing. The falls in New South Wales and South Australia were driven by losses across various Manufacturing industry categories.

Figure 3: Five year Manufacturing industry employment change by State ('000)

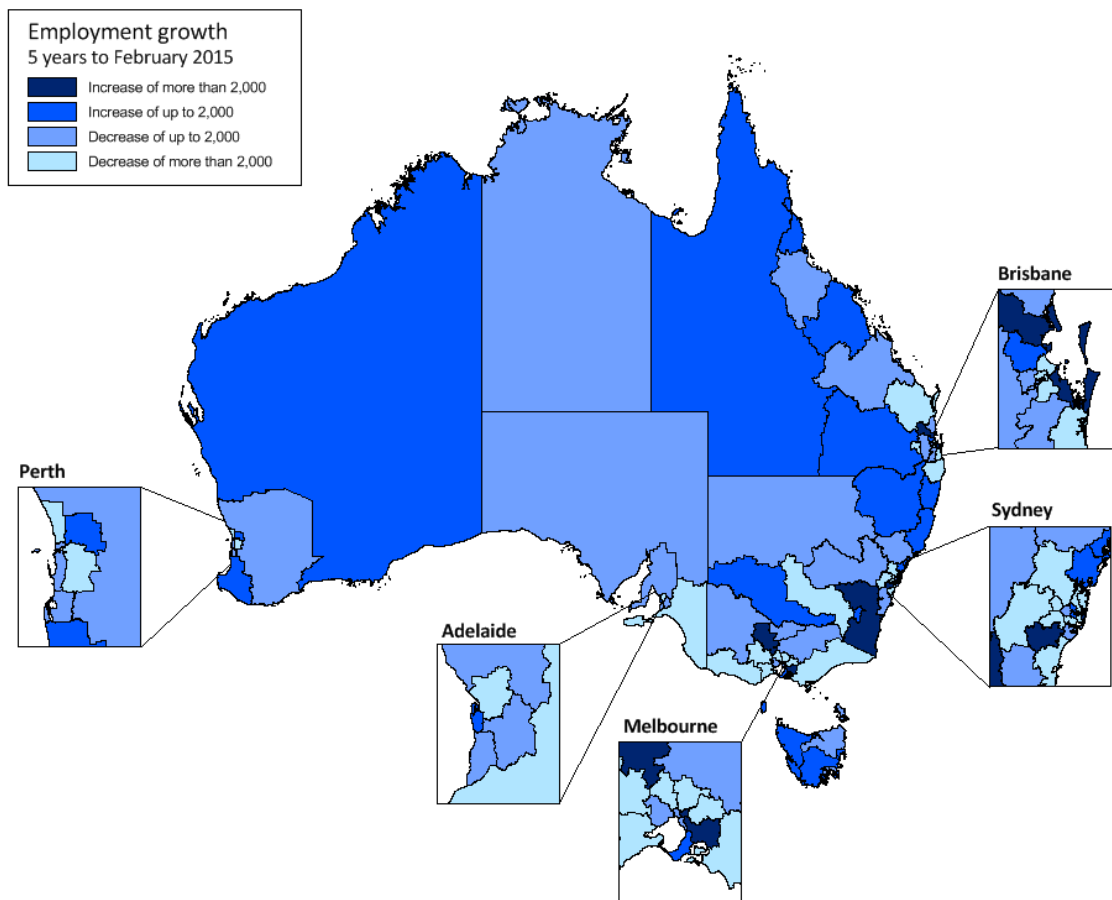


Source: ABS, *Labour Force, Australia, Detailed, Quarterly*, cat. no. 6291.0.55.003, Department of Employment trend.

² Small estimates can be volatile and often exhibit considerable variability between points in time. Accordingly, changes in employment in geographic regions with relatively low numbers employed in Manufacturing should be interpreted with caution.

At the regional level, around 80 per cent of all ABS Labour Force Regions³ recorded a decline in Manufacturing employment over the five years to February 2015. The largest declines over the period were recorded in Geelong (in Victoria), Gold Coast (Queensland) and Richmond - Tweed (New South Wales) (down by 5,400 each), followed by Brisbane North (4,700), Sydney South West and Wide Bay (Queensland) (4,400 each). By contrast, the largest increases in Manufacturing employment were recorded in Melbourne – Inner East (up by 5,700), Moreton Bay – North (Queensland) (4,900) and Sydney – Outer South West (4,400).

Figure 4: Five year Manufacturing industry employment growth by region



Source: ABS, *Labour Force, Australia, Detailed, Quarterly*, cat. no. 6291.0.55.003, four quarter average of original data.

The Labour Force Regions with a large proportion of their employment in Manufacturing in February 2015 include Melbourne – South East (15.2 per cent of the region’s employment), Sydney – South West (15.0 per cent), Logan - Beaudesert (in Queensland, 13.4 per cent), and Sydney – Outer South West (13.2 per cent). Despite the weakness in the industry across the nation, this shows that the Manufacturing industry remains a large employer in many regions.

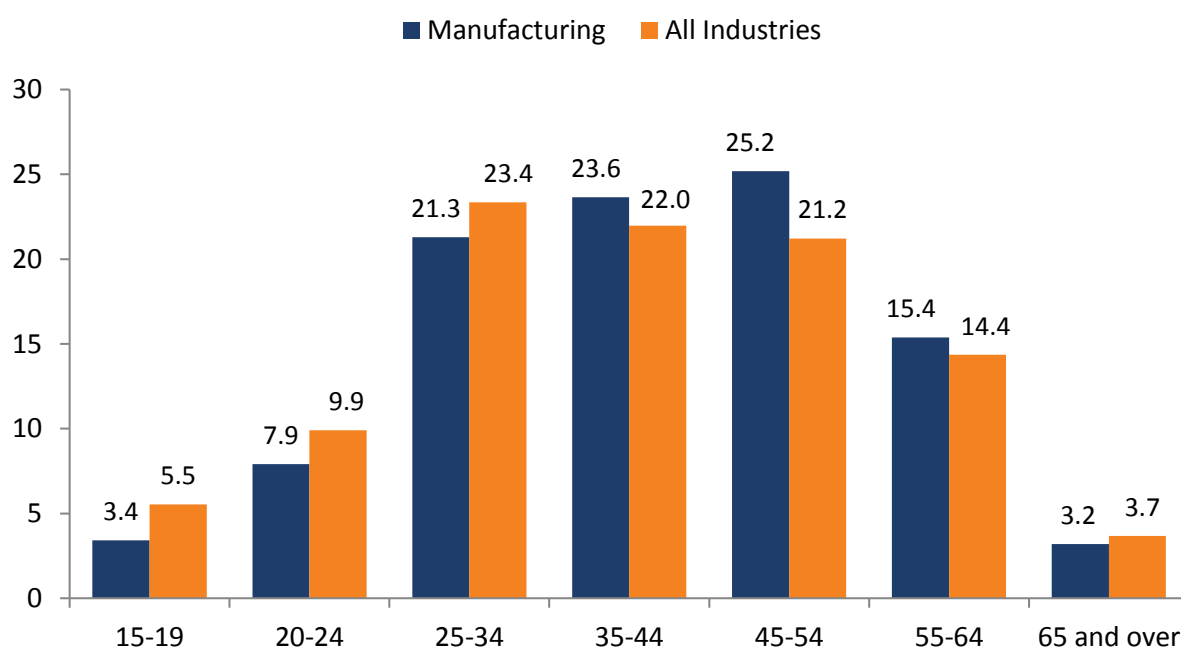
³ The regions used in this analysis are those used in the ABS Labour Force Survey, which are defined at the Statistical Area 4 level in the *Australian Statistical Geography Standard*.

Workforce Characteristics

Workforce Age Profile

The Manufacturing workforce is, on average, slightly older than the workforce as a whole, with 40.6 per cent of Manufacturing workers aged between 45-64 years, compared with 35.6 per cent across all industries. The median age of workers in the industry was 42 years in 2014, compared with 40 years across all industries. The age profile of the Manufacturing workforce has become older, with the median age rising from 40 years in 2009 to 42 years in 2014.

Figure 5: Employed persons by age, February 2015 (% share of employment)



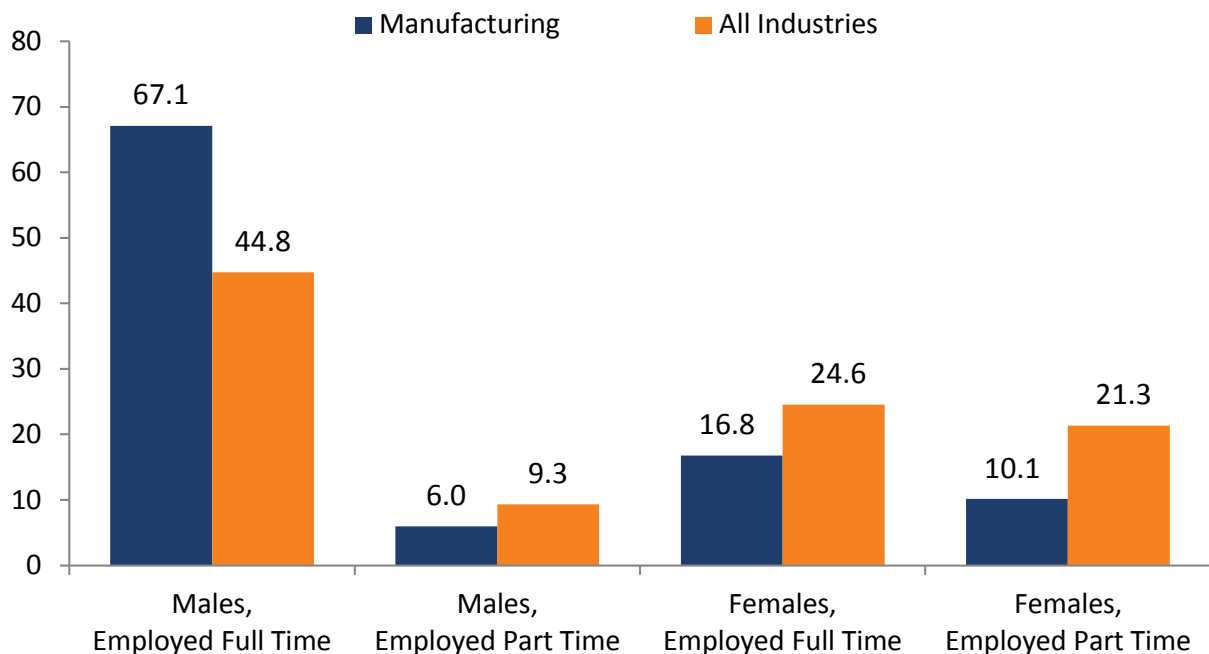
Source: ABS, *Labour Force, Australia, Detailed, Quarterly*, cat. no. 6291.0.55.003, four quarter average of original data.

The age profile varies considerably by sector within the industry. Median ages are younger in Food Product Manufacturing (38 years), Beverage and Tobacco Product Manufacturing (40 years), and Fabricated Metal Product Manufacturing (40 years) than in Printing (including Recorded Media) (45 years) and Petroleum and Coal Product Manufacturing (46 years).

Gender and Full Time/Part Time Status

Males account for the majority of employment in Manufacturing (73.1 per cent, compared with 54.1 per cent for employment as a whole). A large proportion of jobs in the industry are also full time (83.9 per cent, compared with 69.3 per cent across all industries), although the share of part time workers in the industry has increased over the past decade, from 12.2 per cent in February 2005, to 16.1 per cent in February 2015.

Figure 6: Full time/part time workers, by gender, February 2015 (% of total employed)



Source: ABS, *Labour Force, Australia, Detailed, Quarterly*, cat. no. 6291.0.55.003, four quarter average of original data.

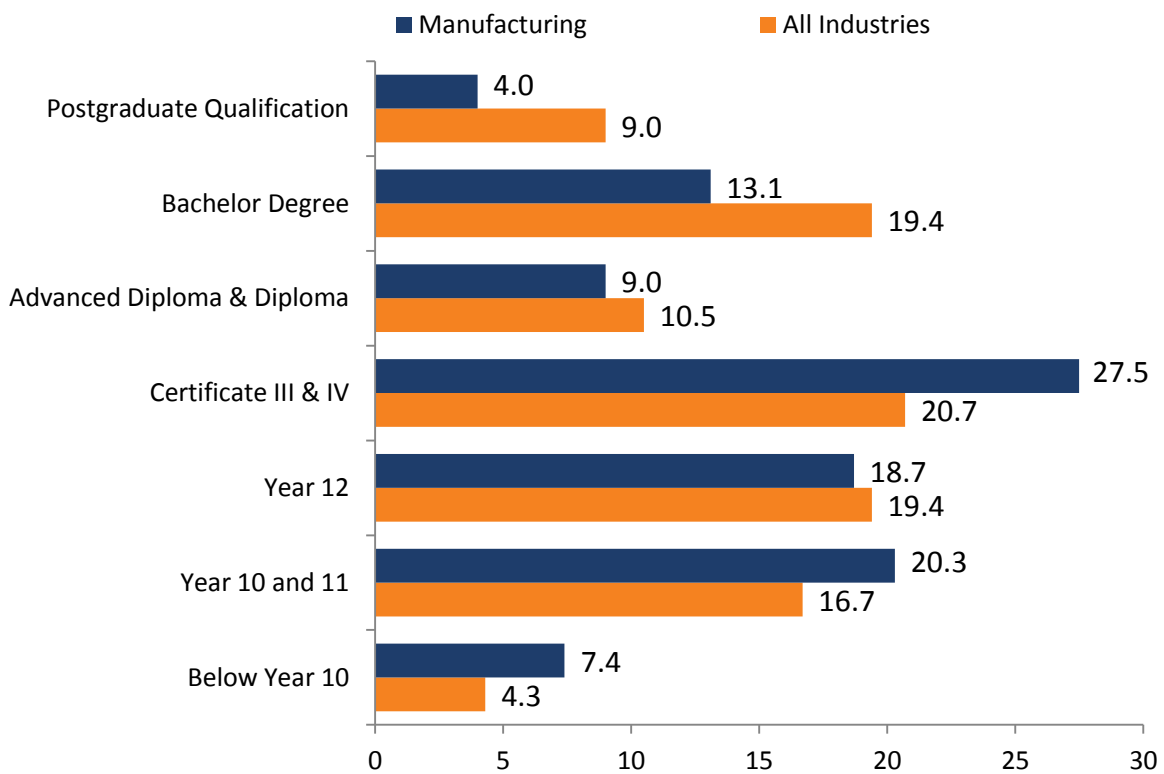
The gender split, as well as the proportion of workers employed full time and part time, vary by sector within the industry. For instance, 87.5 per cent of people employed in Primary Metal and Metal Product Manufacturing are male, compared with 39.0 per cent in Textile, Leather, Clothing and Footwear Manufacturing. Petroleum and Coal Product Manufacturing had the highest proportion of full time employment of any Manufacturing sector (98.7 per cent) followed by Primary Metal and Metal Product Manufacturing (91.1 per cent). By contrast, the Textile, Leather, Clothing and Footwear Manufacturing sector had the lowest proportion of its workers employed full time (70.7 per cent), followed by Food Product Manufacturing (74.0 per cent).

Educational Qualifications

Manufacturing workers have lower levels of educational attainment than the workforce as a whole. Indeed, 27.7 per cent of Manufacturing workers have not attained a Year 12 or higher qualification (compared with 21.0 per cent of all workers), while just 17.1 per cent have attained a Bachelor Degree or higher (compared with 28.4 per cent for employment as a whole). However, this represents an increase in educational attainment since 2011, when only 15.4 per cent of the industry’s workers had attained a Bachelor Degree or higher.

Some sectors of Manufacturing are highly reliant on degree qualified workers, such as Basic Chemical and Chemical Product Manufacturing where 47.2 per cent of workers have attained a Bachelor Degree or higher. Furthermore, 27.5 per cent of workers in the Manufacturing industry hold a Certificate III or IV qualification (compared with 20.7 per cent of workers across all industries), reflecting the importance of trades skills to the industry.

Figure 7: Highest educational attainment - share of employment (%)



Source: ABS Survey of Education and Work, 2013.

Main Employing Occupations

The Manufacturing industry employs workers across a range of skill levels. Structural Steel and Welding Trades Workers (44,000) and Metal Fitters and Machinists (35,600) are the two largest employing occupations in Manufacturing, reflecting the importance of Trades to the industry. The third largest employing occupation in this industry is Production Managers (33,300), a higher skilled occupation. A number of lower skilled occupations are also large employers in the industry, including Packers (28,300), Food and Drink Factory Workers (27,700) and Product Assemblers (23,900). While employment in some of Manufacturing’s large Trade occupations (such as Metal Fitters and Machinists) is spread across different industries, employment in some of its lower skilled occupations (such as Food and Drink Factory Workers and Product Assemblers) is highly concentrated in Manufacturing, which suggests there are limited opportunities for workers in these occupations outside the industry.

Figure 8: Main employing occupations in the Manufacturing industry ('000)



Source: ABS *Labour Force Survey*, four quarter average, custom data request, 2014.

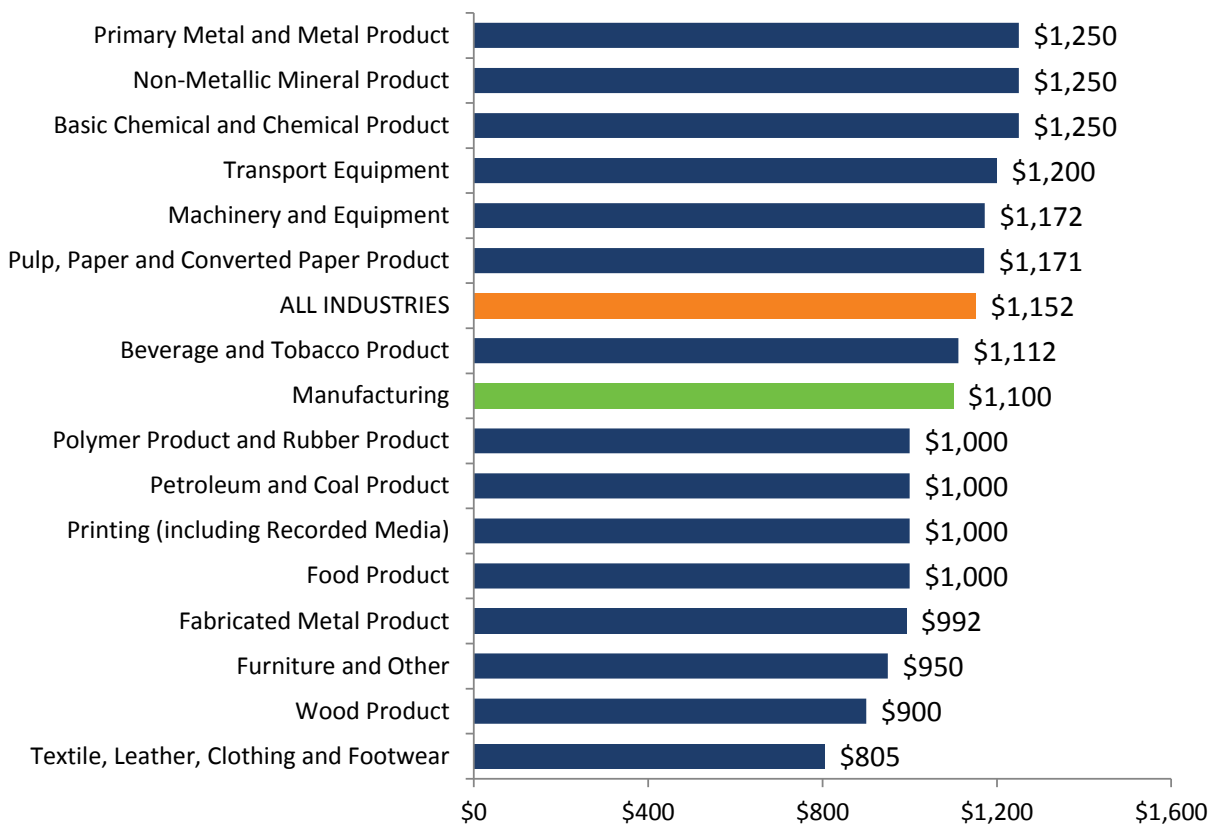
Over time, the occupational profile of the Manufacturing industry has shifted towards higher skilled occupations. Managers and Professionals now make up 25 per cent of the Manufacturing workforce, compared with only 16 per cent some 20 years ago.⁴ By contrast, the proportion of workers employed as Labourers and Machinery Operators and Drivers has fallen from 40 per cent to 31 per cent over this period, suggesting opportunities for lower skilled workers have declined.

⁴ ABS, *Labour Force, Australia, Detailed, Quarterly*, cat. no. 6291.0.55.003, four quarter average of original data, February 2015

Earnings

In 2013, the median weekly earnings of full time employees in Manufacturing was \$1,100, below the all industries median of \$1,152. Median full time weekly earnings within the industry ranged from \$1,250 for the three highest earning sectors (Primary Metal and Metal Product Manufacturing, Non-Metallic Mineral Product Manufacturing, and Basic Chemical and Chemical Product Manufacturing), down to \$805 for Textile, Leather, Clothing and Footwear Manufacturing. The lower median earnings in this sector corresponds with the relatively low educational attainment of its workers. Of all the Manufacturing sectors, Textile, Leather, Clothing and Footwear Manufacturing has the highest proportion of workers who have not attained a Year 12 or higher qualification (45.9 per cent).⁵

Figure 9: Manufacturing industry sectors - median weekly earnings (full time and before tax)



Source: ABS *Employee Earnings, Benefits and Trade Union Membership*, custom data request, August 2013.

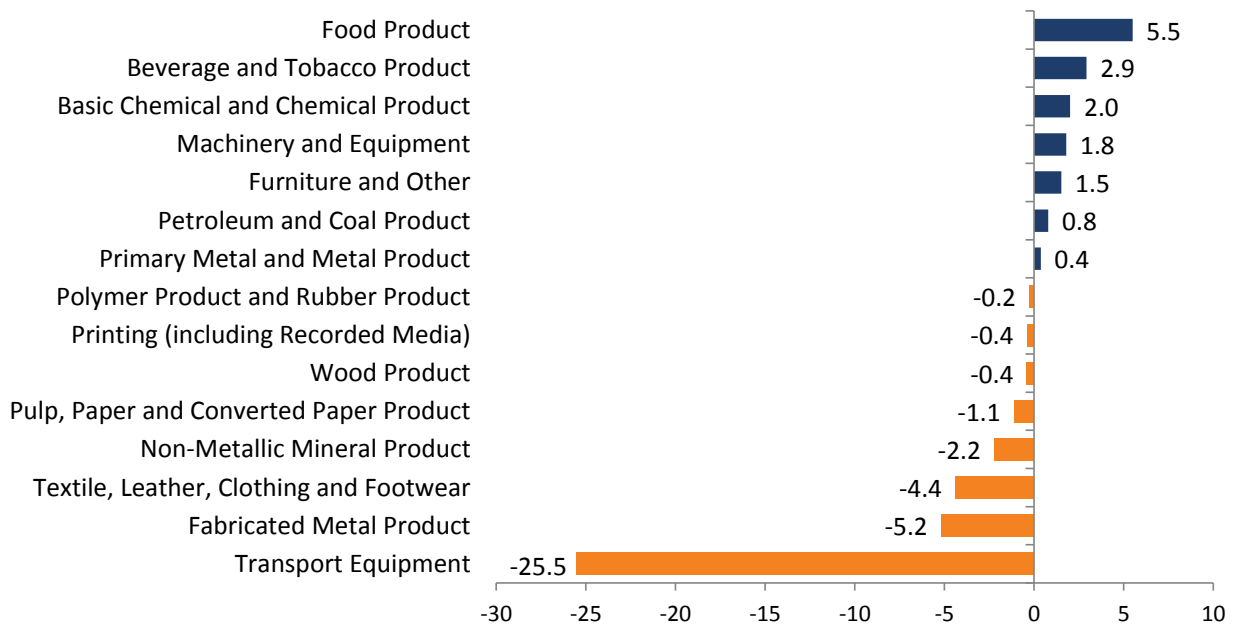
⁵ ABS *Survey of Education and Work*, 2013

Future Employment Prospects

Over the five years to November 2019, employment in Manufacturing is projected to fall by 26,200 (or 2.9 per cent). This decline is expected to be primarily driven by a projected fall of 25,500 (or 32.8 per cent) in Transport Equipment Manufacturing (which includes Motor Vehicle and Motor Vehicle Part Manufacturing⁶), following the announced plant closures by Ford, Holden and Toyota.

Future employment prospects within the industry vary by sector. For instance, while employment is projected to grow for Food Product Manufacturing (up by 5,500, or 2.9 per cent) and Beverage and Tobacco Product Manufacturing (2,900 or 10.2 per cent), employment is projected to decline in Fabricated Metal Product Manufacturing (down by 5200 or 9.4 per cent) and Textile, Leather, Clothing and Footwear Manufacturing (4,400 or 11.6 per cent).

Figure 10: Projected employment growth ('000) by industry sector - five years to November 2019



Source: Department of Employment, *2015 Employment Projections to November 2019*.

⁶ Motor Vehicle and Motor Vehicle Part Manufacturing includes the manufacture of cars, vans, buses, trucks, trailers and caravans, as well as motor vehicle engines, bodies, electrical components and motor vehicle parts not elsewhere classified.

Recruitment Difficulty

Consistent with the decline in employment in the Manufacturing industry, the Department's survey research⁷ over the 12 months to December 2014 shows that many employers had decreased staff numbers. However, recruitment activity was reasonably strong in some sectors of the industry and some employers continued to report difficulty recruiting staff.

Almost one third (31 per cent) of employers had decreased staff numbers in the past 12 months, which is substantially higher than across all industries (21 per cent). The majority of these (91 per cent) reported that this was due to economic reasons. The economy was the single greatest future concern for 58 per cent of employers. Additionally, employers in the industry were less likely to expect to recruit in the future (30 per cent), compared with employers across all industries (36 per cent).

Despite a low unfilled vacancy rate (2.3 per cent) there were a number of occupations that employers frequently reported as difficult to fill due to the skills requirements of the job, including medium-skilled vacancies such as Sheetmetal Trades Workers, Cabinetmakers, Metal Fitters and Machinists and Bakers and Pastrycooks.

While recruitment activity in the Manufacturing industry was generally soft, there was variation across sectors, with strong recruitment in the Food Product Manufacturing sector. In this sector a large proportion (79 per cent) of employers recruited in the year preceding the survey. The average number of applicants per vacancy was very low (3.8 applicants) compared with 10 applicants across all industries. This finding is consistent with past and projected employment growth in the sector and suggests that the sector may provide opportunities for job seekers.

⁷ *Survey of Employers' Recruitment Experiences - 12 months to December 2014*. The survey comprised interviews with 1046 employers. The surveyed areas were predominantly in regional New South Wales, Victoria and Queensland, including Geelong and North Western Melbourne. More information about the Department of Employment's regional surveys of employers is available at: <http://employment.gov.au/regional-reports-employers-recruitment-experiences>.

Skill Shortages

The Department of Employment conducts ongoing research to identify skill shortages in the Australian labour market. The research focuses on skilled occupations (mainly trades and professions).

The Manufacturing industry employs a diverse range of occupations, but in terms of those which require significant years of training and have relatively large numbers employed in this sector, Trades are particularly notable. That said, a small number of Professions (notably Accountants and Engineers) feature in the largest employing occupations.

Reflecting this occupational profile, twice as many workers in this industry hold a Certificate III or IV as their highest qualification than have a Bachelor Degree (which is the usual entry for Professions).

Skill shortages are not currently a key issue in the Manufacturing sector. With softer labour market conditions there are few occupations in shortage nationally, and applicants often face relatively strong competition for available vacancies for skilled jobs.

- However, shortages are evident for Metal Machinists, Sheetmetal Trades Workers, Bakers and Cabinetmakers, which are likely to be experienced in Manufacturing as well as in other employing industries.

The table below shows those skilled occupations which had employment of at least 5,000 in Manufacturing in 2014 and for which the Department has recently assessed the labour market as part of its ongoing skill shortage research. The focus of the research is occupations rather than industries, and the ratings are for the occupation across all industries.

Table 1: Skill Shortages Summary for skilled occupations with significant employment in Manufacturing

Occupation	Share of total Manufacturing employment (nationally)	Share of occupation employed in Manufacturing (nationally)	Skill shortages, national rating
TRADES			
Engineering Trades			
Structural Steel and Welding Trades Workers	4.8%	59.0%	
Metal Fabricator			NS
Welder (First Class)			NS
Metal Fitters and Machinists	3.8%	29.5%	
Fitter			NS
Metal Machinist (First Class)			S
Sheetmetal Trades Workers	0.7%	84.3%	
Sheetmetal Trades Worker			S
Aircraft Maintenance Engineers	0.6%	42.3%	
Aircraft Maintenance Engineer (Avionics)			NS
Aircraft Maintenance Engineer (Mechanical)			NS
Food Trades			
Bakers and Pastrycooks	2.1%	66.2%	
Baker			S
Pastrycook			D
Other Trades			
Cabinetmakers	2.8%	84.9%	
Cabinetmaker			S
Carpenters and Joiners	1.6%	11.9%	
Carpenter and Joiner			NS
Electricians	1.2%	8.5%	
Electrician			R
PROFESSIONS			
Accountants	1.0%	5.2%	
Accountant (General)			NS
Management Accountant			NS
Taxation Accountant			NS
Industrial, Mechanical and Production Engineers	1.3%	42.0%	
Mechanical Engineer			NS

Source: ABS *Labour Force*, four quarter average 2014, custom request data, cat. no. 6291.0.55.003; Department of Employment, Skill Shortage Research, 2014

Key: S = Shortage, D = Recruitment difficulty, NS = No shortage, R = Regional shortage, M = Metropolitan shortage, * = Rating unavailable

Trades

Trades shortages are very limited nationally, with just 14 Trade occupations assessed as being in shortage. Interestingly, four of these (Metal Machinist (First Class), Sheetmetal Trades Worker, Baker and Cabinetmaker) have a notable employment base in Manufacturing, although they comprise a very small proportion of the industry's workforce.

Engineering Trades Workers

Engineering Trades Workers make up a relatively large occupational group in the Manufacturing industry, with significant numbers of Metal Fabricators, Welders, Metal Machinists, Sheetmetal Trades Workers and Aircraft Maintenance Engineers employed.

Declining activity in Manufacturing (combined with a slowing in Mining investment activity) has adversely impacted on demand for Engineering Trades Workers, and the labour market is currently subdued, with low levels of advertised vacancies and falling employment in most of these Trades.

- Shortages are not a key issue in the Engineering Trades, with fewer occupations in national shortage now than at any time since the Department's series began in 2007.
- Consistent with this, in 2014 employers filled a higher proportion of their Engineering Trade vacancies than at any time since the series began in 2007 and competition for vacancies was strong (with an average of 9.2 qualified applicants per vacancy).

Apprentice and trainee commencements fell over the year to 2013-14 but completions increased. That said, lower commencements may constrain supply in the short to medium term.

Employers across a range of sectors and locations note that workers have been returning from the Mining industry, and that many have unrealistic wage expectations and do not have the skills required for the advertised vacancies in sectors such as Manufacturing.

While demand from Manufacturing is likely to continue to be subdued, the lower level of training may constrain the availability of labour in the medium term.

Food Trades Workers

Although only a small proportion of all Food Trades Workers are employed in the Manufacturing industry (with most employed in Accommodation and Food Services), almost two thirds of Bakers and Pastrycooks are employed in the industry.⁸

Employers recruited Food Trades Workers more easily in 2014 than in 2013, but this labour market remains relatively tight.

- All Food Trades occupations were in shortage in 2013. Shortages abated somewhat in 2014 but continue to be evident for Bakers, which have been in shortage continuously since 2005.
- There are adequate supplies of Pastrycooks, with only a small range of employers (outside the Manufacturing sector) having significant difficulty recruiting.

⁸ ABS, *Labour Force*, Customised Report, 2015

Other Trades

The Manufacturing industry is a key employer of a number of Trades which are generally more closely associated with the Construction sector, such as Carpenters and Joiners, Cabinetmakers and Electricians. To some extent, activity in Construction is linked with the employment of these workers in Manufacturing operations (for example, Cabinetmakers manufacturing kitchens respond to demand from the building construction industry for new builds or for renovations).

- The vast majority of Cabinetmakers are employed in Manufacturing and, likely reflecting a strengthening in demand from the Construction sector, shortages re-emerged in 2014.
- Employers seeking Carpenters and Joiners recruited with ease in 2014 and shortages have not been apparent since 2008.
- The labour market for Electricians is also more than adequately supplied with qualified and licensed Trades workers. Vacancies advertised in 2014 generally attracted large numbers of licensed applicants and were readily filled.

Professionals

Around 9 per cent of workers in Manufacturing are Professionals, with Accountants and Mechanical Engineers being the largest in terms of employment size.

- Manufacturing competes with a diverse range of industries for Accountants, but shortages have not been evident for a number of years and research undertaken by the Department suggests that employers generally attract multiple qualified applicants regardless of sector.
- While the labour market for Mechanical Engineers has historically been tight, conditions eased markedly in 2013 and 2014 and shortages are no longer evident. That said, employers often seek Mechanical Engineers who have very specific experience in a particular manufacturing environment and some experience difficulty recruiting specialist Professionals.

Labour Market Research and Analysis Branch

Department of Employment

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