



Employment Outlook to May 2023

Based on the Department of Jobs and Small Business' 2018 employment projections

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Introduction

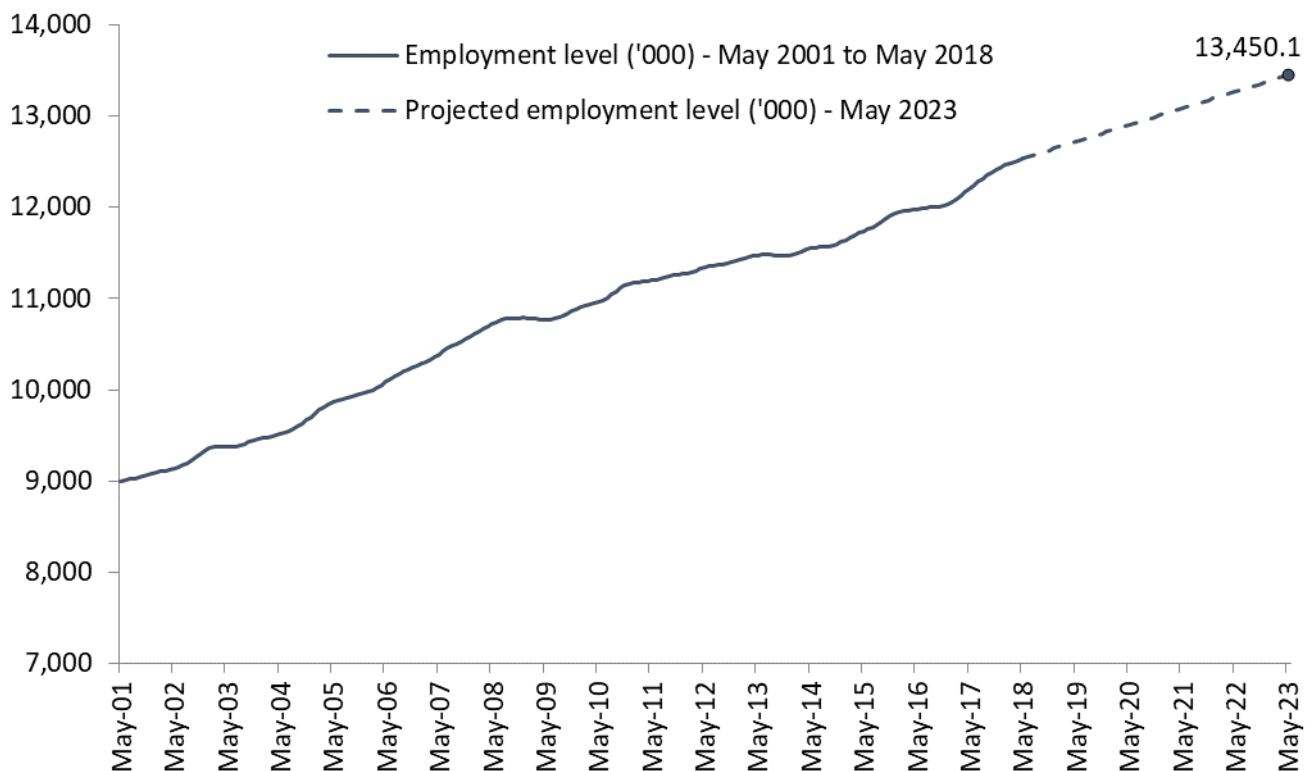
The Employment Outlook to May 2023 is based on employment projections produced by the Department of Jobs and Small Business for the period May 2018 to May 2023. The report outlines the employment outlook across industries, occupations, skill levels, states and territories, and regions. The employment projections in this paper give insight into the change the Australian labour market faces over the medium term, what the jobs of the future are and where they are located.

Over the five years to October 2018, employment increased by 1,196,400 (or 10.4 per cent) at a rate of 2.0 per cent per annum, above the rate of growth recorded over the last decade (of 1.6 per cent). In trend terms, employment growth has risen strongly over the last year, up by 2.3 per cent (or 285,900), to stand at a record high of 12,665,800 in October 2018 but remains below the 3.1 per cent growth rate recorded over the year to October 2017.

A number of services industries have made large contributions to employment growth over the five years to August 2018 (latest available industry employment data), led by the Health Care and Social Assistance industry (up by 306,200 or 22.2 per cent), followed by Construction (196,100 or 19.6 per cent), Professional, Scientific and Technical Services (168,100 or 18.6 per cent) and Education and Training (111,700 or 12.5 per cent). By contrast, the largest falls in employment have been in the Wholesale Trade industry (down by 51,600 or 12.4 per cent) and Mining (23,500 or 8.8 per cent).

Looking ahead, total employment is projected to increase by 886,100 (7.1 per cent or 1.4 per cent per annum)¹ over the five years to May 2023.

Figure 1: Employment level, past and projected growth to May 2023, Australia ('000)



¹ All employment projections used in this analysis are Department of Employment Projections to May 2023 based on the forecasts and projections for total employment published in the 2018-19 Budget.

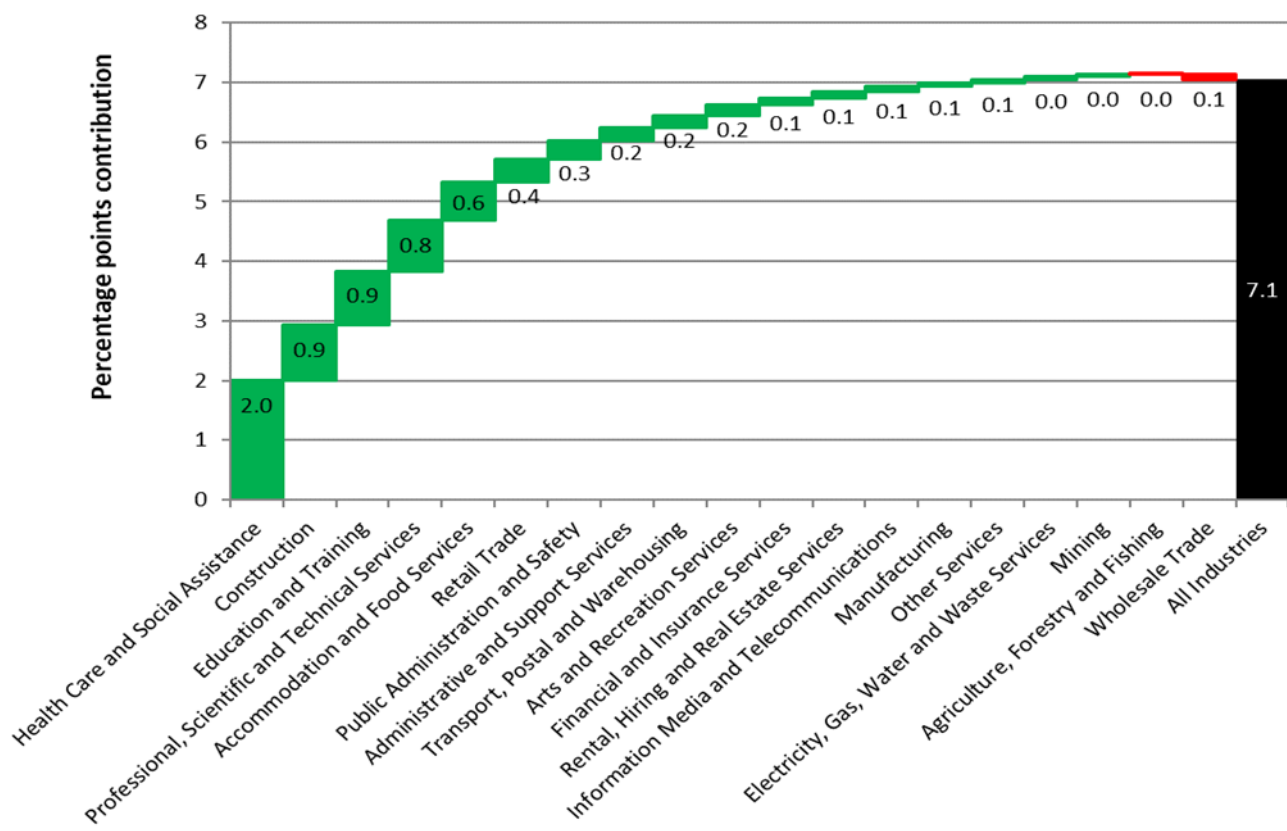
Projected employment growth by industry

Employment is projected to increase in 17 of the 19 broad industries over the five years to May 2023.

- The **Health Care and Social Assistance** industry is projected to make the largest contribution to employment growth (up by 250,300 or 14.9 per cent), as the industry adjusts to full implementation of the National Disability Insurance Scheme (NDIS), the ongoing ageing of the population and increasing demand for childcare and home based care services.
- The second largest contribution is projected to come from the **Construction** industry, where employment is projected to increase by 118,800 (or 10.0 per cent) reflecting strong infrastructure investment and non-residential building activity, along with continuing high levels of residential construction (albeit more in line with population growth).
- Employment in the **Education and Training** industry is projected to increase by 113,000 (or 11.2 per cent) with continued growth in the school aged population and international education sector.
- Ongoing strength in demand for business services, including those that support the Construction industry, back the strong projected employment growth in the **Professional, Scientific and Technical Services** industry (up by 106,600 or 10.2 per cent).

Together, these four industries are projected to provide almost two-thirds (or 4.7 of the total 7.1 percentage points) of total employment growth to May 2023 (see Figure 2 below).

Figure 2: Projected contributions to the rate of total employment growth by each industry (percentage points) – five years to May 2023



By contrast, declines in employment are projected for the Wholesale Trade; and Agriculture, Forestry and Fishing industries.

- Employment in the **Wholesale Trade** industry is projected to decline by 9700 (or 2.7 per cent) due to a number of factors including: increasing productivity through streamlined processes, such as automation and online marketplaces; competitive pressures within and outside of the industry, including the blurring lines between wholesalers and retailers; and the passing of the favourable conditions associated with the mining investment boom (Other Machinery and Equipment Wholesaling is projected to fall by 5100).
- **Agriculture, Forestry and Fishing** employment is projected to fall by 1400 (or 0.4 per cent), in line with its longer term history of employment declines that have largely been driven by technology advancement.

The projected employment decline in these two industries reduces the total employment growth rate by less than 0.5 percentage points.

At the more detailed level, sectors from industries with high projected growth are particularly prominent amongst the high growth sectors (top right quadrant of Figure 3).

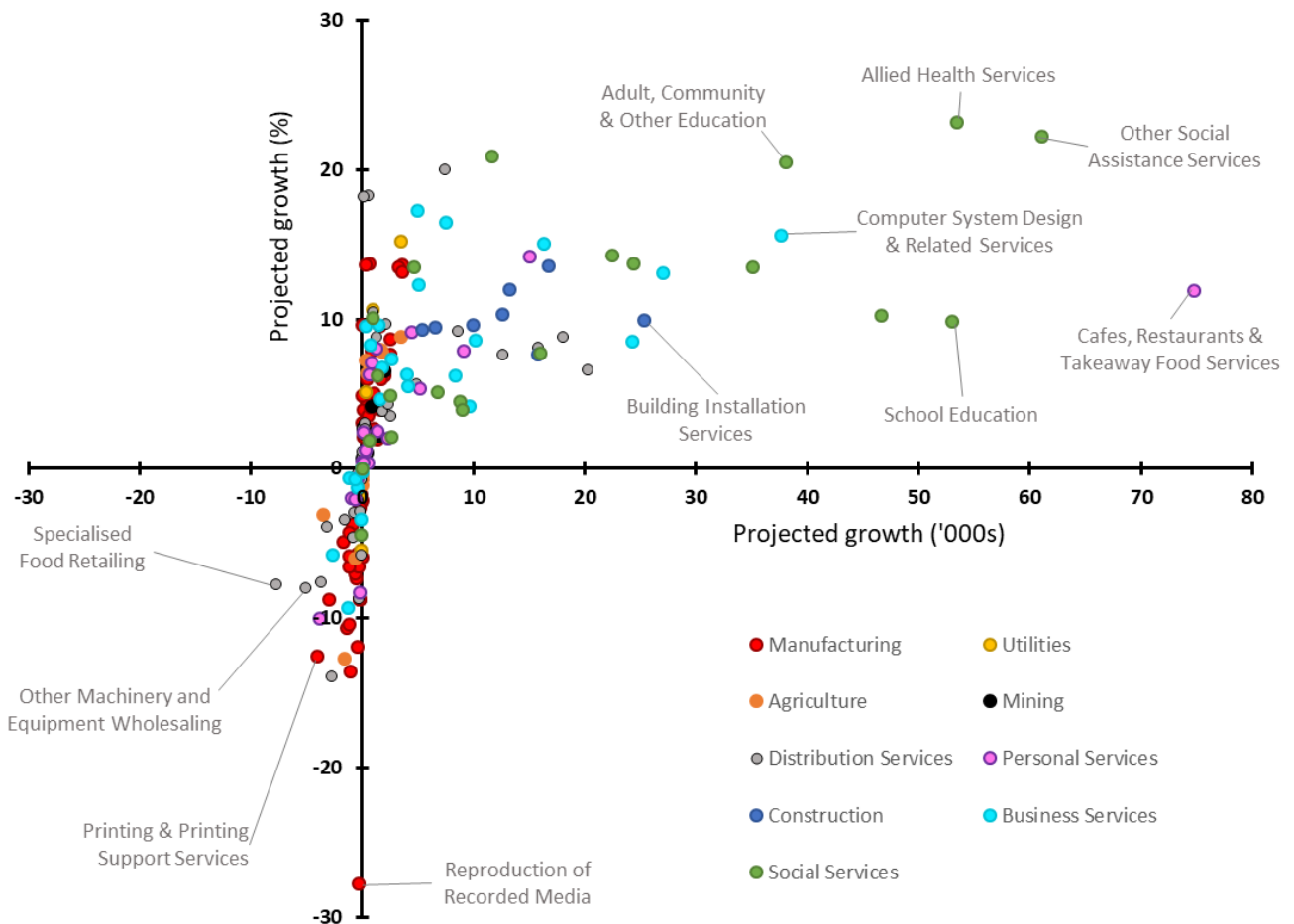
- Australia's ageing population, the NDIS rollout and increased demand for childcare services can be seen in the large projected increases in employment for Other Social Assistance Services² (61,000 or 22.2 per cent), Allied Health Services³ (up by 53,400 or 23.1 per cent), Hospitals (up by 46,600 or 10.3 per cent), Residential Care Services (35,100 or 13.4 per cent), Medical Services (24,400 or 13.7 per cent) and Child Care Services (22,500 or 14.2 per cent).
- Non-residential and residential building activity has sustained projected employment growth in Construction sectors such as the Building Installation Services (25,400 or 9.9 per cent) and Other Construction Services (16,800 or 13.6 per cent) sectors, while large investment at the state and federal level has driven growth in the Heavy and Civil Engineering Construction (13,200 or 12.0 per cent) sector.
- Strong growth is also projected for the School Education (53,000 or 9.8 per cent) sector, with significant investment and population growth, and for the Adult, Community and Other Education (38,100 or 20.5 per cent) sector.
- Continuing strong demand for outsourced business services lies behind the strong projected employment growth in a range of professional services sectors, the most prominent of which is Computer System Design and Related Services (37,700 or 15.6 per cent).

Australia's largest employing industry sector – Cafés, Restaurants and Takeaway Food Services within the Accommodation and Food Services industry – is projected to make the largest contribution to growth over the five years to May 2023 (up by 74,700 or 11.9 per cent), supported by both domestic demand and continued increases in international visitor arrivals⁴.

² Other Social Assistance Services includes Aged Care Assistance Services, Disabilities Assistance Services, Youth Welfare Services and Welfare Counselling Services.

³ Allied Health Services includes Dental Services, Optometry and Optical Dispensing, Physiotherapy Services and Chiropractic and Osteopathic Services.

⁴ ABS 3401.0 Overseas Arrivals and Departures, Australia, August 2018

Figure 3: Projected employment changes to May 2023 by industry sector⁵ ('000s and percentage growth)

Not surprisingly, employment is projected to decline in several sectors of the two industries where total employment is projected to decline.

- The largest declines in employment for the Wholesale Trade industry are projected for the Other Machinery and Equipment Wholesaling (down by 5100 or 8.0 per cent) and the Specialised Industrial Machinery and Equipment Wholesaling (2700 or 13.9 per cent) sectors.
- Similarly, declines in employment are projected for several sectors of the Agriculture, Forestry and Fishing industry including the Sheep, Beef Cattle and Grain Farming sector (down by 3500 or 3.1 per cent) and Other Livestock Farming (1600 or 12.7 per cent) sectors.

Employment declines are also projected for some sectors in industries that are projected to experience employment growth. Notably, the large projected employment declines in the Specialised Food Retailing (down by 7700 or 7.8 per cent), Electrical and Electronic Goods Retailing (3600 or 7.6 per cent) and Department Stores (3200 or 3.9 per cent) sectors reflect increased competitive pressure within the Retail Trade industry. While Manufacturing has a modest projected increase in employment, some sectors within the industry are projected to decline such as Printing and Printing Support Services (down by 4000 or 12.5 per cent), Polymer Product Manufacturing (down by 3000 or 8.8 per cent) and Reproduction of Recorded Media (300 or 27.8 per cent) – the highest rate of decline overall, albeit off a very low base.

⁵ Industry sectors are coloured by industry groupings frequently used by the Reserve Bank of Australia. Distribution services includes the Information Media and Telecommunications; Retail Trade; Transport, Postal and Warehousing; and Wholesale Trade industries. Personal Services includes the Accommodation and Food Services, Arts and Recreation Services, and Other Services industries. Business Services includes the Administrative and Support Services; Financial and Insurance Services; Professional, Scientific and Technical Services; and Rental, Hiring and Real Estate Services industries. Social Services includes the Education and Training, Health Care and Social Assistance and Public Administration and Safety industries.

Projected employment growth by occupation

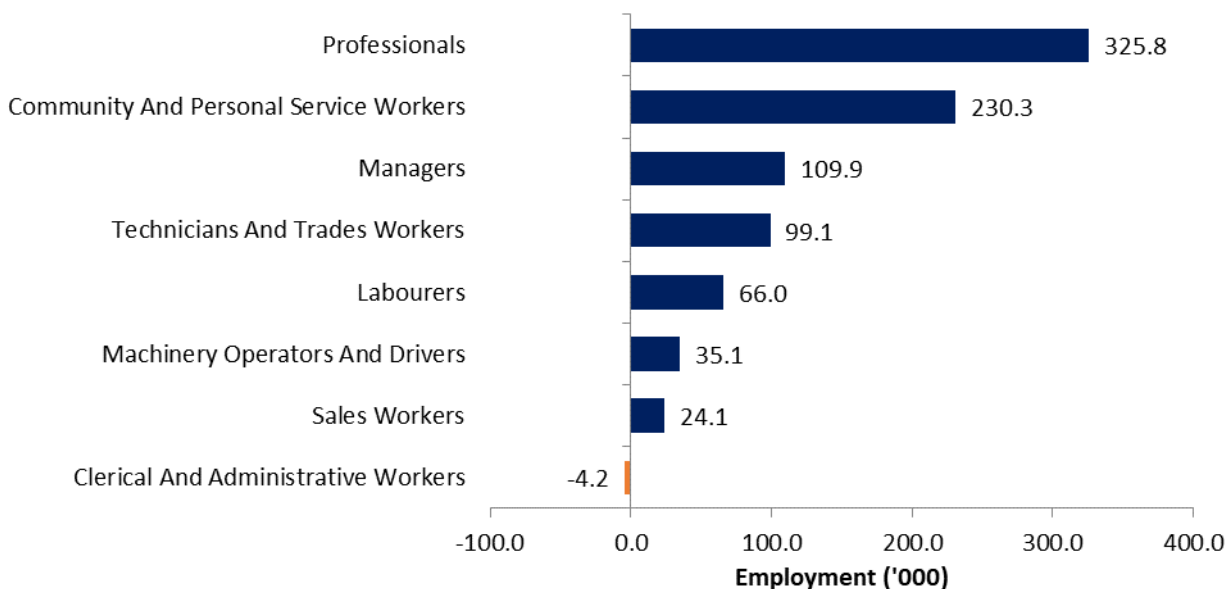
Employment is projected to increase in seven of the eight major occupational groups over the five years to May 2023.

Very strong employment growth is projected to continue for Professionals (up by 325,800 or 10.9 per cent) and Community and Personal Service Workers (230,300 or 17.5 per cent), consistent with strong projected growth in the service industries that are leading employers of these occupational groups.

Together, these two occupational groups are expected to account for 62.8 per cent of the total growth in employment over the next five years.

Employment of Managers is projected to grow at close to the average rate (up by 109,900 or 7.0 per cent). Below average employment growth is projected for Technicians and Trades Workers (up by 99,100 or 5.5 per cent), Labourers (66,000 or 5.5 per cent), Machinery Operators and Drivers (35,100 or 4.3 per cent) and Sales Workers (24,100 or 2.1 per cent), while Clerical and Administrative Support Workers is projected to have a small decline in employment (down by 4200 or 0.3 per cent).

Figure 4: Projected employment growth to May 2023 ('000), by major occupational group



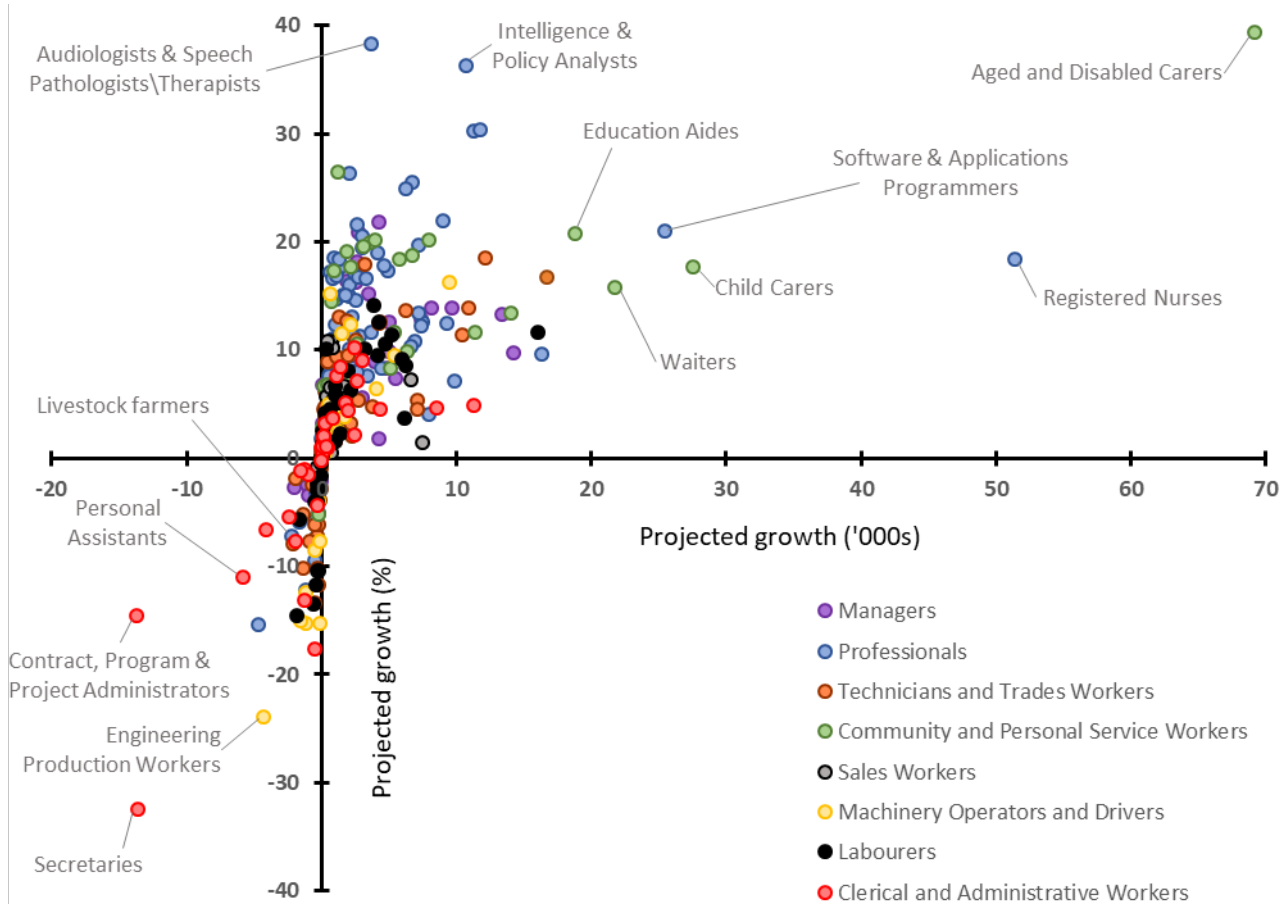
At the more detailed level, occupations that are mainly employed in industries with strong projected employment growth feature prominently in the high projected employment growth (top right) quadrant of Figure 5 (page over).

- Almost all Aged and Disabled Carers (up by 69,200 or 39.3 per cent) and Registered Nurses (51,400 or 18.4 per cent) and 75 per cent of Child Carers (27,600 or 17.6 per cent) are employed in the Health Care and Social Assistance industry.
- Over 75 per cent of Construction Managers (up by 13,400 or 13.3 per cent) and over 40 per cent of Gardeners (10,900 or 13.9 per cent) work in the Construction Industry.
- Over 60 per cent of Software and Applications Programmers (up by 25,500 or 21.0 per cent) are employed in the Professional, Scientific and Technical Services Industry.
- Over 90 per cent of Education Aides (up by 18,800 or 20.8 per cent), 99 per cent of Primary School Teachers (16,300 or 9.6 per cent) and most of the remaining Child Carers are employed in the Education and Training Industry.

- At least 70 per cent of Waiters (up by 21,800 or 15.8 per cent), Chefs (up by 16,800 or 16.7 per cent), Kitchenhands (up by 16,100 or 11.7 per cent) and Bar Attendants and Baristas (up by 14,100 or 13.4 per cent) are employed in the Accommodation and Food Services industry.

There are, however, exceptions and some of the strong growth occupations are predominantly employed in industries with below average rates of employment growth. For example, three quarters of Intelligence and Policy Analysts (up by 10,700 or 36.3 per cent) are employed in the Public Administration and Safety industry.

Figure 5: Projected employment changes by occupation, ('000s and percentage growth)



The occupations with the weakest projected employment growth (in the bottom left quadrant of Figure 5) show the ongoing challenges that globalisation and technological change present for some occupations. Some of these occupations are from the Clerical and Administrative Workers group, where work is routine in nature and susceptible to automation, such as Contract, Program and Project Administrators (13,800 or 14.5 per cent), Secretaries (down by 13,600 or 32.5 per cent), Personal Assistants (5800 or 11.0 per cent), Information Officers (4100 or 6.6 per cent) and Bank Workers (2400 or 5.5 per cent).

Continuing technology developments in the Agriculture industry are also expected to reduce projected employment in several occupations including Livestock Farmers (down by 2100 or 2.7 per cent), Livestock Farm Workers (1600 or 5.7 per cent) and Mixed Crop and Livestock Farmers (1000 or 3.4 per cent).

The impact of continuing structural change on the Manufacturing industry in Australia is expected to sustain the pre-existing trend of falling projected employment in occupations like Engineering Production Workers (down by 4300 or 23.9 per cent), Industrial, Mechanical and Production Engineers (2200 or 7.2 per cent) and Metal Engineering Process Workers (1800 or 14.6 per cent).

Projected employment growth by skill level

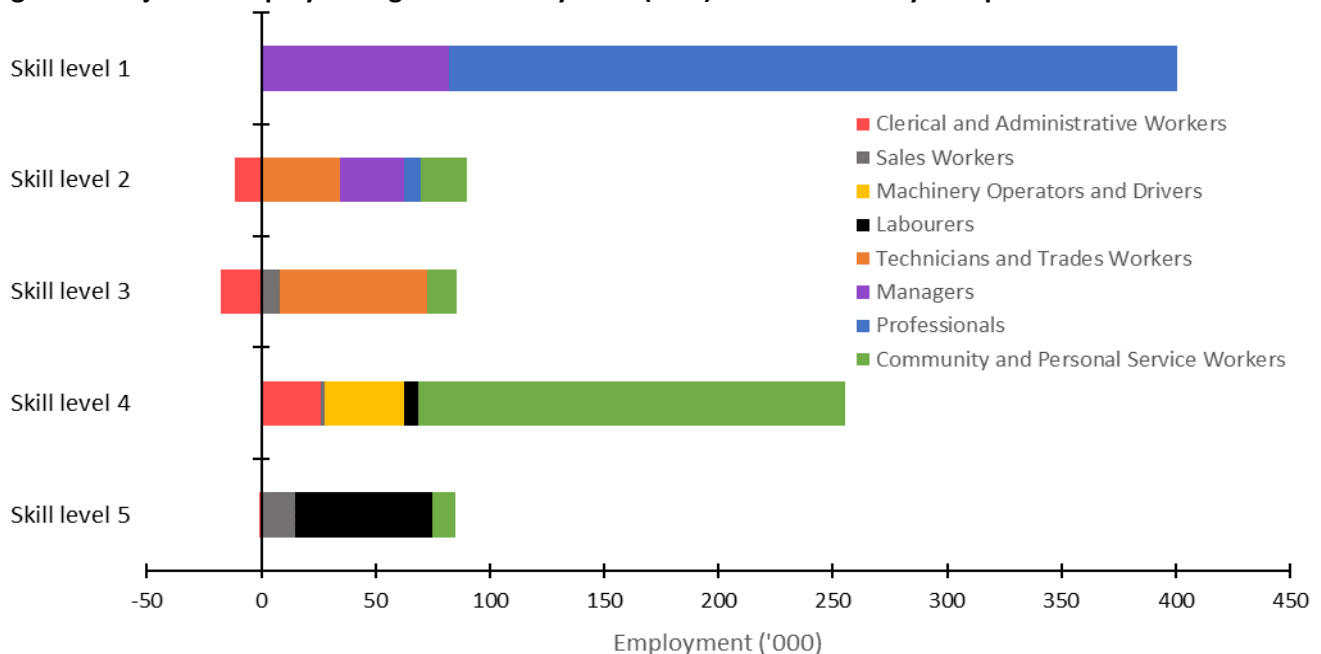
It is projected that 90 per cent of employment growth will be in skill levels 1-4, highlighting the importance of education beyond school.

Occupations that are classified to the highest skill level⁶ make up almost half of the projected employment growth over the five years to May 2023, highlighting the importance of university education. As shown in Figure 6, employment for **skill level 1 occupations** is projected to increase by 400,600 (or 10.0 per cent), much of which can be attributed to occupations within the Professionals group such as Registered Nurses (up by 51,400 or 18.4 per cent) and Software and Applications Programmers (25,500 or 21.0 per cent).

Skill level 4 occupations are projected to make the second largest contribution to total employment of 256,900 (or 7.9 per cent). This employment growth is driven by the Community and Personal Service Workers group, featuring occupations such as Aged and Disabled Carers (up by 69,200 or 39.3 per cent), Child Carers (27,600 or 17.6 per cent) and Education Aides (18,800 or 20.8 per cent). Notably, occupations within the Clerical and Administrative Workers group, such as General Clerks (11,300 or 4.9 per cent) and Receptionists (8600 or 4.7 per cent), make a positive contribution to employment growth at this skill level.

Below average employment growth is projected for **skill level 2** (78,400 or 5.8 per cent), **skill level 3** (up by 67,300 or 3.8 per cent) and **skill level 5** (82,900 or 3.9 per cent) occupations. The effects of automation can be seen in the projected employment decline of Clerical and Administrative Workers occupations at each of these skill levels, most notably for the occupations with the largest projected declines – Contract, Program and Project Administrators (skill level 2, down by 13,800 or 14.5 per cent), Secretaries (skill level 3, 13,600 or 32.5 per cent) and Mail Sorters (skill level 5, 1200 or 13.2 per cent).

Figure 6: Projected employment growth to May 2023 ('000) for skill levels by occupation

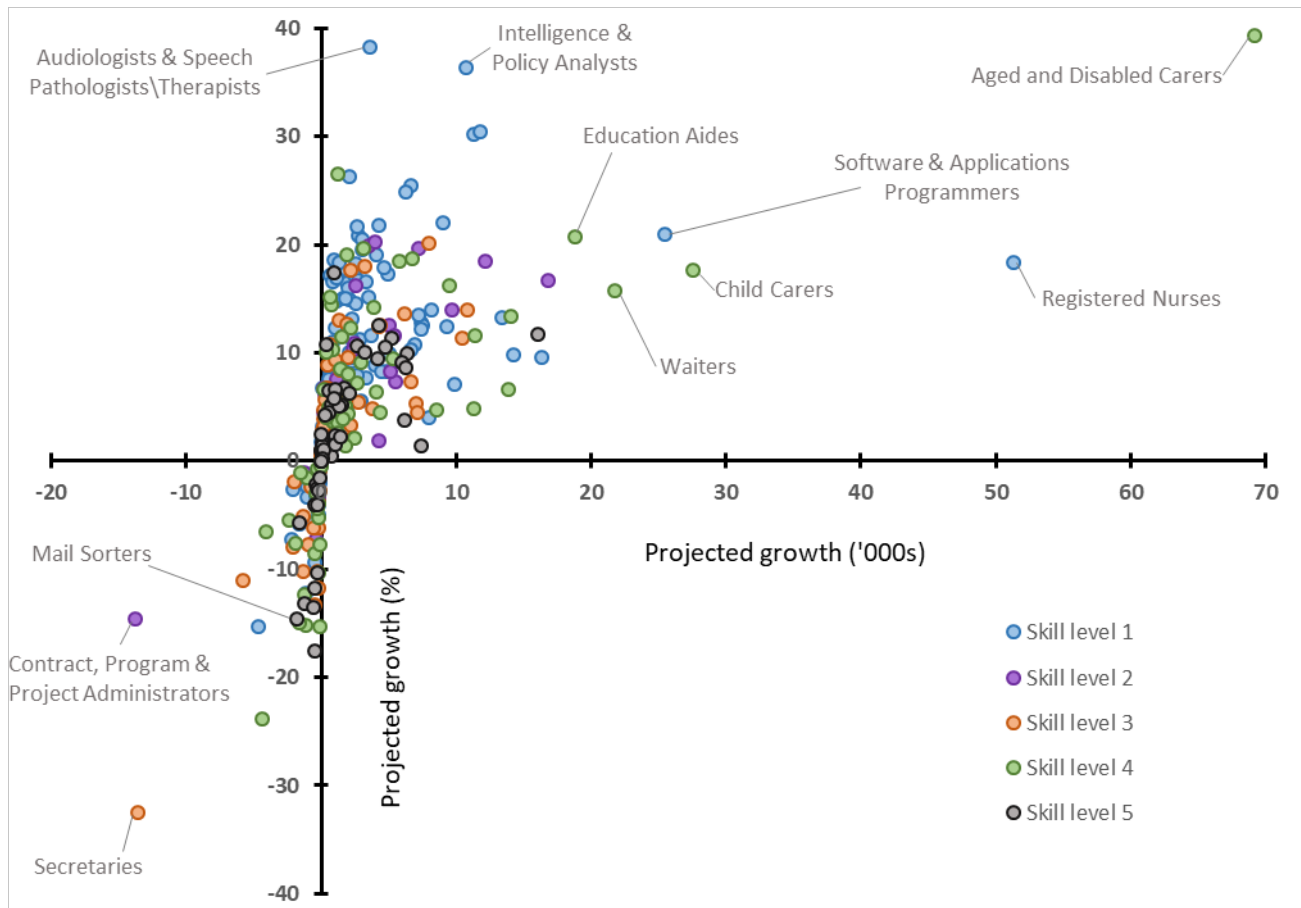


⁶ The Australian Bureau of Statistics (ABS) classifies occupations according to five skill levels commensurate with the following qualification(s) or where relevant work experience with training may be a substitute for formal qualifications:

- Skill level 1: Bachelor degree or higher qualification
- Skill level 2: Advanced Diploma or Diploma
- Skill level 3: Certificate IV or Certificate III with at least two years on-the-job training
- Skill level 4: Certificate II or III
- Skill level 5: Certificate I or secondary education

As shown in Figure 7, occupations with the strongest projected employment growth are dominated by higher skilled occupations (skill level 1) or require some training but have a strong emphasis on human interactions (skill level 4). Nonetheless, projected employment growth differs greatly within each skill level and that there are many opportunities available within each skill level⁷. Importantly, there are many opportunities available in skill level 5 occupations, providing career platforms for job seekers and those looking to enter the labour force; this includes Kitchenhands (up by 16,100 or 11.7 per cent), Sales Assistants (General) (7400 or 1.4 per cent), Security Officers and Guards (6300 or 9.9 per cent), Shelf Fillers (6300 or 8.6 per cent), Commercial Cleaners (6200 or 3.7 per cent) and Building and Plumbing Labourers (6000 or 9.2 per cent).

Figure 7: Projected employment changes for occupations by skill level ('000s and percentage growth)



⁷ These projections only account for net employment growth, with many opportunities presented through the replacement of people leaving occupations and the workforce entirely. The Department estimates that there are roughly 4 to 5 million jobs created through this turnover each year.

Projected employment growth by state and territory

Over the five years to May 2023, employment is projected to increase in all states and territories.

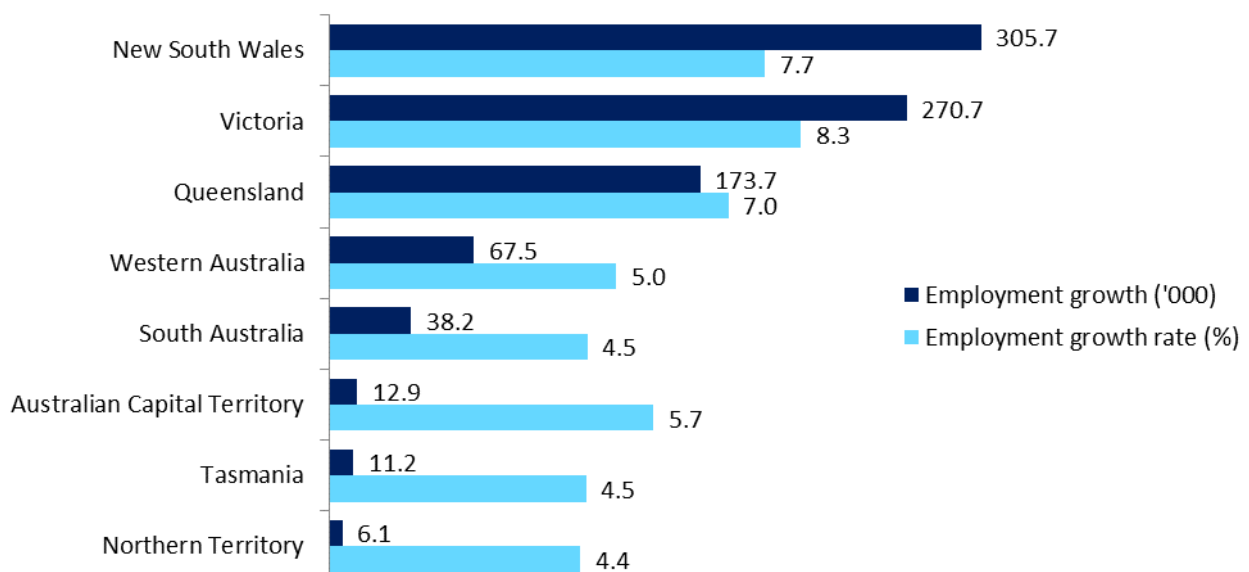
New South Wales, Victoria and Queensland are projected to make the largest contributions to employment growth over the five years to May 2023, with employment projected to increase by 305,700 (or 7.7 per cent) in **New South Wales**, by 270,700 (or 8.3 per cent) in **Victoria** and by 173,700 (or 7.0 per cent) in **Queensland**. Health Care and Social Assistance makes the largest contribution to projected employment growth within all states and territories. The contribution of the Construction and Professional, Scientific and Technical Services industries is stronger in New South Wales and Victoria than elsewhere, delivering 26.3 per cent of the projected total employment growth in New South Wales and 30.6 per cent of that in Victoria. By contrast, Education and Training makes the second largest contribution to projected employment growth in Queensland (15.5 per cent compared with 12.8 per cent nationally and less than 12 per cent in New South Wales and Victoria).

Employment growth over the five years to May 2023 is projected to be slowest in the **Northern Territory** (up by 6100 or 4.4 per cent), followed by **Tasmania** (up by 11,200 or 4.5 per cent) and **South Australia** (up by 38,200 or 4.5 per cent). In each of these states and in the Northern Territory the contribution of Health Care and Social Assistance to projected total employment growth, at around 40 per cent, is well above the national average (28.2 per cent), while the contribution of the Professional, Scientific and Technical Services industry, ranging between five and eight per cent, is well below the 12.0 per cent national average.

The **Australian Capital Territory** (up by 12,900 or 5.7 per cent) and **Western Australia** (up by 67,500 or 5.0 per cent) are also projected to record below average rates of employment growth. In the Australian Capital Territory, the Public Administration and Safety industry makes the second largest contribution (up by 2900) to projected employment growth (22.1 per cent compared with 4.3 per cent nationally), closely followed by Professional, Scientific and Technical Services (up by 2600 or 20.1 per cent of projected employment growth).

In Western Australia, Accommodation and Food Services makes the second largest contribution to projected employment growth (16.8 per cent compared with 9.2 per cent nationally) and, notably, Mining employment is expected to increase by 4000, assisted by a favourable dollar and improved commodity prices.

Figure 8: Projected employment growth by state/territory – five years to May 2023 ('000 and per cent)



Projected employment growth by region

Employment is projected to increase in every region of Australia. Within each state and territory, employment is projected to grow at a higher rate in the capital cities than in the rest of the state or territory.

This reflects the higher overall concentration of employment in fast growing service industries in the capital cities than in regional areas. The greater capital city areas of Sydney, Melbourne and Brisbane are each projected to grow employment at a rate greater than the national average of 7.1 per cent and each has a large share of their employment in the industries that are projected to contribute most to national employment growth.

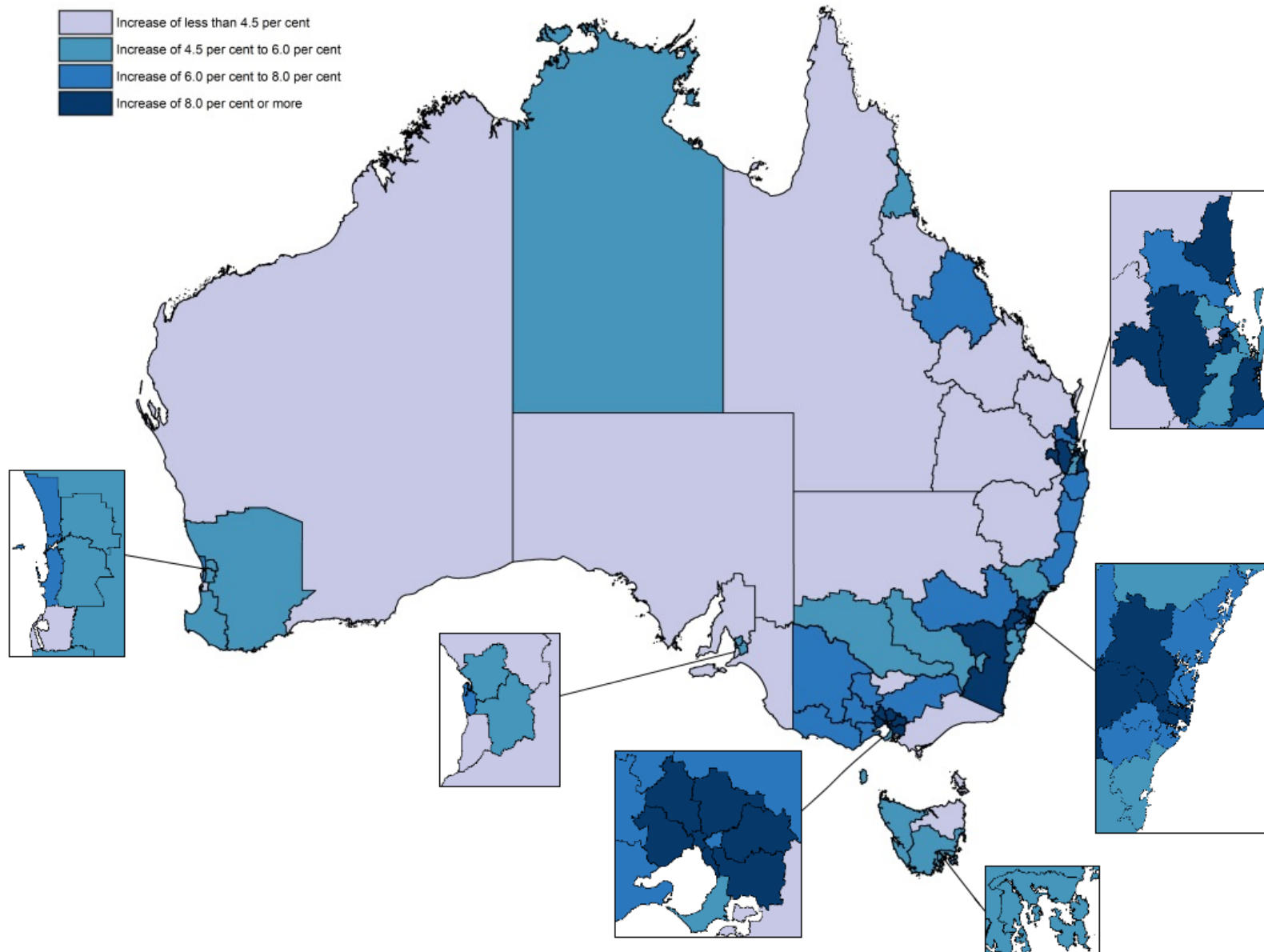
The regional areas of New South Wales, Victoria and Queensland are also projected to have employment growth stronger than metropolitan areas in the remaining states. Employment in the Rest of New South Wales (up by 5.9 per cent or 74,600), Rest of Victoria (5.6 per cent 39,400) and the Rest of Queensland (up by 6.6 per cent or 81,000) are all projected to grow at higher rates than is employment in Greater Adelaide (5.1 per cent or 32,900), Greater Perth (5.3 per cent or 56,100) and Greater Hobart (5.7 per cent or 6200). Strong employment growth is projected for some regional centres, particularly in Queensland, such as the Gold Coast (up by 36,100 or 10.9 per cent) and Sunshine Coast (16,000 or 9.2 per cent), and larger geographical areas such as the Capital Region (up by 8400 or 8.0 per cent).

Three quarters (or 75.3 per cent) of total projected growth is concentrated in the metropolitan areas. Employment across these areas is projected to increase by 7.8 per cent over the period, compared with the 5.7 per cent rate projected for the whole of regional Australia. The highest capital city concentration of projected employment growth occurs in South Australia (86.0 per cent) and the lowest in Queensland (53.4 per cent).

- Employment growth is projected to be stronger in metropolitan areas than in regional Australia for 17 of the 19 industries. The exceptions are the Electricity, Gas, Water and Waste Services and Administrative and Support Services industries.
- Among the metropolitan areas, employment growth is projected to be strongest in Greater Melbourne (up by 231,300 or 9.1 per cent) and Greater Sydney (231,100 or 8.6 per cent), while below average growth is projected for Greater Adelaide (32,900 or 5.1 per cent) and Greater Hobart (6200 or 5.7 per cent).
- Among the regional areas, employment growth is projected to be strongest (in percentage terms) in regional Queensland (81,000 or 6.6 per cent) and regional New South Wales (74,600 or 5.9 per cent). Employment growth is projected to be weakest in regional South Australia (5300 or 2.9 per cent), followed by regional Tasmania (5000 or 3.8 per cent) and regional Western Australia (11,400 or 4.1 per cent).

At the more detailed regional (SA4) level, employment is projected to increase in all regions over the five years to May 2023, with the strongest growth (in percentage terms) projected to be in Sydney - City and Inner South (up by 27,200 or 13.3 per cent) and Sydney - Parramatta (26,600 or 12.0 per cent), while the largest projected increases in employment (in thousands) are for Melbourne - Inner (46,400 or 11.6 per cent) and Melbourne - South East (40,400 or 10.2 per cent). By contrast, employment is projected to be weakest in Queensland - Outback (up by 200 or 0.6 per cent) and Mandurah (300 or 0.9 per cent).

Figure 9: Projected employment growth by region – five years to May 2023 (%)



Background and methodology

Each year, the Department of Jobs and Small Business produces employment projections by industry, occupation, skill level and region for the following five years, the latest being the five years to May 2023. These projections are designed to provide a guide to the future direction of the labour market. However, like all such exercises, they are subject to an inherent degree of uncertainty. Caution should be exercised when using these projections. All efforts have been made to ensure these projections are as accurate as possible, however, data used is inherently volatile and there are a large number of small series.

The projections have been derived from best practice time series models that summarise the information that is in a time series and convert it into a forecast. The projections are made by combining forecasts from autoregressive integrated moving average (ARIMA) and exponential smoothing with damped trend (ESWDT) models, with some adjustments made to take account of research undertaken by the Department of Jobs and Small Business and known future industry developments. The projection for total employment growth is consistent with employment growth for the month of June 2018 and the Government's forecasts and projections for total employment growth from 2018-19 onwards, as published in the 2018-19 Budget.

The projections for total employment by state and territory are not directly comparable with the forecasts and projections published in state and territory budgets, which typically have shorter forecast horizons and different base periods. The Department of Jobs and Small Business' projections are also medium term and point-in-time projections, and are thus not indicative of expected employment growth in the short term.

Further information on Department of Jobs and Small Business' projections, including downloadable spreadsheets, can be found at: lmip.gov.au/default.aspx?LMIP/EmploymentProjections.

Additional information can be obtained from the following links:

- Job Outlook (joboutlook.gov.au), the Department's career information portal
- Labour Market Information Portal (LMIP) (lmip.gov.au), for labour market data and analysis

For further information, please contact Phillip Wise (02 6121 8871) or email phillip.wise@jobs.gov.au. Any media enquiries should be directed to the Department of Jobs and Small Business media unit (media@employment.gov.au).

Labour Market Research and Analysis Branch

Department of Jobs and Small Business

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