



Australian Government  
Department of Employment and  
Workplace Relations

# Workforce Tomorrow

Adapting to a more diverse Australian labour market



**ISBN 0 64232 523 5**

© Commonwealth of Australia 2005

This work is copyright. Apart from any use as permitted under the Copyright Act 1968, no part may be reproduced by any process without prior written permission from the Commonwealth. Requests and inquiries concerning reproduction and rights should be addressed to the Commonwealth Copyright Administration, Attorney General's Department, Robert Garran Offices, National Circuit, Barton ACT 2600.

### **Publications Inquiries:**

Employment Communications Branch  
Department of Employment and Workplace Relations  
GPO Box 9879  
Canberra ACT 2601

[jnmarketing@dewr.gov.au](mailto:jnmarketing@dewr.gov.au)

### **General Inquiries:**

Tel: (02) 6121 6097

### **DISCLAIMER**

This publication is produced for general information only. It is not intended to be, and it does not represent, a statement of the policy of the Commonwealth of Australia, and it does not constitute professional advice for any particular purpose. Whilst the Commonwealth of Australia has exercised reasonable care in producing this publication it does not warrant or represent that the material contained in this publication is accurate, reliable, current or complete. Because the circumstances of users may vary greatly, the material in this publication is not intended to provide specific guidance for particular circumstances and it should not be relied on as the basis for any decision to take action or not take action on any matter which it covers. Users are advised to exercise their own independent skill or judgement or seek professional advice before relying on the information contained in this publication. To the maximum extent permitted by law, the Commonwealth of Australia does not accept any legal liability or responsibility for any injury, loss or damage incurred by the use of, or reliance on, or interpretation of, the information contained in this publication.

# CONTENTS

EXECUTIVE SUMMARY	3
INTRODUCTION	5
CHANGING LABOUR MARKETS	6
OUTLOOK FOR THE NEXT FIVE YEARS	16
WHAT IT MEANS FOR BUSINESS	25
GLOSSARY	28
BIBLIOGRAPHY	29
APPENDIX A	30
Description of MONASH Model Modifications to Represent Population Ageing	
APPENDIX B	32
Detailed MONASH model forecast results	

# LIST OF FIGURES AND TABLES

Figure 1: Employment and Participation Rates for Persons Aged 15 to 64 Years	6	Figure 14: Forecast Reduction in Employment Levels (Thousands of Employed Persons) due to Population Ageing, by Industry, 2004–05 to 2009–10	21
Figure 2: Participation Rates for Males and Females, All Ages	7	Figure 15: Forecast Reduction in Average Annual Employment Growth (Percentage Points) due to Population Ageing, by Occupation, 2004–05 to 2009–10	22
Figure 3: Employment Growth for Selected Industries	9	Figure 16: Forecast Reduction in Employment Levels (Thousands of Employed Persons) due to Population Ageing, by Occupation, 2004–05 to 2009–10	23
Figure 4: Employment Growth for Other Selected Industries	9	Figure 17: Forecast Reduction in Average Annual Employment Growth (Percentage Points) due to Population Ageing, by Hours Worked, 2004–05 to 2009–10	24
Figure 5: Employment Growth by Selected Occupational Groups	10	Table B.1: Forecast Reduction in Average Annual Employment Growth (Percentage Points) due to Population Ageing, by Detailed Industry, 2004–05 to 2009–10	32
Figure 6: Employment by Industry by Selected Age Groups	11	Table B.2: Forecast Reduction in Average Annual Employment Growth (Percentage Points) due to Population Ageing, by Detailed Occupation, 2004–05 to 2009–10	34
Figure 7: Age Profile (45 to 54 Years and 55 Years and Over)—Selected Skill Shortage Occupations	12	Table B.3: Forecast Average Annual Employment Growth and Reduction in Average Annual Employment Growth Due to Population Ageing, by State and Territory, 2004–05 to 2009–10	37
Figure 8: Labour Force Status by Age, Average for All Trades, 2001	13	Table B.4: Forecast Reduction in Employment Levels (Thousands of Employed Persons and Percentage of National Reduction) due to Population Ageing, by Region, 2004–05 to 2009–10	38
Figure 9: Proportion of the Labour Force Aged 45 years and Over by Region, July 2005	14		
Figure 10: Annual Change in Share of People Aged 65 Years and Over in the Population: 1922–2051	16		
Figure 11: Forecast Reduction in Employment Levels (Thousands of Employed Persons) due to Population Ageing, by State and Territory, 2004–05 to 2009–10	19		
Figure 12: Forecast Reduction in Average Annual Employment Growth (Percentage of Baseline Employment Growth Rate) due to Population Ageing, by State and Territory, 2004–05 to 2009–10	19		
Figure 13: Forecast Reduction in Average Annual Employment Growth (Percentage Points) due to Population Ageing, by Industry, 2004–05 to 2009–10	20		

# EXECUTIVE SUMMARY

This report provides new information on the projected impact of population ageing on labour supply, and on employment by industry, region, and occupation for the period 2005 to 2010. This report is also designed to inform employers, large and small, of the challenges they are likely to face in the near future, and to assist them to develop strategies to deal with their workforce needs over the next five years and beyond.

Australia has enjoyed almost a decade and a half of uninterrupted economic growth, and historically strong labour market conditions. Employment growth over the last 12 months has been particularly robust, increasing by 356 400, or 3.7 per cent, to a record high of over 10 million workers in July 2005. The unemployment rate, at 5 per cent, is at its lowest level in nearly thirty years. Economic growth is projected to slow over coming decades as a result of the impact of population ageing on labour force growth. The projected slow-down can be averted by increased productivity and by tapping potential new sources of labour.

The ageing of the population coupled with an already tight labour market, especially for the more skilled occupations, will have significant implications for business. Without sufficient skilled workers, many businesses will have difficulty in continuing to produce their current level of output, let alone in expanding output to keep up with the consumption wishes of Australians and export markets. Indeed, modelling commissioned by the Department of Employment and Workplace Relations shows that population ageing will impact on all major industries and occupations across most Australian regions.

As the population ages skills shortages could become even more acute, particularly in industries where there is already a high proportion of older workers. The number of workers who are already aged 45 years and over is high and growing, although this varies considerably across industries. For instance, the proportion of workers who are 45 years and older ranges from a high of 52.1 per cent in Agriculture, Forestry and Fishing to a low of 24.4 per cent in Retail Trade. Similarly, there are 441 700 workers aged 45 years and over in Health and Community Services and only 31 300 in Electricity, Gas and Water Supply.

There are already skill shortages emerging in most Trades—shortages of Engineering/Metal, Wood and Automotive Tradespersons, and Chefs and Cooks have been evident for over ten years and there are also shortages in some construction trades. Skill shortages for Professionals are evident in the health sector, for Registered Nurses and Health Specialists (such as Physiotherapists). There are also national skill shortages for Accountants, Child Care Workers and Civil Engineers.

Australia is currently undergoing a phase of accelerating population ageing. Over the next five years the estimated impact of population ageing is equivalent to a shortfall of 195 000 workers. In other words, while employment is expected to continue to grow solidly over the next five years, it is likely to be substantially less than it would otherwise have been if the population age structure were to have remained unchanged.

New South Wales has the largest share of the forecast national shortfall in workers, followed by Victoria and Queensland. The Northern Territory has the lowest share. However, the relative impact of population ageing will be greatest in South Australia, the Australian Capital Territory and Tasmania.

As the population ages skills shortages could become even more acute, particularly in industries where there is already a high proportion of older workers.

The modelling also shows that every industry is likely to be adversely affected by population ageing over the next five years. At a national level, Mining and Manufacturing are especially affected. This also holds across all States and Territories (except for Manufacturing in the Northern Territory).

All major occupational groups are forecast to be adversely affected by population ageing. Particularly hard-hit groups include Tradespersons and Elementary and Intermediate Clerical, Sales and Service Workers. As there is already widespread excess demand for Tradespersons, the ageing effect is anticipated to exacerbate an already difficult situation.

With the potential shortfall in workers over the next five years being as large as 195 000 and spread unevenly across industries and occupations, many firms could face a difficult task obtaining the workers they need. This is true especially for firms hiring high proportions of Tradespeople and some lesser skilled occupations and for firms engaged in Mining and Manufacturing.

A tight labour market and the ageing of the population, combined with current skill shortages, could therefore have adverse consequences for many businesses unless they adapt. While some businesses are becoming more aware of the ageing workforce issues and the need to adjust their retention and recruitment practices, more needs to be done.

As labour shortages increase, employers will need to be innovative to attract the shrinking supply of available talent. The workforce of the future will be more diverse; it will consist of more older workers, more parents, more people with disabilities and more people wanting to work part-time; so new strategies will be needed.

Some of the approaches that employers will need to consider include creating and maintaining a more diverse workforce, retaining mature-age employees, mentoring and coaching new employees to improve their productivity, increasing education and training for existing employees, improving the work/family balance for their employees to attract and retain workers with children and/or caring for elders, providing child care facilities in or near the workplace, modifying the workplace and tasks so that they can be performed by employees with various levels of disability, and taking advantage of government incentives to try out new employees with different characteristics from their current employees.



# INTRODUCTION

Australia has enjoyed almost a decade and a half of uninterrupted economic growth, and historically strong labour market conditions. Employment growth over the last 12 months has been particularly strong, increasing by 356 400, or 3.7 per cent, to a record high of over 10 million workers in July 2005. The unemployment rate at 5 per cent is the lowest rate in nearly thirty years. Economic growth, however, is projected to slow over coming decades as a result of the impact of population ageing on labour force growth. The projected slow-down can be averted by increased productivity and by tapping potential new sources of labour.

The Australian labour market is strong and flexible, but there will be challenges in meeting the needs of businesses arising from the impact of an ageing workforce in many industries and occupations, and slower growth in labour supply caused by population ageing, which is likely to exacerbate existing high demand for skilled workers.

The problems posed for Australia by population ageing are already widely known. Just like many other developed countries, Australia's population is ageing as a result of declines in fertility and increasing life expectancies. These effects are offset to an extent by net migration, but new migrants are, on average, only slightly younger than the existing population.

Most reports on ageing deal mainly with the long-run effects of population ageing on society at large and government finances. For example, the *Intergenerational Report 2002–03* projected a shortfall in government finances of 5 per cent of Gross Domestic Product (GDP) by 2041–42. However, profound changes will occur over the next five years as many of those from the baby boom generation still in the workforce begin to retire. The Government, in the 2005–06 Budget, recognised that an ageing population is already having an impact, by reducing the projected growth rate of GDP for 2008–09.

This report therefore focuses on the next five years, 2005–06 to 2009–2010, by analysing the impact of ageing on labour supply, and on employment by industry, region, occupation and skills. This provides information which will assist employers, large and small, to develop strategies to deal with their workforce needs over the next five years and beyond.

# CHANGING LABOUR MARKETS

## The Changing Nature of the Labour Market

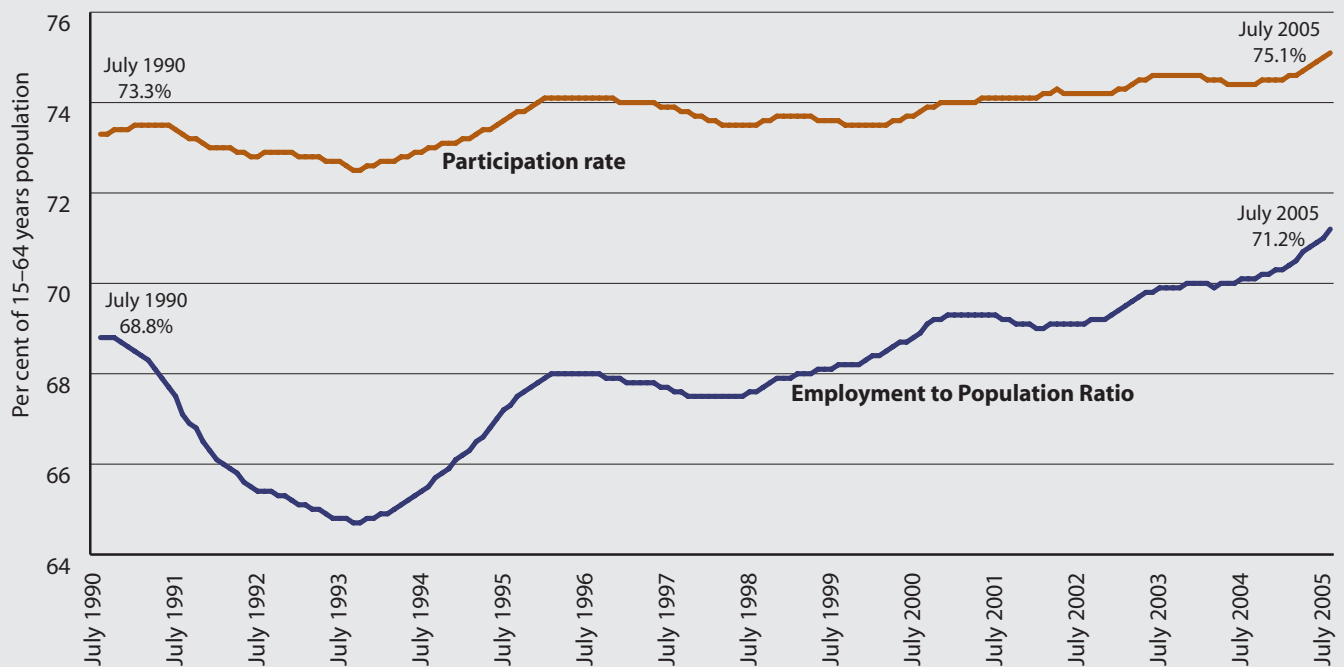
Over the past few decades the Australian labour market has undergone considerable structural change. The ageing of the population, increased participation of women in the workforce, changes in industry structure and a requirement for greater flexibility have all contributed to marked changes in the labour market. Technological advancement, together with economic reforms, has also helped to underpin significant productivity gains and strong employment growth over the period.

For instance, over the last 15 years the employment rate for persons aged 15 to 64 years increased from 68.8 per cent in July 1990 to 71.2 per cent in July 2005 (see Figure 1).

Similarly, the proportion of Australia's working-age population in the labour force (the participation rate for persons aged 15 to 64 years) increased from 73.3 per cent in July 1990 to 75.1 per cent in July 2005.

This fifteen-year period has also been marked by strong growth in part-time employment and substantial changes in the patterns of male and female participation in the labour force. For instance, between July 1990 and July 2005, part-time employment increased by 1 176 900, at an annual average rate of 3.6 per cent, while full-time employment increased by 931 200, at an annual average rate of 0.9 per cent.

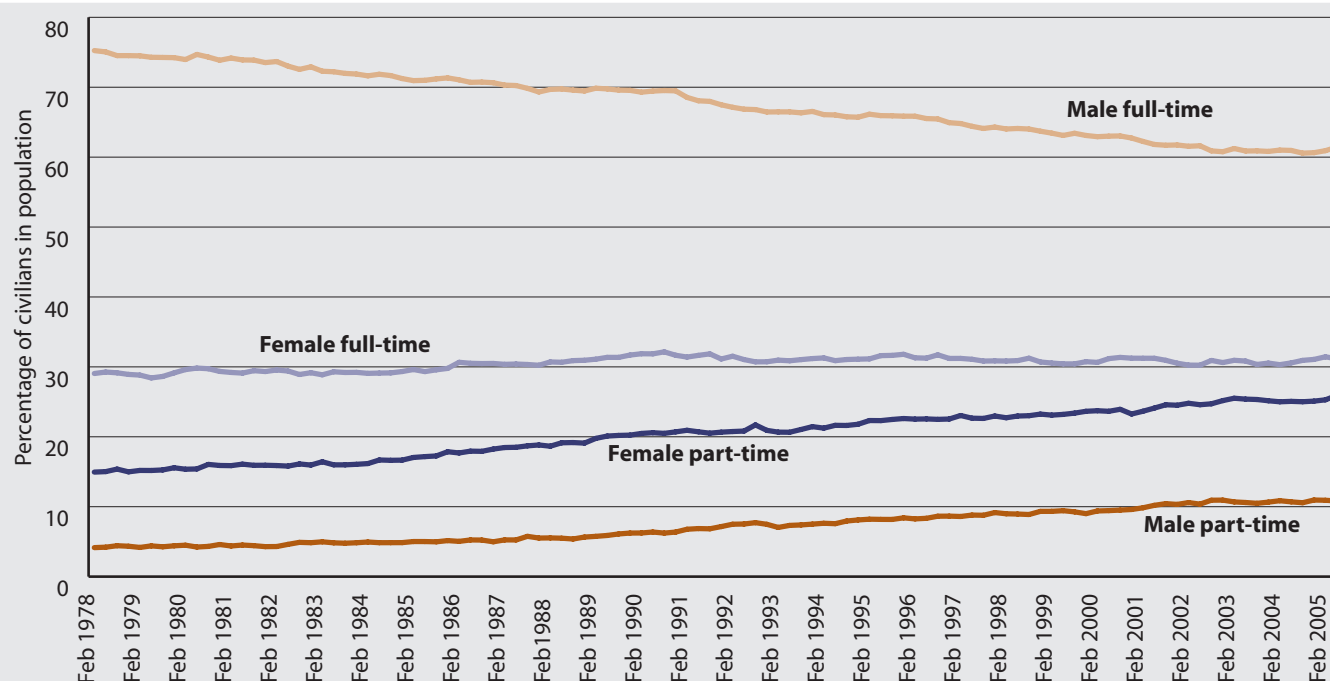
Figure 1: Employment and Participation Rates for Persons Aged 15 to 64 Years



Source: ABS Supertables—Table LM8 (2005). Trended by DEWR using 12 month moving averages.



Figure 2: Participation Rates for Males and Females, All Ages



Source: ABS (2005), *Labour Force, Australia, Detailed—Electronic Delivery* (Cat. no. 6291.0.55.001), data adjusted using technique outlined in Connolly and Neo (2001), *Adjusting Labour Force Series for ABS Definitional Changes in April 1986 and April 2001* with a further adjustment for the 2004 redefinition relating to future starters. The participation rates in this Figure are for civilians aged 15 years and older.

As illustrated in Figure 2, since 1978 the **full-time** participation rate has fallen for males and has stayed approximately the same for females. Over this same period, the **part-time** participation rate has increased for both males and females.

A major factor behind the male full-time participation rate falling is the decline in full-time job opportunities in industries (such as Electricity, Gas and Water; Mining; and Manufacturing) and in occupations where men have traditionally worked. However, this situation is changing with employment increasing over the past two years in industries which were previously in decline and where men working full-time are a high share of the workforce. For example, over the past two years male full-time employment in Construction increased by 14.9 per cent while in Property and Business Services it has increased by 4.9 per cent. Other industries have also recorded significant male full-time jobs growth. For instance, the number of male full-time jobs increased significantly in Retail Trade over the last twelve months, up by 7.9 per cent. Further, some occupations with skill shortages, such as Civil Engineering, also have a high share of their workforce consisting of men working full-time.

There are a number of factors that have underpinned the growing incidence of part-time employment. From an employer's perspective, part-time employment provides

greater flexibility to manage ongoing competitive pressures and changes in technology.

From an employee's perspective, part-time employment, which generally has more flexible working arrangements than full-time work, can allow workers to combine work with family and other responsibilities, thereby encouraging new entrants and retaining valued skills and experience within the workforce. The increased availability of child care, and changing work preferences relating to the work/family balance and changing gender roles, have resulted in a greater preference, particularly by females, for part-time work. Indeed, females have accounted for 63.5 per cent of part-time employment growth over the last 15 years (compared with 49.0 per cent of full-time employment growth over the period).

As could be expected the female labour force participation rate has also increased significantly over the last 15 years, up from 52.7 per cent to 57.4 per cent. This reflects changing work preferences and gender roles, and strong growth in part-time employment, particularly in industries with high female representation. In contrast, the male participation rate has declined over the period, from 75.9 per cent to 72.2 per cent.

Mature-age persons (those aged 45 years and over) are now increasingly more likely to be in work than they were a decade ago. However, reflecting the broader changes in female labour-force participation and changing industry structures, the employment rates for mature-age women have been rising at a faster rate than for mature-age men. For example, the employment rate for women aged 45 to 54 years has risen strongly, from 66.1 per cent in July 1995 to 73.1 per cent in July 2005. In contrast, the employment rate for men aged 45 to 54 years only rose slightly, from 84.4 per cent in July 1995 to 85.6 per cent in July 2005.

Despite the increase in mature-age employment, the participation rate in July 2005 for persons aged 15–44 years (at 78.1 per cent) was still significantly higher than that for persons aged 45–64 years (at 70.4 per cent).

While economic and labour market growth has played a part in this increase in mature-age employment and participation, the ageing of the population, and people taking their jobs with them as they progress into the older age group, are also major factors.

### Employment Rate Trends for Lone Parents and People with Disabilities

The employment rate for lone parents whose youngest child was aged 0–4 years increased from 26.9 per cent in June 1995 to 31.9 per cent in June 2005; for those with a youngest child 5–9 it rose by 6.0 percentage points to 59.7 per cent; and for those with a youngest child 10–14 it rose by 2.7 percentage points to 57.9 per cent. The employment rate for lone parents whose youngest dependant was a student aged 15–24 years increased from 66.0 per cent to 73.1 per cent over the same period. It should be noted that these increases in the employment rate for lone parents have been driven by a combination of factors, including the strong labour market conditions that have prevailed over the period.

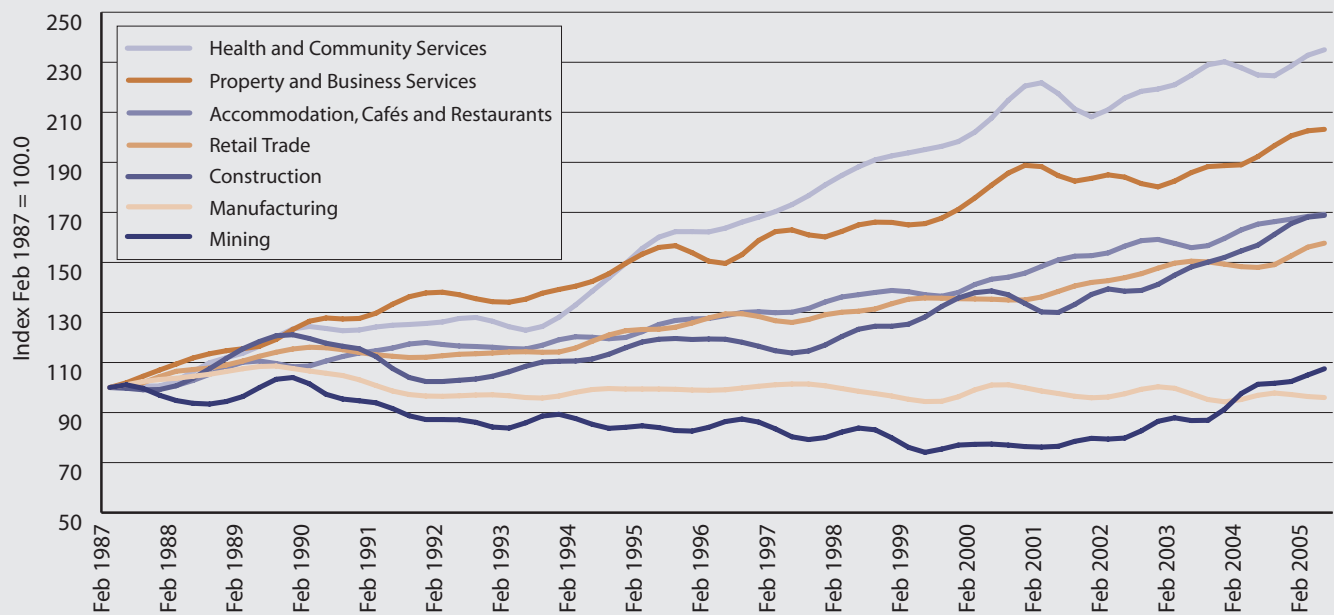
Despite this clear upward trend, however, employment rates for lone parents still lag considerably behind overall employment rates for working age females. For example, in June 2005, the employment rate for females aged 15–64 stood at 65.0 per cent, 11.4 percentage points above the rate recorded for all lone parents with dependants.

The employment rate for all persons with a disability has only increased modestly in recent years. By way of example, between 1998 and 2003 (latest data available), the employment rate for all persons with a reported disability rose from 47.1 per cent to 48.7 per cent. This figure will have been affected by a range of factors beyond the improvements in labour market conditions over this period, including the rate of disability disclosure and the incidence and type of disabilities amongst the disabled population (bearing in mind that potential labour market involvement varies considerably by type and severity of disability).

### Employment Trends by Industry

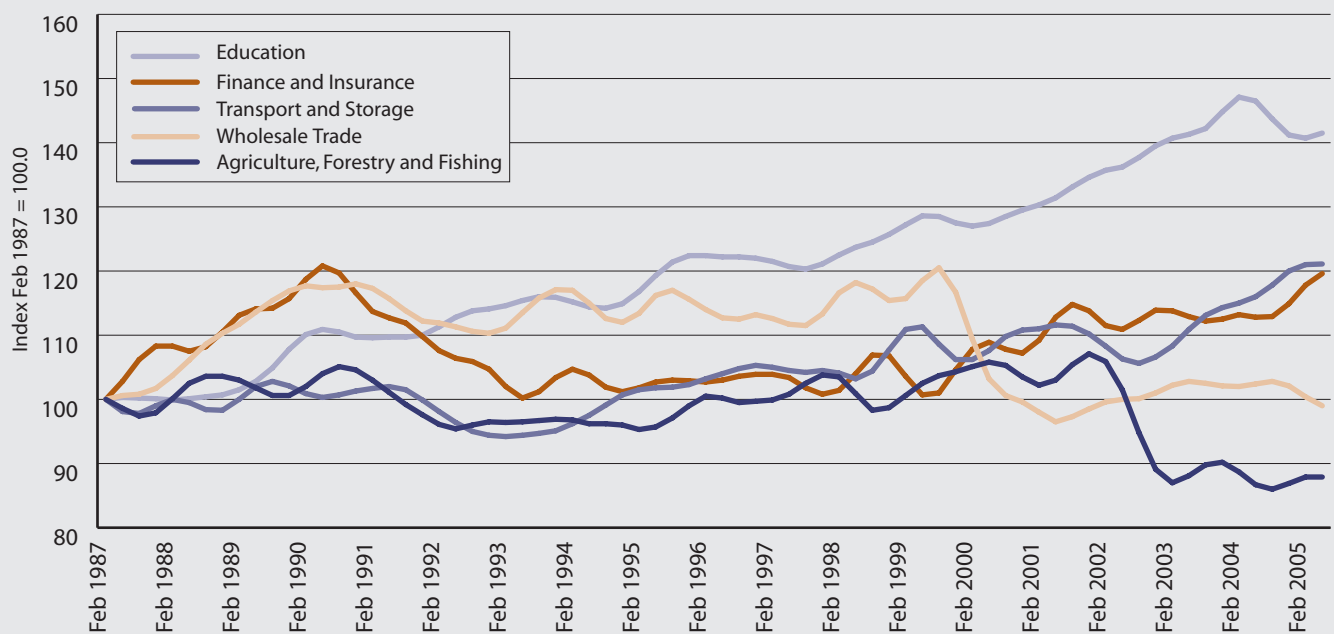
In the past decade employment growth has been dominated by a handful of service industries, and this pattern is expected to continue in the next few years. Five industries—Property and Business Services; Health and Community Services; Retail Trade; Construction; and Accommodation, Cafes and Restaurants (hospitality)—have grown strongly (as shown in Figures 3 and 4) and this growth is expected to continue. In addition, employment in Mining has been growing strongly for the last two years and this is also expected to continue. Manufacturing, while growth is subdued, is the third largest employing industry and has a high level of job turnover. Accordingly, these seven industries have been targeted for the Australian Government's industry strategies which are being implemented by the Department of Employment and Workplace Relations.

Figure 3: Employment Growth for Selected Industries



Source: ABS (2005) *Labour Force, Australia, Detailed—Electronic Delivery* (ABS Cat No 6291.0.55.001).

Figure 4: Employment Growth for Other Selected Industries



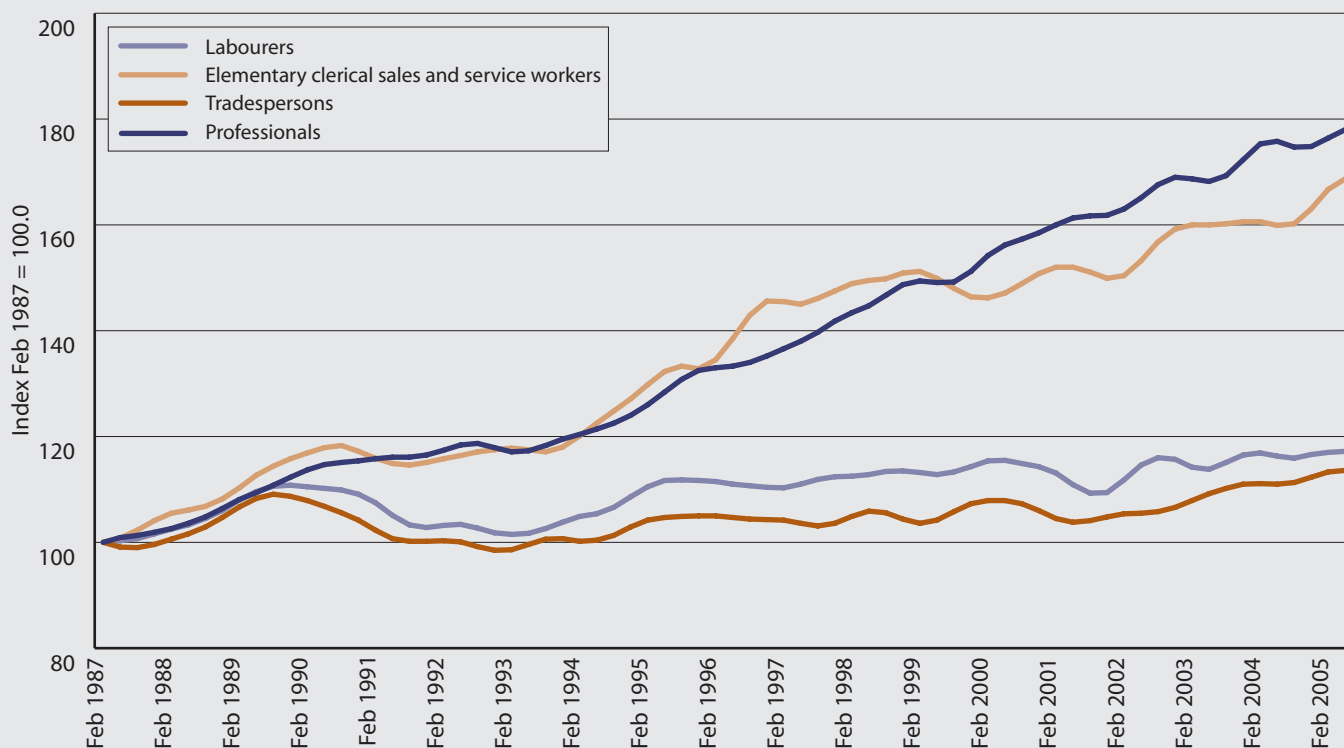
Source: ABS (2005) *Labour Force Survey, Australia, Detailed—Electronic Delivery* (ABS Cat No 6291.0.55.001).

## Employment Trends by Occupation

The skill mix of new jobs will be an important factor that must be taken into account when responding to the challenge of an ageing workforce. Clearly, adjustments to the skill mix will be most difficult where training lead times are long, for example health professionals and most trades.

Employment growth over the past ten years (see Figure 5) has been strongest for Professionals, but strong growth has also been evident for less-skilled service-oriented jobs. Overall, there has been limited employment growth for Tradespersons and Labourers, although employment has grown for specific occupations in these groups.

Figure 5: Employment Growth by Selected Occupational Groups



Source: ABS (2005) *Labour Force, Australia, Detailed—Electronic Delivery* (ABS Cat No 6291.0.55.001). Concorted and trended by DEWR.

## An Ageing Workforce and its Impact on Industry and Occupation

The ageing of the population will have several direct effects on the workforce. First, the rate of inflows from younger people has already started to fall. For example, while the working-age population grew, on average by around 175 000 people every year from 2000 to 2005, this will fall to 138 000 in 2010 and an average of about 57 000 a year in the period 2020 to 2030<sup>1</sup> partly due to relatively low fertility rates. Second, existing employees are getting older, and there has been a tendency for many of them to retire at around 55 years of age and for employers to target recruitment at younger and prime-age people.

As shown in Figure 6, both the number (and proportion) of workers who are aged 45 years and over varies considerably by industry. For instance, the proportion of workers within an industry who are 45 years and over varies from a high of 52.1 per cent in Agriculture, Forestry and Fishing to a low of 24.4 per cent in Retail Trade. Similarly, the number of workers aged 45 years and over varies considerably, from 441 700 in Health and Community Services to 31 300 in Electricity, Gas and Water Supply.

In May 2005<sup>2</sup> over half of all employed people aged 45 years and over were in five industries: Health and Community Services (441 700); Property and Business Services (395 700); Manufacturing (378 200); Education (392 000); and Retail Trade (363 200).

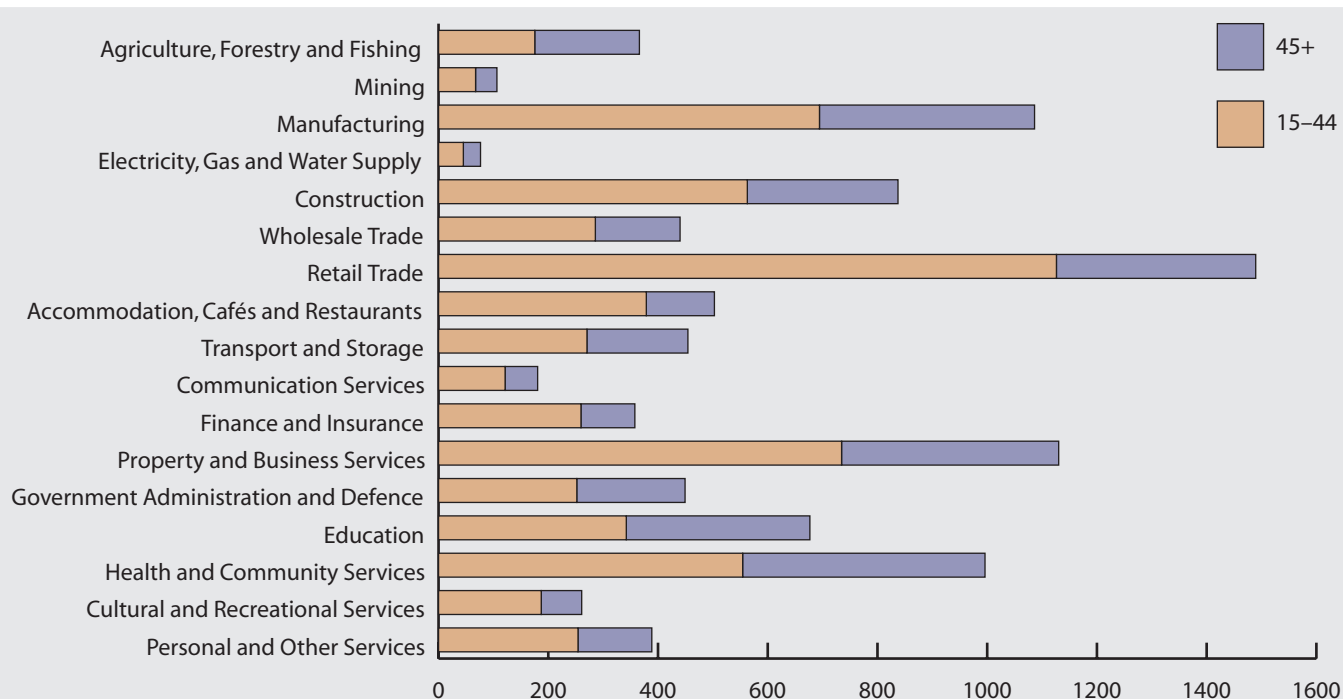
While every industry will be affected by demographic change in the coming decades, those with a high proportion of workers who are aged 45 years and over, and have recorded large increases in mature-age workers in recent years, are likely to face the most disruption from population ageing.

Over the past decade, Education recorded the largest increase in the proportion of workers aged 45 years and over, up by 13.6 percentage points to 49.4 per cent in May 2005. Government Administration and Defence recorded the second largest increase (up by 12.9 percentage points to 43.9 per cent), followed by Health and Community Services (up by 12.4 percentage points to 44.4 per cent).

<sup>1</sup> Refers to twelve months to 30 June of the specified year. Source: Productivity Commission population projections—Series M, *The Economic Impacts of an Ageing Australia*.

<sup>2</sup> Using four-quarter average data.

Figure 6: Employment by Industry by Selected Age Groups



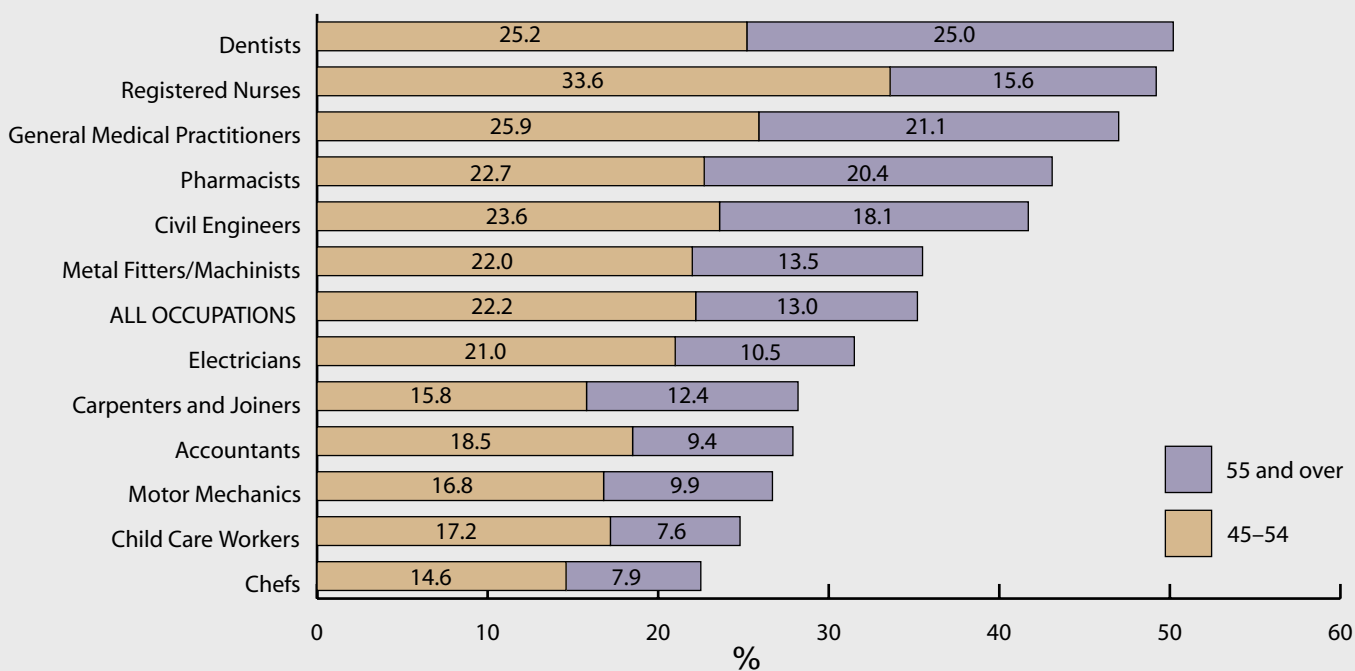
Source: ABS (2005) *Labour Force, Australia, Detailed—Electronic Delivery* (ABS Cat No 6291.0.55.001).

The industry with the smallest proportion of workers aged 45 years and over in May 2005, Retail Trade (24.4 per cent), also recorded the smallest increase in the proportion of its workforce that was aged 45 years and older over the past decade, up by only 2.2 percentage points. Accordingly, while Retail Trade is the fifth largest employer of mature-age persons, it is less likely to experience serious disruption from population ageing than other industries such as Manufacturing.

Of more direct relevance to emerging skill issues, is the age profile for occupations where skill shortages are evident. Figure 7 presents the share of older-age workers for selected occupations facing skill shortages. The graph highlights the high proportion of mature-age workers for many professional occupations where national skill shortages are evident—for example, Dentists, Registered Nurses and Pharmacists. Even though professionals typically continue working in the occupation relevant to their skills and qualifications to retirement, the impact of the ageing of the workforce will become evident in the next few years and skill shortages may worsen, especially in regional areas.

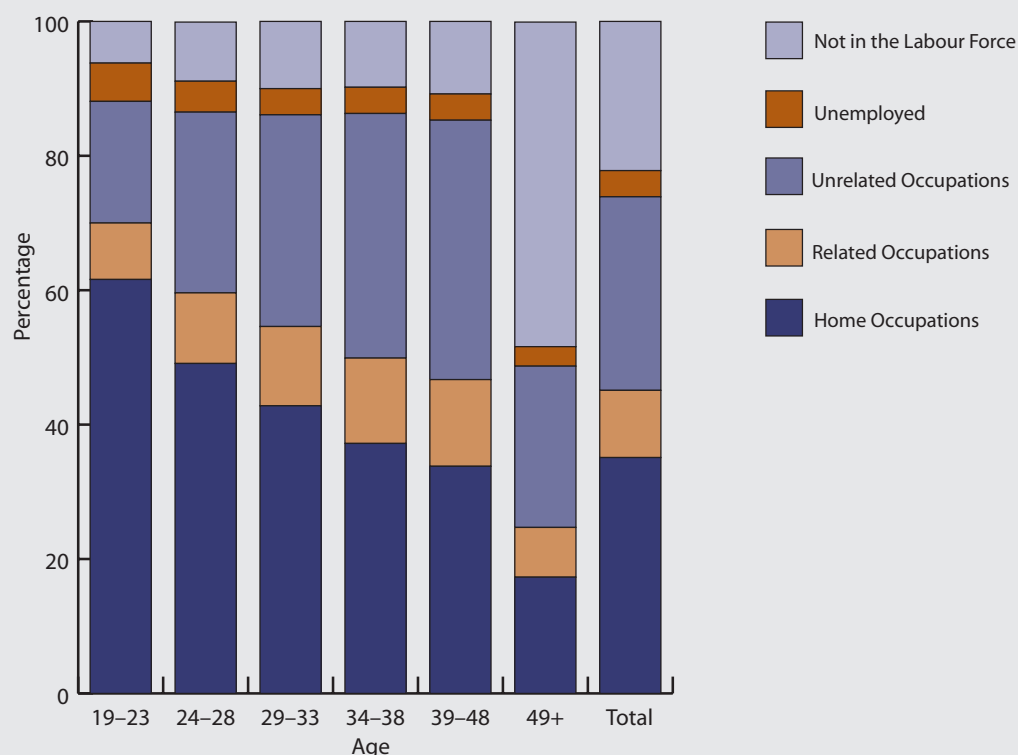
The situation for Tradespersons is not as clear-cut. The share of mature-age workers for many Trades in national shortage, such as Electricians and Motor Mechanics, is below the national average. This runs counter to industry concerns about ageing of the trades workforce. While the age profile is tilted to mature-aged workers for occupations such as Metal Fitters and Machinists, there is a more important factor at work—most Tradespersons move out of the occupation in which they trained (their ‘home’ occupation) well before retirement age, and their skills are, at least to some extent, ‘wasted’. While the movement of people out of the trades in which they trained (as illustrated in Figure 8) would be partly related to career progression, strategies to increase retention may be worth examining.

**Figure 7: Age Profile (45 to 54 years and 55 years and over)—Selected Skill Shortage Occupations**



Source: ABS *Labour Force Survey* annual average data for 2004.

Figure 8: Labour Force Status by Age, Average for All Trades, 2001



Source: ABS, *Census of Population and Housing 2001* data, adjusted by NCVET apprenticeship completions by age data.

## Demand for Skills

Demand for labour remains strong and this has contributed to a broadening of skill shortages, especially for the Trades. There are skill shortages in most Trades—shortages of Engineering/Metal, Wood and Automotive Tradespersons, and Chefs and Cooks are evident and there are also shortages in some Construction Trades.

- Skill shortages for Professionals are mainly evident in the health sector, for Registered Nurses and Health Specialists (such as Physiotherapists). There are also national skill shortages for Accountants, Child Care Workers and Civil Engineers.
- Most Trades have been in persistent shortage, although shortages are more cyclical for Construction and, to some extent, Engineering.
- There has been a pick-up in demand for Information and Communication Technology (ICT) skills, as evidenced by higher levels of online vacancies. There are ICT skill shortages in some States, especially New South Wales.

A survey of 768 manufacturing firms conducted in September 2004, by the Australian Industry Group<sup>3</sup> reported that there were between 18 000 and 21 000 unfilled vacancies for skilled Tradespersons in the Manufacturing industry.

One in two firms surveyed reported difficulties in finding skilled labour, with the greatest difficulties being in metal-based manufacturing sectors, in Queensland and in small firms.

The availability of suitably qualified labour is an important constraint on business investment and activity in Australia. In the National Australia Bank's *Quarterly Business Survey* for the June quarter 2005, the availability of suitably qualified labour was the second most important factor (after sales and orders) in terms of being a significant constraint on business output. A similar picture emerges in the ACIL-Tasman/ACCI *Survey of Investor Confidence* for July 2005, where the availability of suitably qualified employees was the second most important constraint on investment. In the latter survey, wages and non-wage labour costs (which can be raised by insufficient labour supply) were also major constraints on investment.

<sup>3</sup> Australian Industry Group (2004), *Australia's Skills Gap: Costly, Wasteful and Widespread*, A report on the nature and depth of skills shortages in manufacturing, AI Group economics, September.

## Labour Market Conditions by Region

Labour market conditions vary considerably across Australia as a result of differences in the performance of the local economy, the diversity of a region's industry base and the skill level of the regional labour force, as well as other factors such as population density, natural resources, the rate of population growth and the area's demographic profile.

Not surprisingly, then, there is some variation in key labour market indicators by region. For instance, in July 2005 the unemployment rates in metropolitan and non-metropolitan Australia stood at 4.6 per cent and 5.4 per cent respectively. Similarly, the metropolitan participation rate (65.6 per cent) was higher than that in non-metropolitan Australia (62.5 per cent).

While there are differences in labour market performance between metropolitan and non-metropolitan Australia, this disparity has narrowed in recent years. Importantly, both experienced strong employment growth over the year to July 2005, with employment in metropolitan Australia increasing by 226 700 (or 3.7 per cent) while in non-metropolitan Australia it rose by 121 300 or (3.4 per cent).

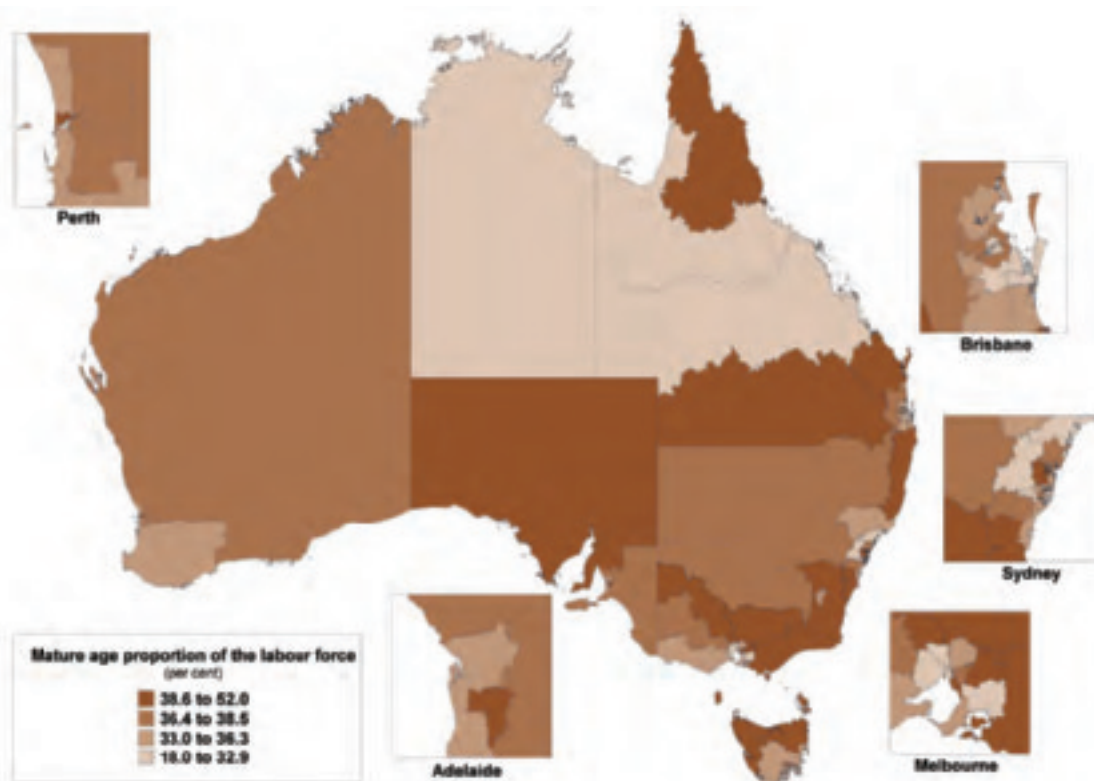
There are significant differences in the demographic structure of the labour force across Australia (as illustrated

in Figure 9) which means that the impact of population ageing will vary considerably from region to region.

These differences are due to a number of factors, including fertility rates, the pace of population growth and population movements between areas. A region's age profile can be affected by young adults leaving to study or look for work in areas with better educational facilities or stronger and more diverse labour markets. On the other hand, certain regions have experienced inflows of older persons of both working and retirement age, attracted by a range of factors including favourable climates, cheaper housing costs and other lifestyle benefits.

As illustrated in Figure 9, there are even greater differences in the proportion of the labour force aged 45 years and over at the regional level. For example, 44.1 per cent of the labour force in Richmond-Tweed and Mid-North Coast (in NSW) was aged 45 years and over in July 2005, the highest proportion of any region in Australia. Conversely, the region with the smallest proportion of the labour force aged 45 years and over was Inner Melbourne (19.4 per cent). Other regions where mature-age people comprise a particularly high proportion of the labour force include Wide Bay-Burnett in Queensland (42.0 per cent), Central Northern Sydney (41.4 per cent), Northern and Western South Australia (41.2 per cent), and Far North Queensland (41.0 per cent).

Figure 9: Proportion of the Labour Force aged 45 years and Over by Region, July 2005



Source: ABS (2005) *Labour Force, Australia, Detailed—Electronic Delivery* (Cat No: 6291.0.55.001)

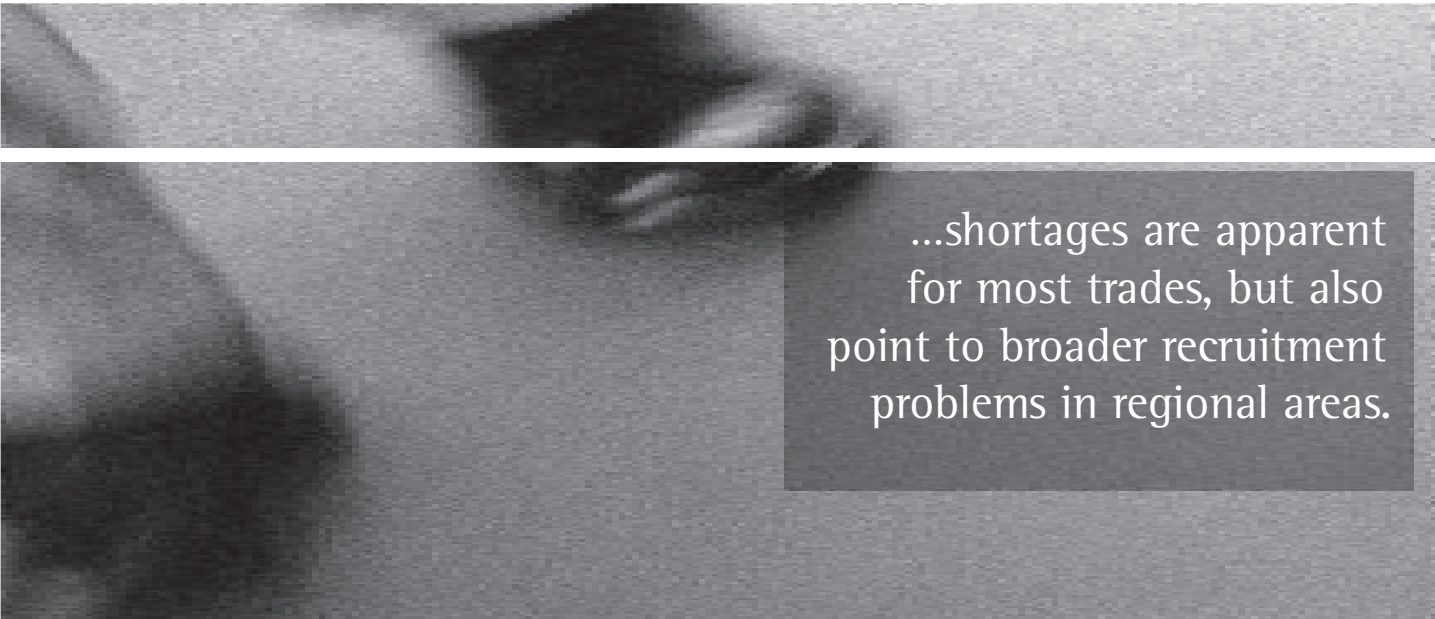


The strengthening of the Australian labour market in the past few years has resulted in falling unemployment and the broadening of skill shortages, including in many regional areas. Demand for regional skill shortage information from industry, employment service providers, regional organisations and State and Australian government agencies has increased, and there is demand for data on regional skill needs to help target regional migration, develop industry strategies to address regional skill shortages and inform employment services and local education and training.

To determine the feasibility of collecting information on recruitment difficulties facing regional employers and assessing skill shortages on a regional basis, the Department of Employment and Workplace Relations (DEWR) conducted six telephone-based pilot surveys during late 2004.

- Pilots were conducted for Adelaide, the Riverina, Townsville, central western New South Wales, Gippsland/Latrobe Valley and Tasmania.

Findings from the pilot surveys indicate that in regional areas of Australia employers are experiencing problems attracting applicants for a range of occupations, from reasonably low-skilled work such as labouring and cleaning to trades and professional employment. About two-thirds of vacancies were filled four to six weeks after advertising. Only about a quarter of applicants were considered by employers to be suitable for their vacancies, with lack of skills or experience being the main factors for applicants being considered unsuitable. The results support the work undertaken by State Offices of DEWR that shortages are apparent for most trades, but also point to broader recruitment problems in regional areas.



...shortages are apparent for most trades, but also point to broader recruitment problems in regional areas.

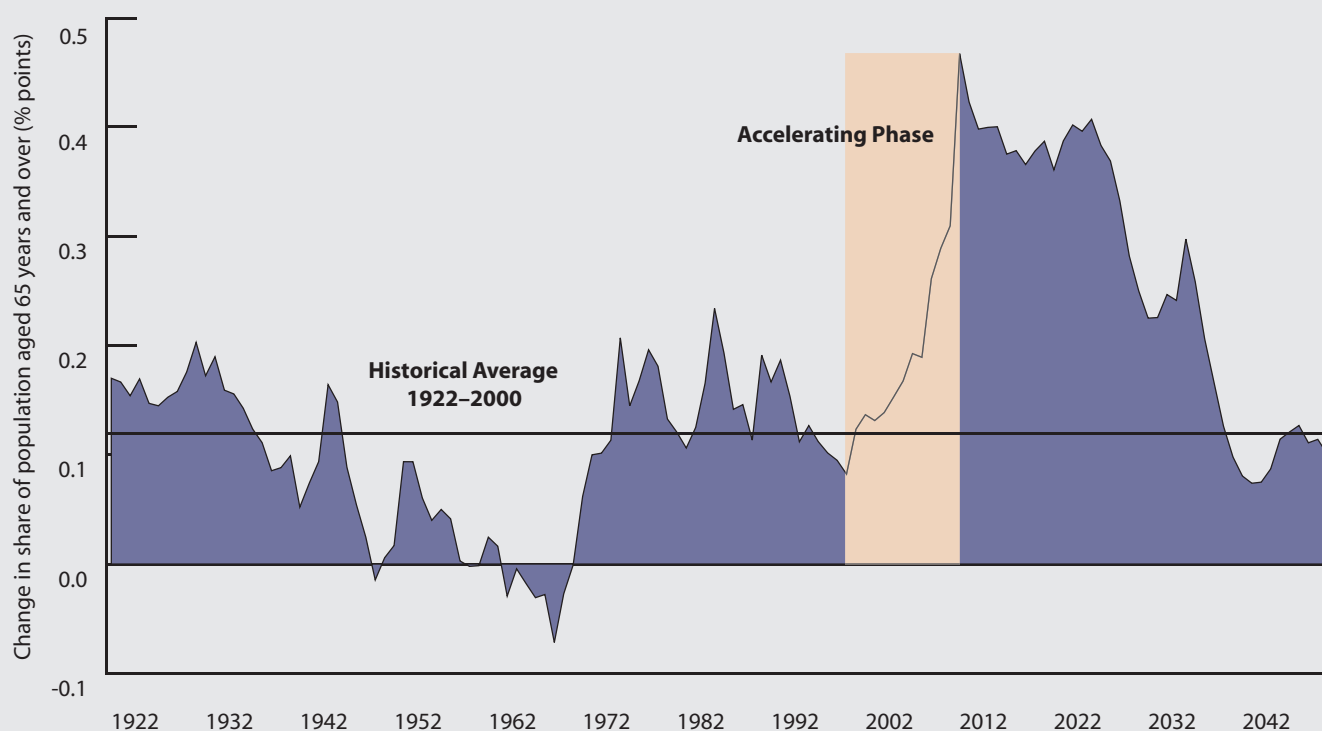
# OUTLOOK FOR THE NEXT FIVE YEARS

The labour market is currently very tight and is likely to remain so, particularly as Australia is also **currently undergoing a phase of accelerating population ageing**. Between now and 2012 there is projected to be a sharp rise in the annual percentage point change in the share of the population aged 65 years and older. This is shown in Figure 10.

In view of this accelerated rate of ageing, coupled with the strong labour market and labour shortages, DEWR commissioned the Centre of Policy Studies (CoPS) at Monash University to model the interaction of ageing and employment and to identify in particular the impact of ageing on labour supply and employment. (The methodology is described in Appendix A.)

At the national level, the estimated effect of population ageing is forecast to be quite significant over the next five years, with the average annual employment growth rate falling from around 1.9 per cent per annum in the absence of population ageing to a baseline level of 1.5 per cent per annum in the presence of population ageing. The divergence in growth rates is equivalent to a **shortfall of 195 000 workers over the next five years** as a result of the effects of population ageing. In other words, while employment is expected to continue to grow solidly over the next five years, it is likely to be substantially less than it would otherwise have been if the population age structure were to have remained unchanged.

Figure 10: Annual Change in Share of People aged 65 years and Over in the Population: 1922–2051



Source: Productivity Commission (2005), *Economic Implications of an Ageing Australia*, p 9.

These forecasts are an indication of likely developments in the absence of major policy responses and unforeseen structural changes, rather than a firm prediction of what is going to happen over the next five years. They are subject to the accuracy of the structure of the MONASH model and assumptions about economic developments used in the present baseline of this model (more information on these is provided in Appendix A). In particular, it is assumed that there will be a fairly benign economic environment over the next five years, with no major disruptions to the economy.

It is possible that more people who are currently outside the labour force or who are considering retirement in the next five years could be encouraged to join or remain in the labour force in response to the additional employment opportunities and higher relative wages for occupations in demand, than has been estimated in these forecasts. For example, the modelling does not incorporate changes in labour supply for those people who will be affected by the welfare-to-work measures announced in the Australian Government's 2005–06 Budget<sup>4</sup>. It is also possible that employers could respond to a shortfall of workers by substituting capital for labour (such as by replacing employees by machines and computer software) to a greater extent than modelled.

The Australian Government's proposed workplace relations changes could also lead to stronger demand for workers than has been modelled in this project. Unless there is a corresponding increase in labour supply in response to these changes, it is possible that the prospective shortfall in workers could be even higher than modelled here. Balancing this, these proposed changes are aimed at improving productivity, which would help businesses to maintain output in the face of shortfalls in employment.

---

<sup>4</sup> The Treasurer announced in the Budget that there will be a requirement for income support recipients who are parents of school-age children and people with disabilities who are capable of working between 15 and 29 hours a week to look for part-time work. Also, job seekers over 50 will have the same job search requirements as other job seekers.



The divergence in growth rates is equivalent to a shortfall of 195 000 workers over the next five years as a result of the effects of population ageing.

## Employment by State/Territory and Region

New South Wales has the largest share of the forecast national shortfall in workers, followed by Victoria and Queensland. The Northern Territory has the lowest share (as illustrated in Figure 11). However, the relative impact of population ageing on forecast employment growth rates differs considerably from this distribution, driven as it is by the population size of each State. South Australia, the Australian Capital Territory and Tasmania are the most adversely affected by ageing and the Northern Territory is the least affected (see Figure 12).

More detailed regional forecasts, for the 56 separate ABS Labour Force Regions of Australia, are provided in Appendix B. While the regional forecasts should be treated with caution given the presence of generally larger sampling errors in regional labour force data and the fact that population ageing was modelled mainly at the national level, a couple of general trends are apparent:

- The regional industry pattern is broadly similar to the national industrial pattern i.e. Mining is the most severely affected industry for **almost all** regions. Conversely, Construction is the least severely affected industry, again for almost all regions. In fact, population ageing is forecast to have a positive effect on construction employment growth in a lot of regions.
- Particular remote areas (including the Pilbara, Goldfields and Midwest of WA, Northern SA, and Northern Queensland) seem to be the worst affected.


Given the high rate of population growth in Queensland and Western Australia, it is not surprising that employment in these States increased strongly over the last five years, up by 17.8 per cent and 14.5 per cent respectively. It is important to note, however, that these increases were not simply a reflection of strong population growth, as reflected by the substantial rise

in the working-age (15 to 64 years) employment rate in both Western Australia (up by 2.7 percentage points to 74.0 per cent) and Queensland (up by 3.0 percentage points to 73.5 per cent).

In accordance with past trends, the baseline rates of employment growth over the next five years are expected to be strongest in the Northern Territory, Western Australia and Queensland (see Appendix B). This is a key reason why these three zones have the lowest forecast reduction in employment growth in Figure 12.

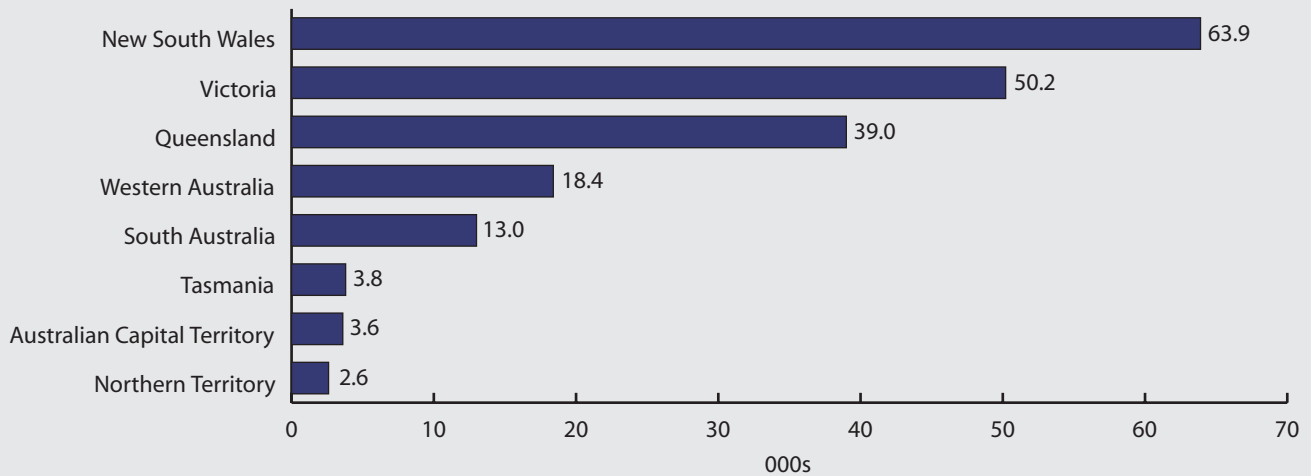
Employment growth was more subdued in the other States and Territories, although South Australia and Tasmania both recorded significant increases in their employment rates (up by 3.3 percentage points to 71.3 per cent and by 2.6 percentage points to 66.7 per cent respectively). Despite this, South Australia and Tasmania are forecast to have the slowest forecast baseline rate of employment growth over the next five years (see Appendix B).

One important difference between the Northern Territory and the rest of Australia is that the Northern Territory has a high proportion of Indigenous people. The Indigenous population has a younger age distribution and is estimated to have a higher fertility rate than the non-Indigenous population. This will tend to partially offset the effects of population ageing. Also, in addition to being affected by shortages of intermediate level workers, it seems that the Northern Territory will be afflicted by more severe shortages of Professionals and less affected by shortages of Tradespersons. So while most States and Territories should broadly follow national trends, the Northern Territory will feel the effect of population ageing in a different way to the rest of the country.



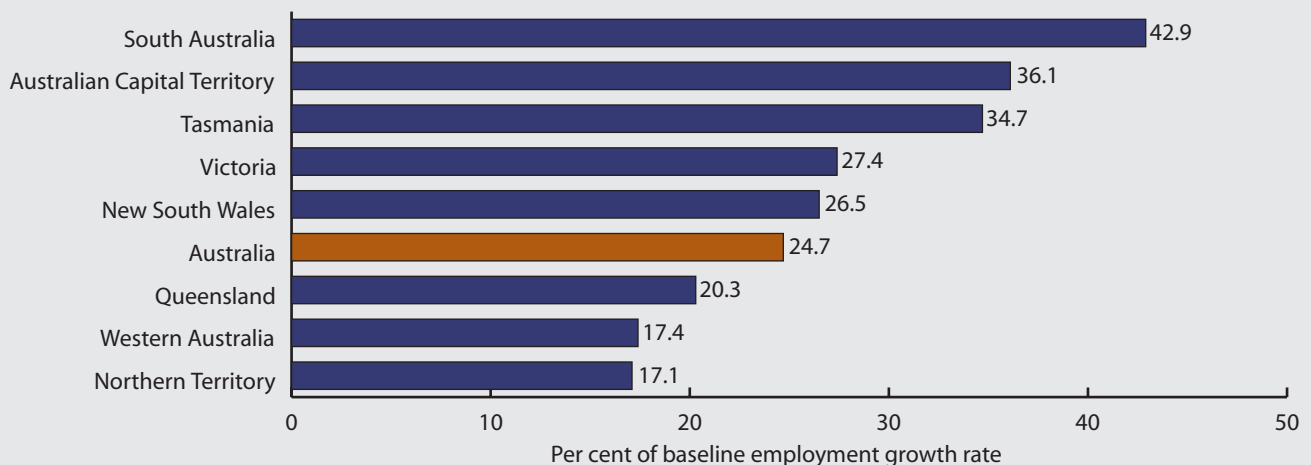
New South Wales has the largest share of the forecast national shortfall in workers, followed by Victoria and Queensland.

**Figure 11: Forecast Reduction in Employment Levels (Thousands of Employed Persons) due to Population Ageing, by State and Territory, 2004–05 to 2009–10**



Source: Centre of Policy Studies, MONASH model forecasts.

**Figure 12: Forecast Reduction in Average Annual Employment Growth (Percentage of Baseline Employment Growth Rate) due to Population Ageing, by State and Territory, 2004–05 to 2009–10**



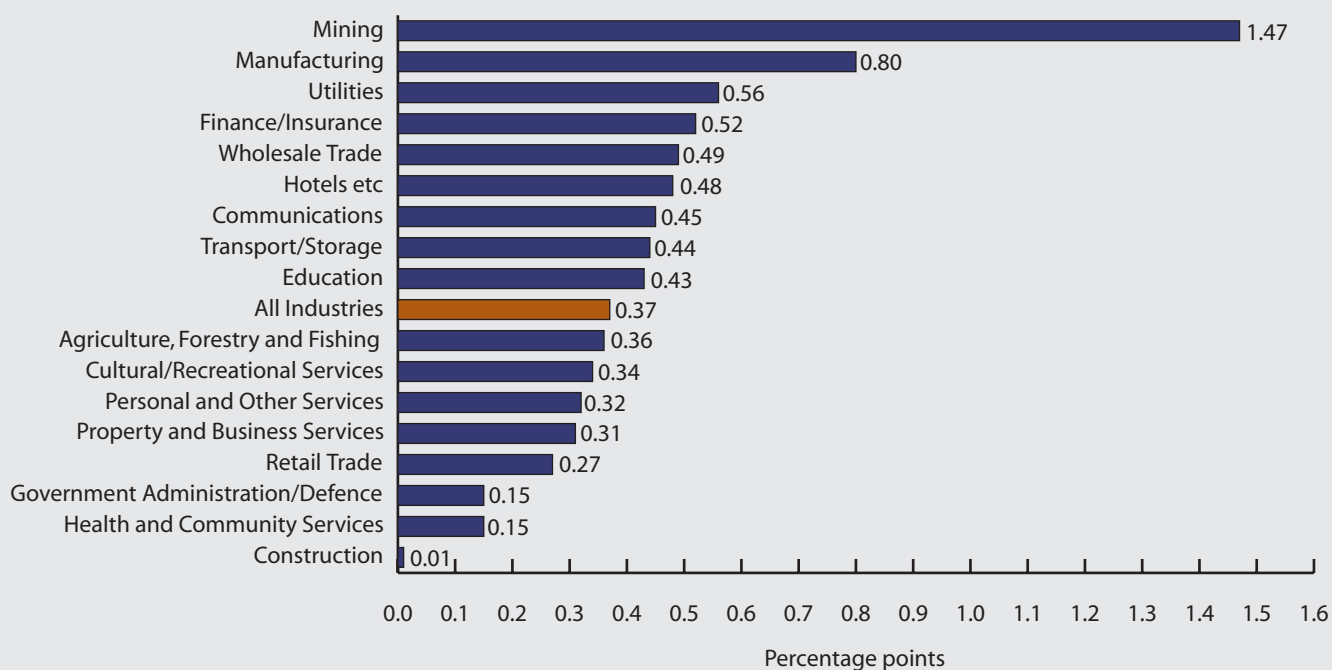
Source: Centre of Policy Studies, MONASH model forecasts.

## Employment by Industry

The modelling shows that employment in every industry is forecast to be adversely affected by population ageing over the next five years (see Figure 13). At a national level, Mining and Manufacturing are especially affected. This also holds across all States and Territories (except for Manufacturing in the Northern Territory). It is worth bearing in mind that Mining is a highly capital-intensive industry and only makes up a small proportion of total employment. Therefore, while labour-intensive industries, such as Construction; Personal and Other Services; Property and Business Services; Health and Community Services; and Retail, are forecast to be less affected, these industries make up a large proportion of total employment. Nationally, Electricity, Gas and Water Supply; and Finance and Insurance; will also be more adversely affected than average, but the extent to which individual States and Territories will be affected is varied. These industries are concentrated in the larger States, particularly New South Wales and Victoria, so they tend to influence the national outcome. Subdivisions within Wholesaling and Transport and Storage are also forecast to be more affected than average at the national level, as shown in Appendix A.

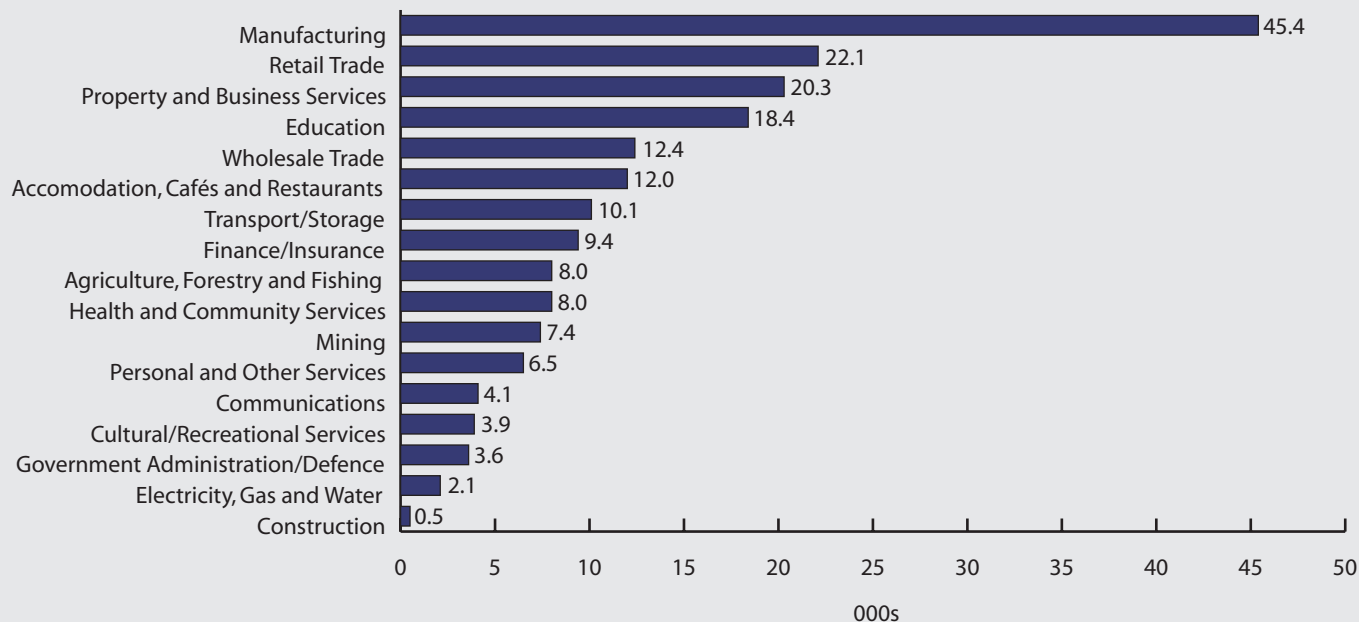
In terms of total numbers of workers affected, the three industries which are expected to be most severely affected by population ageing over the next five years are Manufacturing, Retail Trade and Property and Business Services (see Figure 14).

**Figure 13: Forecast Reduction in Average Annual Employment Growth (Percentage Points) due to Population Ageing, by Industry, 2004–05 to 2009–10**



Source: Centre of Policy Studies, MONASH model forecasts. The industrial grouping used for this Chart is the ABS's ANZSIC divisions classification.

**Figure 14: Forecast Reduction in Employment Levels (Thousands of Employed Persons) due to Population Ageing, by Industry, 2004–05 to 2009–10**



Source: Centre of Policy Studies, MONASH model forecasts. The industrial grouping used for this Chart is the ABS's ANZSIC divisions classification.

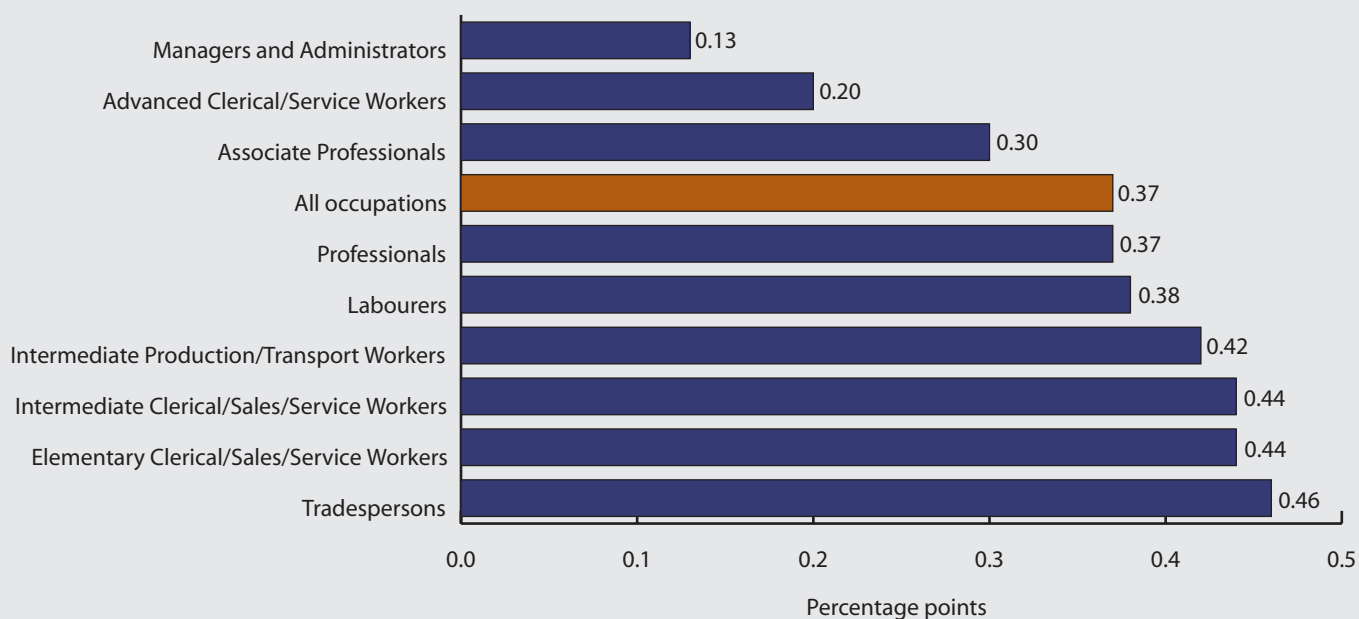
## Employment by Occupation

All major occupational groups are forecast to be adversely affected by population ageing (as illustrated in Figure 15). Particularly hard-hit groups include Tradespersons and Elementary and Intermediate Clerical, Sales and Service Workers. As there is already widespread excess demand for tradespersons, the ageing effect is anticipated to exacerbate an already difficult situation.

The effect on professionals is forecast to be the same as the all-occupations average, while some slightly lesser skilled occupational groupings (Associate Professionals and Advanced Clerical and Service Workers) are forecast to be less affected than average. In terms of skill levels, it appears that semi-skilled and unskilled occupations will be most greatly affected.

In terms of total numbers of workers, Professionals and Intermediate Clerical, Sales and Service workers are forecast to be most adversely affected by population ageing, while there is also forecast to be a sizable shortfall of Tradespersons (as shown in Figure 16).

**Figure 15: Forecast Reduction in Average Annual Employment Growth (Percentage Points) due to Population Ageing, by Occupation, 2004–05 to 2009–10**



Source: Centre of Policy Studies, MONASH model forecasts. The occupational grouping used for this Chart is the ABS's ASCO major groups classification.