Past, present and future of mature age labour force participation in Australia:

How do regions differ?

April 2014

Productive Ageing Centre

National Seniors Australia

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About National Seniors Productive Ageing Centre

National Seniors Australia (National Seniors) is a not-for-profit organisation that gives voice to issues that affect Australians aged 50 years and over. It is the largest membership organisation of its type in Australia with more than 200,000 members and is the fourth largest in the world.

National Seniors Productive Ageing Centre (NSPAC) is an initiative of National Seniors and the Australian Government. NSPAC's aim is to improve quality of life for people aged 50 and over by advancing knowledge and understanding of all aspects of productive ageing.

NSPAC's key objectives are to:

- Support quality consumer-oriented research informed by the experience of people aged 50 and over
- Inform government, business and the community on productive ageing across the life course
- Raise awareness of research findings that are useful for older people
- Be a leading centre for research, education and information on productive ageing in Australia.

For more information visit www.productiveageing.com.au or call 03 9650 6144.

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This report uses data from the Census of Population and Housing and other data sources from the Australian Bureau of Statistics. The findings and views reported in this paper, however, are those of the author and should not be attributed to the Australian Bureau of Statistics (ABS). The labour supply and population projections reported herein are futures that are based on a limited set of assumptions and should not be treated as forecasts.

Executive summary

Background and purpose

The need to plan and prepare for the population ageing in Australia is well acknowledged among policy makers, business leaders and the broader community at large. A less recognised fact is that the rate and speed of ageing within Australia differs considerably. When the rate of ageing is combined with the uniqueness of local labour markets, the impact of population ageing on sub-national labour markets and local economies can be expected to differ considerably. The purpose of this report is to shed light on the national and sub-national features of mature age participation in the labour force, in the past, present and future.

Key findings

Historical

Most of the increase in participation by mature age males in the labour force over the past 30 years has occurred in the last 10 years. This strongly contrasts with the situation for mature age females. For females, the story of increased labour force participation is one of a long-term trend and growth across the past 30 years, although there was also strong growth in participation in the last 10 years. This general pattern for males and females was replicated at the state level, with some interesting state differences for males. For example, the increase in participation by mature age males in the Western Australian labour force started about 10 years earlier than in other states.

Current

Currently, participation by mature age people in the New South Wales, Victoria, Queensland and South Australian labour forces is broadly consistent with the national pattern. Tasmania under performs when the number of mature age people participating in the labour force is examined. The Australian Capital Territory performs quite well for people of all mature ages under 60. In Western Australia, there is relatively high labour force participation for males of all ages over 45 years but female levels are broadly consistent with the national level.

Analysis of the composition of mature age employment (that is, by industry/occupation/sector) all point to a high prevalence of mature age self-employment, particularly in the older age groups. Although there were differences between states, strong differences within states were also prevalent. A strong industry effect between regions was at play and explained differences in mature age employment. Industries with a significant focus on self-employment are likely to exhibit high patterns of mature age employment. Analysis also revealed a strong decline in the propensity for mature age employees to be involved in the public sector. This decline was particularly strong for people over 60 years and the decline held true across states and territories as well as regions.

Future

In Australia, the percentage of the population aged 65 years and over is projected to increase from about 14% in 2012 to over 20% in 2042 and 25% in 2062. Over the initial 30-year period, the proportion of the labour supply made up of people over 65 is set to increase. At the same time, the proportion of people of traditional working age (15–64 years) is set to decline. There are a number of states with trends that are different to the national level. The level of population ageing is higher in Tasmania and South Australia when compared to other states and all of Australia. At the sub-state level, with the exception of Western Australia, every capital city is

currently younger than the non-metropolitan counterpart. The capital city populations are also projected to age at a slower rate when compared to their non-metropolitan counterparts. Because of differences in population growth, non-metropolitan populations have been shown to be structurally older and ageing at a faster rate than capital cities, whereas numerically the growth in ageing populations is much faster in cities. When labour supply projections are conducted, growth is particularly low for Tasmania. There is a strong increase in the age of labour supply and a declining proportion in the working-age (15–64 years) population. South Australia and Tasmania have declining labour supply growth and lower levels of mature age participation. For each capital city, the labour supply growth is currently, and projected to be, higher than the non-metropolitan counter parts. Moreover, all non-metropolitan labour supplies are currently older and ageing at a faster rate when compared to their capital city counterparts. Of particular note, non-metropolitan South Australia and the metropolitan and non-metropolitan areas of Tasmania have low levels of labour supply growth and the fastest rates of ageing.

Conclusion

The numerical, structural and timing aspects of population ageing will significantly impact on Australia's labour supply in coming decades. Labour markets across and within Australia's states and territories will react to this differently, given differences in labour demand and in local economies more generally.

Results from this study show that there are already considerable differences in: (1) the level and historical development of mature age participation; (2) mature age employment across Australia's regions; and (3) the speed with which the population ages and grows in the states and territories. These differences feed through to the growth of labour supply and ageing of labour markets. This implies that the policy, industry and community reactions to population and labour supply ageing will occur at different points in time within Australia.

While this decline in the growth of labour supply is projected, at the same time there are many reasons to believe that labour demand will be stronger in the future. There are repercussions when the labour demand is not met, including the potential for wage inflation and risks to future productivity.[1] More generally, declining growth in labour supply underscores the need for governments, industry and employers to recognise the importance of ongoing mature age participation. In particular, previous National Seniors Productive Ageing Centre (NSPAC) research has identified numerous ways to support ongoing participation increases by:

- Addressing the barriers to mature age participation including re-entry barriers for the long-term unemployed, retraining and up-skilling barriers, as well as tax transfer and workplace barriers
- Encouraging detailed retirement planning early in life
- Stamping out the pervasive effects of age-based discrimination in the labour market.

These strategies represent a blueprint to create an environment so that mature age workers who want to work will be able to do so. The fact that many non-metropolitan areas are ageing faster than Australia as a whole, place further impetus on governments, industry and the community at large to hasten these strategies.

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Glossary

Numerical ageing: Numerical increase in the mature age population.

Structural ageing: Increasing proportions of the population becoming 'old'.

Timing of ageing: The speed at which a population ages.

Spatial aspects of ageing: The geographic spread of ageing populations.

Net internal migration: Number of in-migrants to a region less the number of people leaving (out-migrants) over a given period of time.

Past, present and future of mature age labour force participation in Australia: How do regions differ?

Introduction

Background

As a result of population ageing, the participation of mature age people in the labour force has become a key issue in policy discussions. Many well-founded studies have examined the national features of population ageing and the importance of facilitating mature age labour force participation. Recent research published by National Seniors Productive Ageing Centre (NSPAC) has offered important insights into the participation of mature age people in the Australian labour force. These findings include:

- Barriers to participation interact and detract from the ability of mature age people to maintain employment or to re-enter the labour force
- Retirement planning plays a crucial role in continuing participation in the labour force
- The role of discrimination (whether real or perceived) influences decisions to stay employed or to re-enter the labour force.

This report complements recent NSPAC studies by examining differences in the behaviour of mature age people in the labour force at the national, state and sub-state level.

Purpose

Although national studies of the behaviour of mature age people in the labour force are indispensible to our understanding of ageing, aggregated national results conceal the heterogeneity in the labour market and population ageing processes at the sub-national level. The ageing of the population is a heterogeneous process with respect to its underlying causes such as internal migration, overseas migration, fertility and mortality. Heterogeneity in these demographic processes generates regional differences in the ageing and growth of the population and impacts on labour markets.

The purpose of this report is to examine differences in the behaviour of mature age people in the labour force across and within Australia's states and territories. A lot of research on population ageing is focused at a national level, even though there is a great degree of difference in the speed at which different regions age.

This report investigates the past, current and future characteristics of the participation of mature age people in the labour force. Specifically, this report seeks to answer the following questions:

- Historically, how has the participation of mature age people in the labour force changed over time at the state and territory level?
- Currently, are particular types of industry more likely to employ/retain mature age workers and does this differ at the national, state and sub-state level?
- In the future, how will the population of mature age people and the mature age labour force differ at the national, state and sub-state level?

Why would the behaviour of the mature age labour force differ across Australia's states and territories?

Before turning to the key research questions outlined above, this report seeks to answer a more general question. Why would the relationship between the behaviour of mature age people in the labour force and ageing differ within Australia?

There are both structural and demographic reasons for this difference. At the structural level, sub-national differences in labour market policies, such as jurisdictional differences in workers compensation legislation for mature age workers, may affect the ability and propensity of mature age people to engage in the local labour market. Sub-national level differences in industry

structure are also likely to be a key factor in determining sub-national variation in mature age employment. Similarly, general economic conditions are also a significant factor in sub-national differences in labour demand. For example, when compared with other states, Western Australia has experienced very high labour demand over the past decade because of the mining boom.

Apart from these structural factors, the underlying demography is a key factor that determines the gap between labour supply and labour demand across Australia's states and territories. This affects the propensity for mature age people to engage in the labour market. As noted earlier, ageing of the population is occurring at different levels and speeds within Australia. Specifically, population ageing represents several related but distinct aspects of population change, including:

- Numerical (absolute size) aspects of population ageing
- Structural (relative size) aspects of population ageing
- Timing (location in time)
- Spatial (geographical location) aspects of population ageing.

The linkages between the underlying demographic processes (fertility, mortality, and migration), the concepts of population ageing (structural, timing, numerical and spatial) and the implications for labour supply (assuming all other factors remain equal) are shown below (*Table 1*).

The numerical and structural aspects of population ageing are related, yet distinct concepts. 'Numerical ageing' refers to the numerical increase in the population of the aged. Numerical ageing, in the short-to-medium term, is strongly influenced by improved life expectancy (*Table 1*). At the sub-national level, however, migration plays an important role in the spatial distribution of the *numbers* of the elderly. The increase in the number of the elderly implies both an increase in the number of mature age workers (assuming constant or increasing participation rates) and an increase in the population at risk of retirement (*Table 1*).

In contrast to numerical ageing, 'structural ageing' refers to the increasing proportions of the population becoming 'old'. Structural ageing is predominantly a function of falling or low fertility.[2] At the national level, increasing life expectancy and migration are generally considered secondary factors that influence structural ageing. Although at the national level, declining fertility is the main factor behind structural ageing, at the sub-national level, migration (both internal and international) is the key process driving structural ageing. Structural ageing in many populations may be driven not only by in-migration of retirees, but also by large out-migration of the young.

Table 1: *Linkages between demographic processes, aspects of population ageing and labour market outcomes*

Aspects of population ageing	Underlying cause		Labour market outcomes
	National	Sub-national	
Numerical	• Improved survival and cohort flow	• As for national • Internal migration	• Increased number of mature age workers • Increased population at risk of retirement
Structural	• Falling/low fertility • Improved survival • Cohort flow	• As for national • Internal migration	• Decreased proportion of population of 'working age' (15–64) • Potential labour supply shortages
Timing	• Falling fertility	• As for national • Internal migration	• Timing of labour supply issues
Spatial	• Regional differences in the underlying demography		• Location of firms • Location of labour

Source: Adapted from Temple, 2006.[3]

Structural ageing leads to a decreased proportion of the population in the working-age group, indicating a shrinking labour force and tax base (*Table 1*). From an industry perspective, structural ageing also highlights labour supply problems that industries may face as the population ages. Although structural ageing and numerical ageing can be seen as measuring separate dimensions of the ageing population, they are also related in terms of labour supply and government expenditure. For example, Jackson[2] refers to a process of equilibrium operating between numerical and structural aspects of population ageing:

> *'… it is largely numerical ageing that social welfare policy must respond to, and it is structural ageing that is the constraining factor: numerical ageing is adding to the overall numbers receiving income support payments; structural ageing will eventually reduce the size of the labour force (and potential tax base) vis-à-vis the dependent population (although it also has the potential to cause declines in the numbers receiving some payments).'* [2]

While the numerical and structural aspects of the ageing population measure the absolute and relative size of the aged population respectively, the timing and spatial aspects are measures of the location of the elderly. The timing of population ageing measures the *location in time* of elderly populations, whereas the spatial aspect measures the *geographical location* of elderly populations. The timing of population ageing refers to the time when a population becomes 'old' and the speed at which it ages. These aspects of timing are generally discussed in terms of structural ageing, that is, a population becomes old when a certain proportion of the population is aged above 65, and the time it takes to move between proportions.

The timing of ageing is influenced by migration and fertility, with survival playing a lesser role (Table 1). At the national level, fertility is the key factor in determining timing, with increased survival playing a secondary role. However, the timing of sub-national ageing is influenced by migration, more specifically net internal migration. The compression of ageing into a small period of time has important implications for government planning and funding (Table 1). The speed of population ageing is important to government agencies as it dictates the planning period for service provision and infrastructure requirements that in turn, influence labour demand. From an industry perspective, the speed and timing of population ageing is important in the context of meeting the demands of aged consumers, as well as planning for the future labour supply.

In summary, the combined structural (legislative and economic) and demographic differences across regions can help explain why mature age employment, and employment in general, may differ across Australia's states and territories.

Data and methods

Data

This report uses data from several sources:

1. Recent Australian Bureau of Statistics (ABS) data was used to inform the labour supply projections, population projections and labour force participation rates.[4,5]
2. The Australian Census of Population and Housing was used to provide descriptive statistics on the labour force behaviour of the mature age cohort. Both the Australian Bureau of Statistics (ABS) Tablebuilder and CDATA products have been used for this purpose.[6]
3. ABS labour force data cubes were used to provide further detail.[7]

Geography

Throughout this report, three geographic levels are referred to:

1. National level: Results for Australia as a whole
2. State level: Results across six states and two territories
3. Sub-state level: Within each state, disaggregating results by capital city and the remainder of the state. For simplicity, the narrative refers to metropolitan and non-metropolitan areas within each state.

Methods of analysis

Tabular results and descriptive statistics were used to understand the historical and current context of mature age employment. To examine labour supply futures, population projections are combined with estimates of labour force participation by age, sex and region to calculate labour force projections.

The base population projections used for the labour supply projections are taken from the recently released series from the ABS. The ABS projections estimate the population of each region using the standard cohort-component method that uses estimates of projected fertility, mortality and migration and base population estimates by age and sex. Projections of the working-age population and labour supply can be calculated from baseline estimates of the population projected by age and sex for each region. To limit aggregation bias due to confidentialisation in the ABS labour force data at older ages, the projected labour supply is calculated for ages 15 – 80. Using detailed state-level information from ABS labour force data cubes, propensities were estimated by age, sex and region to infer labour force participation rates. These detailed estimates of participation rates were then applied across the projection period using the relevant rate for 2012.

The demographic inputs underlying the ABS assumptions:

1. A base population by sex and age in single years.
2. The Total Fertility Rate (TFR) and associated age-specific probabilities of birth (reported according to single years of age). TFR was assumed to fall linearly from 1.90 births per woman in 2011 to 1.80 by 2026 and then remain constant. Fertility rates for each state and territory commence at their current levels and scaled to fall in line with the decrease in fertility rates for Australia.
3. Expectations of Life at Birth for males and females and the associated age and sex specific probabilities of death (reported according to single years of age). For males, expectation of life was assumed to increase from 79.7 years in 2011 to 85.2 years by 2061. For females, the assumed increase was from 84.2 years in 2011 to 88.3 years by 2061. At the state and sub-state levels, projections of the probabilities of death follow the Australian trend, while allowing for differences in regional level life expectancy.
4. For the states and territories, the average of interstate migration over the period 2007–2012 were assumed to apply from 2015 throughout the projection period.
5. The numbers of permanent and long-term arrivals and departures to Australia and their associated age and sex distributions (reported according to single years of age). A crucial determinant of the speed of ageing is the level of net overseas migration (NOM), which is defined as arrivals less departures to Australia. The projections assume a NOM for Australia of 240,000 persons per annum. This assumption is roughly consistent with the average 2013–2016 forecast produced by the Department of Immigration and Citizenship.[8] The ABS allocated this level of NOM to states and territories based on the trend of the previous three years and to the sub-state level on the basis of recent census data.

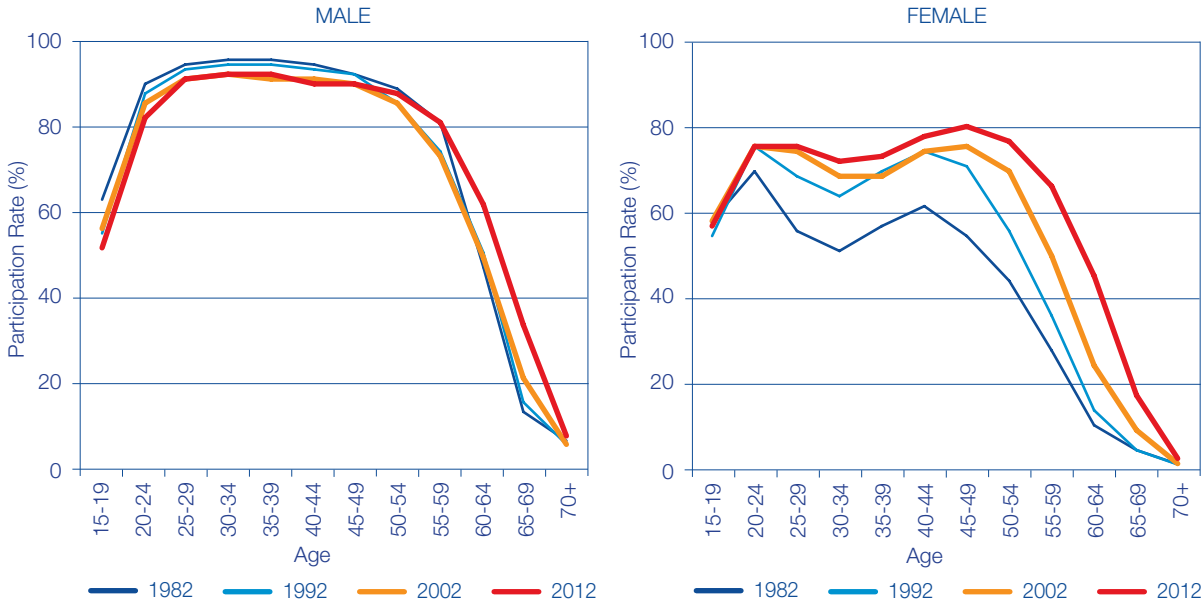
Findings

The findings of this report are presented in three sections. The first section discusses the past 30 years of participation by mature age people in the labour force by age and sex at the national and state level. The second section details the current characteristics of mature age participation and employment along key criteria including occupation structure, industry structure and demographic characteristics such as age and sex. Results are reported at the national, state and sub-state level. The final section details projections of the mature age working population by age and sex. Results are once more disaggregated at the national, state and sub-state level.

Historical analysis of state-based labour force participation

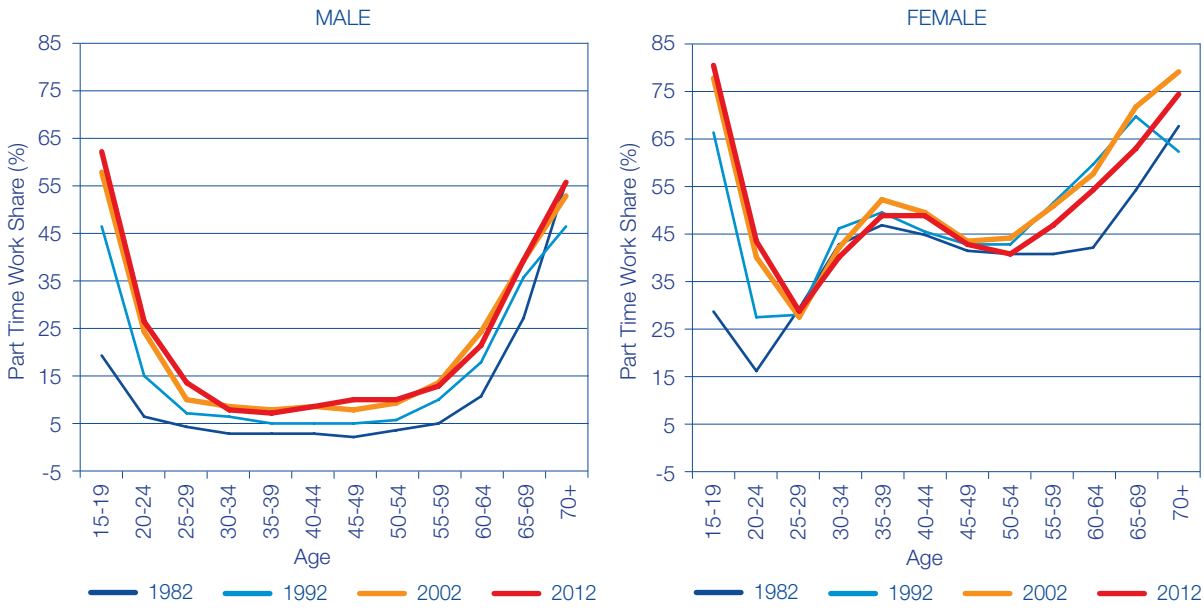
The past 30 years has seen a significant increase in the participation of people in the Australian labour force. In this report, the labour force participation rate is defined as the total number of persons in the labour force (employed and unemployed but actively seeking work) expressed as a percentage of the total population in each age group. There are significant differences between males and females, notably the large increase in participation by females in the labour force throughout their course of life (*Figure 1*). Each successive decade has seen a significant increase in the participation of mature age females. For example, in 1982 just 44% of females aged 50–54 years were in the labour force compared with 56% in 1992, 69% in 2002 and 77% in 2012. For males, a very different pattern was apparent, with the major increase in participation for all age groups over 50 occurring during the last 10 years. For example, approximately 50% of males aged 60–64 participated in the labour force during the entire 1982–2002 period, but this increased to 62% in the final 10-year period to 2012. When compared to males, the increase in the female participation rate in the labour force occurred over a longer period of time.

Figure 1: *Male and female labour force participation by age, Australia, 1982–2012*



The pattern of change for mature age workers participating in part-time work was quite different (*Figure 2*). At the national level, employment by mature age workers in part-time work picked up considerably during the period from 1982–1992, but there was very little change since this time period. This pattern occurred for both male and female who participated in part-time work. Even into later old age (over 70 years), a not insignificant proportion of people were working full-time, with about 55% of males and around 75% of females in the labour force working part-time.

Figure 2: *Male and female part-time labour force participation by age, Australia, 1982–2012*



Does this pattern of change in participation in the labour force persist at the state and territory level? Participation in the labour force by males (*Figure 3*) and females (*Figure 4*) in each state and territory are shown below. The general national trend persists in New South Wales, Victoria, Queensland, South Australia and Tasmania. The majority of the increase in mature age participation occurred in the previous 10 years, from 2002 to 2012. In Western Australia, the growth in mature age participation commenced 10 years earlier, with substantial growth throughout the 1992–2012 period. These results likely reflect the higher level of labour demand in the west, associated with the mining boom. There has been less growth in mature age participation in the Australian Capital Territory when compared to other states. This result may be due to the industry, occupation and education structure of the Australian Capital Territory, which will be discussed in the following section. For the Northern Territory, results at older ages should be treated with caution because of design and confidentialisation issues within the data.

For females, the state and territory trends follow the general pattern observed at the national level. Although there has been significant increase in mature age participation during the last 10 years (consistent with the results for males), for most age groups (excluding the oldest ages), there has been a steady increase in participation over the full 30-year period. For example, during the past 30 years, there has been an increase by 34.6 points in labour force participation rates for females aged 60–64 years, of which 20.7 points of change occurred in the last 10 years (*Table A1*). For males of the same age, labour force participation increased by 14.5 points over the last 30 years, 12.3 points of which were added in the last 10 years (*Table A2*).

Figure 3: *Male labour force participation by age, states and territories, 1982–2012*

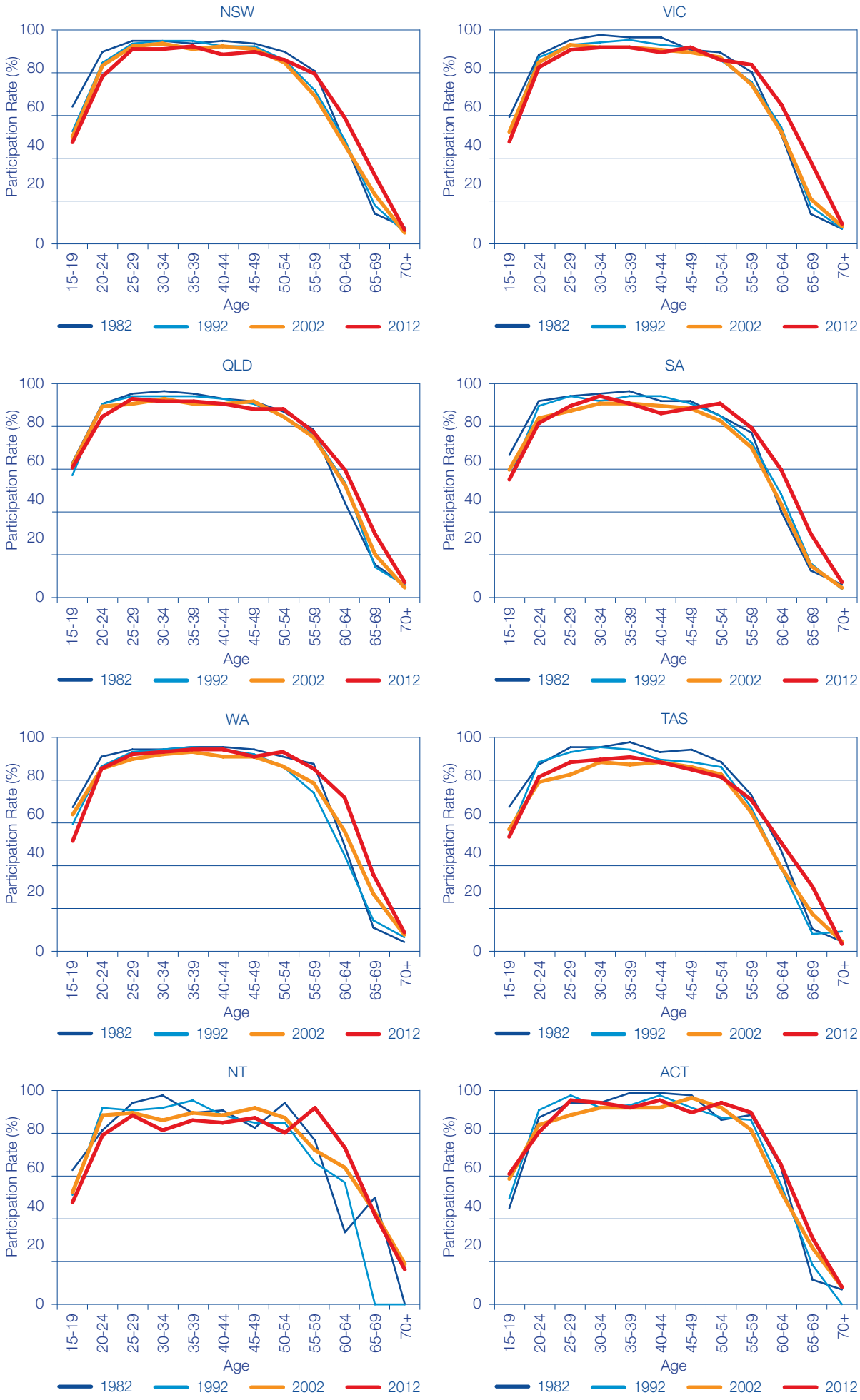


Figure 4: *Female labour force participation by age, states and territories, 1982–2012*

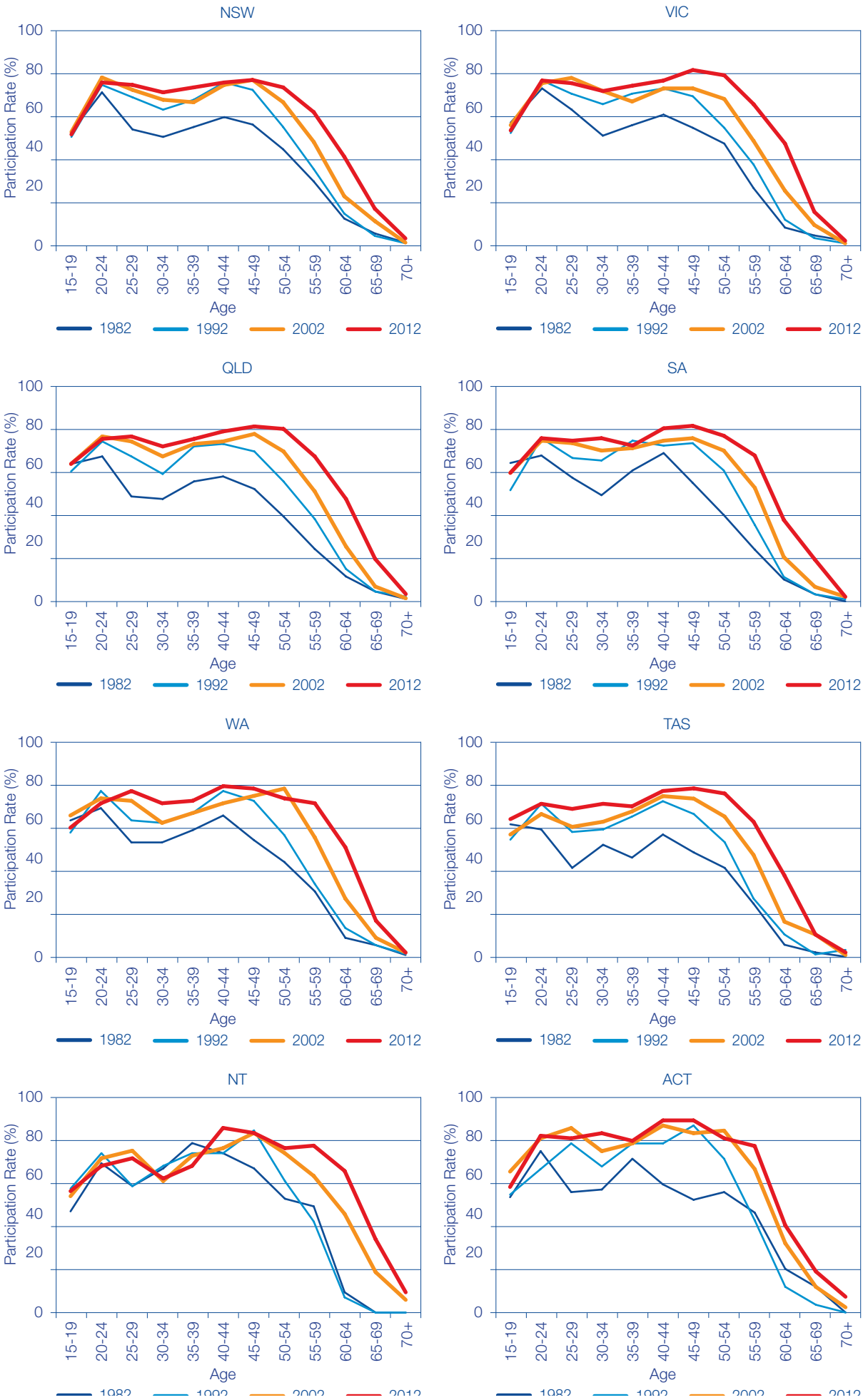


Table 2 below shows the detailed labour force participation rates by age and sex at the national and state level. As noted earlier, the increased labour demand in the west appears to have influenced the participation of mature age people in the labour force. In Western Australia, the participation level is significantly higher than the Australian level for all males over the age of 45 years. This effect does not occur for females, probably because of the gendered nature of mining employment at later ages. When compared to other states, the Australian Capital Territory has quite high labour force participation for people aged under 60, but it generally follows the Australian pattern for those who are over this age. Again, this is likely because of the heavy public sector involvement in the Australian Capital Territory. Similarly, when compared to other states and territories, females in the Australian Capital Territory have relatively high labour force participation up until the age of 60. Tasmania appears to be a significant underachiever (for males and females) with respect to mature age participation. For example, about 71% of males aged 55–59 years are in the labour force compared with almost 81% of males in Australia at large and about 90% of males in the Australian Capital Territory and Northern Territory.

Most other states (New South Wales, Victoria and Queensland) generally reflect the national-level pattern of mature age participation in the labour force.

Table 2: *Mature age labour force participation by state and territory, males and females, 2012*

Age (years)	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUS
					Males				
45–49	90.0	91.8	87.7	88.8	90.7	84.8	87.0	90.1	89.8
50–54	86.0	85.8	88.3	90.6	93.6	81.2	80.2	94.1	87.5
55–59	79.6	83.4	77.6	79.8	85.5	71.1	91.4	90.1	80.8
60–64	58.8	65.0	59.7	59.4	72.1	51.7	73.7	66.0	62.0
65–69	31.5	37.9	30.3	29.6	36.3	30.7	42.2	30.8	33.2
70+	6.2	9.1	7.2	7.2	8.9	3.0	16.1	7.5	7.4
					Females				
45–49	77.4	81.9	81.2	81.5	78.5	78.0	83.4	88.7	79.9
50–54	73.8	79.6	80.4	76.7	74.4	76.5	77.0	80.4	77.1
55–59	61.5	65.7	67.1	68.2	71.9	63.3	77.7	77.2	65.7
60–64	41.9	47.4	48.2	37.9	51.0	37.8	66.0	40.4	45.1
65–69	17.7	16.1	20.2	19.5	17.3	11.3	34.7	18.6	17.9
70+	3.2	2.0	3.2	2.3	1.8	1.8	9.1	7.3	2.7

Detailed current analysis of labour force behaviour

This section uses data from the most recent 2011 Census of Population and Housing to understand state (and sub-state) differences in employment of mature age workers. Variations were investigated within each state and region according to detailed characteristics of the workplace and selected characteristics of the individual (age and sex). Due to the detailed nature of these tables, abridged tables or figures are included in the report with the full tables in appendices available from productiveageing.com.au.

The purpose of this analysis is to:

1. Understand whether particular industries and occupation characteristics have a higher representation of mature age workers at the national, state and sub-state level.
2. Identify which occupation and industry characteristics tend to have a lower representation of mature age workers.

Workplace and industry characteristics

The 2011 Census allows analysis of the characteristics of the workplace and industry types that are more likely to employ mature age workers when compared to others. The variables investigated included:

- Labour force status
- Employment type
- Industry type (19 detailed types)
- Occupation category (eight detailed types)
- Sector category.

Labour force category

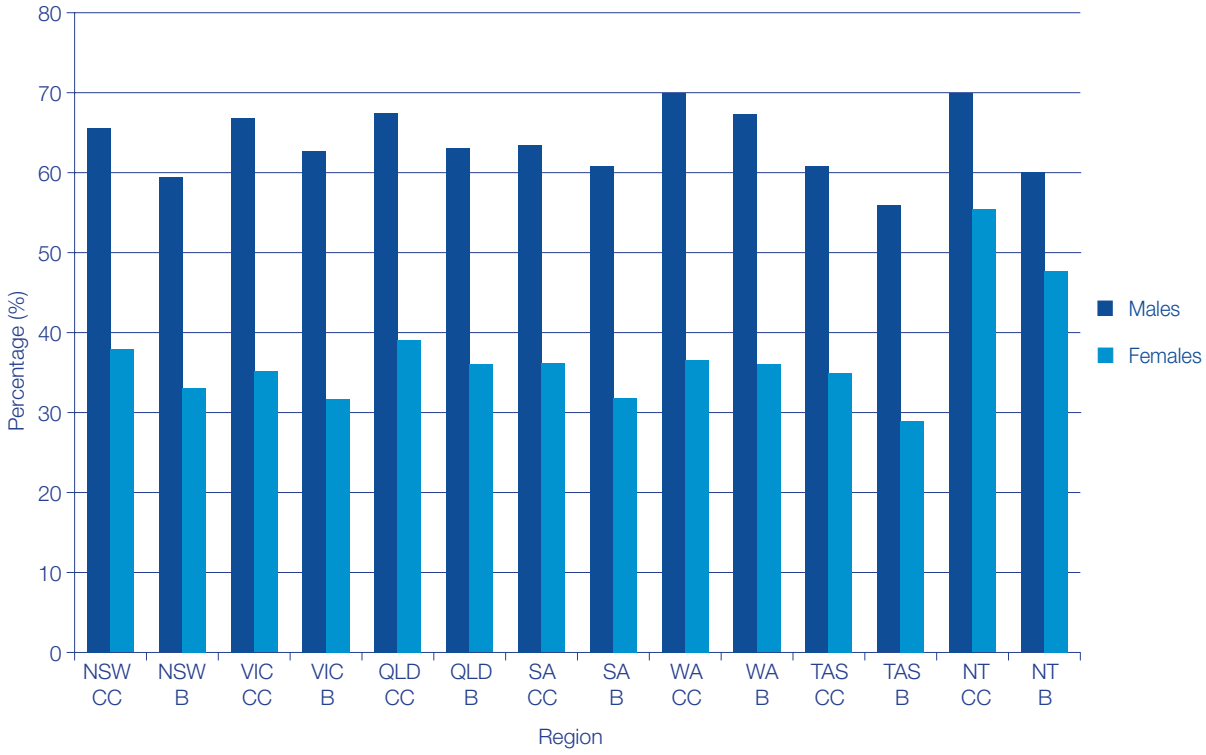
The analysis of the 2011 Census firstly assesses labour force status according to whether people are employed (full-time, part-time), unemployed (seeking full-time work, seeking part-time work) or not in the labour force.

There are considerable differences in the labour force status of mature age people across states/territories (see *Appendix, Table A3*) and the regions (see *Appendix, Table A4*) of Australia. Within every state, the proportion of mature age employees working full-time is higher in capital cities when compared to their non-metropolitan counterparts. For example, among 50–59 year old males, approximately 65.5% people are employed full-time in Sydney compared with approximately 59% of those in non-metropolitan New South Wales (*Figure 5*). This pattern also occurs for females, with approximately 38% of Sydney-siders employed full-time compared with 33% of those in non-metropolitan New South Wales. This occurs until the age of 70 when mature age workers are more likely to be in full-time work in non-metropolitan areas. This result may be because of the high proportion of agricultural industry in these areas.

The opposite pattern is observed for part-time work. Non-metropolitan mature age people are more likely to be employed part-time when compared to those in the city. In general, there are no differences between and within states and territories with respect to unemployed mature age people looking for full-time or part-time work (see *Appendix, Table A3*).

At the state level, Tasmania and South Australia tend to have slightly higher proportions of mature age people not in the labour force when compared to the Australian average (see *Appendix, Table A3*). Similarly, within states, most non-metropolitan areas have higher proportions of mature age people not in the labour force compared to city areas (see *Appendix, Table A4*).

Figure 5: *Percentage of people aged 50–59 years employed in full-time work by regions, 2011*



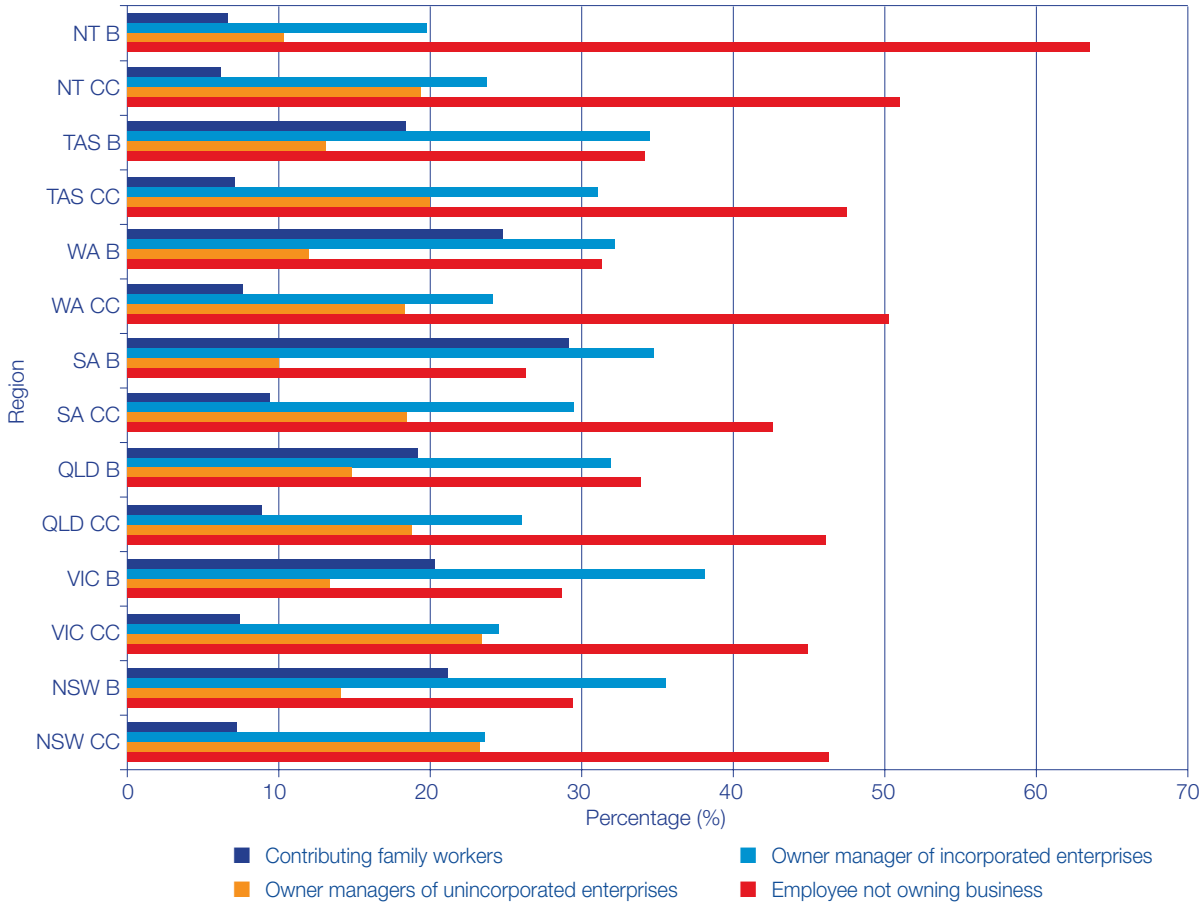
CC – capital city; B – balance of state

Employment type

The detailed Census tables enable a disaggregation of employment type at both the state (see *Appendix, Table A5*) and sub-state (see *Appendix, Table A6*) level. The categories used are: employees, owner-managers and family workers. Not surprisingly, many mature age workers are self-employed including family workers and both owner-managers of incorporated or unincorporated enterprises. The likelihood of being self-employed increases significantly with older age. At the national level, about 72% of 50–59 year-old males are employees (as opposed to owner-managers), compared to just under 40% of 70–79 year-olds. For females, the figures are 84% and 49% respectively (see *Appendix, Table A5*).

There are strong sub-state differences in employment type. With the exception of the Northern Territory, mature age workers in non-metropolitan areas are far more likely to be self-employed when compared to their city counterparts (*Figure 6*). Again, this result may be because of differing industry structures.

Figure 6: *Employment type, males 70-79 years, by region, 2011*



CC – capital city; B – balance of state

Sector type

The Census data enables classification of the sector type of mature age employees across states (see *Appendix, Table A7*) and regions (see *Appendix, Table A8*). The categories available in the Census are Government (national, state/territory, local) and private sector.

At the national level, there is a strong decline in the proportion of people (aged 60 or older) employed by governments (*Table 3*). For example, approximately 10% of males aged 50–59 years are employed by state governments compared with 7% aged 60–64 years and 4% aged 70–79 years. Across all government sectors, about 92% of males aged 70–79 years are employed by the private sector compared with 83% aged 50–59 years. This same pattern occurs for females.

One of the strengths of the Census data is that it allows an investigation to examine if these patterns are consistent at the state and sub-state level. The general pattern of increasing private sector employment in later life is evident across the states and territories (see *Appendix, Table A7*). The proportions employed by governments in the Australian Capital Territory are higher when compared to other states, although even the Australian Capital Territory has declining employment prospects for its mature age people. For example, approximately 50% of females aged 50–59 years are employed by the private sector compared with approximately 80% of 70–79 year olds.

Table 3: *Employment by sector type (%), males and females, Australia, 2011*

Males (age in years)	20–29	30–39	40–49	50–59	60–69	70–79	80–89
National government	4.0	4.1	4.2	4.3	3.4	2.4	1.3
State/territory government	4.5	7.1	8.0	9.9	7.4	4.1	1.6
Local government	0.9	1.3	1.7	2.2	1.9	1.1	0.8
Private sector	90.6	87.6	86.1	83.6	87.2	92.3	96.3
Females (age in years)	20–29	30–39	40–49	50–59	60–69	70–79	80–89
National government	3.9	5.5	4.9	4.7	3.9	2.4	0.6
State/territory government	10.6	14.8	15.5	17.8	14.6	7.0	3.2
Local government	1.1	1.6	1.7	1.7	1.6	1.3	0.9
Private sector	84.4	78.2	77.9	75.7	79.9	89.3	95.3

Note: Columns sum to 100

Industry type

There are 19 industry type categories in the Census (categories are also shown in *Table 4*) and they are disaggregated by state (see *Appendix, Table A9*) and sub-state geographies (see *Appendix, Table A10*). The analyses suggest a strong industry effect at play between regions and this explains differences in mature age employment (*Table 3*). Industries with a significant self-employment focus are likely to exhibit high patterns of mature age employment. This hypothesis is strongly supported by data in Table 4. In particular, employment in agriculture increased rapidly between age groups with fewer than 5% of employed 50–59 year-old males working in this industry compared to 20% of 70–79 year-olds and almost 40% of 80–89 year olds. This strong pattern also applies to females. Around 8–10% of mature age males, work in the professional, scientific and technical services. Combined, these two industry categories are likely to exhibit a strong self-employment focus, which supports earlier results. Mature age employment in health care and social assistance also increased moderately (*Table 4*). There is a strong regional impact of industry type, particularly relating to agriculture. Similarly, across all states, mature age workers in cities are far more likely to be employed in professional, scientific and technical services when compared to those from non-metropolitan areas (see *Appendix, Table A10*).

Further, supporting the poor representation of mature age workers in the public sector, employment in public administration and safety also drops off considerably with age.

Table 4: *Distribution of employees by industry sector by age (%), males and females, Australia, 2011*

Males (age in years)	20–29	30–39	40–49	50–59	60–69	70–79	80–89
Agriculture, forestry and fishing	2.1	2.3	3.0	3.8	6.5	19.8	36.0
Mining	2.8	3.4	3.3	2.7	1.7	0.7	0.4
Manufacturing	11.2	13.1	14.5	13.8	11.8	7.6	6.5
Electricity, gas, water and waste services	1.3	1.7	2.0	2.2	1.6	0.6	0.2
Construction	16.9	14.3	13.4	11.9	10.6	6.6	3.7
Wholesale trade	4.3	5.4	5.6	5.3	5.3	4.6	4.6
Retail trade	11.5	7.2	6.3	6.1	7.2	7.7	6.1
Accommodation and food services	8.2	4.1	3.2	3.1	3.4	3.5	2.6
Transport, postal and warehousing	4.7	6.4	8.1	9.2	9.8	6.6	3.1
Information, media and telecommunications	2.1	2.4	2.1	1.7	1.3	1.1	1.1
Financial and insurance services	3.4	4.7	3.7	2.7	2.4	2.7	4.3
Rental, hiring and real estate services	1.3	1.4	1.5	1.6	2.1	3.1	4.3
Professional, scientific and technical services	7.5	9.4	7.7	7.2	8.4	10.2	8.2
Administrative and support services	3.1	3.1	2.9	3.0	3.4	2.8	1.8
Public administration and safety	6.1	7.3	8.1	8.7	6.5	3.7	2.1
Education and training	3.5	4.2	4.4	6.3	6.3	5.1	2.8
Health care and social assistance	3.6	4.5	4.9	5.8	6.2	6.9	6.9
Arts and recreation services	2.0	1.4	1.2	1.2	1.4	2.0	2.1
Other services	4.3	3.8	3.9	3.9	4.3	4.5	3.1
Females (age in years)	20–29	30–39	40–49	50–59	60–69	70–79	80–89
Agriculture, forestry and fishing	0.8	1.1	1.5	1.9	4.5	18.5	31.2
Mining	1.0	0.9	0.6	0.4	0.2	0.2	0.1
Manufacturing	4.0	5.3	5.9	5.5	5.0	4.5	5.1
Electricity, gas, water and waste services	0.6	0.9	0.6	0.5	0.3	0.1	0.3
Construction	2.0	2.8	2.8	2.3	2.4	2.4	1.7
Wholesale trade	2.8	3.5	3.4	2.9	2.9	2.9	2.9
Retail trade	16.0	10.3	10.9	10.4	10.7	9.8	9.1
Accommodation and food services	10.7	5.5	5.2	5.0	4.8	4.5	4.3
Transport, postal and warehousing	2.0	2.7	2.8	2.6	2.6	2.5	2.5
Information, media and telecommunications	2.2	2.0	1.4	1.1	1.1	1.1	1.2
Financial and insurance services	5.3	6.1	4.4	3.3	2.5	2.3	3.8
Rental, hiring and real estate services	2.0	1.7	1.6	1.6	2.0	3.4	5.7
Professional, scientific and technical services	8.5	9.1	6.9	5.4	6.3	6.9	5.1
Administrative and support services	3.8	3.9	3.7	3.6	3.9	3.1	1.9
Public administration and safety	5.8	8.4	7.9	7.5	6.0	3.5	2.1
Education and training	8.8	11.9	14.1	16.3	14.5	10.7	7.2
Health care and social assistance	17.2	18.7	21.4	25.4	25.5	17.5	9.7
Arts and recreation services	2.0	1.6	1.3	1.1	1.4	2.3	2.5
Other services	4.3	3.6	3.5	3.1	3.5	3.7	3.6

Note: Columns sum to 100

Occupation type

Finally, the Census enables an examination of the occupation type of mature age employees across Australia's states (see *Appendix, Table A11*) and within the states (see *Appendix, Table A12*). Occupation type consists of eight categories, including managers, professionals, technical and trade workers, clerical and administrative workers, community and personal service workers, sales workers, machinery operators and drivers and labourers.

At the national level, there is a significant increase with age in the proportion of both males and females employed as managers (*Table 5*). Almost 50% of males and just under 40% of females aged 80–84 years state that this is their occupation compared with approximately 20% of males aged 40–49 years. For males, there is also a slight increase in the proportions employed as professionals with age. Employment in the traditional blue-collar industries (e.g. technicians and trade workers, machinery operators and drivers) declines with age, although the decline is minor until the 80–89 age group.

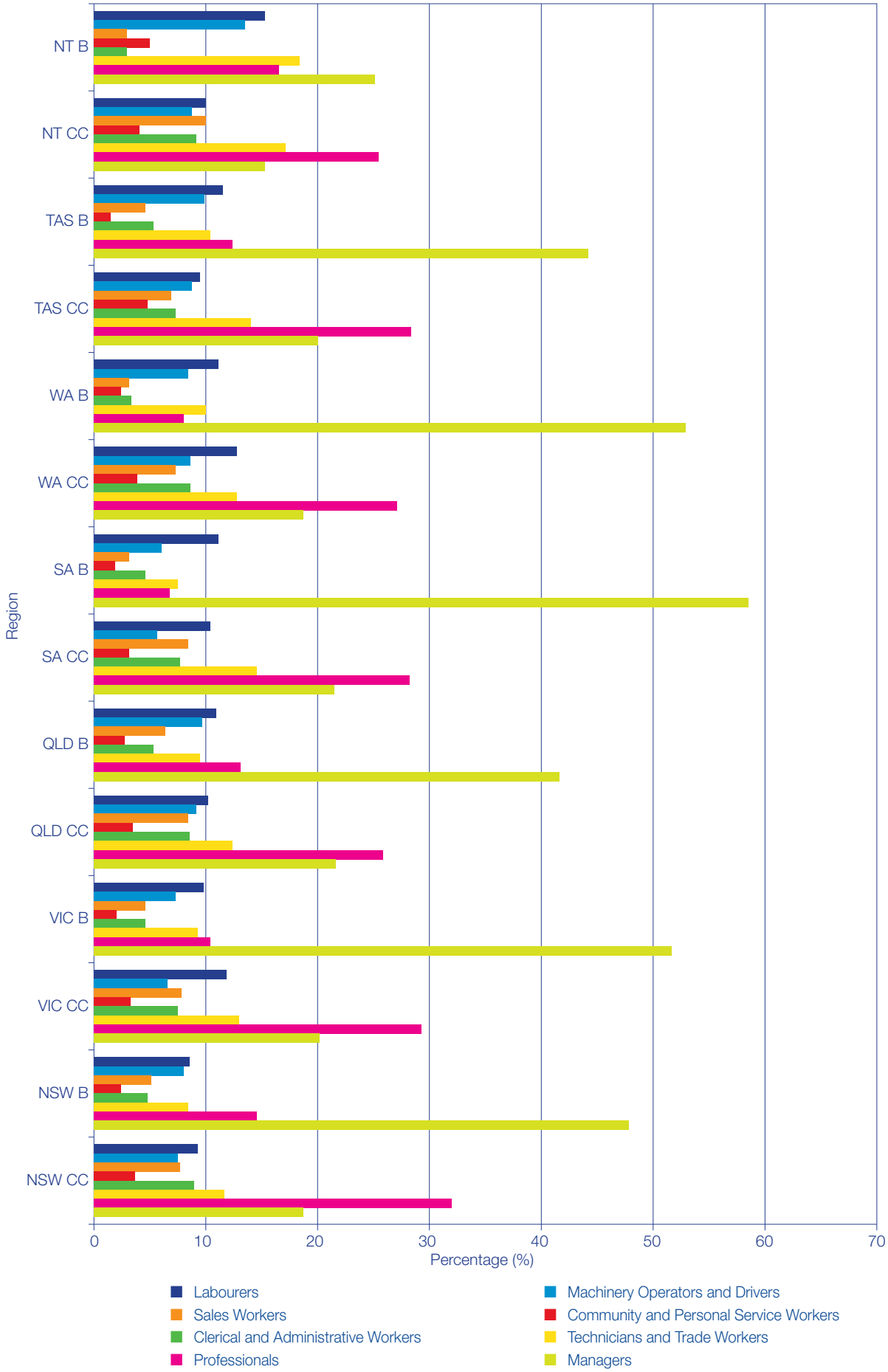
Table 5: *Occupation by age (%), males and females, Australia, 2011*

Males (age in years)	20–29	30–39	40–49	50–59	60–69	70–79	80–89
Managers	7.5	16.1	20.2	20.2	20.2	31.9	47.4
Professionals	16.8	23.0	19.3	19.4	19.9	22.1	21.0
Technicians and trades workers	29.2	23.3	21.8	20.0	17.3	11.1	6.7
Clerical and administrative workers	6.9	6.7	6.5	7.2	7.5	6.9	6.1
Community and personal service workers	8.0	5.3	5.0	4.5	4.0	3.1	2.3
Sales workers	8.8	5.3	4.8	4.9	6.3	6.7	5.4
Machinery operators and drivers	9.2	10.7	12.7	13.6	13.7	7.9	3.1
Labourers	13.6	9.7	9.7	10.1	10.9	10.4	8.0
Females (age in years)	20–29	30–39	40–49	50–59	60–69	70–79	80–89
Managers	7.0	11.5	11.4	10.9	11.8	24.1	36.8
Professionals	25.6	31.8	25.3	25.1	22.7	19.6	15.9
Technicians and trades workers	5.7	4.7	4.4	3.9	3.6	3.1	3.3
Clerical and administrative workers	22.7	24.5	26.7	26.9	28.9	25.5	22.1
Community and personal service workers	17.6	12.4	13.6	13.4	12.4	8.3	5.2
Sales workers	15.3	8.5	9.1	8.8	9.2	8.1	7.5
Machinery operators and drivers	1.1	1.2	1.7	1.8	1.6	1.3	0.8
Labourers	5.0	5.4	7.8	9.2	9.8	9.9	8.4

Note: Columns sum to 100

There are some interesting trends in mature age occupation types at the sub-state level, which is generally supportive of the industry structure results (see *Appendix, Table A12*). For example, males in non-metropolitan areas of the states are more likely to report being managers as age increases, while city residents are more likely to report belonging to the professional category (*Figure 7*). This result likely occurred because farm and agricultural owners reported 'manager' as the relevant occupation category.

Figure 7: *Occupation type, males 70–79 years, by region, 2011*



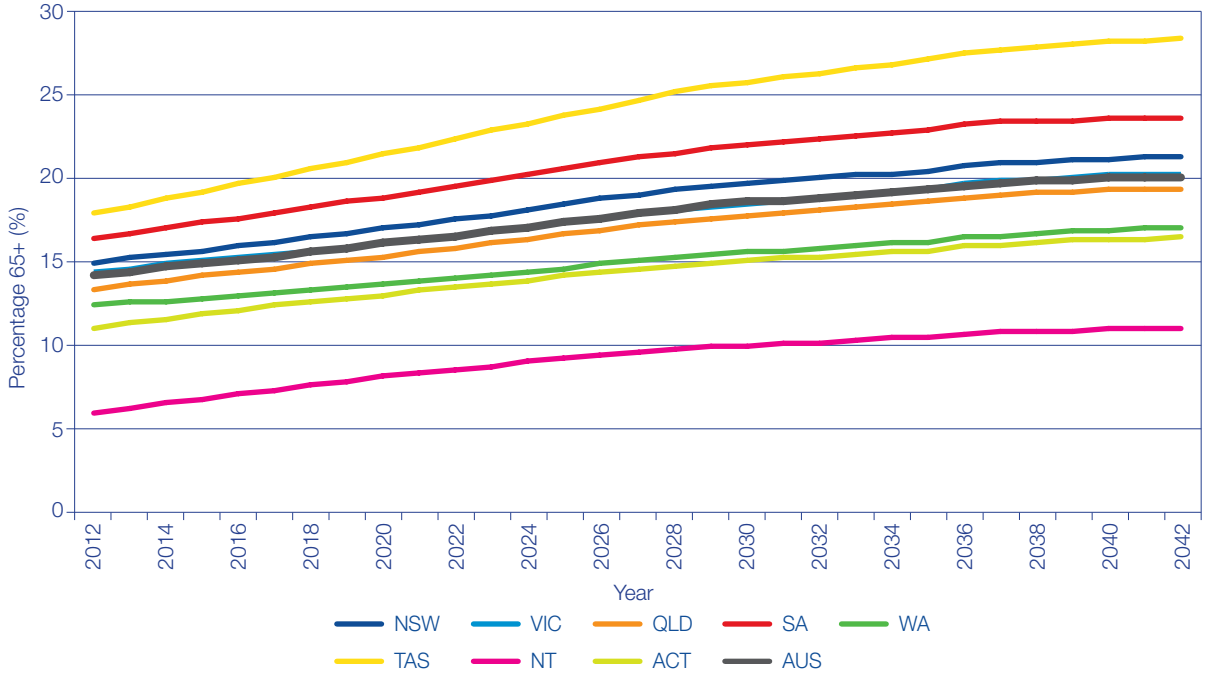
Futures of mature age employment

The data in this section shows how mature age employment may trend in the next 30 years. Projections of the level of labour force growth, ageing of the labour force and more generally, ageing of populations are examined. In interpreting these results, it is again important to recall the limitations of projections. These projections indicate futures on a narrow set of assumptions that may or may not eventuate. However, they do indicate the kind of labour supply constraints and compositions that may be experienced across Australia. These projections assume mature age people in the future have the same likelihood of being in the labour force as people who are of the mature age now. Labour supply growth will be considerably higher given increases in participation.

How will our population age from 2012–2042?

To understand how the composition of labour supply will change in the context of ageing, it is important to first understand the differences in national, state and sub-state experiences of population ageing. The projected percentage of each population aged 65 years and over for the period 2012–2042 is shown at the national, state (*Figure 8a*) and sub-state level (*Figure 8b*).

Figure 8a: *Percentage of the population aged 65+ years, states and territories, 2012–2042*



The Australian population is projected to age significantly over the next 30 years. Approximately 14% of the population will be 65 years or over in 2012 and this will increase to just over 20% in 2042 and almost 25% in 2062.

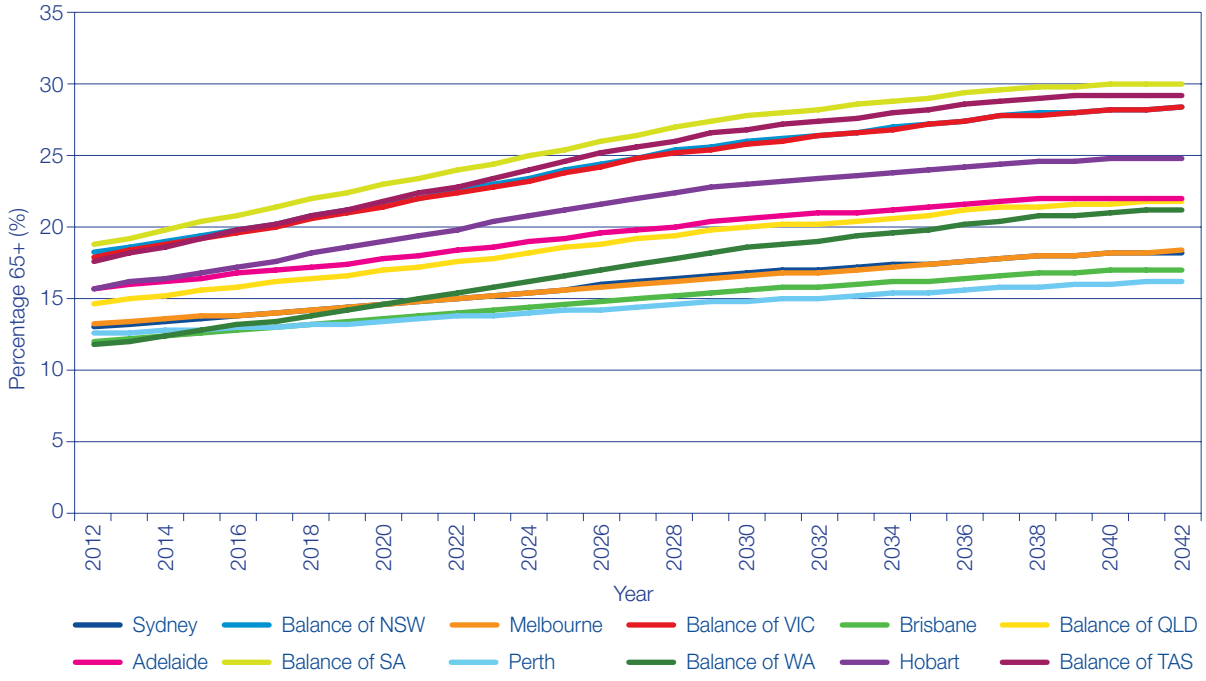
There are already significant differences in the current level of ageing and the speed of ageing over the next 30 years (*Figure 8a*). The level of ageing in the Northern Territory (5.9%), Australian Capital Territory (11.0%) and Western Australia (12.4%) is all currently below the Australian level. The level of ageing in both Queensland and Victoria is approximately the same as the national level.

Tasmania currently has the oldest population, with over 17% of people aged over 65 years. Over time, Tasmania is projected to age quite rapidly, with approximately 28% of its population to be aged 65 or over in 2042, which is well above the level of any other state or territory. From a timing of ageing perspective, Tasmania is the fastest ageing state, followed by South Australia.

Most other states and territories are expected to increase the share of the population aged over 65 years by about 6% over the 2012–2042 period. Western Australia is slightly lower with less than a 4.7% increase in the proportion of the population aged over 65.

At the sub-state level, there are also significant differences in the current levels of ageing (*Figure 8b*). With the exception of Western Australia, every capital city is currently younger than the non-metropolitan counterpart. For example, approximately 13% of people in Sydney are aged 65 and over compared with over 18% of non-metropolitan New South Wales residents. The capital city populations are also projected to age at a slower rate when compared to their non-metropolitan counterparts. For example, non-metropolitan populations in New South Wales, Victoria, South Australia and Tasmania increase as a proportion of the population aged 65 and over by 10 percentage points or more over the period 2012-2042. This compares to an increase of about 5% or less in Sydney, Melbourne, Brisbane and Perth.

Figure 8b: *Percentage of the population aged 65+ years, sub-state, 2012–2042*



As noted earlier, in addition to structural ageing (the proportion of population aged over 65) and the timing of population ageing (the speed at which the population ages), it is also important to consider numerical ageing across jurisdictions (the total numerical increase in the population aged over 65 years). Between 2012 and 2042, the total Australian population is projected to increase by approximately 1.5 fold, compared with a 2.2 fold increase in the number of over 65s (*Table 6*). Numerical increases in the over 65 population are higher than the national average in Queensland (2.39 fold), Western Australia (2.75 fold), Australian Capital Territory (2.39 fold) and the Northern Territory (2.86 fold). Although Tasmania structurally has the oldest population and is ageing at the fastest speed, numerically, the growth in the over 65 population is less than the national average. There was a 1.80 fold increase in the over 65 population during the 2012–2042 period.

Whereas non-metropolitan populations have been shown to be structurally older and ageing at a faster rate than capital cities, due to differences in population growth, numerically the growth in ageing populations is much faster in cities. For example, between 2012 and 2042, the population of those aged 65 and over is projected to increase by 2.27 fold in Melbourne, compared with 1.91 fold in other parts of Victoria.

Table 6: *Growth in population and population aged 65+ years, 2012–2042*

	Population Ratio	Ageing Ratio
States and Australia		
NSW	1.38	1.96
VIC	1.53	2.16
QLD	1.64	2.39
SA	1.27	1.83
WA	2.00	2.75
TAS	1.11	1.80
NT	1.55	2.86
ACT	1.60	2.39
Australia	1.53	2.16
Sub-state		
Sydney	1.51	2.12
Balance of NSW	1.14	1.76
Melbourne	1.64	2.27
Balance of VIC	1.21	1.91
Brisbane	1.72	2.46
Balance of QLD	1.57	2.33
Adelaide	1.34	1.88
Balance of SA	1.07	1.70
Perth	2.13	2.75
Balance of WA	1.53	2.77
Hobart	1.19	1.88
Balance of TAS	1.05	1.75

Population ratio: 2042 population divided by the 2012 population
Ageing ratio: 2042 projected population aged 65+ years divided by 2012 population aged 65+ years

How will our labour supply age from 2012–2042?

With the understanding of differential ageing across jurisdictions, it is possible to look at the ageing and growth of labour supply. The labour supply is calculated by applying a labour force participation rate according to age and sex, which remains constant across the projection period for each jurisdiction. In other words, they remain the same as the respective rates for 2012.

The projected labour supply growth for states and territories and the sub-state level is shown in Figures 9a and 9b respectively. Assuming consistency in labour force participation rates, Australia's labour supply growth declines from the current level of around 1.5% per annum to just above 1% per annum by the end of the period. Two jurisdictions diverge particularly from the Australian trend. Western Australia is currently experiencing much higher growth in the labour supply, which is driven by high internal migration and net overseas migration. These supply side factors have been driven by heavy demand because of the mining boom. Over the projection period, labour supply growth in Western Australia is projected to fall to about 1.6%, which is above the current level for Australia. In strong contrast, Tasmania is currently experiencing and projected to experience very low, and in some years negative labour supply growth.

Figure 9a: *Labour supply growth, states and territories, 2012–2042*

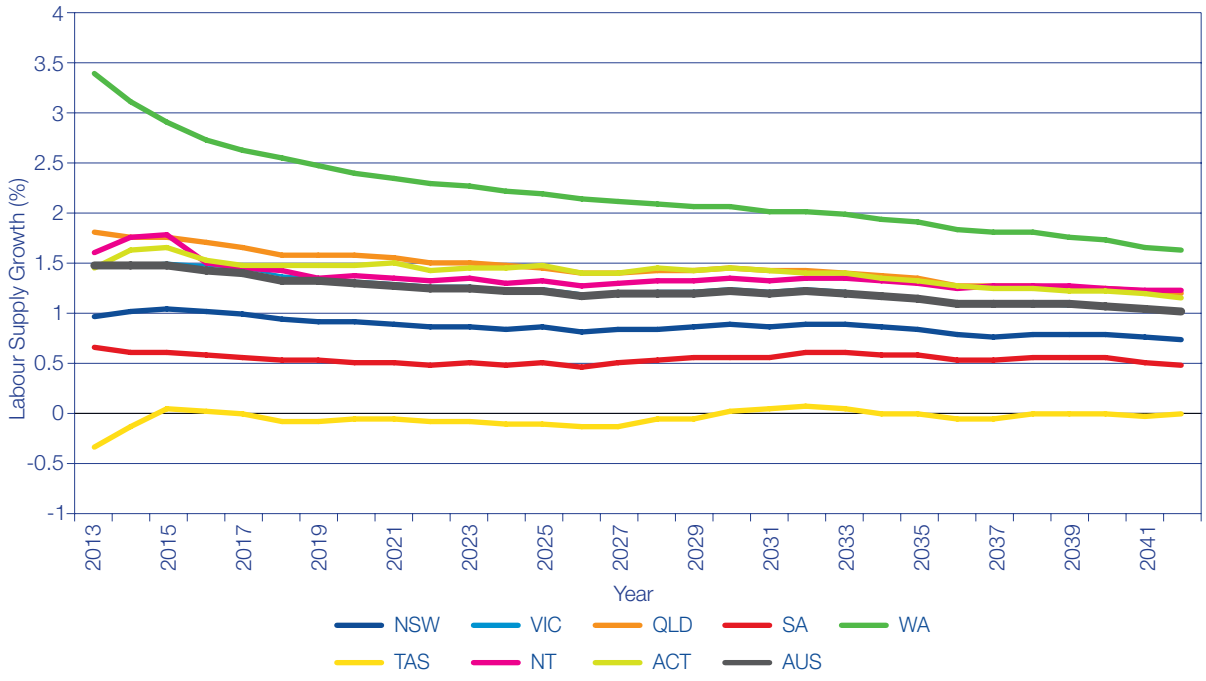
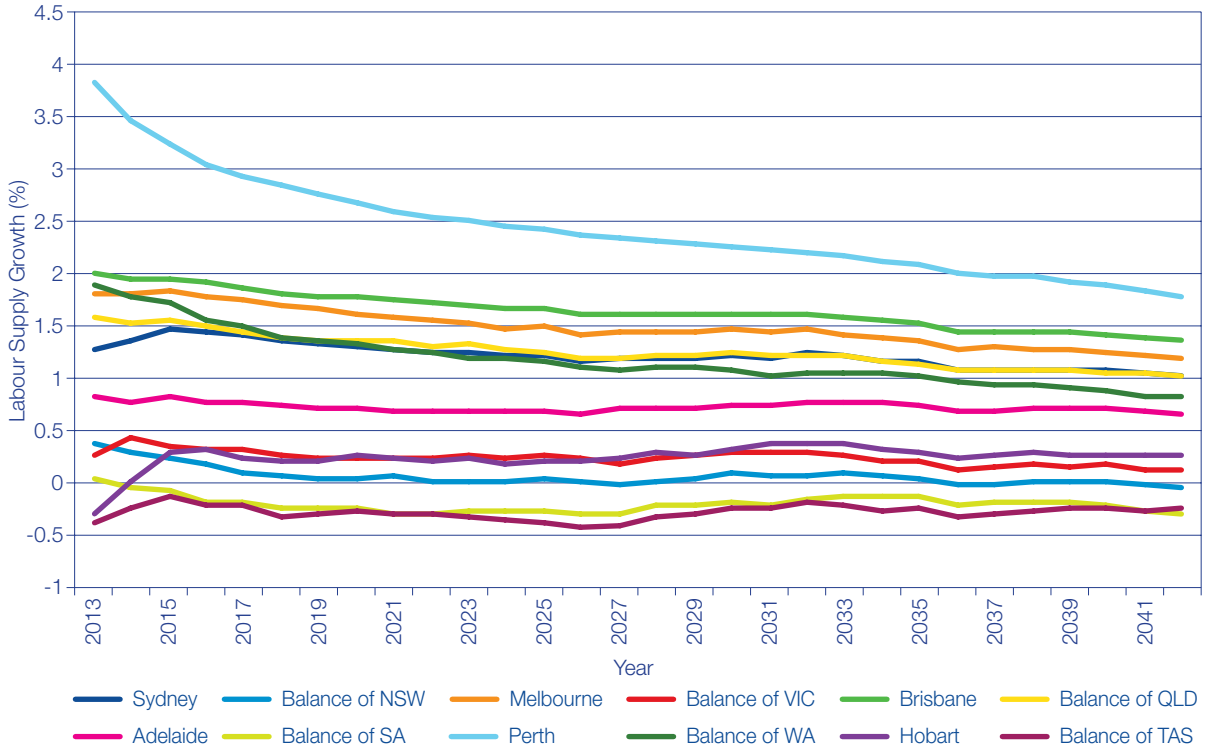


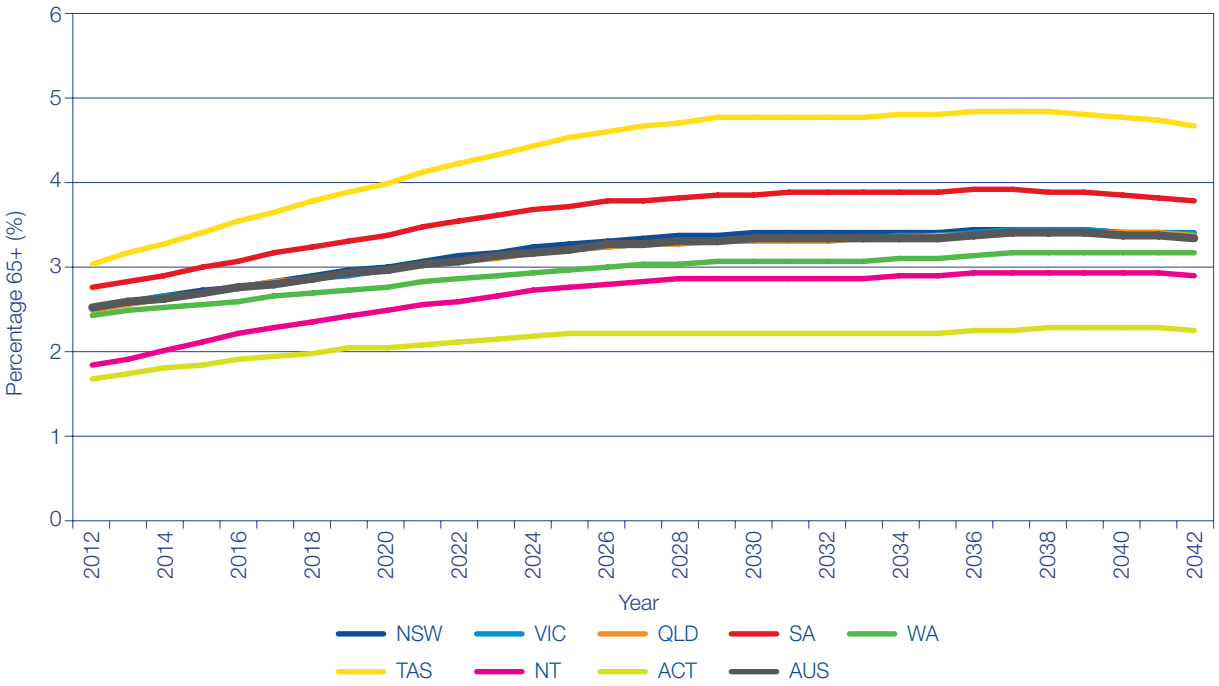
Figure 9b: *Labour supply growth, sub-state, 2012–2042*



Again, at the sub-state level, there is a marked difference between those living in capital cities and those in other parts of the state. In each capital city, the labour supply growth is currently, and projected to be, higher than the labour supply growth in non-metropolitan areas. For example, assuming constant labour force participation rates, in 2013, Sydney's labour supply grew by 1.27% compared with less than 0.4% in other parts of NSW. Labour supply growth is particularly low in non-metropolitan South Australia, Hobart and non-metropolitan Tasmania.

To investigate which jurisdictions are likely to have ageing labour supplies, the percentage of the labour force that is aged 65 years and over (*Figure 10a and b*) and the percentage of the labour force aged 15–64 years (*Figure 11a and b*) are used as the two measures of ageing in the labour force. The latter is often used as a measure of the working-age population.

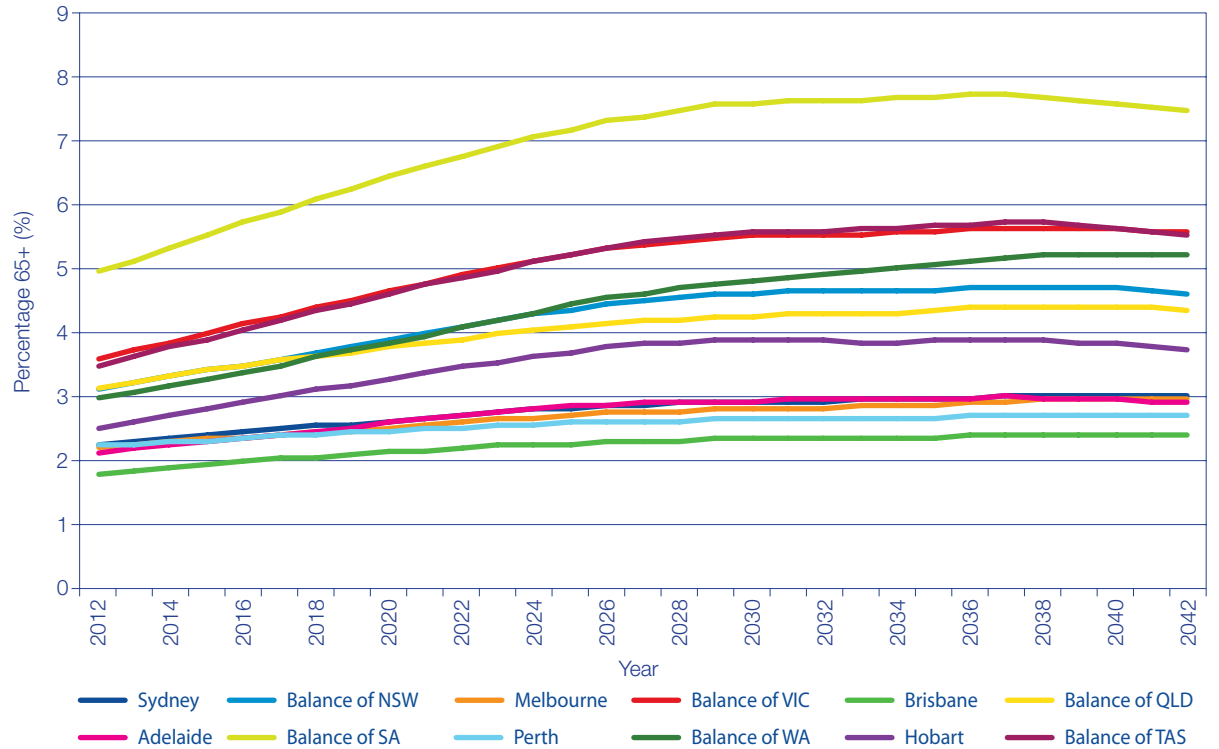
Figure 10a: *Percentage of labour supply aged 65+ years, states and territories, 2012–2042*



Percentage calculated as labour supply aged 65 and over divided by total labour supply multiplied by 100

The proportion of older Australians in the labour supply is projected to increase over coming decades across all states and territories (Figure 10a). Compared to the trend for all of Australia, ageing of the labour supply is higher in Tasmania and South Australia throughout the projection period. Focussing on the sub-state level and mirroring the results for the population at large, all non-metropolitan labour supplies are currently older and ageing at a faster rate when compared to their capital city counterparts (*Figure 10b*). This is particularly the case for non-metropolitan South Australia, where the labour supply is currently older than any other region and is projected to age at a faster rate.

Figure 10b: *Percentage of labour supply aged 65+ years, sub-state, 2012–2042*



Percentage calculated as labour supply aged 65 and over divided by total labour supply multiplied by 100

The decline in the proportion of the traditional working-age population in the labour supply is clear across all states, but particularly pronounced in Tasmania (*Figure 11a*) and again in non-metropolitan areas, particularly in non-metropolitan South Australia (*Figure 11b*).

Figure 11a: *Percentage of labour supply aged 15–64 years, states and territories, 2012–2042*

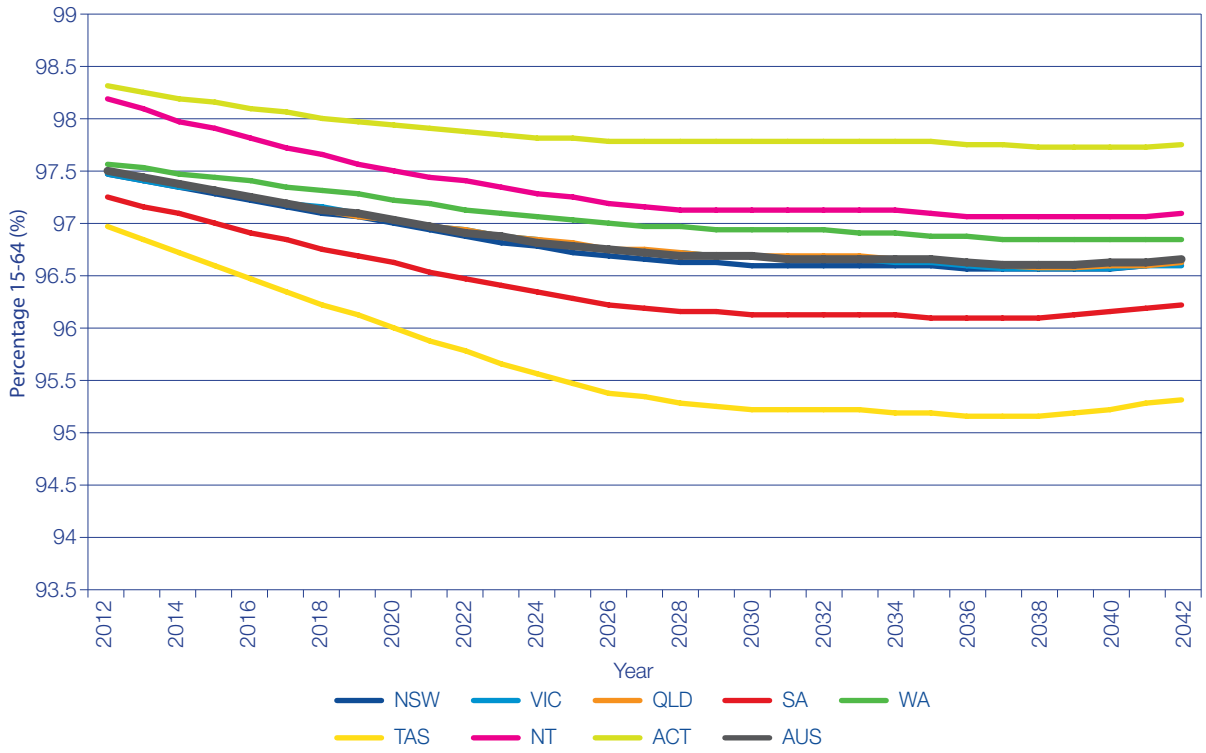
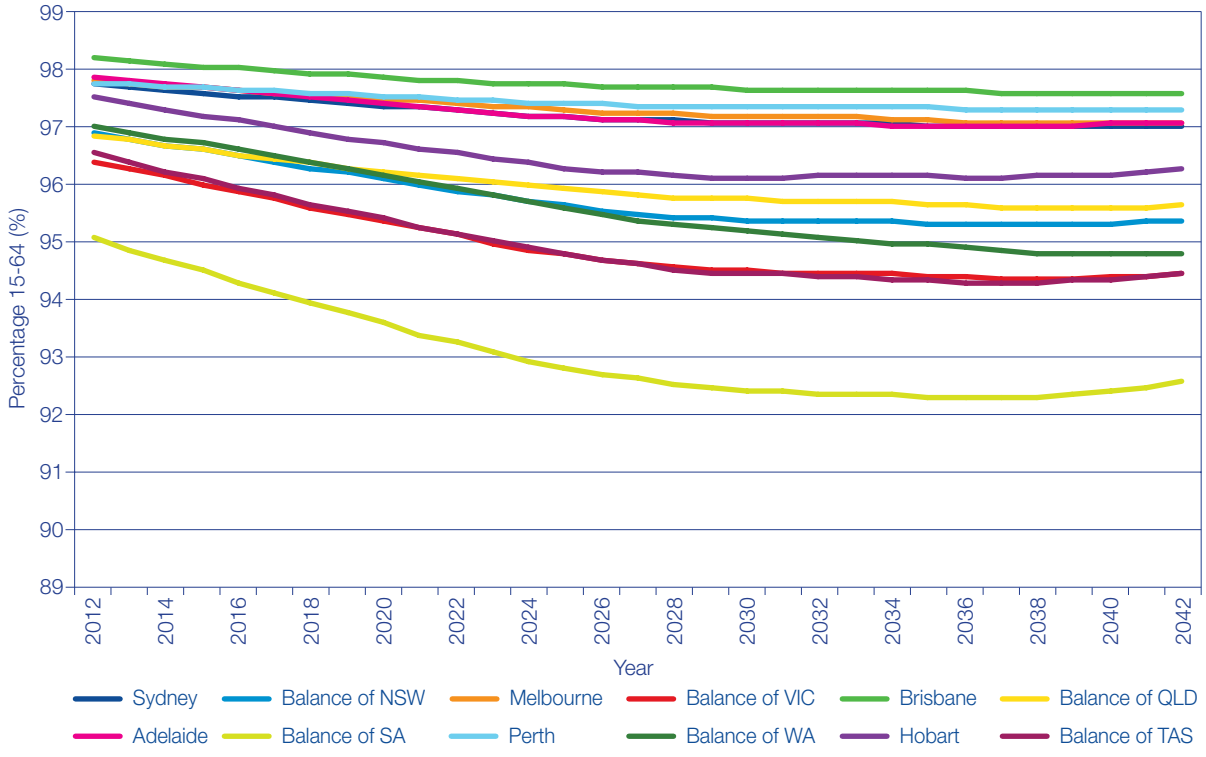


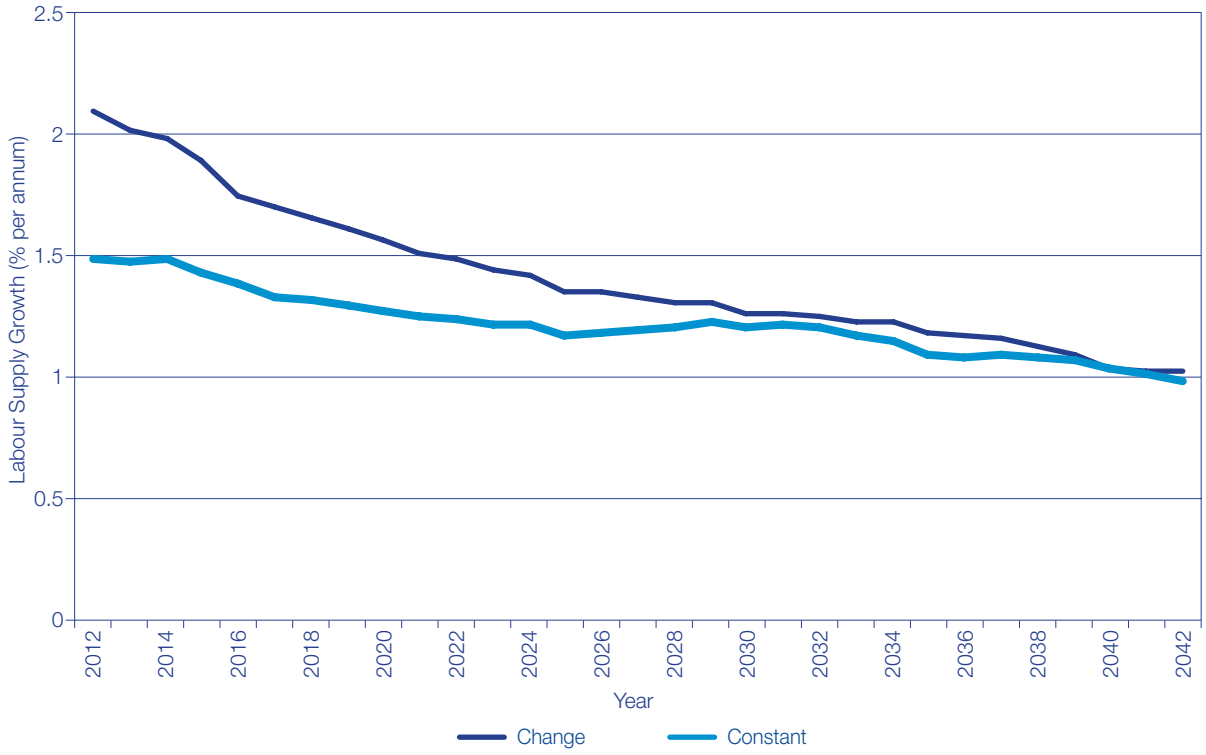
Figure 11b: *Percentage of labour supply aged 15–64 years, sub-state, 2012–2042*



What is the impact of increasing labour force participation?

The labour supply futures presented above are sensitive to many assumptions, particularly the levels of assumed labour force participation. Two scenarios for labour supply growth in Australia are shown to illustrate the effect of increasing mature age participation (*Figure 12*). The first projection (constant) maintains age-sex specific labour force participation at current rates (as described above). The second projection (change) illustrates a modest increase in participation for mature age males and a faster increase for females, although female mature age participation rates are still notably below males by the end of the projection period. This assumption to increase female participation faster than male participation is made because of the cohort effect of increasing female labour force participation across all ages over the past 30 years. The results show that although labour supply growth continues to decline, labour supply growth is higher throughout the entire projection period than for the constant projection. This illustrates the importance of increasing participation by mature age people in the labour force.

Figure 12: *Labour supply growth under alternative participation scenarios, Australia*



Discussion

From 1982 to 2012, Australia's labour supply grew considerably and its economy was geared to a rapid increase in labour supply, particularly in younger skilled workers earlier in the 30-year period. Two of the drivers of this growth in labour supply are the full entry of the baby-boomer generation into the labour force (today's mature age workers) and the very large increase in female labour force participation rates. These two drivers will not influence future labour supply change. Even with very high levels of migration by historical standards, in the next 30 years (2012–2042), labour supply growth will decline at the national level and at the level of the states and territories.

This constraint comes at a time when labour demand may increase significantly. McDonald and Temple[1] offer numerous reasons for this, among them:

- The growth of the ageing population generating increased demand in the services and health sectors
- Increases in living standards driving demand for consumption and service industries
- The need for Australia to invest heavily in infrastructure, new forms of energy and reversal of environmental degradation
- Population growth as a multiplier effect on the demand for labour and the additional population that must be fed, clothed, housed and generally entertained.[1]

Similarly, these constraints are occurring while different states and territories experience ageing at varying levels and speeds. In addition, levels of labour demand continue to exhibit strong regional characteristics. These factors all point to the importance of facilitating and removing barriers to participation by mature age people in the labour force.

To contextualise the importance of encouraging mature age participation across Australia's states and territories, this report set out to answer the three questions below.

1. **How has mature age labour force participation changed over time at the national, state and territory level?**

The analysis of ABS data cubes uncovered historical and current differences in the participation of mature age people in the labour force at the national and state level. For males, most of the increase in participation in the labour force over the past 30 years has occurred in the last 10 years of this period. This is in strong contrast to the situation for mature age females. For females, the story of increased labour force participation is one of a long-term trend with growth across the full 30 years spectrum, although there was also strong growth in the last 10 years of this period.

At the state level, this general pattern for males and females was replicated. However, there are some differences at state level for males. For example, the increased mature age participation for males in Western Australia started much earlier (by about 10 years) than in other states. The likely explanation for this finding is the increase in labour demand in the west, not only in the mining and resources industry, but also with flow-on effects into other sectors.

The Australian Capital Territory has not benefited as much as other states from the increase in participation by males in the labour force. However, when the Australian Capital Territory is compared to other states, mature age participation up to about 60 years of age has been relatively strong, although many other states were catching up to the Australian Capital Territory.

Apart from these historical trends, how do different states and territories fare today with respect to mature age participation? The current situation sees labour force participation in New South Wales, Victoria, Queensland and South Australia broadly consistent with the national pattern. Tasmania underperforms in mature-age participation, with the Australian Capital Territory performing quite well for all mature ages under 60. In Western Australia, males have relatively high labour force participation for all ages over 45 years, but female levels are broadly consistent with the national level.

In contrast to these changes in labour force participation, the demand for part-time work among both mature age males and females has been constant for approximately the last 20 years. Regardless of gender, the increase in demand for part-time work among mature aged employees occurred early on (between 1982 and 1992) and has remained at that level ever since. The state-based trends were roughly consistent with the national level data.

2. Currently, are particular types of industry more likely to employ/retain mature age workers and does this differ at the national, state and sub-national level?

Results from the analysis of employment, occupation and industry types all point to a high prevalence of mature age self-employment, particularly for those people in the older age groups. Similarly, mature age workers living in non-metropolitan areas were more likely to be self-employed when compared to those in the city. Although there were differences between states, the differences within states (at the regional level) also seemed to be prevalent.

There was a strong industry effect at play between regions that explained differences in mature age employment. Industries with a significant self-employment focus are likely to exhibit high patterns of mature age employment. For those living in non-metropolitan areas, employment in agriculture strongly increased with age, whereas for people living in capital cities, a similar, yet smaller effect was apparent for employment in the professional, scientific and technical services.

Consistent with these industry results, employment in managerial roles and professions increased with age. Employment in managerial roles by older people is more strongly observed in non-metropolitan areas, whereas there was an increase in older people employed in professional roles in the cities. In contrast, employment in the traditional blue-collar industries by people such as technicians and trade workers, machinery operators, drivers and labourers declined with age across Australia. As Australia's industry structure shifts it may be (as suggested by McDonald[9]) that the 'secular shift from blue-collar to professional and paraprofessional jobs would enhance employment at older ages'.[9]

More generally, on the basis of labour force participation alone, mature age people living in cities are more likely to be in full-time employment up to about the age of 80. They are less likely be unemployed than those living in other parts of the state.

In particular, the Census data revealed a strong decline in the propensity for mature age employees to be involved in the public sector. This decline was particularly strong from ages 60 years onwards and the decline with age held true across states and territories and regions. This is particularly evident in the Australian Capital Territory where the public sector is a significant employer. Although the Australian Capital Territory has had a relatively high rate of mature age participation compared to other states, this improvement drops off markedly after the age of 60. This sectorial result was also supported by analysing the industry structure results, which showed a considerable drop off in mature age employment in public administration and safety.

Some commentators may point to superannuation incentives as the driving force for the trend of mature age public sector employees leaving. Moreover, this declining proportion in the public sector is decreasing at the same time self-employment increases. However, this does not negate the fact that the public sector is missing out on the significant experience and skills offered by mature age employees. More specifically, McDonald[9] underscores the point that the public sector, rather than reducing employment at older ages should be an employer of choice for mature age people:

> *'government [that] frequently admonishes private employers for discrimination against older workers, but it seems that government has a strong aversion to workers over the age of 65 or that workers have a strong aversion to government employment once they reach 65 years. Whatever the direction of causation, it is very evident that government is not providing a good example in relation to the employment of older workers'.*[9]

Apart from these specific occupation and industry characteristics, the report also investigated labour force status across Australia's states and territories. Tasmania was again a poor performer. When compared to other states and territories, there were higher proportions of mature age people not in the labour force in Tasmania. South Australia also had lower than average levels of participation by mature age people in the labour force. On average, many non-metropolitan areas also had higher proportions of people not in the labour force compared to those in capital cities.

3. In the future, how will the population of mature age people and the mature age labour force differ at the national, state and sub-national level?

At the national level, the percentage of the population aged 65 years and over in Australia was projected to increase from about 14% in 2012 to over 20% in 2042, and in the longer run, by 25% by 2062. Over the same 30 year period, the proportion of the labour supply made up of the over 65s is set to increase at the same time as the proportion in the traditional working-age group (15–64 years) is set to decline.

There are a number of states with trends that are different to those found at the national level. The level of population ageing is higher in Tasmania and in South Australia it is higher when compared to other states and Australia at large. At the sub-state level, with the exception of Western Australia, every capital city is currently younger than the non-metropolitan counterpart. The capital city populations are also projected to age at a slower rate when compared to their non-metropolitan counterparts. Non-metropolitan populations have been shown to be structurally older and ageing at a faster rate than capital cities because of the differences in population growth, whereas numerically the growth in ageing populations is much faster in cities.

When labour supply projections are conducted, growth is particularly low in Tasmania. There is a strong increase in the age of labour supply and a declining proportion in the working-age population (15–64 years). South Australia and Tasmania, with declining labour supply growth, also have lower levels of mature age participation. In each capital city, the labour supply growth is currently, and projected to be, higher than in the non-metropolitan areas. Moreover, all non-metropolitan labour supplies are currently older and ageing at a faster rate when compared to their capital city counterparts. Of particular note, non-metropolitan South Australia and all areas of Tasmania have low levels of labour supply growth and the fastest rates of ageing.

An important caveat to the state-based projections of mature age people in the labour force is that the current labour force participation rates were kept constant throughout the timeframe. There are, however, many reasons why participation by mature age people in the labour force can be expected to increase in the future, with or without government intervention. In particular, McDonald and Kippen hypothesise numerous reasons including that:[10]

- In the future, jobs may be less physically demanding
- The next generation of mature age workers started formal employment later in life and may therefore conclude work later in life
- Numerically, more people will be self-employed and have greater autonomy over their work
- The next generation will be healthier and more aware of the long years that remain in their lives
- The people in the 55–64 year age group had their children at a later age and their children will stay financially dependent for more years
- Simultaneously, mature age people may have financial responsibilities for their own parents
- The baby-boomer generation has expectations of higher living standards in retirement than their parents. The Age Pension alone may not be sufficient for these higher living standards and the years of retirement income will be longer
- In the 1990s, participation in the labour force when people were between 55 and 64 years was low because of the decline in the manufacturing industry in the 1980s. This generation would live much longer
- Because of changes in female participation in the labour force, the partners of 55 to 64 year old males will be more likely to be working in the future.

These state-based projections assume 'business as usual', with labour force participation remaining constant throughout the projection period. Simulations conducted by modestly increasing mature age participation show this can have a significant impact on labour supply growth. This underlies the importance of supporting policies that continue to assist mature age people in maintaining attachment to the labour market.

Regardless of the assumptions used, the labour supply is projected to continue to age, as is generally the case with the Australian population. This not only has big picture implications for industry, federal and state governments, but also for the nuts and bolts of organisational change. For example, Taylor[11] points out that currently there is '…a limited understanding of the behaviour of organisations with regard to the management of workers of different ages'.[11]

Conclusion

Recent studies from NSPAC have identified trends and barriers to participation by mature age people in the labour force. Building on this previous work, this report examined mature age workforce behaviour at the sub-national level because, the numerical, structural and timing aspects of population ageing are not solely national-level phenomena. Rather, population ageing is a heterogeneous process that differs across time and geography. Within the Australian population, heterogeneity in the underlying demography at the regional level necessarily implies differences in the timing and speed of population ageing at the sub-national level.

These different aspects of population ageing will impact on Australia's labour supply and labour markets will react differentially across Australia's states and territories given the differences in labour demand and regional economies more generally. Results in this report show that there are already considerable differences in the level and historical development of mature age participation. Mature age people across Australia's regions, and states and territories are ageing and growing in number at different rates, with implications for labour supply growth and ageing of labour markets.

Although this decline in labour supply growth is projected, at the same time there are many reasons to believe labour demand will be stronger in the future. There are repercussions if labour demand is not met including the potential for wage inflation and risks to future productivity.[1] More generally, declining labour supply growth underscores the need for governments, industry and employers to recognise the importance of ongoing mature age participation. In particular, previous NSPAC research has identified numerous ways to support ongoing participation increases by:

- Addressing the barriers to mature age participation including re-entry barriers for the long-term unemployed, retraining and up-skilling barriers, as well as tax transfer and workplace barriers
- Encouraging detailed retirement planning early in life
- Stamping out the pervasive effects of age-based discrimination in the labour market.

These strategies represent a blueprint to create an environment so that mature age workers who want to work will be able to do so. The fact that many non-metropolitan regions are ageing faster than Australia as a whole place further impetus to hasten these strategies.

This presents a challenge not only for mature age people but also for public sector and private sector employers and society as a whole. As noted by Kimberley and Bowman[12] '...more Australian baby boomers want to work – that isn't the problem. Paid employment provides many social, economic, psychological and emotional benefits, but it must be decent, safe and appropriate. The problems are cultural, social and systemic. Overcoming them is a challenge for government, industry and society as a whole'.[12]

Future research and limitations

There are many options to extend the analysis contained in this report. Firstly, the analysis does not account for labour demand. There are many reasons why labour demand is likely to be very strong in Australia in the future. However, these views about future labour demand are not quantified because currently, there are not any reliable methods of estimating long-term labour demand.

Furthermore, although this model has been used in other applications and is considered to be a standard method of projecting population and labour supply, it is important to acknowledge the limitations of the method. The estimates derived from this model are projections based on assumptions about current and future levels of fertility, mortality, migration, labour force participation and employment rates. Therefore, they cannot and should not be treated as 'forecasts', but rather outcomes for the population and labour force if the assumptions used in the model do eventuate.

The projections in this report have also been limited to the capital city and rest of state geography. Lower geography projections of employment could further our understanding of population ageing, individual ageing and labour markets in Australia. Similarly, a more detailed analysis of Census data in smaller geographic areas could also reveal new information about mature age participation in small area labour markets.

Appendix

Appendix A: Detailed data

(Appendix tables can be found at productiveageing.com.au)

- Table A1: Long and medium term change in male labour force participation, states and territories
- Table A2: Long and Medium Term Change in Female Labour Force Participation, states and territories
- Table A3: Labour Force Category by Age/Sex and State, 2011
- Table A4: Labour Force Category by Age/Sex and Region, 2011
- Table A5: Employment Type by Age/Sex and State, 2011
- Table A6: Employment Type by Age/Sex and Regions, 2011
- Table A7: Sector Category by Age/Sex and State, 2011
- Table A8: Sector Category by Age/Sex and Region, 2011
- Table A9: Industry Type by Age/Sex and State, 2011
- Table A10: Industry Type by Age/Sex and Region, 2011
- Table A11: Occupation Category by Age/Sex and State, 2011
- Table A12: Occupation Category by Age/Sex and Regions, 2011

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