Mature-age labour force participation: Trends, barriers, incentives, and future potential

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The fiscal challenges of population ageing can be tackled in a number of ways. These include investing in capital and productivity of the smaller workforce, greater saving for retirement, higher migration, an active population policy, reducing benefits for the old, and/or encouraging and enabling them to work longer. This briefing focuses on the latter. It presents historical and international precedents for higher mature-age labour force participation rates in Australia, summarising available data as well as looking at the public policy response so far and the potential for further intervention.

The economic case for higher mature-age labour force participation is strong. A five percentage point increase to participation rates of 50-69 year olds is projected to be worth 2.4% of GDP in 2050. If all inactive people aged 55 and over who say they want to work did so, the participation rate for that group would increase six percentage points – also worth 2.4% of GDP. And if Australia had the same mature-age participation as New Zealand, GDP in 2012 would be 4% higher.

The Australian Government has undertaken a number of measures to resolve ongoing barriers to employment for older Australians, but important issues remain.

Institutional barriers to mature-age participation, resulting from the carrots and sticks that make up the tax, benefit and retirement income system, can be more amenable to policy intervention than those relating to barriers such as health and education. There is also evidence (e.g., from New Zealand) that changing system parameters relating to eligibility age can help.

Yet it seems that too little thought has gone into the operation of eligibility ages in Australia. While pension age is increasing from 65 to 67, the eligibility age for Super will remain low, increasing from 55 to 60. At the same time, the age at which Super benefits are tax-free will remain at 60. In the absence of harmonisation of all eligibility ages, there is a case that the tax-free age be increased to 62, moving with the pension age, or to 65, moving with the Super access age.

The briefing contextualises the discussion by making use of historic and international benchmarks. A set of scenarios is used to demonstrate the compositional effect of ageing and mature-age participation rates on total participation rates in the long term. Keeping all else equal, ageing would result in a 5 percentage point fall in total participation rates by 2050. If instead Australia were to achieve the higher mature-age rates seen in New Zealand, the fall would be only 2 percentage points.
1. Introduction

Observations about population ageing are often accompanied by measures that demonstrate how an increasing number of older people will depend on a dwindling number of those working age. Commonly, this translates to the number of people aged 65 and over as a proportion of those aged 15 to 64. In Australia, as in most other countries, this dependency is on the increase, having risen from 15% in 1980 to 20% in 2012. By 2050 it is expected to reach 36%.

The magnitude of this dependency is mediated by how much savings the older population holds, by the productivity of the smaller working age population, or the requirements of the old. However, who we consider as the traditional working age population can change over time and this is not captured by the static nature of the dependency ratio. Arguably more important than the dependency ratio is the proportion of people actually in the labour force and able to support those who aren’t.

For example, despite the rising proportion of older people, Australia’s total participation rates have increased over the last few decades, from 61% in 1980 to 65% in 2012. The increase was driven by greater numbers of women joining the labour force. Women still have some way to go to catch up with men, but even as that happens, offsetting the declines in total labour force participation due to population ageing would require some of the additional older people to remain part of the labour force too.

The value of higher participation can be enumerated by looking at the impact of such increases on GDP and fiscal expenditure. The Commonwealth Treasury (2010) bases its long term economic projections on the influence of three factors which include participation (the others being population and productivity; see Chomik and Piggott, 2012).

Treasury’s estimates suggest that increasing the participation rate of 50-69 year olds by 10%, a 5 percentage point increase from 62% to 67% by 2050 would increase real GDP and real GDP per capita by 2.4% (Figure 1). This could come some way to close the 2.75% fiscal gap that the Treasury estimates will result from population ageing.

The analysis also shows that public expenditure as a proportion of GDP would be reduced by nearly 0.5 percentage points, driven by decreases in spending on pensions and health, as well as a higher GDP denominator.
Figure 1. Higher mature-age participation rates mean higher GDP and lower costs

Some 320,000 of those aged 55 and over already want a job but have either been discouraged from looking or are unavailable to start immediately. The barriers and incentives that lead to their inactivity come at a high cost of foregone potential. If these marginally attached workers (as well as those who are unemployed and under-employed) were able to work, they could increase participation rates of those 55 and over by 6pp, and by our estimate, contribute some $30 billion to the economy in 2012 (see Table 1). This translates to 2.4% of GDP.

As this brief demonstrates, some countries have much higher participation rates than Australia. If Australia had the same mature-age participation rates as New Zealand our GDP would be 4% higher.

But how did we get here and how do we compare? What kinds of barriers and disincentives inhibit people working longer? And what magnitude of increase in mature-age labour force participation is realistic? This paper provides an overview of historical and international precedents for higher mature-age participation rates in Australia, summarising past and current data as well as looking at the public policy response so far and the potential for further intervention.
Table 1. Untapped potential of inactive, unemployed and under-employed older workers

<table>
<thead>
<tr>
<th></th>
<th>55-64s</th>
<th>65+</th>
<th>All 55+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inactive &amp; want a job</td>
<td>$17.8 b</td>
<td>$12.2 b</td>
<td>$30.0 b</td>
</tr>
<tr>
<td>Unemployed</td>
<td>$1.6 b</td>
<td>$0.1 b</td>
<td>$1.7 b</td>
</tr>
<tr>
<td>Under-employed</td>
<td>$1.0 b</td>
<td>$0.1 b</td>
<td>$1.1 b</td>
</tr>
<tr>
<td>Total untapped value</td>
<td>$20.4 b</td>
<td>$12.4 b</td>
<td>$32.8 b</td>
</tr>
</tbody>
</table>

Note: Based on multiplying GDP per hour worked by hours sought.
Source: Authors’ calculations. GDP per hour worked is $69.5 based on chain vol GDP of $1,349,097m for year to March qtr 2012 (ABS 2012, Cat 1350.0 Table 1) and total hours worked of 19,413m in 12 months to Jun 2012 (ABS 2012, Cat 6202.0 Table 21). Volume of hours sought for unemployed and under-employed as provided by ABS (2012, Cat 6105.0 Table 4). Volume of hours for inactive who want work based on 318,100 people, who want on average 26.7 hours per week (ABS 2011, Cat 6239.0 Table 9).

2. Long-term trends

Looking at historic and international comparisons can provide a useful yardstick for gauging the scope for increasing mature-age participation as well as providing insight into why the rates change (See Figure 2).

We look at women’s rates first since most of the improvements in participation rates come from them. With the exception of Sweden, which was an early mover, participation rates of mature-age women were steady in most advanced countries until the 1990s. The increases since represent the ‘cohort effect’ of a social change many decades in the making – young women who increasingly joined and then remained attached to the labour market in the past and who over the last two decades have been ageing into the mature-age bracket. Australian women aged 55-64 moved from a participation level of 20-24% before the 1990s to reach 55% currently.

Australian mature-age men saw a downward trend in participation rates that dropped from 85% in the 1960s to a low of 60% in the 1980s and 1990s, before recovering to 72% in 2011. The OECD (2012) calculates that historic average retirement ages in Australia declined by 6 years between the 1970s and 1990s and increased by 3 years since.

The international comparison reveals that both men and women have seen more rapid increases to participation rates and to a higher level than is the case for the OECD average. Still, the rates for both men and women lag 11 OECD countries such as Sweden and New Zealand, which have mature-age participation rates between 8 and 17 percentage points higher.

Increases in New Zealand in the past two decades are particularly striking. Key to this is that pension eligibility age in New Zealand rose from 60 to 65 between 1992 and 2001 – a more rapid pace than in Australia (Hurnard, 2005; Headley et al., 2007). It involved increases for both men and women, so there may have been a partner effect on women’s rates. The structure of New Zealand’s retirement income system is also different. The state provided pension is not means-tested (age is the only criteria), which means that one can keep earning and receive a full pension. What is more, there is no reliance on mandated
private savings that can be relied upon from an earlier age, as is the case with Superannuation in Australia, which can be drawn 10 years earlier than the Age Pension (7 years earlier once legislated changes take effect; see section 5). As a result, changes to the Age Pension in New Zealand are liable to have a greater effect on participation rates.

Figure 2. Lagging the mature-age participation rates achieved in the past and elsewhere

Source: OECD (2012)

To better understand these trends, particularly those for men, it is worth thinking in terms of the demand and supply of labour. Developments affecting the demand and supply of labour can be divided into four broad areas: (1) structural / economic; (2) social / human capital; (3) demographic; and (4) policy.4

The decline and lows of older men’s participation coincided with low labour demand as a result of three recessions between 1974 and 1991. Unemployment levels in this group increased from a low of 1% in the early 70s to average 8.7% in the decade to 1995. It was in 1997, four years after unemployment reached its peak of 13.3% in 1993 and then started falling, that older men’s participation rate reached its minimum and started increasing (OECD, 2012). The period that Australian mature men’s participation rates were lower than the OECD average overlaps neatly with the period when their unemployment rates were higher.
Subsequent increases in participation in Australia as well as other OECD countries are partly down to the ageing of the affected cohorts out of the age bracket we are considering.

The relationship between participation and the cyclical and structural changes of the 1980s is part of the now familiar story across the OECD, of retrenchment of older workers to make way for the young and facilitating labour market exit of those affected by structural change. This was in line with the debunked logic of the ‘lump of labour’ fallacy – that there is a given stock of jobs to go around. We may often see a retiring colleague make way for someone younger but this does not bear out in the aggregate. For example, countries with higher mature-age employment also have higher youth employment (OECD 2012; also see detailed evidence in Gruber and Wise, 2010). Past policy, whether actively or passively, is thought to have been complicit in encouraging the early exits. Increases in Age Pension benefits in the 1970s, and access to Disability Support Pension and veteran’s pension in the 1980s and 1990s are considered to have played a part (Kennedy & da Costa, 2006).

The changing structure of the labour market and stronger demand for labour since the mid-1990s meant that factors that interact with the supply of labour become more relevant. For example, jobs were less likely to be in agriculture or manufacturing and therefore became less physically demanding, a characteristic that is associated with choosing to work longer (Blekesaune & Solem 2005). Services sector employment increased from 79% to 92% and 69% to 80% between 1990 and 2012 for older women and men respectively – a faster transition than for the total population (Figure 3.A). Self-employment, associated with later retirement (Hochguertel, 2010; Poehl and Cunningham, 2011), increased from 8% of employed persons between ages 55-64 in 1992 to 15% by 2011 (Figure 3.B).

The economic (and policy) environment can affect the accumulation of wealth, and higher wealth is related to earlier exits out of the labour force (Borland, 2005). The effect of the global financial crisis on savings of older workers, meant that over 40% of women and over 30% of men decided to postpone their retirement (O’Loughlin et al., 2010).

Of the social and demographic trends, women’s role in the workplace is the most obvious. Other examples include the influence of education, associated with later retirement ages (Ryan and Sinning, 2010). Education attainment has increased across various ages, including 55-64 year olds: in 1976, only 0.8% of 55-64 year women held a university degree or higher; by 2006, this had increased 16 fold to 12.6% (Figure 3.C). Ongoing improvements in education and health are likely to increase the labour force participation of the mature-age population in the future (Headey et al., 2011).
Better health also has a strong relationship with participation (Woodland, 1987; Borland and Warren, 2006; Gorman et al., 2012). We know that longevity measured at birth has increased but so has mid-life life expectancy. Importantly, Health Adjusted Life Expectancy (HALE) also rose: for males aged 60, HALE increased from 75 to 77 years in the decade to 2003 (Figure 3.D).

Other factors include the interaction of marital status and partner’s labour force participation (Borland and Warren, 2006). Since retirement decisions are often joint, women’s engagement in the labour market may result in men working longer and reduced age gaps between married couples may mean women working longer than in the past (McDonald, 2011).

Finally, public policy, which can influence various elements of the above, may also be invoked in and of itself to explain recent increases in participation rates. It is often cited with respect to financial incentives, which are generally shown to have an effect on participation and retirement decisions (Gruber and Wise, 1999; OECD, 2011). However, aside from higher Age Pension eligibility ages,
which appear to have a strong effect of delaying retirement, there is mixed evidence about the success of such policies in Australia (Headley et al., 2011). Examples of these include the introduction of the Superannuation Guarantee, reduced taxes for ages 60 and over, a pension bonus for those continuing to work and the ability to combine work and superannuation drawdown through ‘transition to retirement pensions’. On the demand side, the Age Discrimination Act 2004 removed mandatory retirement for older Australians.

3. Recent data: Decomposing the target group

In this section we decompose mature-age Australians into various groups, as presented in Figure 4, to gain some insight into who they are, what they are doing and what barriers they face in the labour market. The decomposition is for the population of 55-64 year old males.

One immediate concern about aggregate participation rates is that some of those who are currently employed are only ‘marginally’ active, working minimal hours but being counted. The data suggests that part time participation (13% of the male 55-64 population) tends to be higher in Australia than the OECD average (9%). Nonetheless, more than half of those employed part time are working 16 hours or more. Only 6% of part-time workers want more hours.

![Figure 4. Under-employment, unemployment and inactivity among 55-64 year old males](source)

Source: Various tables within ABS Cat.3101.0, Cat 6105.0, Cat 6220.0, Cat 6239.0
Note: Percentages from most recent year (ranging 2006-2011) applied to totals of people in 2011. Unemployed by difficulty of finding employment are for persons 45 and over. Unemployment is expressed as proportion of population not the commonly known unemployment rate which is as a proportion of the labour force.
Mature-age unemployment is lower than youth unemployment: 3.7% of the male 55-64 labour force is unemployed compared to 12% for 15-24 males. But their duration in unemployment is far higher: 36% of 55-64 year old unemployed men were unemployed over 12 months versus 21% for 15-24 males. This is significant, because it points to the greater difficulty that older people have in re-entering employment. It is easier to retain labour force attachment at mature ages than to withdraw from the labour force and subsequently seek to re-enter.

We start seeing some of the barriers that older people face as we look at data on difficulties faced by older unemployed people in finding work. Some, it is hoped, are not insurmountable, including skills issues and discrimination.

As noted earlier, there is already a large number (24% of the inactive male 55-64 population) who want work but are either discouraged from looking or are not immediately available. Reasons given for inactivity suggest that many are not leading ‘productive’ lives in their late 50s to early 60s: 42% appear to say that retirement is their main activity. These results chime with other statistics (ABS cat 6238.0) not shown in Figure 4: the top reported reason for retirement among 55-64 year olds is ‘reaching retirement, pension or superannuation eligibility age’ (48% of men and 33% of women). The second most important reason is ‘own sickness, injury or disability’ (23% and 19%, respectively). The results suggest that policies are instituting a cultural signal when one should retire.

### 4. Overcoming barriers

Having considered the long term trends as well as some of the more recent data, the following two sections look at government responses. There are many measures being implemented to help older people overcome barriers to labour force participation. Most are part of the Australian Government’s ‘Productive Ageing Package’ and are the subject of an ongoing public discourse via the Consultative Forum on Mature Age Participation (see NSPAC, 2011). Here, barriers and examples of responses are grouped into four areas: (1) health & caring; (2) employer & workplace; (3) skills & training; and (4) legal & institutional.

Own and family health issues comprise one of the most important impediments to work, and possibly one of the most complex to tackle. Policy requires a lifespan approach, preventing avoidable degenerative diseases and maintaining resources to treat enduring diseases and improve healthy ageing and well-being at all ages (Kendig and Browning, 2011). More could be done to incentivise employer involvement in health, to prevent illness and cope with disability. For example, Australia has one of the lowest proportions of people with disabilities in the workforce in the OECD; evidence suggests that the age structure of the population is peripheral to such comparisons (OECD, 2010), but as the population ages, it will compound such poor outcomes.
More immediately, health and caring barriers can be overcome if illness, disability and caring responsibilities can be accommodated to allow people to work. Responses so far include helping individuals and employers with job support and advice as well as funding workplace modifications. A national disability coordinator works directly with large employers to create jobs for people with a disability. System changes have meant that individuals on Disability Support Pension (DSP) can now work up to 30 hours per week for two years without losing benefits. But there are other things government could consider. For example, Victoria has enforceable rights for its workers to request flexible arrangements for caring, which could be extended to other states.

Employer discrimination and recruitment can act as barriers, as can the culture and practices in the workplace. For example, when restructuring their business, employers might be likely to push older people out of the labour market: 10% of those who retired between 55 and 64 gave retrenchment as a reason (ABS Cat 6238.0). This is despite the value of older workers, their mature judgement, their reliability and loyalty, corporate memory, and the fact that business can benefit from workers that resemble their client demographic. Strategies to tackle such barriers have included the promotion of specialised recruitment firms that cater to older workers, advice for employers on setting up workplaces, as well as providing wage subsidies for employers who hire older workers with no recent work experience and who have been on income support for two years.

An example of other measures to look at could include extending the National Employment Standards to allow flexible arrangements for care of adults (currently only care of children is included). There is also something to be said for more research about management culture and how it affects older workers and about the gains for enterprises that hire and retain older workers.

Barriers relating to skills shortage and training are being tackled through grants programs. These are targeted at employers of older people who mentor or are in skill shortage sectors, or older job-seekers in specific sectors. The program starts in 2013, so details are yet to be announced. While help is offered through Centrelink and Job Services Australia, older job-seekers don’t have to enter the work experience phase which is required for people below 50 years of age who have been unemployed for over 12 months. The requirement may be better applied based on actual experience rather than age.

Legal and institutional barriers can arise out of statutory or regulatory arrangements. Some of these are currently being investigated by the Australian Human Rights Commission and Australian Law Reform Commission (e.g., workers’ compensation schemes and income insurance).

Finally, institutional barriers can result from the carrots and sticks that make up the tax, benefit and retirement income system. Such factors can result in financial outcomes that distort an individual’s choice between work and leisure.
Compared to barriers such as health and education, financial incentives are more readily amenable to policy intervention and appear to have a greater impact on participation choices.

Australia’s reliance on defined contribution plans through the Superannuation Guarantee should encourage deferral of retirement since savings accumulate every year that retirement is delayed. This incentive is illustrated in Figure 5.A, where the replacement rate available from Super is seen to increase with later retirement. However, the returns from working longer and saving more are offset by a smaller resource-tested benefit through the Age Pension.

Figure 5. The weak impact of financial incentives

Attempts to reduce this negative incentive include the now discontinued Pension Bonus and newly introduced Work Bonus, which allows people to earn up to $6,500 and keep their pension. So far, individuals don’t appear to react in a way that defers their retirement significantly. For example, a substantial majority of people say financial security is the main consideration when retiring. Yet the same people say they will retire at age 62, on average (Figure 5.B). Given the still low levels of superannuation savings this goal doesn’t appear very realistic. Or it is realistic because they expect to live on Super for several years and then come to rely on the Age Pension.

5. A way forward: Balancing carrots and sticks

The cliff edges of financial incentives to retire are dependent on the various access ages to pension income. Access age can act as a signal for an expected or acceptable retirement age for full time workers. Australia is increasing its Age Pension eligibility age faster than the OECD average (Figure 6.A). While
legislated pension ages for both men and women are converging to 65 in the OECD overall, in Australia these are increasing to 67.

Yet, the Australian system encourages earlier access to Super benefits: from as low an age as 55 currently, to 60 by 2023\(^7\). Such early access, described by the OECD as an early retirement option, is a pathway that many countries have sought to close in past reforms (Whitehouse et al., 2009; OECD, 2011). Rather than use the preservation age as a ‘stick’, by raising it to the level of the Age Pension age, Australia has chosen to use the ‘carrot’ of tax incentives: no tax is payable if Super is withdrawn after age 60. But in spite of this approach, there are currently no plans to alter this relative to increases to either the Age Pension age or preservation age.\(^8\) This policy direction suggests that the Australian Government is either too timid to use the levers at its disposal or is not considering how the various ages interplay.

**Figure 6. Retirement income access ages in Australia and OECD**

![Retirement income access ages in Australia and OECD](image)

Increasing the tax-free access age, with either Pension or Super access age may be a sensible way forward.

Early pension access results in not only lower mature-age participation rates but also exacerbates the problem having more years over which to stretch payments as life expectancy increases (Figure 6.B). Gaps between the different access ages mean that people may retire at 60 only to later realise that they have exhausted...
their savings early or need more income before they reach Age Pension age. This will be true, to an even greater extent, if the gap is allowed to widen from 5 to 7 years. In order to encourage older workers’ attachment to the labour market there is a strong argument to look at eligibility ages again. If not harmonising the access ages, then at least considering whether the tax-free age should increase relative to either the 5-year increase to preservation age or to the 2-year increase to the Age Pension age. Meddling with Super access appears to be controversial in Australia. It would therefore make sense to index such ages to life expectancy and take at least some of the politics out of the equation.

It seems likely that once policy reform to incentivise workers to remain in the labour force for longer is in place, there will be a “knock-on” effect, with labour force participation rates remaining higher at later ages as well. The gradual decline in labour force participation that we now see from age 60 might start at age 62, or 65, for example. Further, we are targeting the baby boomers, so the impact will be more pronounced because of the cohort population bulge. This cohort has been changing society in many ways since the 1960s and with some policy encouragement may well redefine retirement too.

6. What might changes to participation look like?

Should economic, socio-demographic, and policy trends conspire to increase labour force participation rates among older Australians, what would these increases look like? And what is feasible? We attempt to answer these questions here by applying several hypothetical scenarios of changes and studying their effect on total participation rates as a reference point.

The analysis builds on a point raised at the outset: that population ageing and dependency can be less of an issue if the overall level of economic dependency, proxied by the total participation rate, is stable. In this exercise we apply different scenarios of participation rates to the underlying population age structure projected by the Australian Bureau of Statistics. In this way, if age-specific participation rates are kept constant, greater numbers of people entering the older, less economically active age brackets will result in the total labour force participation rate declining: from 65% now to just below 60% in 2050. This represents the compositional effect of ageing and can be thought of as the lower bound, no-change scenario.

At the other extreme, keeping the total participation constant would require those 55 and over to increase participation rates from 35% now to 44% in 2050. This shift is even greater than it seems since the 55 and over population also includes increasing numbers of older old (e.g., 85 and over).
In between the no-change and this upper-bound, we demonstrate the effect of two, more realistic 2050 scenarios: (1) applying participation rates of younger ages to those aged 55-64, the ‘60 is the new 50’ scenario; and (2) applying New Zealand’s 2012 mature-age participation patterns to older Australians.

Details are available in the appendix, but Figure 7, summarises the effect on the overall participation rate and the 55 and over rate. The exercise shows that the decline between 2012 and 2050 due to population ageing can be somewhat mediated under these reasonable scenarios. That is, rather than decreasing by 5pp in the no-change scenario, the total participation rate decreases by 3.7pp and 2pp under the respective ‘60 is the new 50’ and ‘NZ rates’ scenarios. Among the 55 and over population, this represents zero change in participation rates under scenario 1 and a 5pp increase under scenario 2. Further underlying these Figures, the 55-64 participation rates would increase 14pp and 13pp respectively – a magnitude of increase witnessed in Australia in the last decade.

7. Conclusion

This paper provided an overview of historical and international precedents for higher mature-age participation rates in Australia, summarising past and current data as well as looking at the public policy response so far and the potential for further intervention. It showed that there was a strong economic and fiscal imperative for increasing participation rates. Should efforts to resolve barriers and incentives to work pay off, particularly those related to operation of retirement income access ages, higher mature-age participation rates on par with international best performers may not be an unrealistic target. We show what such increases would look like and to what extent these would keep the total participation rate, a proxy for economic dependency, from falling.
Endnotes
1 Those working fewer hours than they want to.
2 The similarity of this figure to Treasury’s sensitivity analysis should not be confused. It is obtained by different methodology and applies an effective 6pp increase in participation rates to individuals 55-69 rather than a 5pp increase for ages 50-69.
3 Based on similar methodology as described in note to Table 1. New Zealand’s age-specific participation rates for ages 55+ are applied to Australia’s 2012 population aged 55+ and hours worked by age (Cat. 6291.0.55.001), before these are multiplied by GDP per hour worked.
4 See discussion in McDonald (2011), which considers a shorter historical period but notes some similar drivers.
5 The package represents funding of $43.3 million between 2010-11 and 2014-15 (DEEWR, 2011)
6 It’s worth noting that Australia spends less on training than other countries as % of GDP (OECD, 2012)
7 ‘Transition to Retirement Pensions’ are available to allow individuals to enter the drawdown participation phase of their superannuation savings after reaching preservation age but before retiring from work, which is the usual trigger. The measure is based on the recognition that part-time withdrawal is more beneficial that full withdrawal from the labour market.
8 In summary, Age Pension age for women increased 60 to 65 between 1995 and 2013 and will increase for both sexes from 65 to 67 between 2017 and 2023; Preservation Age increasing from 55 to 60 between 2015 and 2024; tax-free age is 60 since 2007.
9 The concept ignores differences in age-specific hours worked and productivity as well as distributional impacts
10 Decline would be to levels last seen in late 1970s, undoing increases due to more women in the labour force.

References
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ABS Cat. 3101.0 (2011), ‘Australian Demographic Statistics’
ABS Cat. 3222.0 (2006) ‘Population Projections, Australia, 2006 to 2101’
ABS Cat. 6105.0 (2012) ‘Australian Labour Market Statistics’
ABS Cat. 6220.0, (2011) ‘Job Search Experience, Australia’
ABS Cat. 6238.0 (2011) ‘Retirement and Retirement Intentions, Australia’
ABS Cat. 6239.0 (2011) ‘Barriers and Incentives to Labour Force Participation, Australia’
ABS Census (Various years),

Appendix

Figure A1. Scenario 1: Age 60 is the new 50: Applying current age 45-55 rates to ages 55-60 and current age 55-60 rates to ages 60-65 in Australia by 2050

Source: Authors’ calculations, ABS Cat. 6291.0.55.001, ABS Cat. 3101, ABS Cat 3222, and OECD (2012); Note: ABS 2006-2050 population projections rebased to 2011 census. Age groups in figures are not of equal size.
Figure A2. Scenario 2: Applying New Zealand’s 2012 mature-age participation rates to Aust in 2050

Source: Authors’ calculations, ABS Cat. 6291.0.55.001, ABS Cat. 3101, ABS Cat 3222, and OECD (2012); Note: ABS 2006-2050 population projections rebased to 2011 census. Age groups in figures are not of equal size; Total population as in Figure A1
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