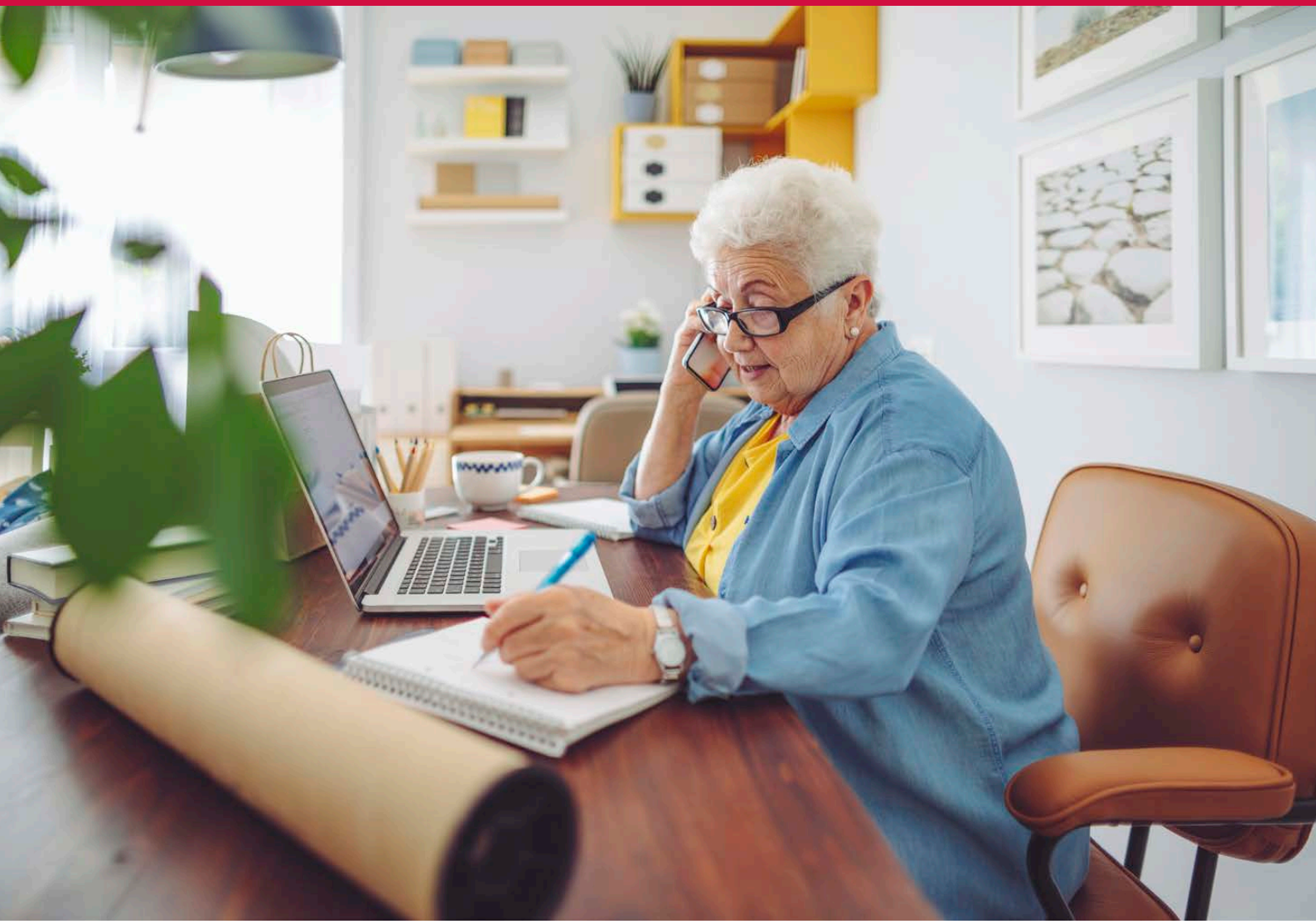
ARC CENTRE OF EXCELLENCE IN POPULATION AGEING RESEARCH

Tapping into Australia's ageing workforce: Insights from recent research



CEPAR research brief, June 2021

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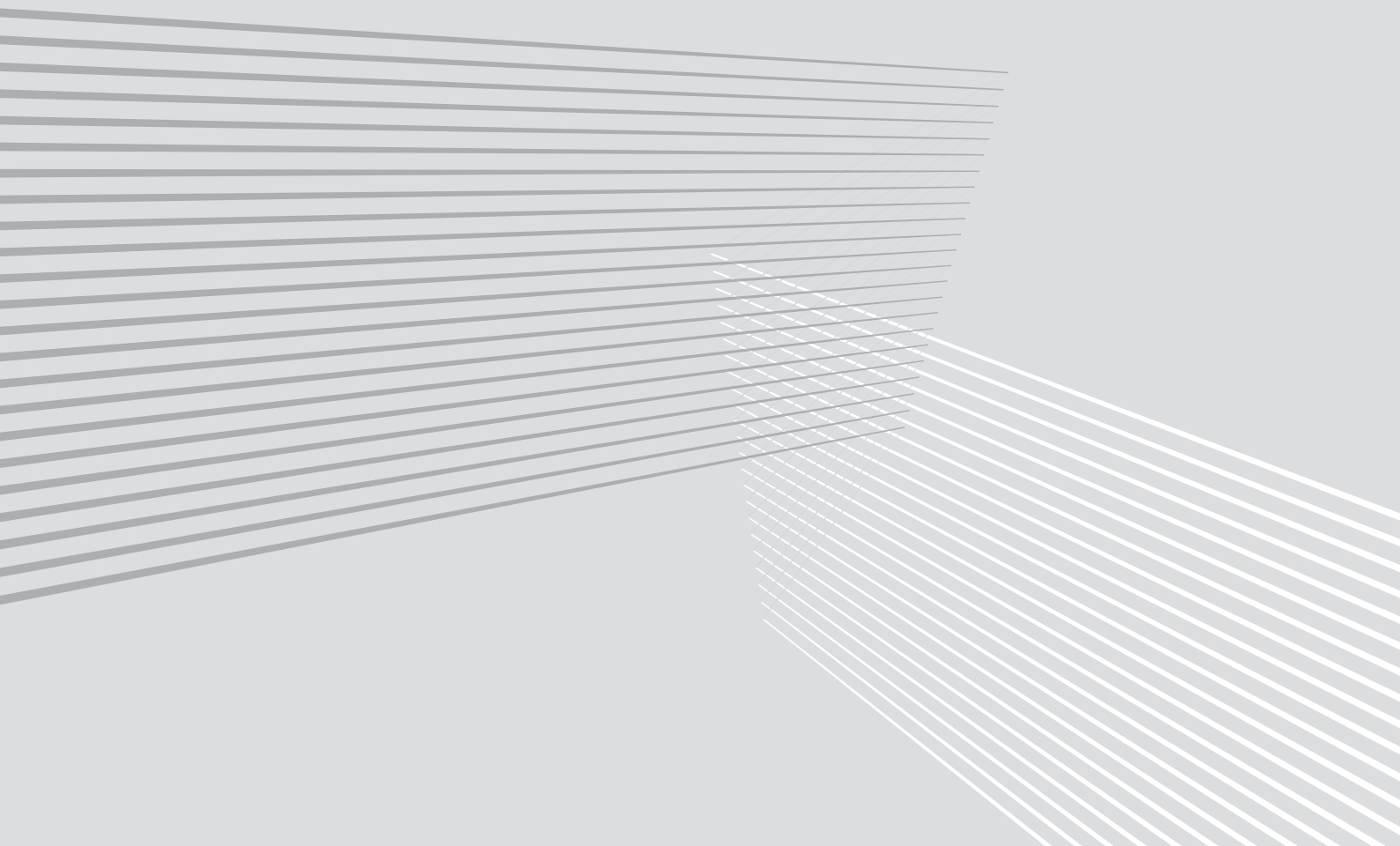


Summary of brief

An untapped talent pool that is older, healthier, and more educated: By 2050, those aged 55+ are expected to make up about 40% of the adult Australian population. If they are to thrive and prosper in the labour market, then Australia needs to do better to dismantle remaining barriers related to health, care, training, discrimination, and work conditions and to ensure that employers have the right strategies to recruit, deploy, and retain them.

Demographic challenges are bigger than the COVID19 crisis, but pandemic could exacerbate trends: Pandemic-induced migration declines could by 2050 see shares of Australians aged 55+ be about 1 percentage point higher still.

Historic surge in participation rates has its genesis in the past and holds lessons for the future: A greater *potential* supply of labour from older people is not enough. It also requires an increase in demand for such labour. Historic increases in mature-age labour force participation were driven by favourable economic conditions, which saw people both re-enter work in mid-life and, decades later, delay their retirement. This was particularly the case for women. It indicates that: (1) labour demand is important, and (2) that pathways to recruit and retain workers from mid-career are important.

As rates of increase in mature-age labour force participation slow, ambitious targets are needed: The rate of increase in participation has more than halved since the mid-2000s. Without interventions, the ageing of the workforce will be slower than ageing in overall population. If participation rates resembled those of New Zealand and 55-to-64-year-olds had similar hours to 45-to-55-year-olds, declines in share of workers per capita would moderate, and GDP increase by 2050 could be equivalent to raising productivity by 0.3pp.

Older workers remain exposed to employment risks: Short-term shocks such as the pandemic recession can affect older workers disproportionately – they don't lose jobs as readily as the youngest workers, but they tend to take longer to find work after job loss. Again, low labour demand means more of them retire. Long-term structural change can also raise the risk of leaving older cohorts behind unless they receive the right support, including lifelong learning.

Health and education has improved, but older Australians continue to face training, care, and ageism barriers: Nearly 80% of people aged in their early 60s said that their health was good or excellent – equivalent to people in their 40s thirty years ago. And a quarter of 55-to-64-year-olds hold a degree – more than double the rate of 45-to-54-year-olds thirty years ago. But work-related training peaks in mid-career and then declines.

Care demands have reduced over time but are still prevalent. These typically decline as children grow up but care for adults increases and peaks around age 60. For example, over 40% of women working part-time over age 50 continue to need to care for others. And while ageism trends are difficult to pin down, there is continued presence of age discrimination in the community as well as in the workplace.

These difficulties are visible in labour market outcomes, where Australia lags the best performing countries: Comparing outcomes for older Australians against those in other countries shows that Australia's scores are middle-of-the-pack on indicators related to employment, unemployment durations, and earnings disparity between young and old. Australia scores less well on old-age gender gaps and training. In other analysis, job insecurity and involuntary retirement show declines, but women and older people bear the brunt of poor work conditions.

Employers need better strategies to respond: An expanding literature provides guidance on how employers can better recruit, deploy, and retain older workers. This includes the helpful *3i framework*, developed by CEPAR researchers, which proposes a series of strategies to help employers better *Include* workers over the life cycle, *Individualise* their responses to different circumstances, and set up processes that better *Integrate* workers of all ages in an organisation. Governments need to support employers with their own multi-pronged, cohesive strategy.

Summary of featured CEPAR research

COVID-19 and population ageing: Modelling shows that the pandemic could lead to Australia's population being 0.6-2.3m smaller and the share of people aged 65+ to be 1.2pp higher by 2050 (Box 1).

Explaining the surge and slow-down in mature employment since 2000: Mature-age employment change was driven by a cohort effect, with nearly 800,000 additional workers aged 50+ between 2000 and 2015 (Box 2).

Age-biased technological change: Such change can affect older people negatively to the extent that skills aren't updated. But even with updated skills, they face negative tech-related stereotypes (Box 3).

Employer responses to COVID-19: Employers responded with a people-centred, community-focused approach, providing leave, and avoiding redundancies where possible, and finding new processes and ways of communicating (Box 4). This is positive, because historic data shows age affects impact of retrenchment: 22% of those aged 55+ gave up looking for work one year after an unemployment spell compared to 7% of 20-year-olds (Box 5).

Economic impacts: Demographic change could see declining workforces across APEC, including in China. The Chinese economy may not catch up the US (Box 6). There is evidence that older economies are more productive. (Box 7).

Health and work: Evidence shows that retirement is related to greater decline in cognitive ability, particularly for people in good health or in higher status jobs (Box 8).

Discrimination: 15% of older Australians with a disability reported discrimination (Box 9). Almost half of people indicated that ageism is common and that in the workplace, older workers were more likely to be made redundant and less likely to be promoted (Box 13). Older workers are often excluded from knowledge sharing processes, so companies lose their intellectual capital (Box 14). Almost 40% of respondents aged 55-64 reported that their organisation offered little or no skill training regardless of age. This contrasted with the 23% of workers aged 18-44 (Box 12). Various statutes prohibit workplace age discrimination. But tick-box compliance may not be enough (Box 21).

Care responsibility and flexible work: One third of people aged 60-64 and half of women that age were involved in some type of caregiving. The most significant recent policy to help workers over 55 is the establishment of a new *right to request* flexible working arrangements (Box 10). Two thirds of participants reported involuntary career interruptions due to caregiving. Caregiving and career interruptions are also common for single women without children. A customised approach to flexible work is required (Box 11).

Insecure work and involuntary retirement: Chronic job insecurity leads to an increase in neuroticism and a decrease in conscientiousness and agreeableness, even after testing for reverse causality (Box 15). Insecure work and involuntary retirement are shown to be related (Box 16).

Employer strategies: A series of evidence-based strategies, summarised in the new 3i model (*include, individualise* and *integrate*), are available to help employers manage a multigenerational workforce. This includes ways to design jobs to be more *Stimulating*, *Mastery-oriented*, *Agentic*, *Relational*, and *Tolerable* (*SMART*) (Box 17).

Include: Many employers fail to create an age-inclusive climate. For example, compared to younger workers, those aged 55-64 did not believe HR practices were age-inclusive, thought training was not provided regardless of age, and report that their employer did not offer adequate leave for caring for older adults (Box 18).

Individualise: Perceived availability of *individualised* HR practices is low, particularly for workers aged 55+. Older women rated their job quality well but marked down their jobs for restricting their ability to act with *agency*. Older men didn't think their workplace had '*challenging and meaningful new roles or work assignments*' (Box 19).

Integrate: Workers reported low to moderate levels of integrative practices. Older workers said they were less likely to be the source of knowledge and found it hard to obtain knowledge and advice from co-workers. (Box 20).

PART I: THE MACRO DEMOGRAPHIC CONTEXT: MORE MATURE WORKERS COULD INCREASE ECONOMIC PROSPERITY

PART II: HEALTH, EDUCATION, AND SOCIAL TRENDS: MATURE WORKERS' CAPACITY TO WORK IS HIGHER THAN EVER

PART III: AGE-FRIENDLINESS OF THE LABOUR MARKET: SOME POSTIVE TRENDS, BUT AUSTRALIA IS LAGGING

PART IV: NOW OVER TO EMPLOYERS AND GOVERNMENT: HOW TO BENEFIT FROM DEMOGRAPHIC CHANGE

INTRODUCTION

Older Australians are a critical part of the workforce and economy. The share of workers aged 55+ has more than doubled from 9% in 1991, to 19% in 2021, led by women re-entering work in mid-life and delaying retirement.

The ageing of the workforce is expected to continue, but at a slower rate. In fact, without further interventions, workforce ageing will be slower than that of the overall population.

This is partly because the large cohort of *Baby Boomers* will retire and partly because increases in the labour force participation of older workers is decelerating. More ambitious mature-age participation rate targets are possible, could largely offset declines in labour supply, and could be expected to yield economic gains.

Older Australians are ready. Defined here as those age 55-64 or 55+, older Australians today are healthier and more educated than ever and willing to work. This vast resource of potential workers needs to be well deployed. Compared to leading countries, the Australian labour market scores poorly on mature worker outcomes.

Employers need better strategies to seize the opportunities that an older workforce presents and turn it to their competitive advantage. Failing to adapt would be costly to individuals, firms, and society. Governments can help with a more strategic approach, continuing to support health, mainstream lifelong learning, and address shortcomings related to regulation, incentives, and labour market programs.

Past reports have examined the topic (e.g., the Australian Human Rights Commission (AHRC), Productivity Commission, and Treasury). So, the purpose of this research brief is to take stock of the latest trends and present the newest research insights, particularly from CEPAR researchers, of whom over 30 are featured throughout the brief.

The research brief also builds on a series of other CEPAR briefs and industry reports (e.g., *Mature-age Labour Force Participation: Trends, Barriers, Incentives, and Future Potential* in 2012; *Retirement Income in Australia in 2018*; *Maximising Potential: Findings from the Mature Workers in Organisations Survey* in 2019).

From 3P to 3i

The brief is in four parts. Part I sets the macro demographic context, presenting past trends and projections for the future. These combine population, participation, and productivity, in what is known as the *3P framework,* to show that more mature workers could increase economic prosperity.

Part II outlines trends relating to health, caring, education, and social attitudes, which are some of the commonly cited examples of barriers to work.

Part III assesses outcomes for older workers in Australia compared to other countries, to prime-age workers, and over time. These imply that the age-friendliness of Australia's labour market is lagging, and that, while there are positive signs of progress, some mature workers, particularly women, continue to experience poor outcomes.

Finally, Part IV presents research on what employers can do to respond. This includes the helpful *3i framework*, developed by CEPAR researchers (Andrei and Parker, forthcoming), which proposes a series of strategies to help employers better *Include* workers over the life cycle, *Individualise* their responses to different circumstances, and set up processes that better *Integrate* workers of all ages in an organisation (Boxes 17-20). The brief concludes with a call for government to implement a coherent, multipronged strategy to support an ageing workforce.

PART I: THE MACRO DEMOGRAPHIC CONTEXT: MORE MATURE WORKERS COULD INCREASE ECONOMIC PROSPERITY

1. Demography: An older pool of potential workers

The demographic transition from a younger to an older society will continue to have profound economic and social implications. According to official projections (which will be subject to post-pandemic revisions), the traditional, old-age dependency ratio of people aged 65+ to those aged 15-64 is expected to continue increasing from about 25% now to about 30% in 2050 (ABS 2018). That is a shift from four people of traditional working age per one person of traditional retirement age to about three. As is now widely recognised, this will create challenges for community, industry, and government (Treasury 2015).

Dividend to deficit

The last 40 years of buoyant economic growth in Australia have coincided with what is known as the demographic dividend, both locally as well as among trading partners. This is the phenomenon where rapid declines in fertility usher in a period of increases in the size of the working-age population relative to the overall population. More workers per capita then lead to a rise in economic activity. The demographic dividend is cited as one of the contributing factors to Asia's rapid economic growth (Cai 2010, Williamson 2013, Chomik et al. 2017).

In future, the 'demographic dividend' is expected to reverse to become a 'demographic deficit', where working-age populations will grow more slowly or decline. Indeed, despite increases in the rate of labour force participation among women and older people, by 2050 declines in the total labour force are expected in seven economies in the region: China, Hong Kong, Japan, Korea, Russia, Thailand, and Chinese Taipei.

The population share of those of traditional working age – defined as aged 15 to 64 – is shown for Australia in Figure 1B. The share is now back to the point it was at in 1980 – 65% – before it increased to a peak of 68% in 2009. Recent projections suggest that it will decline to between 60% and 63% by 2050.

Pandemic could exacerbate ageing trends

In many ways the challenges of an ageing world are bigger than the short-term economic impacts of the COVID-19 pandemic. But for Australia, the demographic fallout from the pandemic could further exacerbate population ageing trends.

Demographic projections produced before the onset of the pandemic have typically implied a considerable but slower rate of ageing in Australia than what is expected for most other countries in the Organisation for Economic Cooperation and Development (OECD; Figure 1A). For example, by 2050, pre-pandemic OECD projections of the dependency rates in France, Germany, and Korea were estimated to reach 45%, 51%, and 78% (OECD 2021). The 30% projection for Australia, based on Australian Bureau of Statistics (ABS) data (medium variant) released in 2018, is well below these. Among OECD countries, the only countries projected to age slower are Israel, Mexico, and Colombia.

But the 2018 ABS projection of demographic change assumed net inward migration of 225,000 people. Travel bans imposed to tackle the pandemic have exposed the dependence of Australian demography on such inward migration and the fragility of demographic projections. Treasury assumes borders will remain closed until at least mid-2022, and the recovery of annual inflows is uncertain. Indeed, for illustrative purposes Figure 1A includes a scenario with zero migration over the long term, which sees Australia's age composition by 2050 resembling that of rapidly ageing Germany.

Projections by CEPAR researchers have shown a more nuanced impact on ageing of different durations of the pandemic effects (used in this brief), which are likely to result in declines in both migration and fertility in Australia (Box 1).

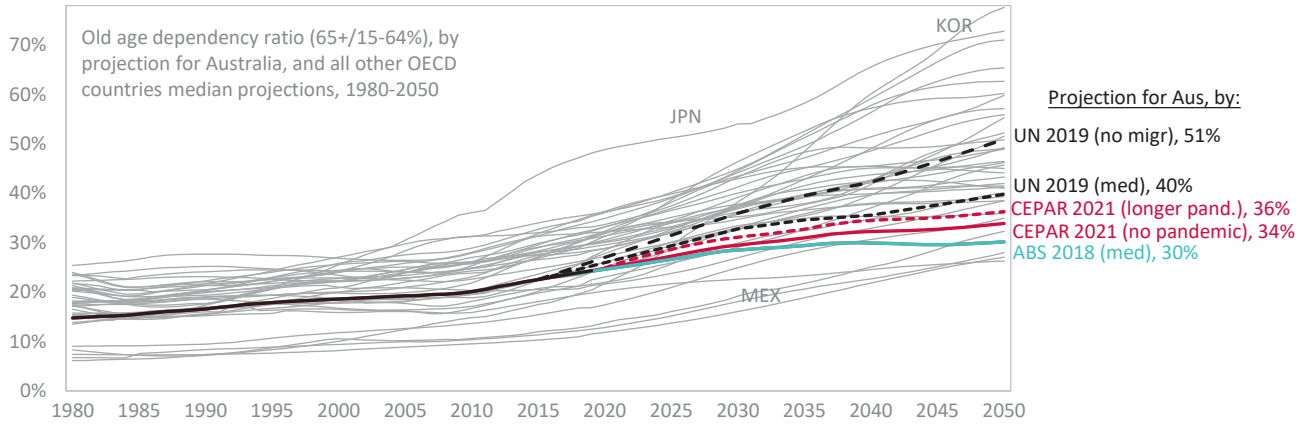
Taking advantage of the mature worker dividend

As the share of prime-age workers declines, older people could fill this gap. Already, many older Australians have entered the labour market (Section 2). They are increasingly healthier (Section 5) and more educated (Section 6). And with the right workplace policies and public policy support (Sections 11-12), older people can continue to be a productive part of the labour force.

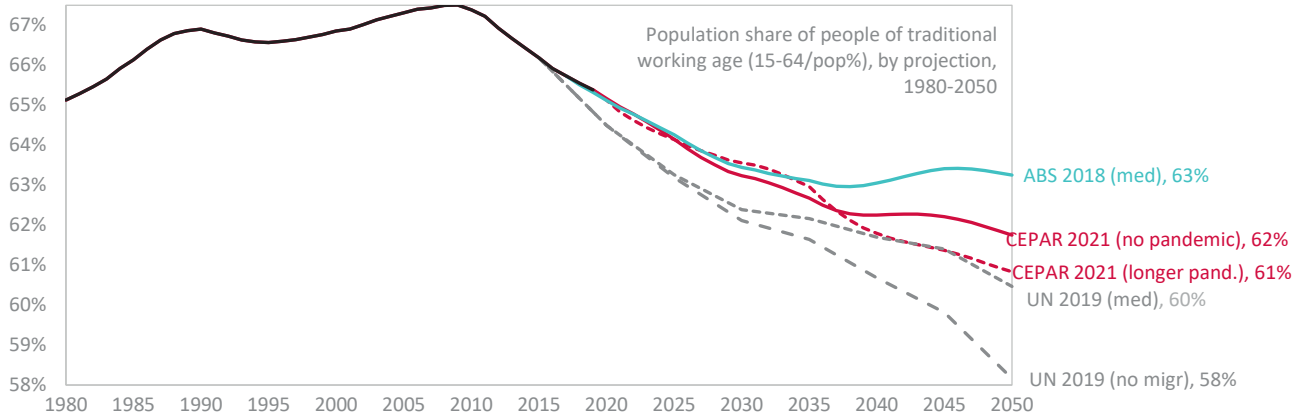
The potential for older people to be a boon to the economy is large. By 2050, those aged 55+ are expected to make up about 40% of the adult population (Figure 1C). If more of them joined or remained in the labour force, the share of workers per capita may not necessarily decline, which would have a considerable economic benefit, a new type of demographic dividend (Section 4 on macro-economic projections).

DEMOGRAPHIC DIVIDEND AND DEFICIT

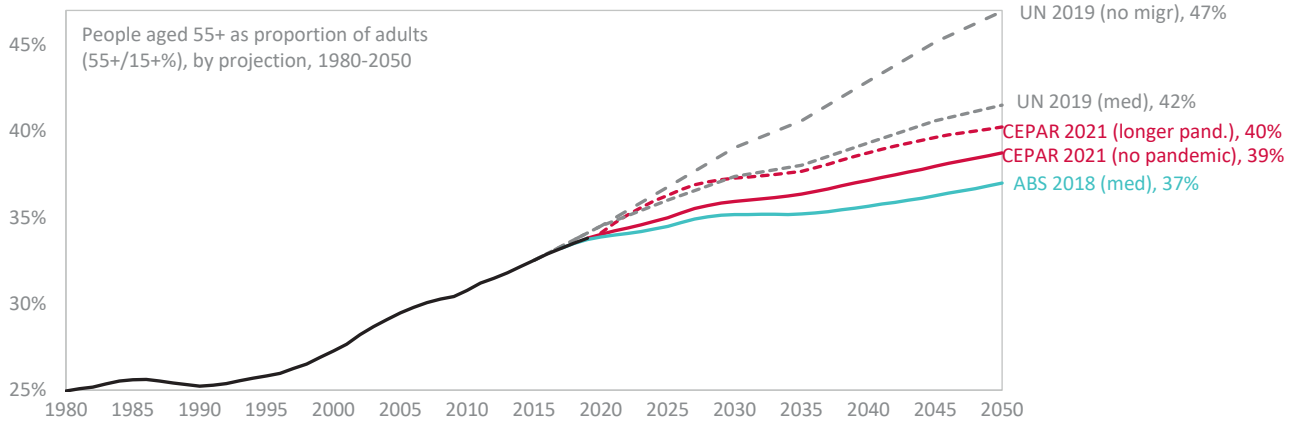
1A Australia is ageing slower than other OECD countries. Without migration, it would age as faster



1B Following 40 years of an elevated working-age population share, a decline is certain even if the rate is not



1C Older people will make up an increasing share of the adult population and the potential pool of future workers



Note: 'CEPAR' projections from the CEPAR Population Ageing Futures Data Archive were constructed by CEPAR Principal Research Fellow Tom Wilson, CEPAR Associate Professor Jeromey Temple, and Elin Charles-Edwards. The 'UN no migration' is illustrative of the effect of migration on Australian demography. UN projections also have a slightly lower rate of assumed fertility rate. Source: ABS (2018), UN (2019), Wilson et al. (2021), OECD (2021).

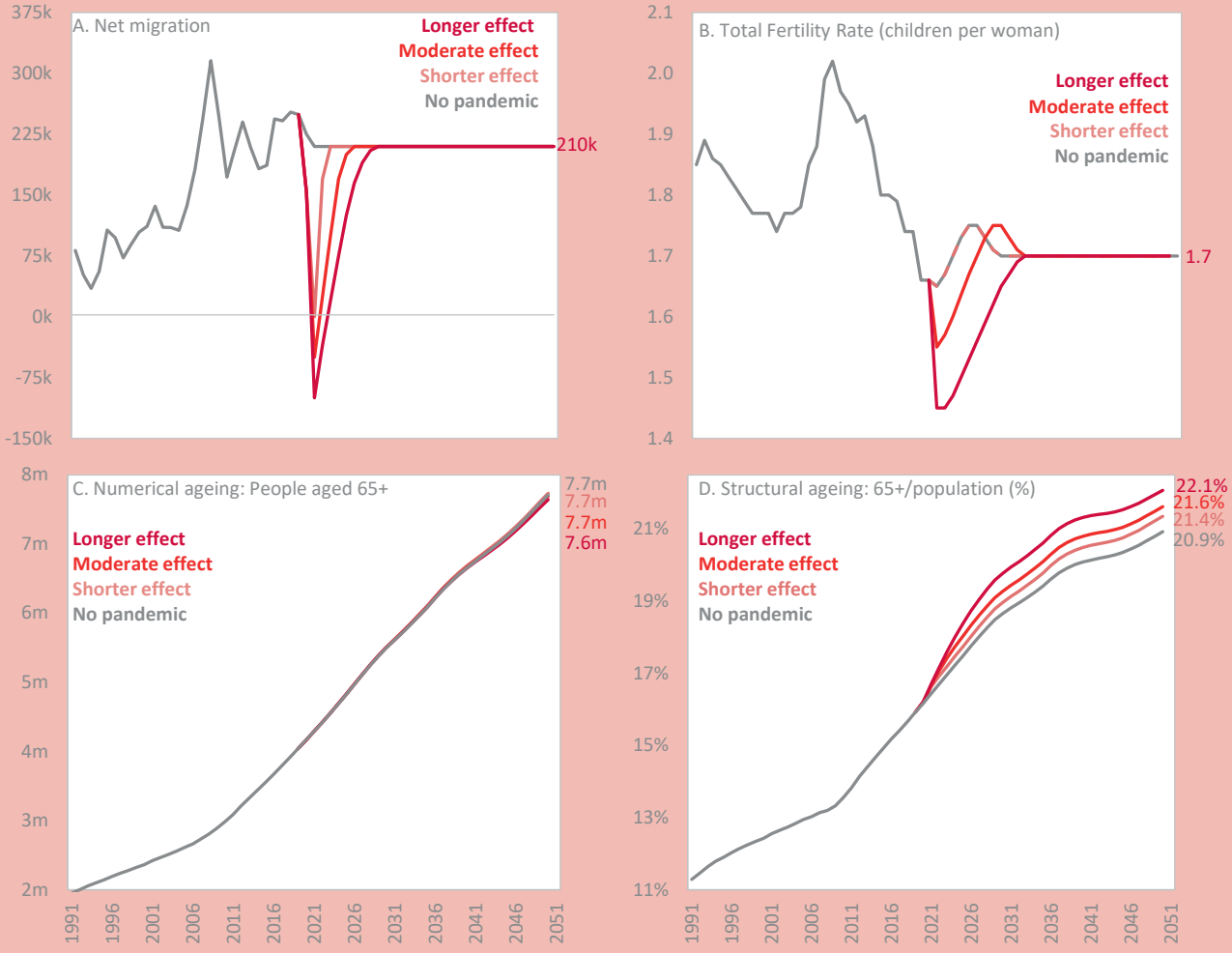
Box 1 **CEPAR research spotlight** **The impact of the COVID-19 pandemic on population ageing**

Population projections are always subject to some uncertainty. Indeed, in independent analyses, CEPAR Chief Investigator Peter McDonald, Principal Research Fellow Tom Wilson, and Senior Research Fellow Rafal Chomik, all found that projections of the components of demographic change, as well as the size and age structure of the population, have been subject to 'forecasting error' (McDonald 2012, Wilson 2012, Chomik 2015).

The global pandemic has produced even greater uncertainty about each component of demography: (1) health impacts of COVID-19 can affect mortality trends; (2) recessionary impacts can affect fertility decisions of people facing insecure employment; and, most importantly for Australia, (3) closed borders can curtail migration flows.

To assess the demographic impacts, CEPAR's Tom Wilson and Jeromey Temple projected three possible scenarios (reported in Wilson et al. 2021). These were in turn informed by analysis of possible fertility impacts by Chief Investigator Peter McDonald (2020). In the *Shorter* scenario fertility drops to 1.65 children per woman but bounces back quickly and postponed births are recouped. Net migration falls to zero but returns to 210,000 by 2023. In the *Moderate* scenario fertility drops to 1.55 before recovering, with some recuperation. Migration falls to negative 50,000 in 2020–21 then slowly rises to 210,000 p.a. by 2026. The *Longer* scenario sees a deep global recession for longer, with COVID-19 hard to control. Fertility plunges to 1.45 and takes years to recover. Migration drops more and only recovers by 2029. The team found that by 2050 the different scenarios could see Australia's projected population to be roughly between 600k and 2.3 million smaller than the *No Pandemic Scenario*. The scenarios also spell an older Australia, with the population share of older people (age 65+) up to 1.2 percentage points higher.

2 **Pandemic unlikely to affect absolute numbers of older people. But their share in population may increase**



Source: Wilson et al. (2021)

2. Participation: Increases expected to slow

Interest in labour force participation has persisted in tandem with concerns about population ageing. It has been the key focus of long-term analyses of fiscal impacts as one of the three influences on economic growth comprising population, participation, and productivity (Treasury 2002, 2007, 2010, 2015, PC 2005, 2013).

An expanding academic literature has also sought to understand the evolving shape of the ageing Australian workforce and measures that influence labour force participation. This included early analyses of trends and their determinants (McDonald and Kippen 1999, Borland 2003); comparisons of Australian outcomes with other countries (Brooke 2014, Brown and Guttmann 2017); studies of working patterns of specific sub-groups (Latimore 2007, Gilfillan and Andrews 2010); prospects for increasing future participation rates (Temple and McDonald 2017); how discrimination affects participation (O'Laughlin et al., 2017b); through to studies explaining the cohort-related reasons for past changes (McDonald and Moyle 2020). (Many of these studies have been conducted by CEPAR researchers, and most are summarised in boxes throughout this brief.)

The demographic context in which people engage with the labour market has changed drastically over time. As life expectancy and healthy life expectancy have increased, so has the canvas of life. Trends over the past fifty years show that most major life events take place at increasingly later ages. On average, Australians now wait longer to get married, delay having children, and buy a house later (Figure 3A).

Changes in the life course have in turn dictated how people supply their labour. This is evident in delays to the age at which they get their first job (rising from age 16 in 1966 to 18 in 2016), start full time work (from 16 to 25), and retire from the labour market (from 61 to 64).

Decline, surge, and slow-down

With this context, the trends in historic labour force participation rates are perhaps unsurprising (Figures 3B-C). Overall, these show greatest declines for young people and the greatest increases for older people. But the pattern is marked by three phases – a decline, a surge, and a slow-down – that help us understand broader drivers.

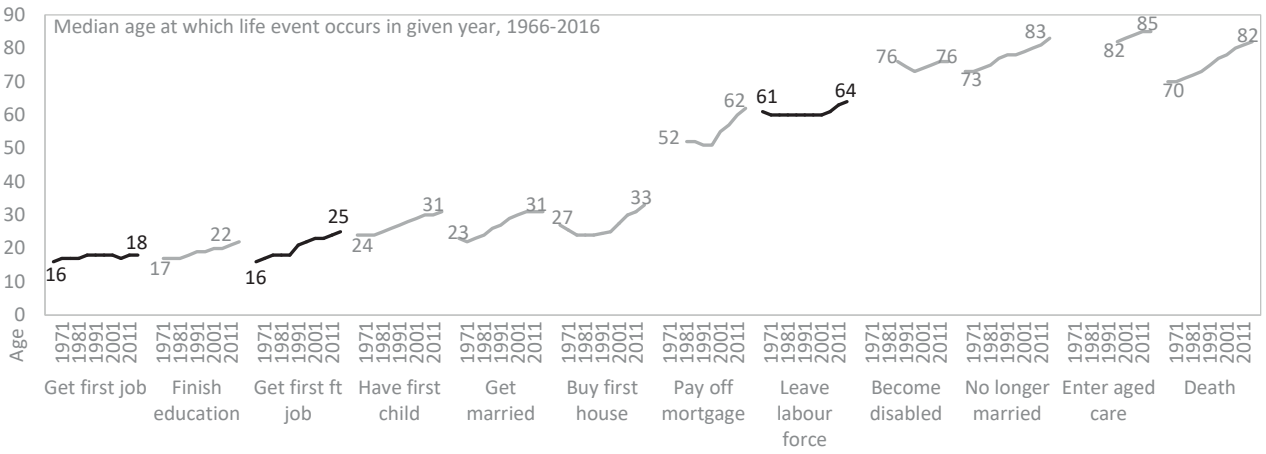
Initially, older age groups saw declines in participation in the 1970s and 1980s (BLMR 1983). This was common among developed countries: incentives from immature pension systems meant workers withdrew their labour supply early, while structural changes in the economy meant employers withdrew the demand for such labour.

By the mid-1990s participation rates of older workers surged, particularly among older women. The proportion of working women aged 55-64 doubled in the following twenty years, increasing 30 percentage points by the mid-2010s. Men aged 55-64 also saw an increase of about 10 percentage points over the period. Census records suggest that older workers who typically have lower rates of employment, such as those born overseas or of Indigenous background, also saw greater engagement in the labour market.

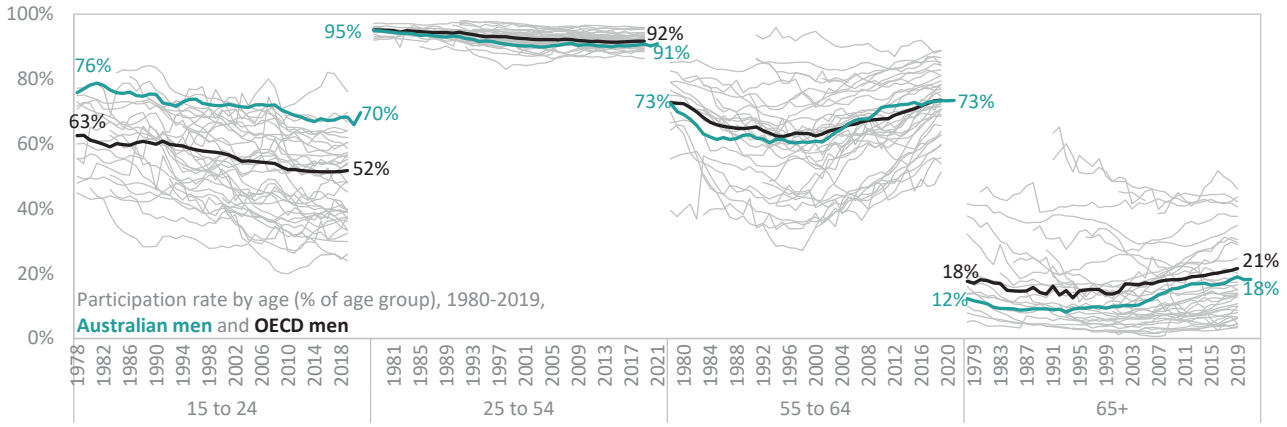
In recent years, increases in mature-age participation have slowed down, with an inflection following the Global Financial Crisis in 2008. Since 2017 older men's participation has not changed and older women's rates have increased by 1pp. For example, from the mid-2000s to the 2010s, the average annual increase for women aged 55-64 declined from over 2% to below 1%; for men it declined from over 1% to below 0.5% (Figure 3D).

Comparisons to other countries show that participation rates for older men have tracked the typical trend seen across the OECD. Participation increases among Australian women have surpassed the OECD average but still lag some 17 OECD countries, including the Nordic countries, New Zealand, and the US.

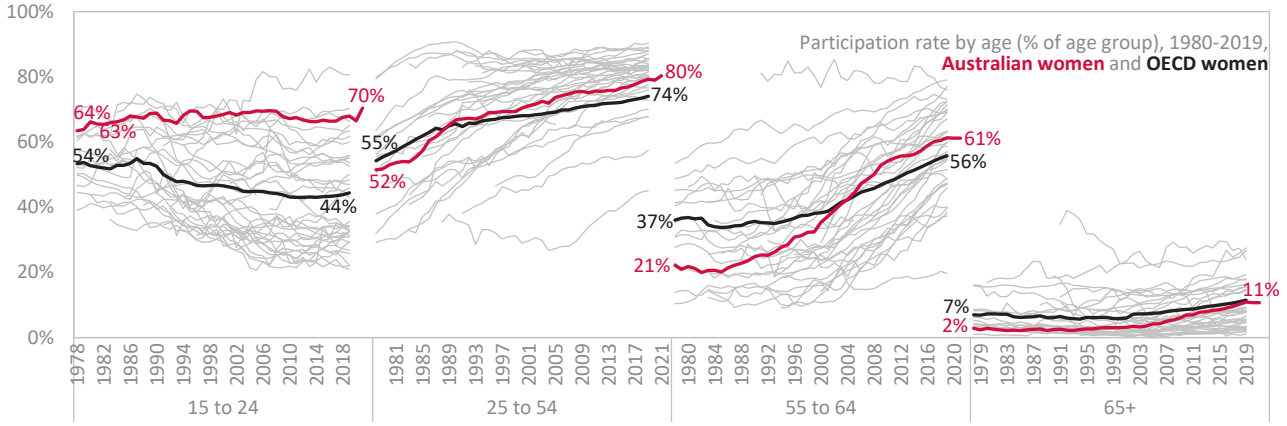
3A Deferred entry and exit from the labour market are in line with deferral of other life events



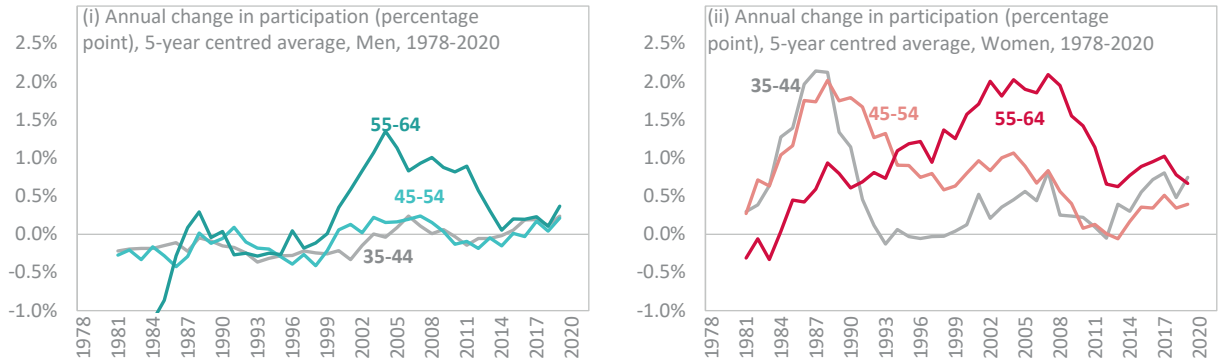
3B Initial declines and subsequent increases in older men's participation rates are in line with global trends



3C Older Australian women's participation has surged ahead of the OECD rate, but there was an inflection post GFC



3D Women's increases in participation rates by age reflect cohort changes in the past



Source: Chomik and Yan, 2019; authors' analysis of OECD and ABS data.

Box 2 CEPAR research spotlight Why the surge and slow-down in mature employment since 2000?

The first decade of the 21st century saw a surge of older workers. This was not only because ageing *Baby Boomers* were particularly numerous, but because many of them became 'mature' workers during an economic boom. That was before the economic tailwind changed in the following decade.

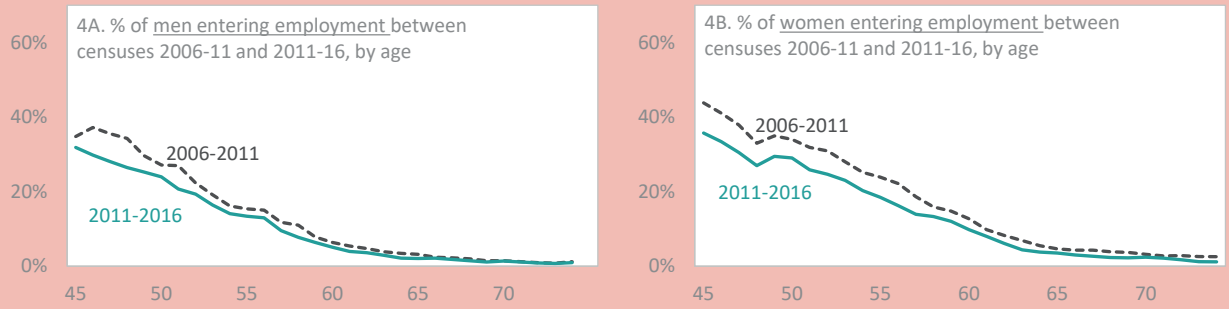
In McDonald and Moyle (2020), Chief Investigator Peter McDonald argues that economic conditions from just before the year 2000 saw many people in their mid-life, particularly women, re-entering work and few subsequently leaving it. It was primarily this re-entry of workers in their late 40s and early 50s that locked in an increase in employment rates among 55-to-64-year-olds ten years later.

The outcome was an employment rate for men and women aged 60-64 that increased by some 20 percentage points (pp) to reach about 60% for men and 40% for women by the end of 2010. But then these increases slowed down, so that by the start of 2020, employment rates increased by only about 3pp for men and 10pp for women.

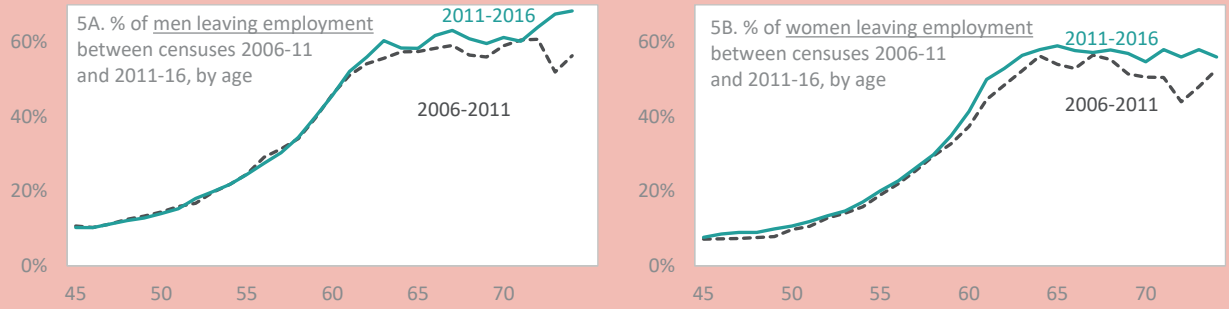
Using cross-sectional and longitudinal data, the authors show that in the decade after 2010 the rates of retention of mid-career workers were unchanged but that rates of entry into employment were lower than in the previous decade (mature-age exits increased slightly; Figures 4 and 5). This suggests that those that gain employment gather self-confidence and work experience that enables them to continue in employment. When labour demand cooled, entry rates stopped rising and so did employment and participation rates at older ages.

The authors studied intercensal changes in socio-economic characteristics to see if the composition of workers had changed between the two decades. They find that being married, having a mortgage, and working in the private sector (prior to public sector superannuation reforms) meant working longer; but such changes weren't enough to explain changes in employment. They conclude that to increase mature age employment, the focus should be on increasing employment below age 55. Higher rates would then persist into older ages because of stable retention rates.

4 Expanding labour demand pre-2011 meant more people re-entered work mid-career than after 2011



5 Once recruited, many workers remained in employment (i.e., retention up to age ~65 is stable over time)



Source: McDonald and Moyle (2020)

CEPAR's Jeromey Temple and Peter McDonald (2008) previously demonstrated that changes in participation rates are cohort-based and that achieving labour force growth will become more difficult in future. More recently (2017), they estimated the labour force impact of slowing participation rate growth. Between 2000 and 2015 the labour force grew by 32%, mostly thanks to nearly 800,000 more workers aged 50+, with 500,000 of them older women. Conservative projections would see only 300,000 additional workers in the 15 years to 2030, unless more were to be done to decrease barriers to greater labour force participation.

Cohort-driven increases that started at younger ages

What drove the surge and the slow-down? Firstly, the capacity to work and therefore the potential to supply labour has continued to expand. Health and care barriers have eased (Section 5), educational attainment has increased (Section 6), cultural norms may have shifted toward more positive attitudes to age and gender roles (Section 7), and financial incentives to work longer have strengthened (Section 12).

Yet, greater capacity to work is not enough. Favourable economic conditions in earlier life stages can affect participation down the line (McDonald and Moyle 2020, detailed in Box 2). Labour force attachment over the life cycle or re-entering work during mid-life – perhaps after child-rearing – is easier than doing so in late life.

Such cohort-based effects are visible in Figure 3D. Participation increases for *Baby Boomer* women aged 55-64 in the 2000s were evident two decades earlier among that cohort at ages 35-44. Fewer had children and more had access to childcare. For example, the proportion of preschool-age children in formal childcare increased from 29% in 1987 to 45% in 2002 (AIFS 2010). That rate has remained unchanged since (ABS 2018).

Trends in hours reflect increases in part time work

It's worth remarking that increases in participation have not been accompanied by increases in work intensity. The incidence of part time work has generally increased, so hours worked in all jobs have declined for all men – by between two and six hours depending on the age group – and remained steady, at a lower level, for women.

Older people consistently work fewer hours than prime-age workers but more than young workers. For example, pre-pandemic prime-age men and women (aged 35-44) worked an average of 39 and 29 hours per week, respectively. The figures for older men and women (aged 55-64) were 37 and 28 hours. For the young (aged 15-24) these were substantially lower at 28 and 23 hours per week.

Projecting a future workforce: Ageing drives declines in labour supply

Various attempts have been made to model the future labour supply (Treasury 2002, 2007, 2010, 2015, PC 2013, Temple and McDonald 2008, Chomik and Piggott 2012a). Such modelling allows us to assess the demographic structure of the workforce, the compositional impact of demography on total labour supply, and to test the extent to which different scenarios of age-specific labour force participation change could offset ageing pressures.

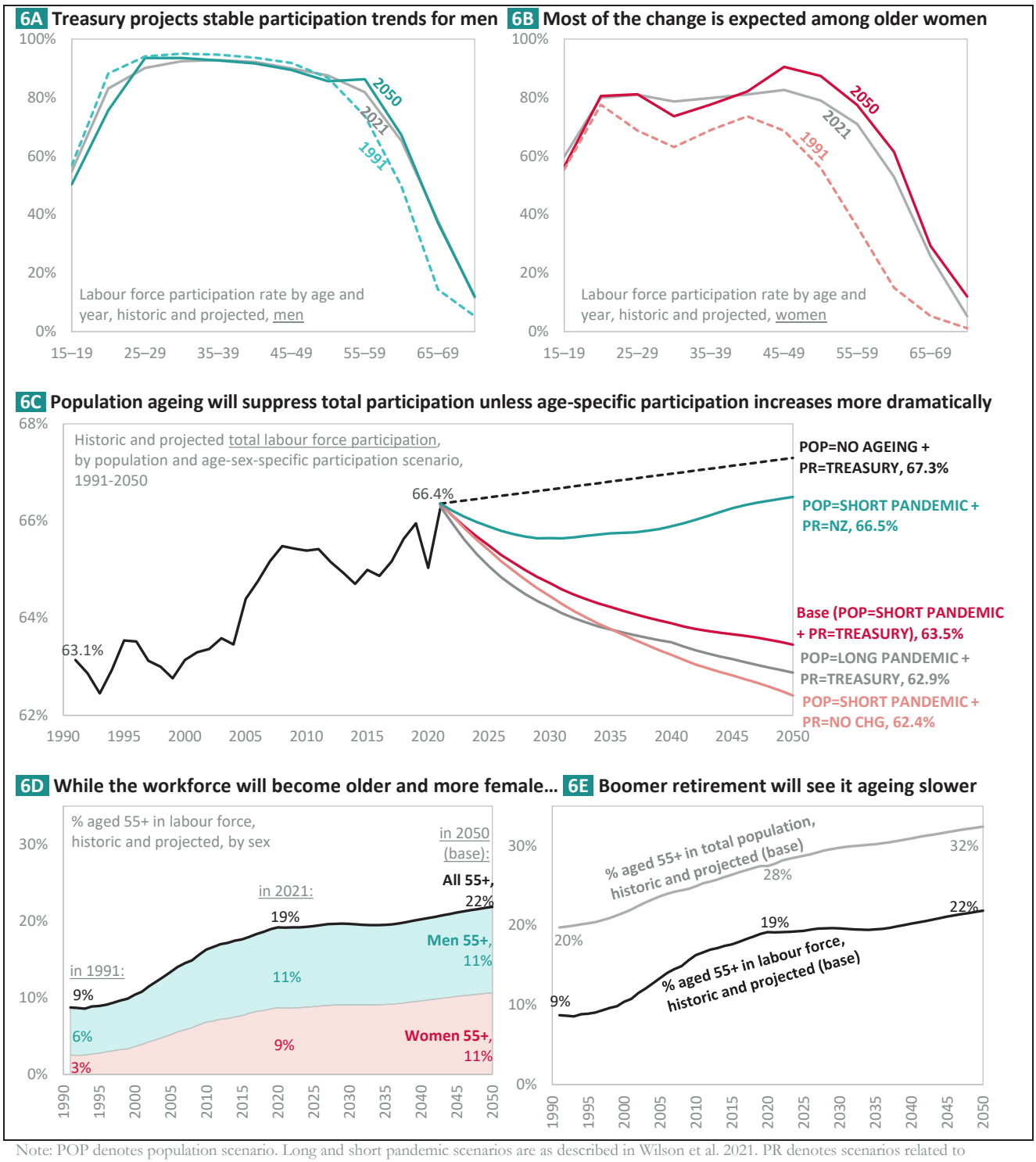
Illustrative modelling showing such scenarios is presented here. It combines (1) the latest projections of demography (including shorter and longer pandemic-induced impacts, based on Wilson et al. 2021 and summarised in Box 1) with (2) age-cohort-based projections of participation rates produced by the Treasury (reported in Gustafsson 2021 and recreated in Figure 6A-B). The modelling is therefore expected to be comparable to the 2021 *Intergenerational Report*.

Figure 6C summarises the labour supply effect in the form of the proportion of all adults in work. The recent, post-recession recovery sees this rate at an all-time peak of 66.4%. An absence of population ageing would see the rate increase further (by about 1pp by 2050) as age-specific participation rates, particularly for older people and women, continue to trend upwards. By contrast, greater levels of ageing (long pandemic scenario) or lack of movement in age-specific participation rates would see labour supply decline (by 4-4.5pp by 2050).

Somewhere in between is the base case, with a decline of roughly 3pp to 63.5%. This base case results in a workforce that will become both older and more female (Figure 6D). Around 19% of the workforce is now aged 55+. By 2050, this is expected to increase to 22% and half of these workers are projected to be women.

While the workforce will continue to age, these projections suggest that the speed of ageing will slow (Figure 6E). This is because *Baby Boomers* will retire and gains in mature-age participation are expected to become more difficult. The scenarios are a helpful guide but are subject to uncertainty. For example, the 2002 *Intergenerational Report* projected that the total participation rate would peak at 64% and decline to 60% by 2021.

PROJECTING FUTURE LABOUR FORCE PARTICIPATION



Note: POP denotes population scenario. Long and short pandemic scenarios are as described in Wilson et al. 2021. PR denotes scenarios related to participation rate (by five-year-age and sex). PR=NZ scenario assumes that, by 2050, Australian age-sex-specific participation rates reach that of New Zealand in 2019. These tend to be higher than in Australia, particularly at older ages (however participation rates for ages 15-24 are lower in NZ). PR=TREASURY scenario assumes age-sex-specific participation rates reach those described in Gustafsson (2021). Source: Authors' analysis of data from ABS, Wilson et. 2021, and Gustafsson 2021.

Greater ambition

But perhaps such projections are not ambitious enough. For example, Treasury projections of male participation rates by age imply little change, and rates for women would still see Australia lagging leading countries. This is because of an inherent assumption of no policy change. Raising rates further may be difficult in the short term given what we know about needing to effect change across the life cycle (see above and Box 2). It would also

require a step to change in policy with a concerted effort to dismantle employment barriers and supporting demand for labour of all age groups.

Higher rates of labour force participation seen in New Zealand, for example, are sometimes cited as a possible objective (Chomik and Piggott 2012b, Temple and McDonald 2017). As shown in Figure 6C, with New Zealand's age-specific participation, Australia's labour supply would stabilise despite population ageing.

Taking thirty years to get to New Zealand rates from two years ago is not an unlikely scenario. Retirement income system differences may be a key driver of Australia's lag but cross-sections of age-specific participation over time suggests that increases are taking place at a similar pace (not shown). It's just that Australian men and women aged 55-64 are about 18 and 13 years behind, respectively. A higher pace of increase in New Zealand for people aged 65+ suggest less scope for catch-up in that age group.

Where do older people work? Ageing across industries and occupations

The labour market is subject to constant change (Norris and Wooden 1995, Wilkins and Wooden 2014). But assessments of structural change rarely account for interactions with demography. So, it's worth assessing the industries, occupations, and sectors in which older people work, especially if we are concerned about ensuring continued labour demand for older workers.

Trends over the last thirty years are presented in Figures 7A-C. Firstly, what is the industry share of mature-age employment (ages 55+)?

In 1991, older women were most likely to be employed in healthcare (18%) and agriculture (14%) while older men were typically in manufacturing (17%) and agriculture (15%). Unsurprisingly, the latter two industries have declined in importance for older Australians. Now, older women's employment is even more likely to be in healthcare (27%), with education coming in second (14%). For mature men, construction (12%) has become most important, with manufacturing (11%) now employing roughly the same number of older men as transport and logistics (11%). Other growing industries for mature-age employment include public administration for women and professional services for men.

Some industries and occupations ageing faster than others

Similar changes have clearly taken place across the whole economy, so to what extent are older people disproportionately employed in some industries and not others? Figure 7B shows the mature worker's share of jobs in each industry. Overall, older women's share of employment increased from 3% to 9% and older men's from 6% to 11%.

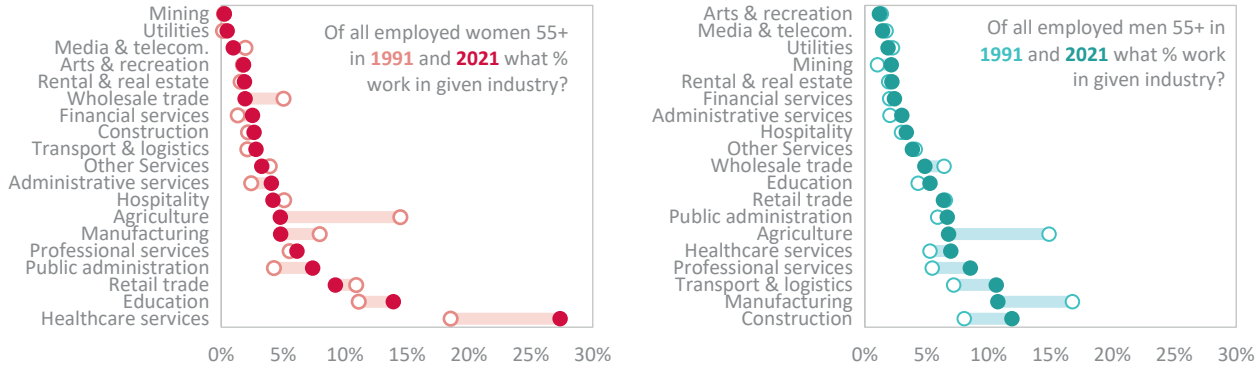
Every industry has seen an increase in older workers, though some industries have aged faster than others. For example, healthcare, agriculture, education, and administrative services have a disproportionate number of older female workers. And agriculture, transport and logistics, wholesale trade, and utilities rely more heavily on older male employees.

A similar set of comparisons is done for occupations in Figure 7C. It shows that older women are increasingly becoming professionals, while older men have been increasingly likely to become managers. At the same time, clerical and administrative occupations, and machinery operators and drivers have aged the most.

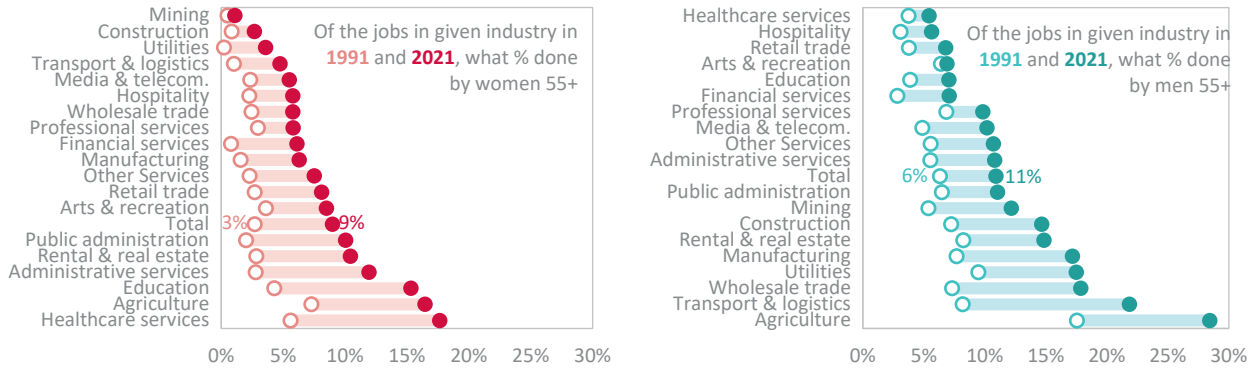
At the sectoral level (not shown), 21% of older women and only 12% of older men work in the public sector (the rest are in the private sector). But older women have a disproportionate share of public sector employment: 14% of public sector jobs are done by older women compared to 8% of private sector jobs (the figures for older men are 10% and 11%).

AGEING AND INDUSTRIAL AND OCCUPATIONAL CHANGE

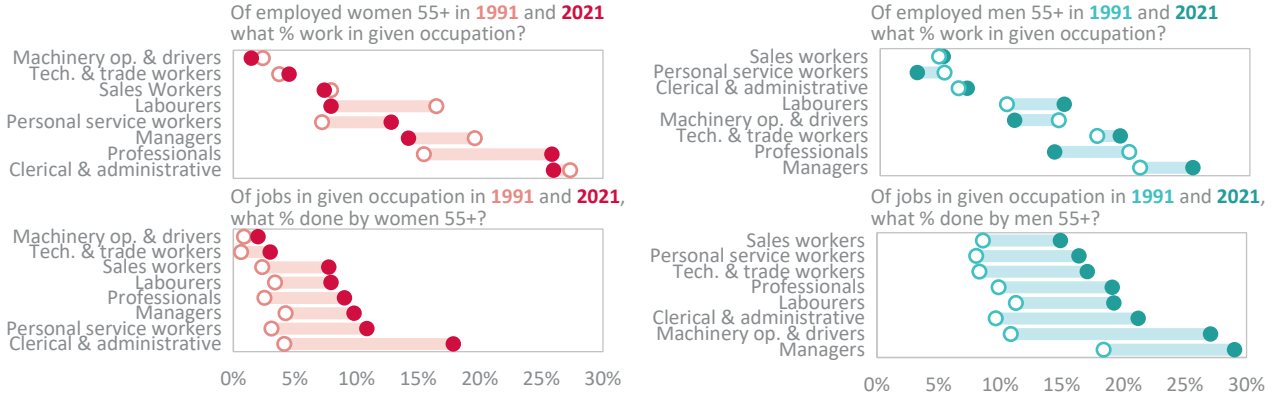
7A Farming, manufacturing replaced with healthcare and education for women, and construction and logistics for men



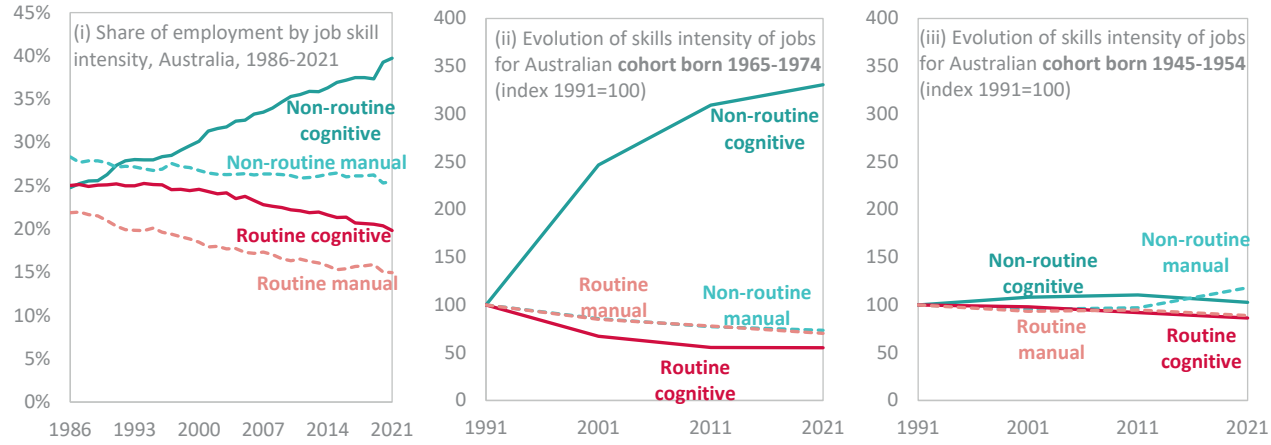
7B All industries increasingly reliant on older people: healthcare relies heavily on older women; logistics and agric. on men



7C Women increasingly becoming professionals, men managers. Clerical and machinery operator jobs have aged most



7D Jobs with non-routine tasks are becoming more common. Younger cohorts drive this, older see little change



Note: 2021 data refers to first quarter. Analysis based on pseudo-cohort employment by age by occupation. Occupations such as Managers (except Farmers) and Professionals are categorised as Non-Routine Cognitive; Farmers, Technicians and Trades Workers, and Community and Personal Service Workers are categorised as Non-Routine Manual; Clerical and Administrative, and Sales Workers are categorised as Routine Cognitive; Machine Operators and Drivers and Labourers are categorised as Routine Manual. Source: Authors' analysis of ABS data.

If older people remain in declining jobs, they could be left behind

Are older people more likely to be in declining industries and occupations? The National Skills Commission reports that the industries with greatest growth in the next few years are expected to be accommodation and food services, healthcare, professional and scientific; and occupations with the greatest growth are community and personal service workers and professionals (NSC 2021).

At the broad level these include industries and occupations in which older people already work to a high degree. But a four-digit level of disaggregation suggests a weak but statistically significant negative relationship between the expected growth of occupations and the relative share of older workers in occupations.

Long-term structural change is toward jobs intensive in non-routine tasks

Some of the changes described above are related to trade and technological change, which drive the types of jobs available and not necessarily the number of jobs (Autor 2015). A recent approach has been to analyse changes in work type by breaking down job tasks at the detailed occupational level into *routine/non-routine* and *manual/cognitive* categories (Autor, Levy, and Murnane 2003, Autor 2013, see also Goaied and Sassi 2017, Vivarelli 2014, World Bank 2016).

Most developed countries are characterised by what is referred to as a *hollowing-out* or *polarisation* in the labour market, which has three parts. *First*, a growth in employment in occupations dominated by non-routine cognitive tasks (e.g., teachers or physiotherapists), which require communication and management and/or unstructured problem solving. These are often referred to as high-skill occupations.

Second, an initial decline and then growth in low-skill occupations, intensive in non-routine manual tasks (e.g., truck drivers, personal care assistants, and waiters). And *third*, a decline in middle-skill occupations, intensive in routine cognitive tasks (e.g., bookkeepers) and routine manual tasks (e.g., factory workers) that can be more easily substitutable by technology and/or exported. (de la Rica and Gortazar 2016, Goos et al. 2014). The pattern is also apparent in Australia (Figure 7Di).

Have older people moved toward growth occupations?

But what has been the impact of fewer routine-manual and routine-cognitive occupations on workers across the age distribution? This depends on their ability to move up toward high-skill, non-routine jobs, or down toward low-skill, non-routine jobs.

Existing research for the US and Europe suggests that occupations requiring mostly routine tasks aged faster than occupations with fewer routine tasks (Autor and Dorn 2009, Lewandowski et al. 2017). That is, older people stay within occupations and industries that are more subject to automation and/or offshoring. Only the youngest workers appear to move both upward and downward in the skill distribution. Figure 7D(ii-iii) shows this for Australia.

There is little change in skill intensity of older cohorts' work, even as the labour market changes around them. By contrast, younger cohorts are increasingly likely to find jobs that require non-routine cognitive skills, which are least automatable and most remunerative. Research suggests that the age disparity can be mediated via skill updating (Box 3), but this will require Australia to be better at *lifelong* learning, late life career changes, and targeted active labour market policies.

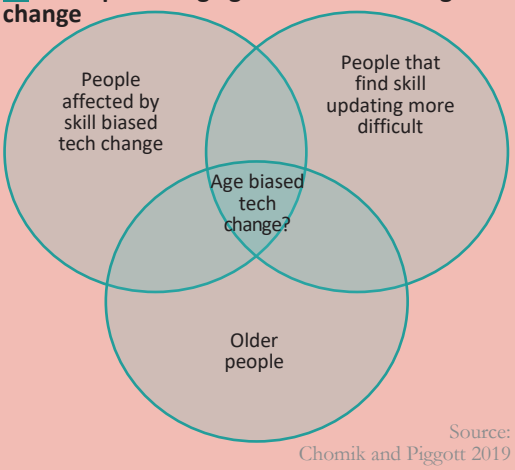
Box 3 **CEPAR research spotlight** **Age-biased technological change: Are older people's jobs at risk?**

On the one hand, technology displaces labour (e.g., through automation of routine tasks); on the other, it complements it and allows firms to expand production, lower costs, generate more income, and create new employment opportunities. It tends to most benefit higher skilled workers compared to lower skill workers.

This is often referred to as *skill biased technological change*. But the potential for *age-biased* technological change is less commonly studied. In a commissioned review for the Asian Development Bank, CEPAR's Rafal Chomik and John Piggott marshalled the disparate literature that could shed light on such age-based effects.

They suggest that overall, the adverse effects of technology on older people's employment are overstated, especially since the 2000s. But to the extent that older people overlap with workers whose skills fall out of demand *and* are less likely to invest in updating their skills or able and willing to switch occupations, then skill-biased technological change will also be age-biased. Greater population shares of older people unable to adapt could see greater mismatch between skills and jobs or greater levels of retirement, inhibiting economic growth. Skills and training are therefore key (see Section 6). Technological change creates a race between skill investment and skill depreciation. Literature suggests that focus should be on skills related to abstract, unstructured, and flexible analytical thinking. That is, those most needed in jobs intensive in cognitive non-routine tasks.

8 Conceptualising age-biased technological change



Source: Chomik and Piggott 2019

Another way in which technological change may affect mature worker employment is though employer stereotyping. That is, older workers may well have up-to-date skills that match new technology-induced requirements but are still excluded from job opportunities. Indeed, research by CEPAR's Gigi Petery and Sharon Parker shows that stereotypes including '*resistant to change*', '*uncomfortable with technology*', '*stubborn and stuck in their ways*', and *'rely on outdated methods'* are common stereotypes assigned to older workers. Furthermore, these stereotypes are associated with bad performance rating expectations, which may negatively affect the opportunities afforded to older workers (Petery et al. 2020). See Section 7 and Box 13 on discrimination at work.

3. The impact of business cycles: COVID-19 recession

Younger and older workers more affected by economic shocks compared to prime-age

Australia has a dynamic and flexible labour market. In a typical year, about 2% of workers lose their job for economic reasons. Compared to other countries, retrenched workers in Australia tend to find jobs quickly (OECD 2016, 2017a, Sila 2019).

But short-term economic shocks affect some groups more than others (Evans et al. 2018). Even before the recession, the profile of those receiving unemployment benefits had become older than it had been in the past (PBO 2020). To understand the current turbulence, it's worth assessing the differential impacts of the recent and past recessions by age and sex.

Comparing recent changes in unemployment in Australia by age to recessions in the past and to other countries is somewhat reassuring (Figures 9A-C; rates are indexed to aid comparison). The aggregate figures also confirm what we know from surveys of employer responses, that many choose to protect jobs (see Box 4).

Whereas in past recessions old-age unemployment increased more and did not decline for an extended period, the recent recession has seen a small increase and, so far, a fast decline. For example, in the 1980s, Australian old-age unemployment doubled and remained high for over six years even as prime-age worker unemployment declined. This time the rate of old-age unemployment increased by only 40% (or an equivalent of 1.6 percentage points), similar to the increase for prime-age groups.

Looking at the unemployment rates themselves and disaggregating by sex and age shows that in past recessions unemployment risk was higher for young men and women and for older men than for prime-age workers. The lower rates of unemployment among women aged 55-64 and men and women aged 65+ may reflect that in the past these groups drop out of the labour force instead of remaining unemployed (Box 5).

While this recession was less severe overall, older women appear to have been affected slightly more than in the past. The difference is small, however, and is less obvious based on monthly data (i.e., April 2021). A reason for changes over time may relate to fewer early retirement options for women with a higher pension age (see Section 12).

Retrenchment and reemployment

Some of these unemployment patterns are reflected in the retrenchment and reemployment data (Figures 10A-H). Retrenchment risk is greater for younger and older workers compared to prime-age workers (10A-B). But while the young are more likely to lose their job, they find a new one faster. Typically, about half of all workers find work by the following quarter (10C). The figure is lower for those aged 15-24, at 43%, and lower still for those aged 55-64, at 35%.

The patterns again differ by sex. In the recent recession, older men had slightly higher rates of retrenchment than older women but experienced above-average rates of reemployment (10D). For older women who lost their job, the recent recession was unusual. Fewer found reemployment at the rate that men did (potentially because early stimulus measures focused on industries disproportionately employing men). The result was that was older retrenched women were more likely to both experience unemployment *and* dropping out of the labour force (10G-H).

From short- to long-term measures

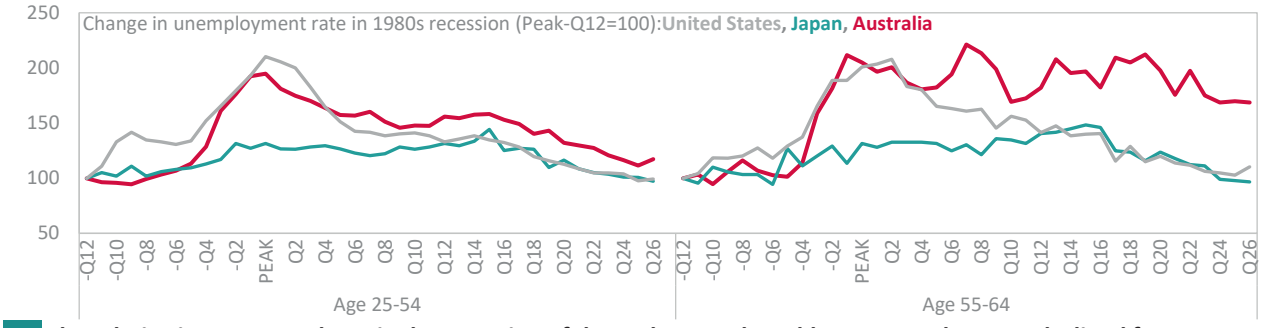
In the past, Australia did not have specific policies to prevent layoffs during business cycle downturns. Income support and initial levels of reemployment assistance have been low compared to other countries (OECD 2016). But the pandemic recession saw the introduction of both increases in income support and a new retention scheme that subsidised wages and prevented the severing of employment links (*JobKeeper*). These were temporary but, based on the resurgence of robust labour demand (Treasury 2021) and prevention of poverty (Biddle and Gray 2020), appear to have been successful.

Subsequent reductions in income and reemployment support may be to the detriment of less advantaged groups, including older women and those in insecure work (ACOSS 2021). Also, new hiring subsidies and training packages (*JobMaker* and *JobTrainer*) are accessible to younger age groups only. Other measures to smooth out cyclical turbulence could include policies to "s*trengthen employers' responsibilities for workers they dismiss, instituting and enforcing a longer notice period for collective dismissals, and ensuring that mandatory notification of mass dismissals to Centrelink is enforced, so as to allow the authorities to react earlier"* (OECD 2016, p12).

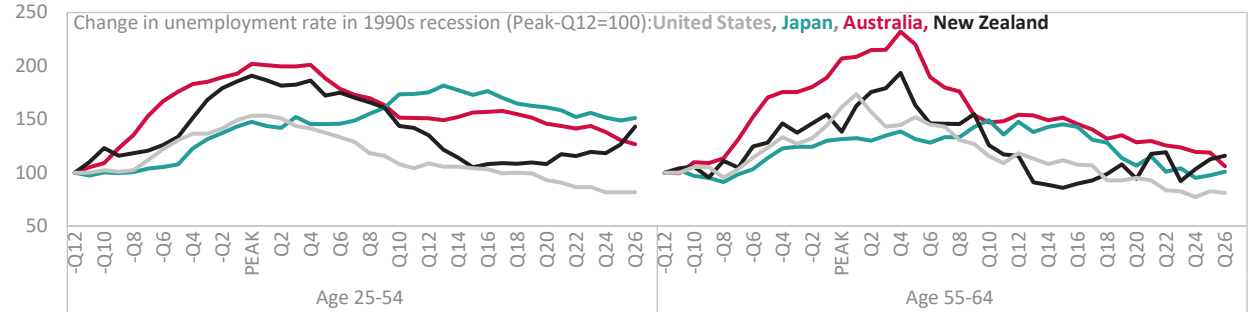
The medium term may also require attention to structural shifts and labour shortages. But it's never too early to take a long-term view. The recovery is an opportunity to ensure that government, employers, and older people can take full advantage of the demographic changes described in this report.

UNEMPLOYMENT IN AUSTRALIA COMPARED TO PAST RECESSIONS AND OTHER COUNTRIES

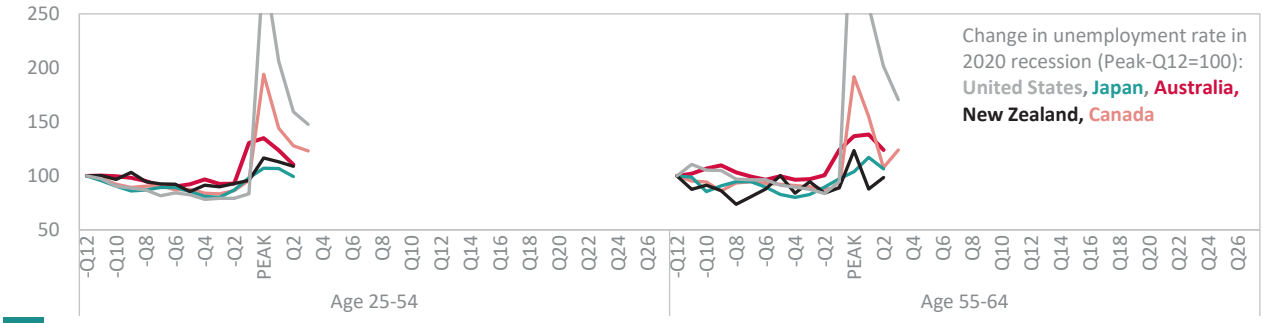
9A Compared to other countries, the 1980s recession saw older Australian unemployment rates take longer to decline



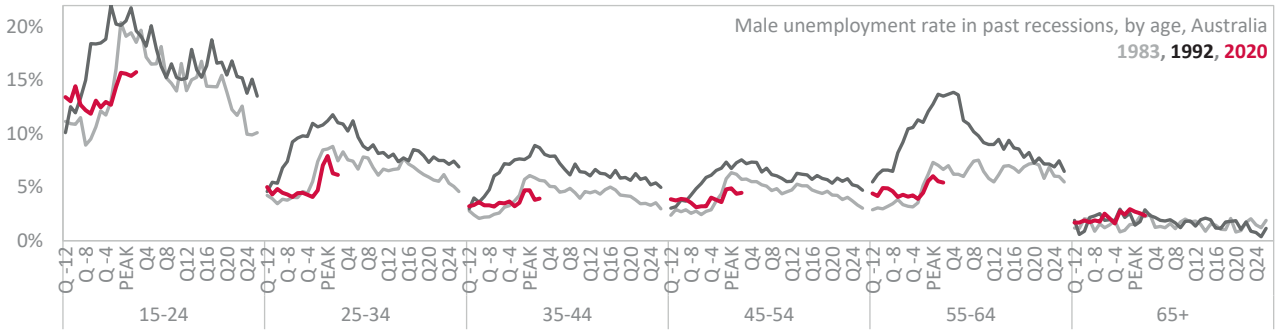
9B The relative increase was large in the recession of the early 1990s but old-age unemployment declined faster



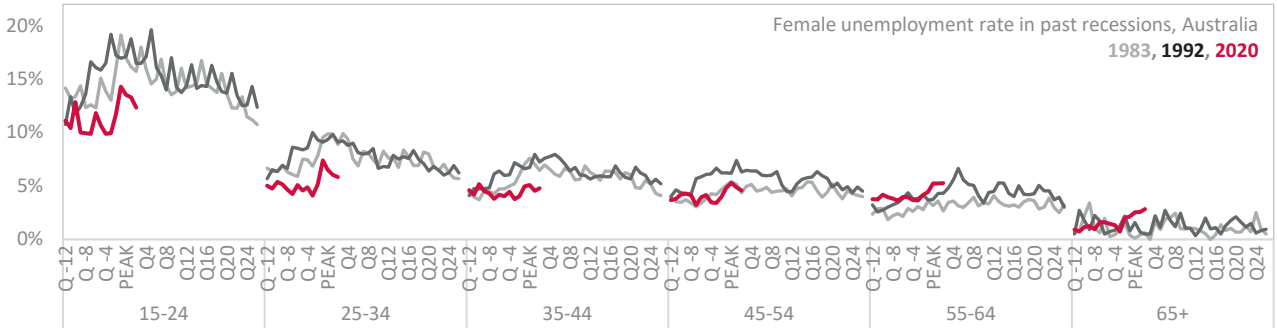
9C This time, unemployment increased less than elsewhere. It is unclear whether decline will diverge from prime-age



9D Looking at actual unemployment rates, for men, these have tracked below those seen in past recessions

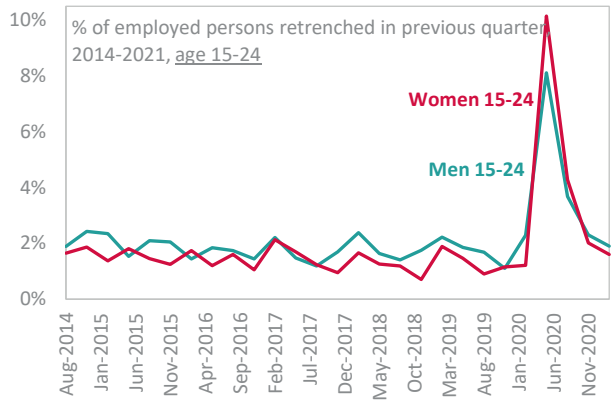


9E But for older women, unemployment rates are currently trending slightly higher than in past recessions

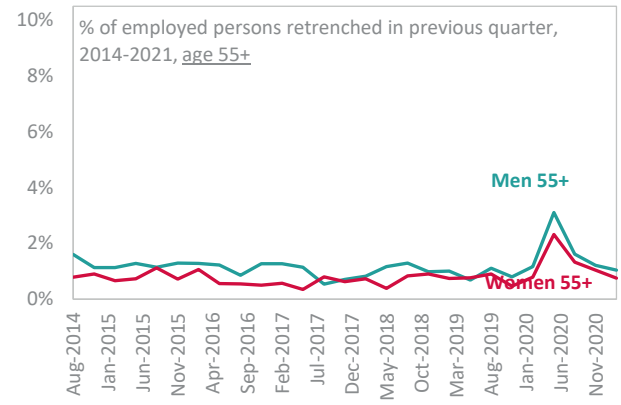


Note: The above are based on quarters. Recent monthly figures reveal a more positive picture for Australian unemployment. Peak is based on quarter of initial peak unemployment for full labour force. Source: Authors' analysis of ABS and OECD data.

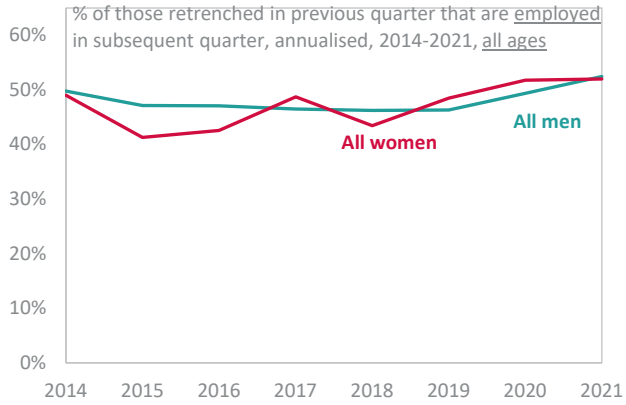
10A Many young people lost jobs in the recent recession



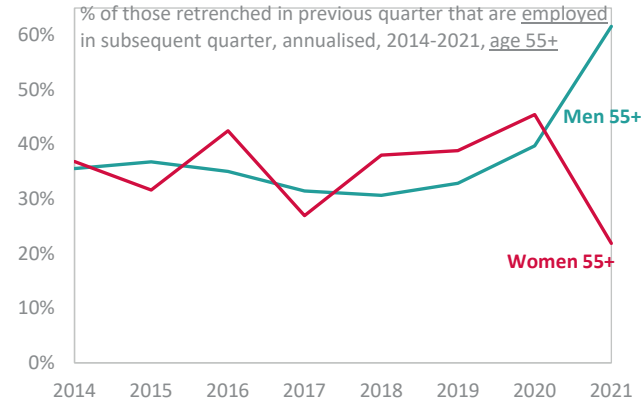
10B By contrast, fewer older people were affected



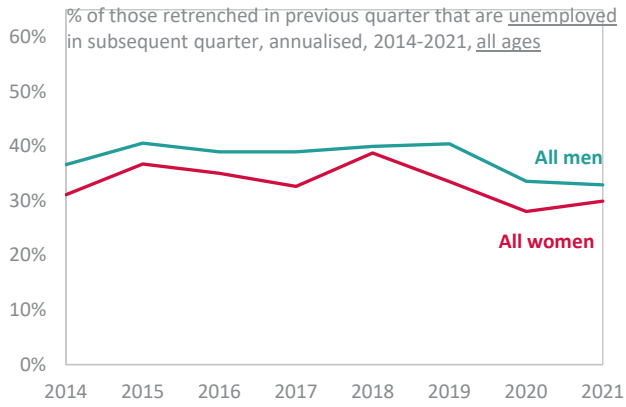
10C Generally, half of those retrenched find work by next qtr



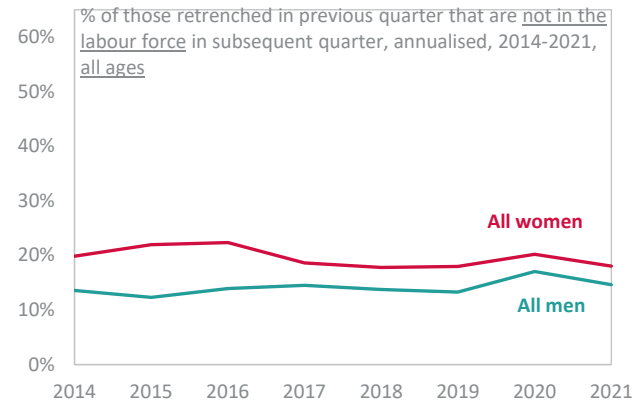
10D But older women are not finding work at the same rate



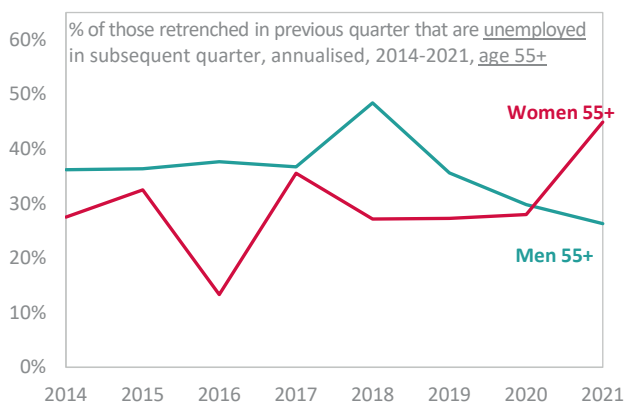
10E Usually women have lower unemployment rates....



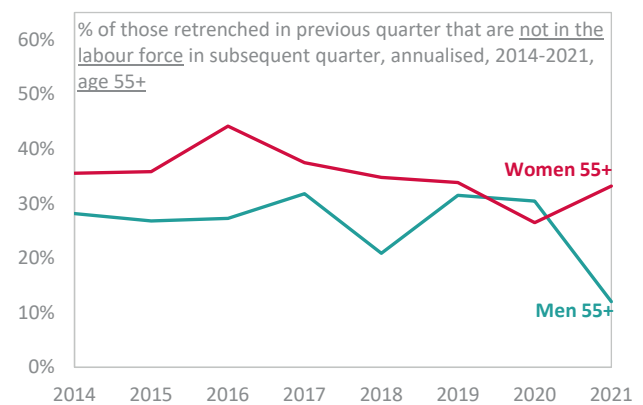
10F ...because they are more likely to leave the workforce...



10G ...But older women are now seeing both more unemp't



10H ...and a higher rate of dropping out of the workforce.



Note: Figures have been annualised. Figures for 2021 are based on the first quarter. Source: Authors' analysis of ABS data.

Box 4 CEPAR research spotlight Employer responses to COVID-19

To understand employer responses during the crisis, CEPAR researchers, led by Chief Investigator Marian Baird, conducted interviews with 32 leaders and managers at 28 Australian organisations employing between 8 and 35,000 employees (Baird et al. 2021). They found that employers responded with a people-centred, community-focused approach, providing leave, and avoiding redundancies where possible, and finding new processes and ways of communicating.

The pandemic changed the employer-employee relationships. Managers exercised less control and placed greater trust in employees, focusing on outputs rather than work hours. Many reported that it was older workers that quickly adjusted to technology while younger workers struggled working from home. Employers also engaged with employee health vulnerabilities and care responsibilities in a way they hadn't before. And policies and workplace cultures changed to take better account of work-life balance, and to provide more entitlements to leave and wellbeing supports. It is possible that the experience could see employers better focus on employee needs in future.

Preliminary findings from CEPAR's longitudinal study of almost 2,000 mature workers during the pandemic suggests that they can flourish when their organisation is supporting their wellbeing. Led by CEPAR Chief Investigators Sharon Parker and Marian Baird, the survey is in its third wave and can shed light on the experiences of mature workers during COVID-19. Indicative findings suggest that work can play a protective role during the pandemic. For example, mature workers have appreciated their work more than in pre-COVID times. Those redeployed away from front-line roles perceived less vulnerability to the virus and less age bias as a result.

One group of workers that has benefitted from pandemic-induced and employer-driven changes is informal carers. This is the conclusion of a recent policy briefing by CEPAR's Marian Baird and Myra Hamilton (and colleagues from Carers NSW; Matheson and Judd-Lam 2020). They point out that some carers are not legally entitled to minimum standards that many workers 55+ now have: the *right to request* flexible work (see Box 21 on legal entitlements). Only one third workers with care responsibility do some work from home; so, a rise in remote work has benefited many. (Also see Box 10 on carers.)

The fact that employers had to switch to more positive interactions to operate well remotely is echoed in other CEPAR research. Chief Investigator Sharon Parker was involved in a review of work designs that help geographically dispersed teams function well (Handke et al. 2020). They found that team functioning, performance, and wellbeing were all positively associated with increased virtual job resources (e.g., autonomy, feedback, support). The nature of the COVID-19 crisis presented new challenges to remote working. For example, in Knight et al. (in review), Parker reports that for some workers stress was driven by excessive demands and job monitoring. She concludes the stress that workers experienced as part of COVID-19 remote working was because of poor work design (Parker 2020), but that methodologies exist to address this (see Box 17).

Box 5 CEPAR research spotlight Retrenched older people more likely to become discouraged

In the early stages of the COVID-19 crisis, job loss among the young was greatest. The *JobKeeper* program was more likely to safeguard the jobs of older people at the expense of casual, short-term workers who tend to be young. But protecting older workers makes sense, according to a CEPAR fact sheet (Chomik 2020) because regaining employment is harder in late age.

The analysis showed that two years after the 1991 recession, the share of long-term unemployment (over 12 months) among 25-to-34-year-olds increased to 33%; the rate for 55-to-64-year-olds peaked at 56%. Indeed, older people are more likely to become discouraged and retire (especially women – see Figure 10F). Based on HILDA 2001-18, the fact sheet reported that about 22% of those aged 55+ were typically not looking and not available for work one year after an unemployment spell. For those in their 20s the rate was 7%. Older people are also more likely to become marginally attached to the labour force (wanting work but either not looking or not available). As a result, compared to people aged 55+, those below 55 were six and a half times more likely to be in employment in the year after they became unemployed (not reported in fact sheet). Such insights may help to better balance short- versus medium-term economic risks.

4. Macroeconomic impacts of older population and workforce

Combining the 3Ps

Having assessed the population available for work and the likely rates of participation in work, we can turn to the productivity per hour of that work. Population, participation, and productivity come together in what is sometimes known as the *3P framework* – to determine the potential size and growth of the economy (Box 6).

Again, modelling presented in Figures 11A-B aims to be illustrative of the differential impacts of varying population, participation, and productivity assumptions on GDP and GDP per capita. The methodology abstracts from short-term cycles and is of the type used in a typical *Intergenerational Report* (IGR) (Treasury 2015).

Longer pandemic could result in less population and slower economic growth

Similar scenarios are used as described earlier, with new scenarios relating to hours worked by age and productivity growth. The base case assumes: (1) demography expected from a short pandemic; (2) trend age-sex-specific participation increases (i.e., without major policy change); (3) no changes age-sex-specific hours worked; and (4) productivity growth reflecting the last decade (1% p.a.). The outcome suggests a supply-side potential over the next thirty years that sees the size of the economy grow by over 80% and incomes grow by about 30%.

As with its impact on labour supply, a longer pandemic with lower rates of migration and fertility would be expected to result in lower rates of GDP growth (in the short term it may also result in tighter labour markets, wage growth, and inflation). It could see an economy that is about 5.5% smaller by 2050 than in a scenario where the demographic effects of the pandemic are less severe and more short-lived.

The effect on GDP per capita is less pronounced since a greater population contributes to both the *GDP* and the *capita* sides of the equation (McDonald and Temple 2010).

Productivity growth is a crucial driver of growth

At the other extreme, productivity has the greatest effect. For example, if future productivity growth were closer to its historic 20-year average of approximately 1.3%, both GDP and GDP per capita could by 2050 be 10% and 11% higher than the base. Past IGRs have commonly revised down their 40-year productivity projections: it was 1.75% in the 2002 report, 1.5% in the 2015 report, and may be revised down further in 2021.

There is insubstantial evidence that productivity growth will decline *because* of population ageing (Box 7). In fact, some of the latest empirical research suggests that older workers are as productive as prime-age workers so workforce ageing itself is not thought to depress the productivity growth of firms (OECD 2020a). Still, raising productivity growth has been elusive. Here is where greater labour supply from older workers can play a part.

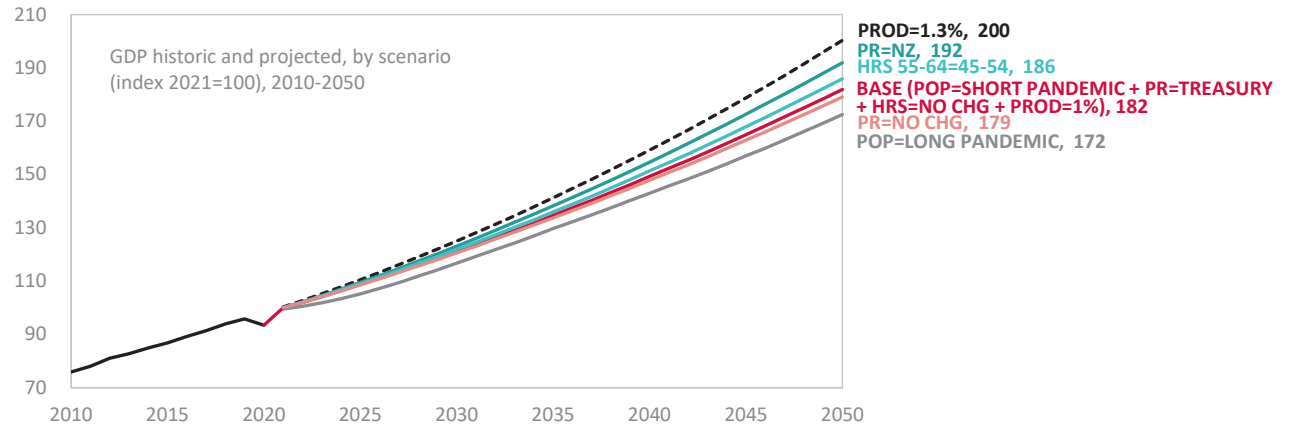
But ambitious participation rates can also achieve considerable GDP growth

Based on the modelling, increasing participation rates to resemble those observed in New Zealand in 2019 or raising the hours of work of those aged 55-64 to match the hours of those aged 45-54 comes some way to achieving the GDP growth associated with the higher productivity scenario. In fact, *combining* these two scenarios, driven by greater employment of mature workers, is roughly equivalent to raising annual productivity growth by 0.3pp.

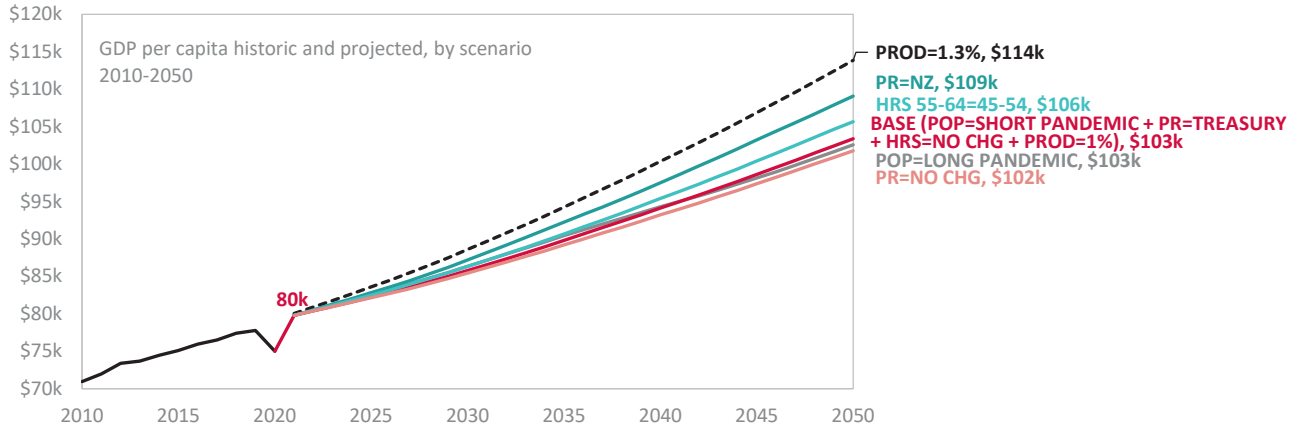
The ambitious objective would require redefining those aged 55-64 as prime-age workers, ensuring continued improvements in their health, education, and training, and a much more age-friendly labour market, which are the topics of the following sections.

ECONOMIC GROWTH: COMBINING POPULATION, PARTICIPATION, AND PRODUCTIVITY

11A Total GDP is affected by each of population, participation and productivity



11A NZ participation rates + higher hours of workers aged 55-64 is equivalent to about a 0.3pp boost to productivity



Note: POP denotes population scenario. Long and short pandemic scenarios are as described in Wilson et. al. 2021. PROD denotes productivity growth scenario. PR denotes participation scenarios (by five-year-age and sex). PR=NZ scenario assumes, by 2050, Australian age-sex-specific PR reach that of New Zealand (NZ) in 2019. PR=TREASURY scenario assumes age-sex-specific participation rates reach those described in Gustafsson (2021). HRS denotes hours worked per labour force participant by age and sex (the denominator captures differential unemployment rates by age and sex which are assumed to continue at a rate seen prior to COVID-19). The base case assumes hours by age and sex do not change. HRS 55-64=45-54 scenario assumes that hours worked per labour force participants aged 55-64 come to resemble those aged 45-54. Recovery in 2021 is based on annualised participation rates from Q2021, hours per week per labour force participant based on five years of pre-pandemic average, and ten-year average of productivity growth, including 2020. Source: Authors' analysis of data from ABS, Wilson et. 2021, and Gustafsson 2021.

Box 6 CEPAR research spotlight The economic impact of population and participation trends

CEPAR's Rafal Chomik, John Piggott and Peter McDonald applied the 3P model to assess the likely trajectories of labour force size and GDP growth across 21 APEC economies. They projected that demographic change between 2015 and 2050 would result in (1) declines in the size of labour forces in some economies (e.g., China, Japan, Korea, Russia, and Thailand); (2) deceleration in the growth of labour forces in most economies (e.g., Australia, Canada, and the US); and increasing labour forces in only a few economies (e.g., Mexico, Philippines, and Papua New Guinea). Combined with an assumed decline in productivity growth (toward the 1.1% p.a. advanced economy average) this would mean a decline in average unweighted GDP growth in APEC economies from 4.1% p.a. between 1990 and 2015, to 2.2% between 2015 and 2050. For China, demographic change and productivity convergence could see GDP growth slow to an average of 3.4% p.a. in future, and not catch up to the US. For Australia, the team showed that if age-specific participation rates remained stagnant, GDP growth could slow by 0.23% p.a. and that an absence of international migration would halve the average GDP growth rate and slightly reduce growth in GDP per capita.

Population ageing has macroeconomic impacts beyond GDP. For example, longer careers can mean more retirement savings, national savings, and investment. CEPAR's Jeromey Temple, James Rice, and Peter McDonald (2017) used the *National Transfer Accounts* methodology to show that across the whole economy, these trends indeed translated to a substantial increase in labour income and that a majority of this was saved.

Box 7 **CEPAR research spotlight** **Will more older workforces mean lower productivity growth?**

To offset the adverse economic impacts of population ageing, it is important to not only think about increasing the labour force participation of older people but to also to ensure they are productive.

But to what extent could population ageing hinder productivity growth? Senior Research Fellow Rafal Chomik and Chief Investigator John Piggott were commissioned by the Asian Development Bank to examine this.

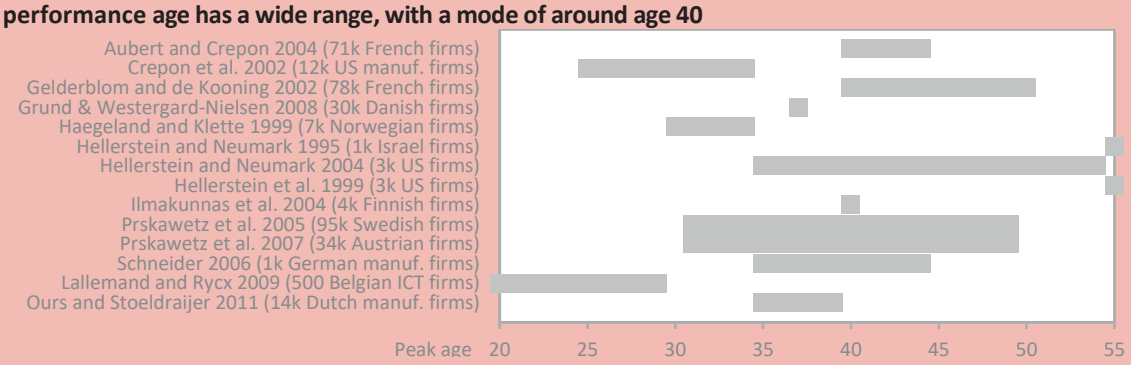
In Chomik and Piggott (2019) they explain how productivity may improve via (1) investment in physical capital (e.g., transport and communications); (2) improvement in human capital (e.g., health and education); and (3) greater invention, innovation, and diffusion of the technologies that combine capital and labour. They also summarise the complicated ways that demography could feed through each of these channels. For example, since ageing societies save more, they can invest more in productivity-enhancing capital; yet an older population tend to require higher taxes to pay for pension and health programs, which may discourage investment.

With various hypothetical links, what does the evidence say about age and productivity? Chomik and Piggott looked at empirical literature at the level of the individual, firm, and wider economy. Firstly, at the individual level, age is often a proxy for other characteristics, like education, skill, and experience, which differ by both age and cohort. But one area where age specifically may be a factor is based on cognitive ability. While problem-solving and pattern recognition that require raw processing power and speed usually decrease with age, vocabulary, strategic skills, and empathy show continued increases or limited decline.

Secondly, at the level of teams and firms, where work more often takes place, there are reasons to believe that age-diverse teams share complementary skills, which can raise productivity. Chomik and Piggott found that studies looking at productivity of firms by age of employees suggest that productivity peaks ranged widely, including at ages past 50 in some studies (Figure 12).

Thirdly, it's important to look at the level of a whole economy to avoid *selection effects*. Selection effects occur, for example, if unproductive workers retire, so the productivity of remaining older workers in a firm appears high. Looking at the whole economy overcomes such effects. Overall, at this level results are also mixed. But there are notable studies showing a strong positive relationship between older countries and their GDP per capita. The hypothesis is that labour scarcity *induces* capital investment which then increases output per capita.

12 Peak performance age has a wide range, with a mode of around age 40



The different possible outcomes for future productivity growth could have unexpected macroeconomic consequences. To investigate this, CEPAR Chief Investigator Warwick McKibbin modelled what different productivity scenarios would mean for the global economy, labour markets, and flows of trade and capital.

In McKibbin and Triggs (2019) he highlights the importance of productivity-enhancing reforms and the first-mover benefits that can flow to those closer to the productivity frontier. Asymmetric increases in productivity across countries are also shown to have monetary and fiscal impacts; while asymmetric changes across sectors will differ in their effects depending on flexibility in labour, capital and product markets.

PART II: HEALTH, EDUCATION, AND SOCIAL TRENDS: MATURE WORKERS' CAPACITY TO WORK IS HIGHER THAN EVER

While Part I explored the macro-demographic context, Part II outlines trends relating to health, education, and social attitudes. These are commonly cited examples of barriers to work for mature workers (Temple and Adair 2014, Chomik and Piggott 2012b). In fact, health and education comprise what economists refer to as *human capital* (Ilmarinen 2001, Ilmarinen et al. 2005, Keane et al. 2020). The trends show that while mature workers need support (e.g., well-designed, flexible work, with access to training) their human capital has never been greater.

5. Health and care: Improvements across the board

More people feel in good or excellent health at later ages

Improvements in health status underlie the demographic shifts that led to population ageing in the first place. Not only has life expectancy increased but so has healthy life expectancy (AIHW 2014).

Evidence of general but not always uniform improvements in health is vast (see AIHW 2020 for example). So, data shown here is for illustrative purposes only. One high-level measure of population health is subjective health (i.e., whether people report that they are in excellent, very good, good, poor, or very poor health). Proportions of people in good or excellent health are shown in Figures 14A-D.

Good health declines with age, but this decline has shallowed dramatically over time. For example, in 2018, nearly 80% of people aged in their early 60s said that their health was good or excellent. The corresponding age that had that level of health thirty years earlier was around the late 40s.

Dropping out of work is intrinsically linked to health status (Cai and Kalb 2007, Zucchelli et al. 2010). In fact, the subjective health of those who were out of work before reaching pension age in 2018 and in 1989 is comparable. Those out of work post-pension age now are nearly as healthy as those who were still working at age 60 in 1989. Work itself may be protective of health (Box 13), especially when jobs are designed with the health and wellbeing of employees in mind (see Box 17, Schaufeli et al. 2014, Ganster and Rosen 2013, Noone and Bohle 2017).

Improvements in health have taken place at lower levels of socioeconomic status, whether measured by educational attainment (which is less likely to be affected by reverse causality) or income (which is).

Disability rates have also declined

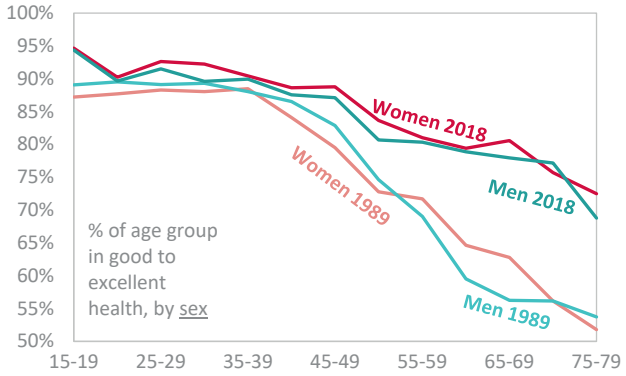
Nearly a fifth of the Australian population lives with some form of disability that affects core activities or restricts the ability to study or work. This rate is higher at older ages, so an older population implies a greater population share with disability in future (Giles et al. 2003).

So far, Australia has performed worse than other OECD countries at integrating people with a disability into the labour market (OECD 2017b). This could be an obstacle if participation rates of older people are to rise.

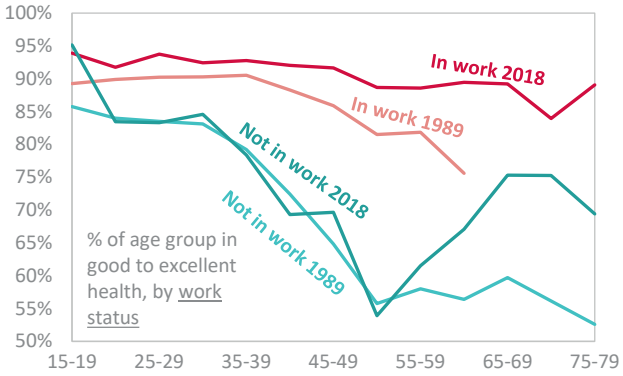
It also suggests a need for better policies to help disabled Australians to get and keep a job. Such policies would include aligned obligations and incentives for all involved – workers, employers, doctors, service providers, and public agencies. For example, in Australia, sickness absence is left to doctors and the discretion of employers.

As with trends for subjective health, disability trends tell a positive story over time, as shown in Figures 14E-H. For example, among those aged 55-64 disability risk has declined by about 10% over the last 30 years. The figures also show that disability and work continue to be difficult to reconcile, and that declines in disability risk have taken place regardless of education level and income. But socioeconomic gaps remain.

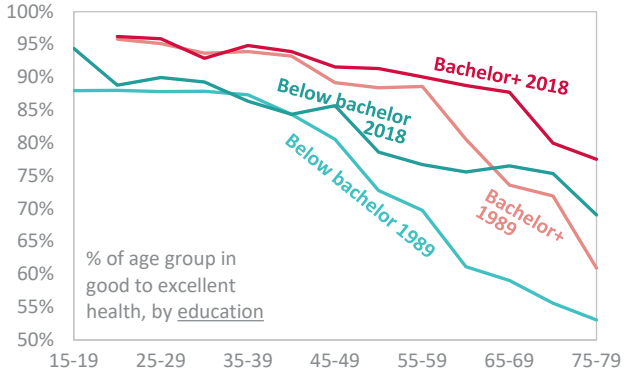
14A Those aged 70 now have health of those aged 50 in 1989



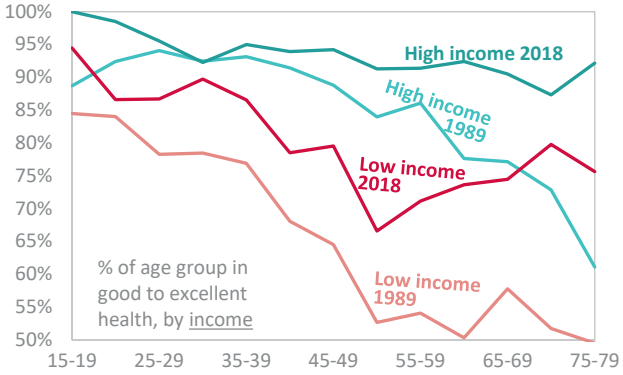
14B 70yo retirees have similar health to 60yo workers in 1989



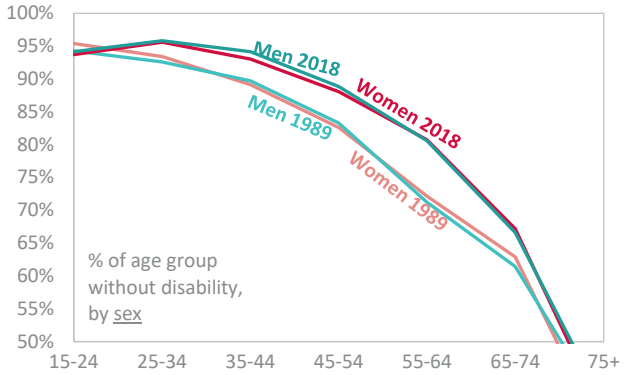
14C Older low ed. people in 2018 healthier than older high ed. in 1989



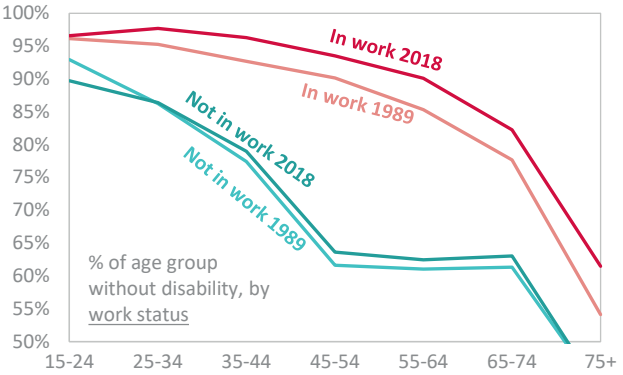
14D Even health of low-income people is now higher



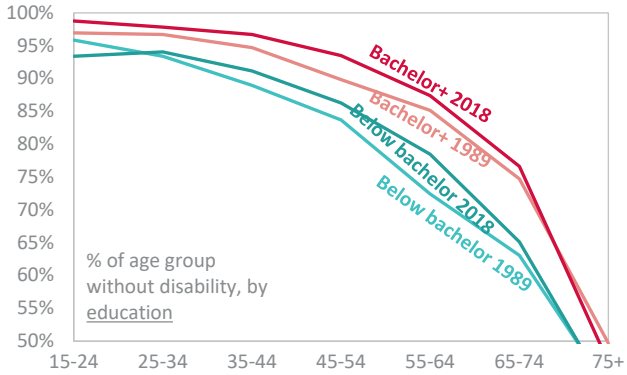
14E Over 30years, disability risk is down 10% at age 55-64



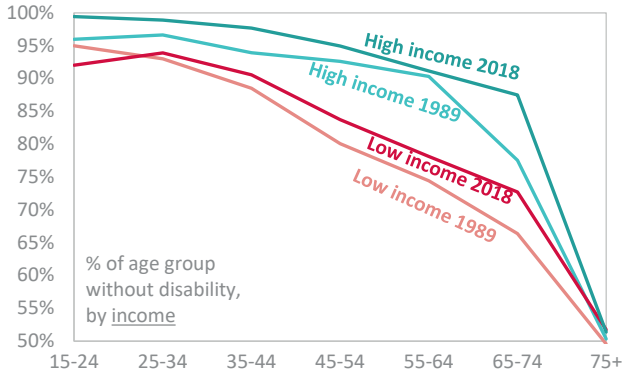
14F Disability profiles for those out of work are unchanged



14G Disability declining regardless of education level...



14H ...and regardless of income. But socioeconomic gaps remain



Note: Health status based on subjective health. Income is based on equivalised household income. High income denotes top quintile; low income denotes bottom quintile. Disability is a limitation with the core activities of communication, mobility or self-care and/or a schooling or employment restriction.
Source: Authors' analysis of ABS SDAC microdata, various years.

Box 8 **CEPAR research spotlight** **Health status can affect work, but work also affects health**

CEPAR Associate Investigator Donald Truxillo is an authority on how work ability changes with age. In a wide-ranging review, with other authors, he surveyed the literature on *Work Ability*. The concept, originating in occupational health, is defined as a person's ability, or perceptions of their ability, to meet the demands of their job (Cadiz et al. 2019, Cadiz et al. 2020). It is commonly measured using the *Work Ability Index*, which includes questions on demands of work, the worker's health status, history of sick leave, and mental resources.

Work ability is found to generally decline with age and is correlated with retirement intentions and behaviour. The review points to proven interventions that can be implemented both by the individual, including increased physical activity and stress management, and by organisations, such as career management, reducing full time hours and creating supportive work conditions (also see Box 17 on how job design can improve physical and mental health).

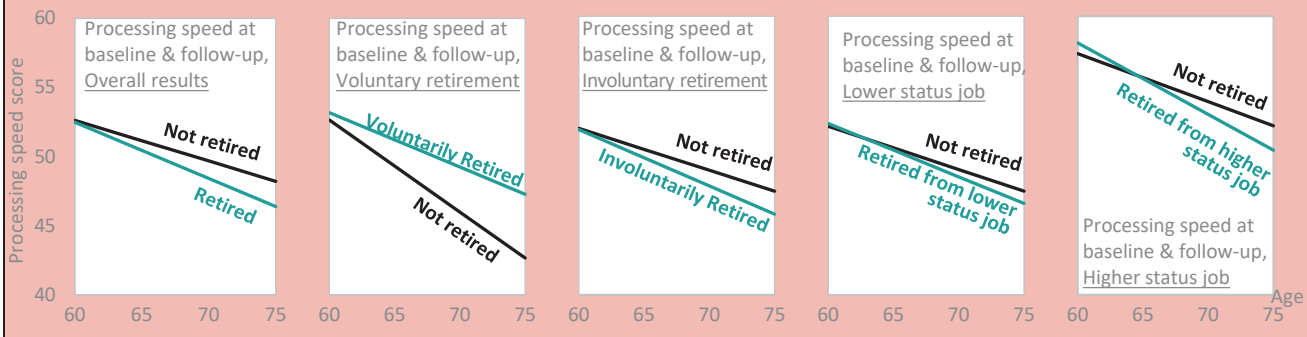
In related work, Truxillo investigates the different measures of work ability and the links with worker performance and wellbeing (Brady et al. 2020). Relatively simple measures of work ability could be valuable to employers and could be used more widely to monitor country-wide workforce work ability.

Cognitive ability is thought to have a particularly important influence on the ability to work. In a survey of literature on cognitive ageing and decline, CEPAR Chief Investigator Kaarin Anstey and Senior Research Fellow Rafal Chomik, along with other colleagues, summarised the state of knowledge on the topic (Chomik et al. 2018a). For example, they note that while raw processing speed declines with age, some cognitive skills like strategic thinking, keep improving into late age. They suggest that firm tasks could be allocated between senior and junior workers to reflect their comparative advantage in different forms of intelligence.

CEPAR researchers are also shedding light on whether retirement can affect cognitive capacity. Chief Investigator Kaarin Anstey and Associate Investigator Ross Andel were part of a team that examined the impact of retirement on information processing speed (Andel et al. 2017). The team assessed people aged 62 to 74 over 12 years, and controlled for baseline age, sex, education, socioeconomic status, work complexity, self-rated health, and any dementia diagnosis.

The findings suggest that retirement is related to greater decline in processing speed – a kind of *mental retirement* (Figure 13). This was less likely where individuals thought their retirement was voluntary. They also found that retiring while still in good health may not always be advisable, at least compared to retiring when in poor health; and that holding on to a job with higher socioeconomic status may be good for cognitive health while retiring from a job with lower socioeconomic status may cause no harm. (See also Box 22 on how pension age increases were shown to have no negative impacts on life expectancy).

13 **Cognitive processing speed tends to decline after retirement, more if people feel it was involuntary**



Source: Andel et al. 2018

The idea that the characteristics of one's job can affect health and cognition is also explored in the work of CEPAR's Sharon Parker (see Box 17 on work design). In a recent paper she looked more specifically at the pathways through which work design can affect cognition (Parker et al. 2021). With co-authors she assessed the literature to conclude that some work characteristics could be cognitively enriching (e.g., better opportunity to use cognition and new knowledge acquisition and learning) and others that could be harmful (e.g., when inadequate feedback increases workers' uncertainty and causes excessive cognitive stress).

Box 9 CEPAR research spotlight Disability discrimination

Population ageing means that the population and the workforce are likely to have higher rates of disability. Yet many people with disabilities experience disability discrimination, which impacts their mental health and may cause them to avoid places where such discrimination can occur, including work.

To investigate this further, CEPAR Associate Professor Jeromey Temple along with co-authors studied the various dimensions in which disability and discrimination impact older people using the 2015 Survey of Disability Ageing and Carers and the 2014 General Social Survey.

They find that older Australians tended to cite a lower number of avoidance situations relative to younger Australians. But there appeared to be no age pattern to the avoidance of shops, restaurants, and public places. Those aged 85+ cited particularly high levels of avoidance of public transport (37%; Temple et al. 2018).

The authors found that 53% of the individuals who had a communication or mobility disability reported some form of discrimination or exclusion. Of these, 44% reported avoidance, 29% reported they had accessibility problems, while 7% reported discrimination (Temple et al. 2020a).

In related work the team found that 15% of older Australians with a disability reported discrimination. This form of discrimination is associated with lower levels of trust and self-efficacy in familial and community contexts as well as lower life satisfaction. They suggest that programs that enhance social inclusion may be beneficial in countering these adverse effects (Temple et al. 2020b).

The team note that the Australian Human Rights Commission has previously suggested a way forward. This included actions to support increasing the workforce participation of people with disabilities by (i) making it a national priority issue, (ii) linking such policies with an ageing workforce and (iii) in conjunction with goals to reduce disability stigma and avoidance.

Caring responsibilities continue after childbearing age

Caring for children is the most common form of care. But declines in childcare responsibility in mid-life is partly offset by increasing responsibility to care for older adults. For many Australians, mostly women, delayed childbearing and ageing parents means simultaneous responsibility to care for children and adults, while juggling paid work (referred to as the *sandwich generation*; Neal and Hammer 2009; Evans et al. 2014; Gillett and Crisp 2017).

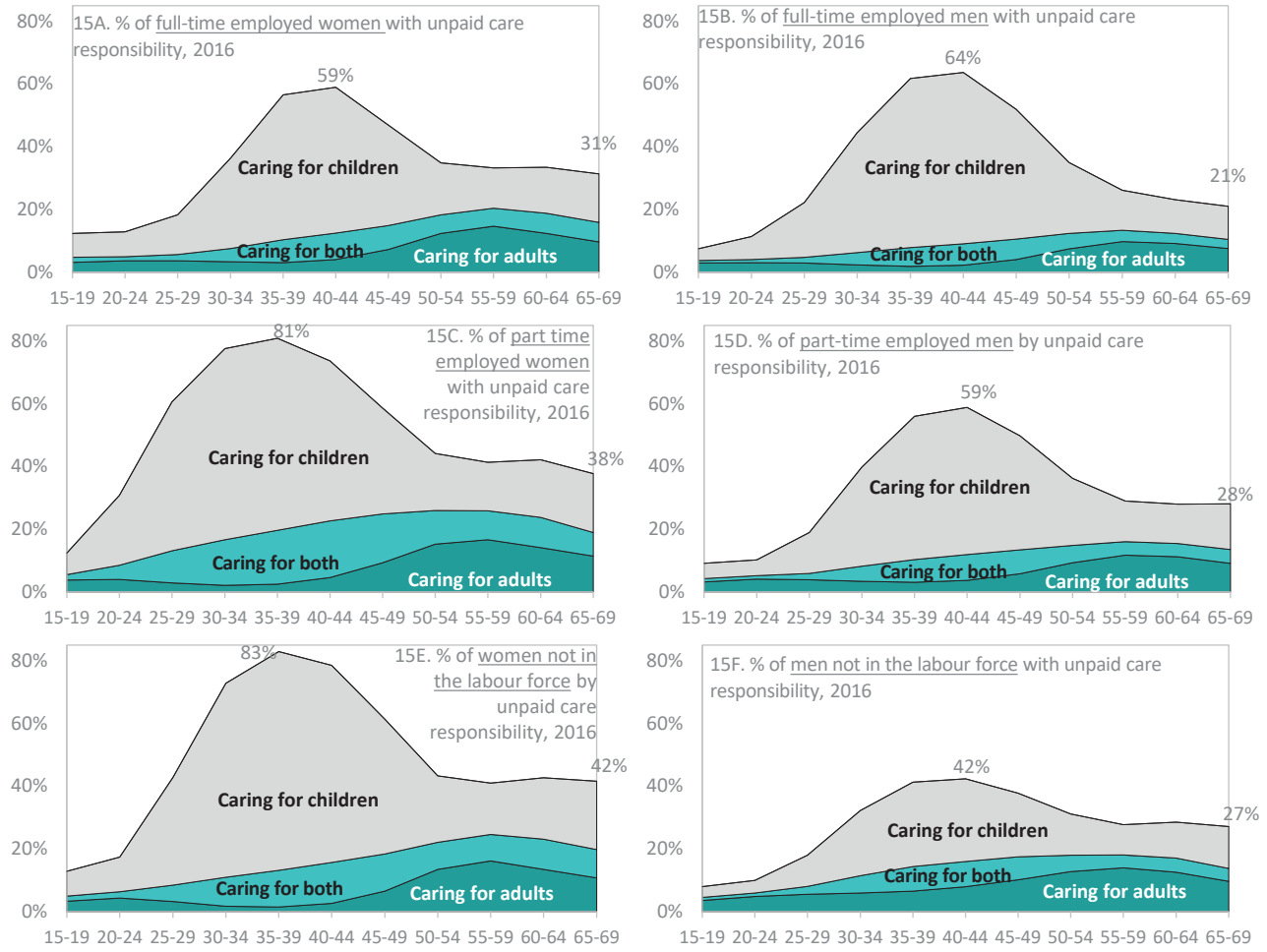
This juggling act is illustrated in Figures 15A-F. The figures show the proportion of the Australian population with *any* care responsibilities by age, sex, type of care, and employment status. While this measure does not take account of care intensity, there are several patterns of note.

Care responsibility is greatest in midlife, driven by the presence of children. While women are more likely to have care responsibility, caring is greatest among women out of the paid labour force, women working part-time, and men working full-time (the latter is driven by full-time working men reporting that they have child caring responsibilities). Indeed, Australian women find it more difficult to combine caring and work than in leading OECD countries, in part because of some of the highest costs of childcare in the OECD (OECD 2021). This is a potential problem if raising labour force participation rates is the objective.

The combination of caring patterns results in demands on people that initially decline as children grow up but that do not disappear altogether. Indeed, a third of women working full-time and over 40% of women working part-time over age 50 continue to need to care for others. Caring for adults increases with age, and peaks by age 60. For example, about a quarter of women in their 50s who are working part-time care for adults, and a third of this group are simultaneously caring for children and adults. Men also have caring responsibilities. Their likelihood of caring responsibility is lower than women but, as with women, caring for adults increases with age. So, it's not surprising that substantially more older men than younger men say that their employer does not offer adequate "leave for elder care or grandparenting" (Box 18, Figure 27A).

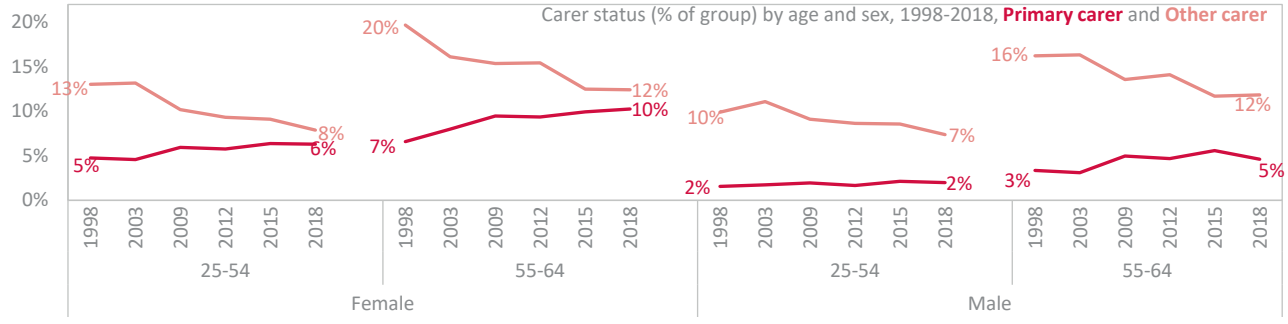
CARING RESPONSIBILITY OVERALL

15 Declines in childcare responsibility with age are partly offset with increasing need to care for older adults

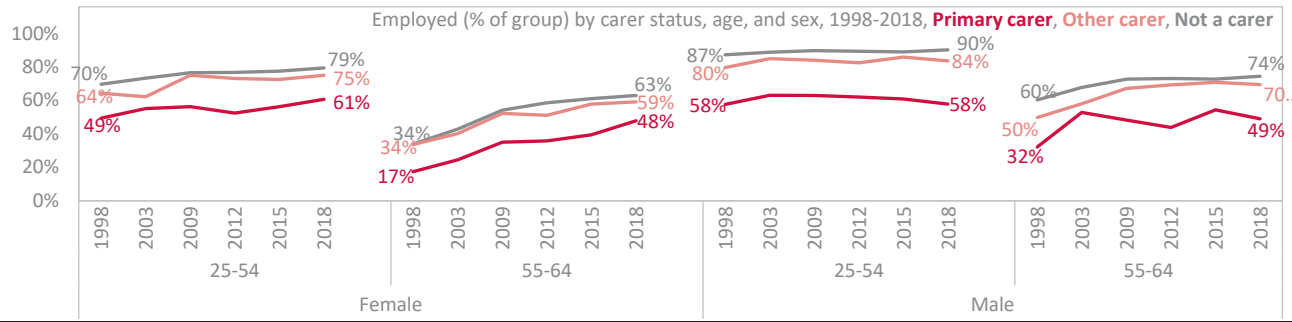


CARING RESPONSIBILITY FOR PEOPLE WITH DISABILITY OVER TIME

16A While overall shares of people caring for persons with disability declined, more are acting as primary carers



16B Employment rates of older carers has increased alongside non-carers but large gaps remain



Source for Fig 15: Authors' analysis of ABS Census 2016. Source for Fig 16: Authors' analysis of ABS Survey of Disability and Carers microdata (various).

Caring responsibilities are changing over time: Fewer people are doing more

There is a concern that caring responsibility will increase in future because population ageing will result in greater shares of people whose lives are longer but who experience chronic illness and disability.

So, what have been the trends? These are summarised in Figures 16A-B, with a distinction drawn between primary and other carers. A primary carer provides the most informal assistance, in terms of help or supervision, to a person with a disability related to core activities (e.g., mobility, self-care, or communication). Other carers assist with one or more of the core activities but are not identified as the person that provides the most informal care.

Again, older people, particularly women, perform more caring tasks for adults with a disability. The *Baby Boomer* cohort has also affected the profile of carers. In 1998 those aged 45-54 made up the largest share of primary carers (a quarter of the total). By 2018, primary carers were most likely to be 55-64 (24%; Authors' analysis of ABS data).

A key trend is that there is a greater level of specialisation in care. While the incidence of responsibility as a non-primary carer has declined across age groups, the incidence of being a primary carer has increased. The decline in other carers is greater, which means that fewer people overall are caring for adults, but those that are, are doing so more intensively. Such pattern also reflects changes in care complexity observed in the residential aged care sector – an increasing share of those receiving care need high levels of care.

Carers typically report worse health and employment outcomes (see Box 10). But the long-term trends in employment appear to tell a positive story. The proportion of primary and other carers has risen alongside the non-caring population. Indeed, among older carers employment rates have increased faster: Between 1998 and 2018, older women and older men reported a 31pp and 17pp increase in employment, and non-carer employment rates increased by 29pp and 14pp, respectively. Still, the employment gap between carers and non-carers is wide.

The overall message is clear: care responsibilities are an important part of many Australians' lives. Some have seen responsibility decline, but for some the intensity of care has increased. Such responsibilities need to be accommodated and supported if carers are to remain engaged in other activities, including work.

Box 10 CEPAR research spotlight Care responsibility and flexible work

Since mid-life, *Baby Boomers* have been providing the bulk of primary care responsibilities in Australia. Many have done this while juggling the work responsibilities. To study their experience, CEPAR's Kate O'Loughlin, Vanessa Loh, and the late Hal Kendig (2017c) explored the nexus between paid work and caregiving in a sample of about 1,300 men and women in New South Wales aged 60 to 64. The team found that around a third of the sample and about half of women were involved in some type of caregiving at the time, including for grandchildren. Consistently with other research, they found that, compared to non-carers, carers reported lower workforce participation. But in addition, they found carers to have poorer health, more mobility difficulties, lower self-rated socio-economic status, and lower quality of life. Such findings are echoed in other CEPAR research. For example, Associate Professor Jeromey Temple was involved in studies that found carers for older adults had unmet support needs and worse healthcare access (Temple et al. 2021a, 2021b).

The most significant recent policy to help older workers aged 55+ is the establishment of a new *right to request* flexible working arrangements. But how has this right played out in practice? CEPAR Chief Investigator Marian Baird, with a colleague, sought to understand the nature of such requests, the process followed, the arrangements that resulted, and the implications for the work of both employees and managers (Cooper and Baird 2015).

Based on 66 in-depth interviews across two large Australian companies the findings suggest that the typical request was from mothers returning from maternity leave. Their requests often involved an attempt to move to part-time hours. But the authors found a considerable knowledge deficit among the employees making requests and a high level of informality in the processing. As a result, managers were critical in setting both the procedure and the outcomes of requests. Managers' personal experience and levels of commitment to flexible working affected the process, but their response was constrained by, among other things, conflicting organisational policies. The authors show a significant implementation gap between policy and practice.

Box 11 CEPAR research spotlight Flexible work over the lifecycle

Work needs and preferences change over the lifecycle, which has implications for people's careers and the organisations that employ them. For example, the idea that people without children lead uninterrupted careers is not consistent with reality. CEPAR Associate Professor Myra Hamilton, with other colleagues, studied the nature of such broken careers among women without children (Hamilton et al. 2020). The team found that around two thirds of the participants reported involuntary interruptions in their careers. Many single women without children over the age of 45 take on more care responsibilities for ageing or disabled family members. So, increased earning capacity of not having children did not translate into better financial security in later lives. In fact, being single meant that they could not share financial risks, which increased the likelihood of financial hardships. For some, secure accommodation was a worry, with no adult children to rely on for financial support.

CEPAR Chief Investigator Professor Marian Baird, with co-authors, investigated the types of policies and practices that can support such workers, allowing them to create flexible careers (Tomlinson et al. 2018). They start from the premise that in contemporary careers, employees place more emphasis on independence, self-fulfilment, and advancement than on a single trajectory. So, organisation policies and cultures play an important role in whether employees can access the flexibility they require.

For example, the authors note that phased retirement and flexible late-stage careers can allow older workers to remain in the workforce longer, especially since retirement systems allow them to access part of their retirement benefits. Working time and leave regulations are also standardised even though worker needs differ across life stages. Welfare support for parents and carers, especially the elder care that many older workers are involved in, allows workers to continue their careers more sustainably at different life stages, without forced or excessive interruptions. Overall, the authors argue that one size does not fit all and that a customised approach is best.

6. Education and training: Older workers are more educated but lifelong learning still needs to be normalised

Education and training affect the employability of older workers. Its lack can therefore act as a barrier to greater labour force participation at older ages.

Education trends over time underline the message that older workers of today are very different to older workers in the past. As shown in Figures 17A-B, each cohort is increasingly more educated, particularly women. For example, ten years ago, about a fifth of people aged 55-64 were educated to a bachelor level or above. By 2020, this increased to a quarter, and in ten years it is expected to be a third. The impact of a higher educated workforce can be expected to result in improvements in productivity and management practice (DESE 2019).

But as demographic shifts push out the length of careers, and skill requirements change with economic restructuring, lifelong learning will become increasingly important (Dymock et al. 2012). So far, formal adult learning, reskilling, and training to cope with new technologies are nascent, and where they exist are often fragmented, under-resourced, and rarely directed at those most in need of reskilling. Mismatches between workforce skills and industry demand is likely to be felt more acutely by low-skill older people, who are then more inclined to retire (Murtough and Waite 2000, Gong and He 2019, McNair et al. 2007, Lundberg and Marshallsay 2007).

Australia does worse than the average OECD country in offering training opportunities for older people (Section 8; though it does better on some adult learning comparisons, e.g., Martin 2018; Desjardins 2020). Policy thinking in the field of lifelong learning is probably most advanced in Nordic countries. Korea and Singapore also offer examples; both have linked economic forecasting, prioritising and planning with workforce programs such as vocational and technical education (Jagannathan and Geronimo 2013).

But the demand for training among older Australians has been largely unmet. Studies show that over one-third of current or recent workers aged 45-74 reported wanting to attend training but were unable to, with higher rates among women and those aged 45-54 (Adair et al. 2016, Adair and Lourey 2014). Commonly cited reasons included not being able to fit the training with work commitments, affordability, and employer reluctance. But discrimination in the workplace may also affect differential access to training by older workers (Billett and van Woerkom 2008; see Box 12).

While learning can take place informally (e.g., learning by doing), structured or *organised* learning is more amenable to intervention. Organised learning can in turn be *formal*, when it results in a qualification, or *non-formal*, which can in turn be *work-related* or for *personal interest*.

ABS data suggests that overall younger people are more likely to participate in organised training. In 2017, about half (46%) of younger workers had done so over the previous 12 months, compared to a third of older workers. The difference is partly because younger people are still studying to obtain formal qualifications. But the age gap is also apparent when it comes to non-formal, work-related training: about 32% of younger workers participated in work-related training, compared to 28% of older workers.

A further breakdown of rates of training are presented here by age, sex, industry, occupation, and over time (Figures 17C-E). They show that while formal learning (the type that earns a qualification) declines sharply with age, work-related training takes over to some degree.

However, the age profile of work-related training peaks in mid-career declines at older ages. This is the case across most industries (except perhaps within the mining industry; also, in the utilities industry the declines appear to be dramatic over the full lifecycle). Looking at occupations, the decline in work-related training after prime- age is more likely in office-based occupations (among clerical & administration workers and professionals) than in typically non-desk-based jobs (trades and community & personal service workers). The data also suggests that women are more likely to undertake training than men. Alarmingly, the rates of training appear to have declined over the four years to 2017.

Government allocates some funding to support programs for mid-career assessments and career transition assistance. It has also initiated a new careers institute, is looking to better engage with industry via the vocational education and training programs, and is negotiating a national skills agreement. But some flagship government incentive programs explicitly exclude older workers. The *JobTrainer* program, which offers low-fee and free training places in areas of identified skills need, including in aged care qualifications and digital skills, is limited to people under the age of 25.

Box 12 CEPAR research spotlight Unequal access to training

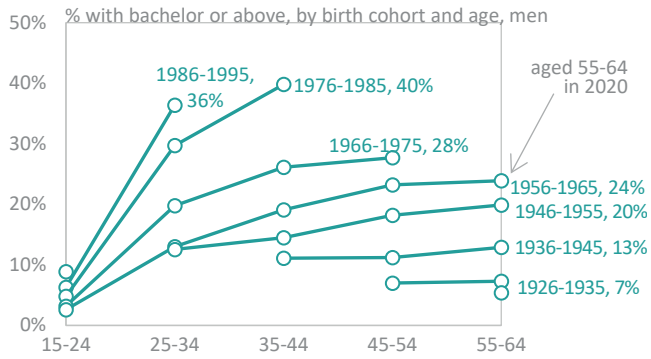
Continued access to training and development opportunities across the lifespan is fundamental to a productive workforce, but access to training differs by age. In their 2019 study (see Boxes 18-20), CEPAR Chief Investigators Sharon Parker and Marian Baird evaluated the differential distribution of training opportunities across age, gender, and industry.

Survey results revealed that older workers were disadvantaged in terms of access to training. Almost 40% of respondents aged 55-64 reported that their organisation offered little or no skill training regardless of age. This stands in contrast to the 23% of workers aged 18-44. Interestingly, whereas males and females aged 55 to 64 years tended to hold similarly negative views about their access to training, there were clear differences between males and females aged 65 and over. Males in this age group tended to feel particularly negative about their access to training, with 47% reporting little or no opportunity, compared to 20% of females.

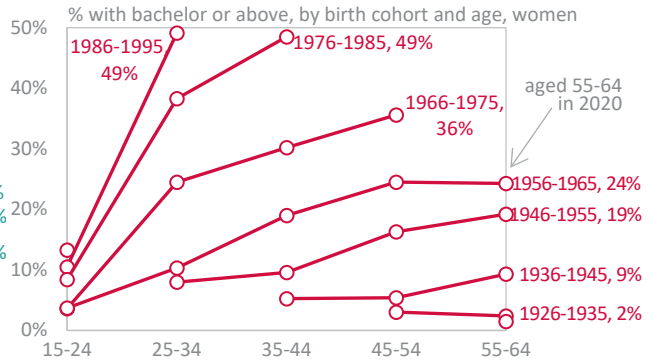
The research also showed considerable variation across industries. Respondents in the information media and telecommunication industry had the most positive perceptions about their access to learning opportunities, whereas those in the mining industry had the least positive perceptions (in contrast to results in Figure 17C).

EDUCATION AND TRAINING

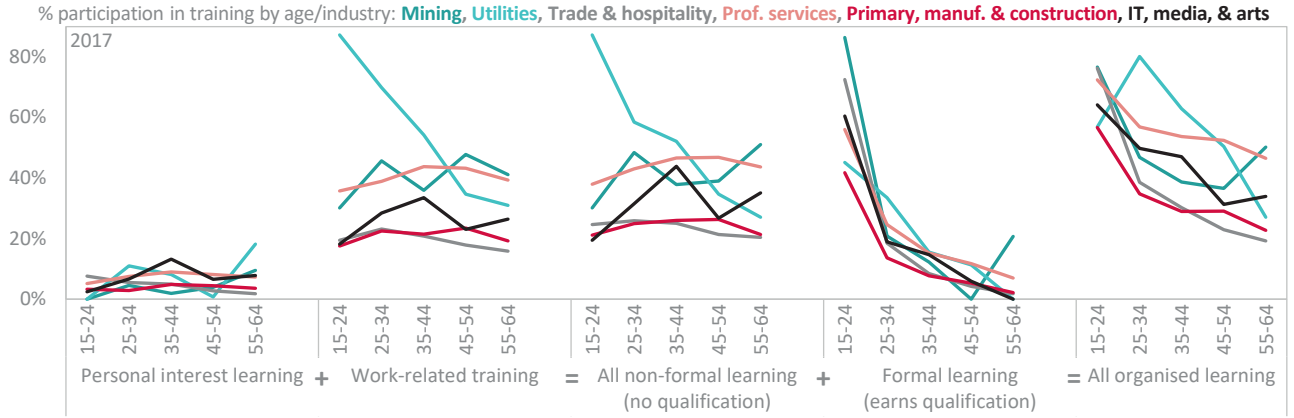
17A Older workers are increasingly more educated …



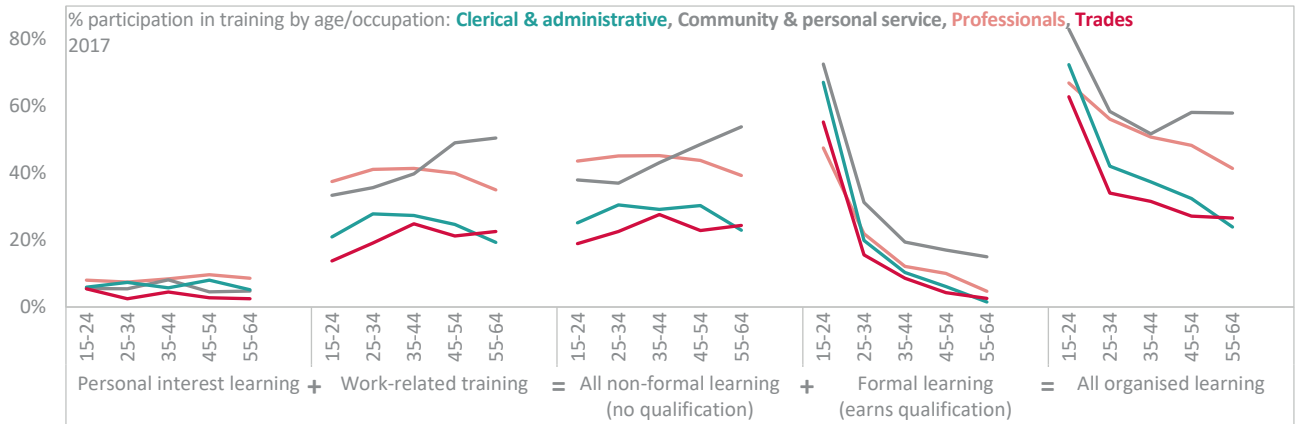
17B …this is particularly so for new cohorts of women



17C While formal learning declines sharply with age, work-related training takes over, but is still down at older ages



17D Decline in on-the-job training after prime-age is more likely in office-based occupations



17E Women receive more on-the-job training. Recent declines in training are concerning

Source: Authors' analysis of ABS data. Note: Training based on participation over preceding 12 months. Statistical significance of differences in training was not tested.

7. The social context: Are ageist attitudes changing?

Negative social attitudes and age discrimination can limit the potential of older people. This can happen both in terms of the structures and institutions within which older people live and work but also via self-limiting behaviour in assimilating negative stereotypes of ageing and socially constructed expectations about work and ability (Butler 1969, Levy 2009, O'Loughlin and Kendig 2017). Indeed, retirement itself is a social construct (Edmondson 2013).

Ageism is of particular concern in a workplace setting and has been the target of discrimination legislation, but some argue that this policy tool is insufficient to tackle the problems (AHRC 2016; see Box 13 on ageism and stereotyping at work; Box 10 on discrimination based on disability; and Box 21 on legal protections of workers).

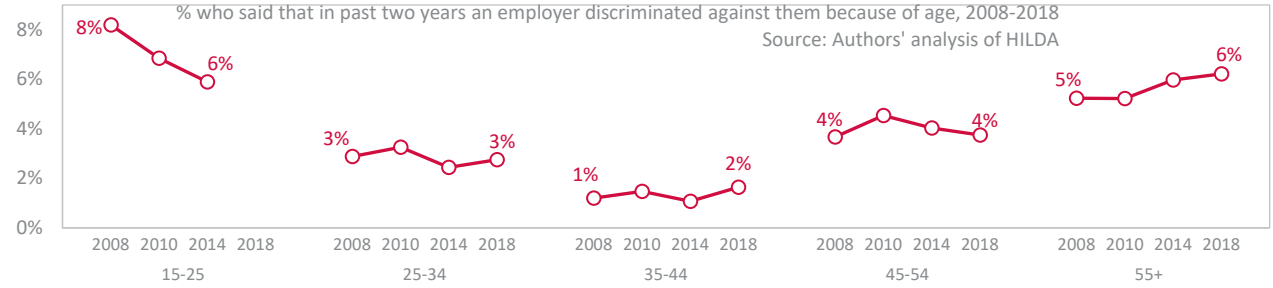
Like the health, education, and employment status of older people, social attitudes, and the age of *old age* can be expected to change too (Thane 2005). So, have they? Little is known about how such attitudes evolve and why. What limited population level datasets exist are seldom comparable over time, and those that are, have no obvious trend.

The Australian Human Rights Commission (AHRC) reported in 2013 that over a third of Australians aged 55+ experienced discrimination because of their age (AHRC 2013). In 2015 it was reported that more than a quarter of Australians aged 50 years and over had experienced age discrimination in the workplace during preceding two years. The HILDA survey asked a similar question, but multiple times. Although rates appear lower, trend results suggest a worsening in ageism for older workers (Figure 18A). The AHRC's reporting of complaints (under anti-discrimination legislation) suggests that age discrimination complaints are showing no sign of decline. These are usually about goods and services supplied, but about a third relate to employment. The *Australian Survey of Social Attitudes* asked ageism related questions in 2015-16 (some results are reproduced in Box 13), but so far there has not been a follow up module.

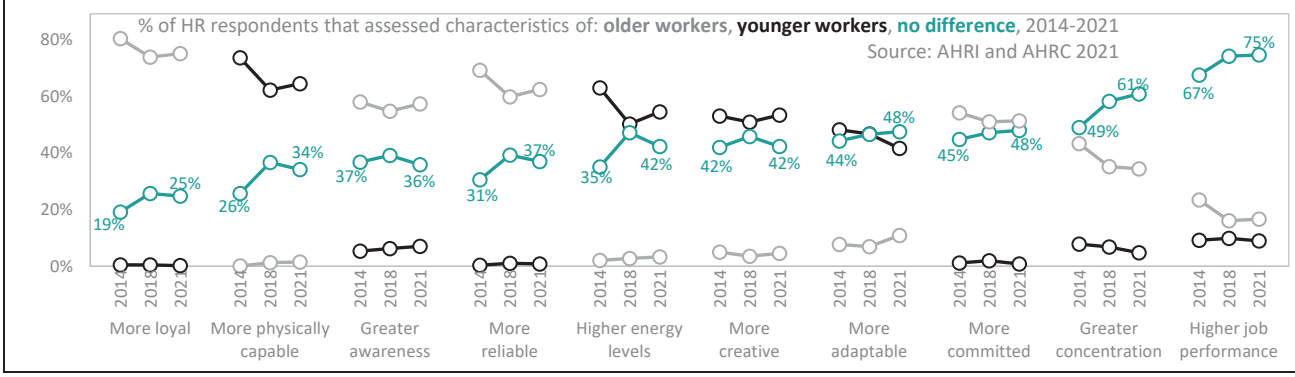
Assessments of HR professionals over time appear to show some positive change but also some regression (AHRI and AHRC 2021). For example, the perception of what constitutes an 'older' worker has shifted to a younger age (though the most common answer is still around 61-65). The positive trends show only small changes. For example, they include findings that fewer organisations say they '*definitely/probably' have an age above which they are reluctant to recruit* (from 52% in 2014 to 30% in 2018 and 27% in 2021). And as shown in Figure 18B, between 2014 and 2021, the proportions saying that there are no differences between age groups with respect to different characteristics is slightly increasing.

In its series on Barriers and Incentives to Labour Force Participation, the ABS (various years) reports that over eight years '*considered too old*' has declined very slightly as a reason for not being able to find a job (from 9% in 2011 to 8% in 2019, for all ages – a statistically significant change). Progress, if any, is slow.

18A Some datasets show lower rates of workplace age discrimination, but trends worsening for older workers



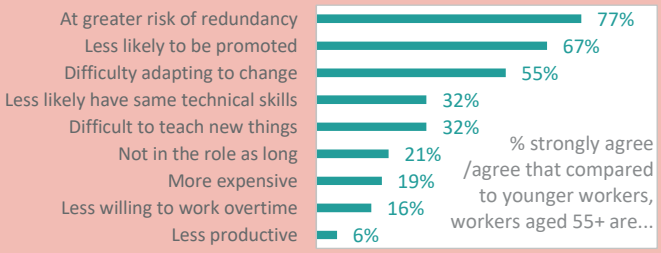
18B Stereotypes abound, but over longer term, increasing shares of people say there's no difference between ages



Box 13 CEPAR research spotlight Ageism and stereotyping at work

The age friendliness of the labour market is affected by the presence of age discrimination. A team of researchers led by CEPAR Associate Investigator Kate O'Loughlin assessed rates of ageism in the community and workplace (O'Loughlin et al. 2017b). The authors found that almost half of participants indicated that ageism is common in Australia and that in the workplace, older workers were more likely to be made redundant and less likely to be promoted.

19 Harsher treatment of older workers



Age discrimination can take many forms. One is stereotyping of older people. To the extent that a potential worker's age activates negative performance stereotypes, the opportunities afforded to that worker may be reduced. Indeed, as noted by Associate Investigator Donald Truxillo, stereotypes generally have the greatest influence on individual beliefs when the individual does not have first-hand experience with the target of the stereotype, which is typical in the recruitment, selection, and socialization processes domains where the bulk of age stereotype research has focused.

Associate Investigator *Gigi*Petery, Serena Wee, Associate Investigator Patrick Dunlop, and Chief Investigator Sharon Parker examined how aged-based worker stereotypes correspond with attributes of expected work performance. Age-based stereotypes refer to overgeneralised beliefs and expectations about a worker's qualities and traits based on their age, which can lead to age-based discrimination at work.

In Petery et al. (2020) they report on their study of 220 participants who rated 86 stereotypical descriptors of older workers (e.g., 'resistant to change') and younger workers (e.g., 'savvy with technology). They found that ratings revealed stereotypes that were strongly associated with both a worker age group, and with work performance expectancies (i.e., the anticipated value that an individual worker adds to an organisation). They link this finding to personnel selection, showing that age-based stereotypes may serve as an explanatory mechanism for how job candidates' ages might influence judgments around employment related decisions.

Age stereotypes can have different impacts on mature workers depending on the field they work in. Some jobs and industries can be thought to have a *typical* age, which can influence older workers' experience of bias and discrimination at work. For example, the science, technology, engineering, and mathematics (STEM) industry is often considered a '*young*' industry due to its emphasis on rapid progression, innovation, and continual change. This perception can influence the way in which others interact with older workers and the extent to which they feel welcomed and included.

Leaders can play a role in managing the effects of these stereotypes and perceptions of age bias and discrimination. Research led by CEPAR PhD candidate Lucinda Iles with CEPAR colleagues (in preparation) found that supportive leaders who show care and consideration to their employees can reduce older STEM worker career withdrawal behaviour over time by reducing perceptions of age bias. Follow-up analyses found that supportive leadership was especially important for reducing perceptions of age bias for older workers (compared to younger workers) and reduced turnover intentions as well as career withdrawal.

Finally, the researchers compared the effect of supportive leadership on perceived age bias in STEM and non-STEM environments. The analysis suggested that the effects of supportive leadership were strongest for older workers in STEM (compared to younger workers and non-STEM environments). The research suggests that age bias can vary across different industries, with older workers in science- and technology-based jobs being particularly vulnerable. It also suggests that leaders who interact with their employees with respect and consideration can help manage the experience of age bias and promote the retention of mature workers.

Box 14 CEPAR research spotlight Intergenerational attitudes and relationships

There are few time series available that show changes in how different generations view each other. One CEPAR study conducted by the late Hal Kendig and Associate Investigators O'Loughlin and Rafat Hussain implies that attitudes have been changing over time and that these attitudes are straining intergenerational relationships.

The team found that between 2009-10 and 2015-17, perceptions that *Baby Boomers* had better lifelong opportunities had increased among younger cohorts. They were also more likely to support increasing the pension age (O'Loughlin et al. 2020). This may be fuelled by economic constraints and policy barriers, especially among younger disadvantaged people putting them at odds with the *Baby Boomer* cohort and increasing intergenerational conflict (Kendig 2017, Cannon and Kendig 2018).

With the high levels of social and health expenditures that will come with an ageing population, and a perception of worse future economic prospects for younger workers, the *Intergenerational Reports* argue in favour of restraint in fiscal spending on older populations. Despite this, CEPAR researchers find that overall attitudes in the population are not completely in favour of government arguments for restrained fiscal spending (Kendig et al. 2017, Kendig and Woods 2015).

How well different generations interact can have a bearing on workplace outcomes, especially in multigenerational teams. For example, in a survey of over 2,000 workers across different industries, CEPAR researchers led by Sharon Parker and Marian Baird investigated the quality of intergenerational contact and knowledge sharing practices in the workplace.

Although older employees tended to report better quality intergenerational contact than younger workers, when it came to knowledge sharing, they reported poorer scores, which suggests that they might be excluded from knowledge sharing processes and their intellectual capital might be therefore lost. See Boxes 18-20 on further findings from this research.

PART III: AGE-FRIENDLINESS OF THE LABOUR MARKET: SOME POSTIVE TRENDS, BUT AUSTRALIA IS LAGGING

While the trends shown in Part I and Part II offer mixed signs of hope, benefiting from an ageing workforce requires an age friendly labour market. This is assessed here via (1) comparisons against other countries; (2) job insecurity trends, and (3) involuntary retirement trends. This focuses on labour market outcomes that might result from the underlying trends discussed in previous sections, including those related to discrimination.

8. Comparing against other countries: Room for improvement

International benchmarking is a useful tool to gauge how Australia is doing. For example, do Australians choose to retire earlier or later than people in other countries? Do they find it easier or harder to find work following job loss? And how comparable are rates of pay, conditions of employment, and investments in education?

The Australian labour market's age-friendliness scoreboard is underwhelming

The results of this benchmarking are presented in Figures 20 and 21. Overall, they suggest that Australia tends to score around the OECD country average, lagging leading countries such as Japan and Iceland. On some indicators for older women, Australia scores poorly.

As noted above, Australian men participate in the labour market at a similar rate to the OECD average; women do so at a slightly higher rate (Section 2). This is also evident in the average age of retirement. Australian men typically retire at age 65 and four months, a month earlier than OECD average. Australian women retire age 64 and four months, seven months later than OECD average. We know from CEPAR research that those that stay on, particularly older women, are satisfied with their work (Boxes 18-20).

Favourable economic conditions in Australia have generally meant that old-age employment rates have been above the OECD average and unemployment has been relatively low (based on pre-pandemic data). And even though duration of unemployment among older Australians is high (35% have been looking for over 12 months), it is below the OECD average (38%). The gender gap in unemployment duration is only slightly above average.

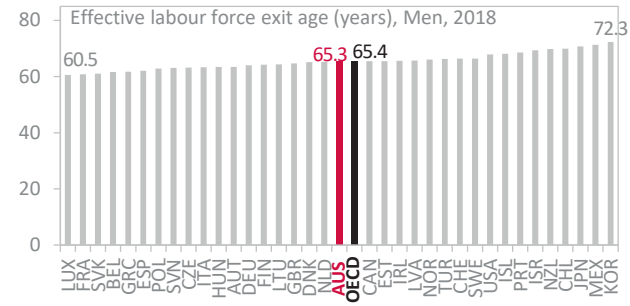
Australia is also typical in terms of earning ratios of older compared to prime-age workers. Results are less positive on gender pay gaps at older ages. Full-time women aged 55-59 were on average paid 27% less than full-time men, among the highest in the OECD and nearly double the OECD average (15%). The data for this indicator is from around 2014, and the Australian gender pay gap has since declined, but recent data shows that the gap increases with age: it is 13% for all women and 18% for age groups 55+ (WGEA 2020). Declines in Australian gender pay gaps may reflect a moderation in men's wages after the mining boom rather than women's wages levelling up.

More involuntary part-time work and less training for older Australia than seen elsewhere

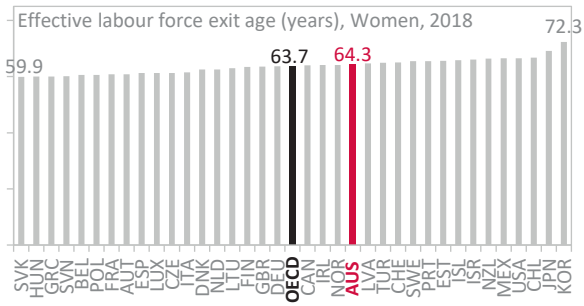
Further indicators of work conditions are presented in figures 21A-F. Older Australians are more likely to work part-time than the OECD average (21A). About a third worked part-time, compared to about a fifth across the OECD. This may indicate greater choice and flexibility in Australia, but many want more hours (18%, versus 16% for the OECD).

Rates of mature-age self-employment and temporary work tend to be lower than the OECD average, which may indicate lower rates of entrepreneurialism but more secure employment contracts. Relatedly, older Australians tend to stay in their jobs for longer than the OECD average. Over half of them were in the same workplace over five years (it was less than half for the OECD). And while older Australians (and their employers) benefit from a superior level of education and health relative to the rest of the OECD, they compare poorly on further investment in their *human capital*. Only about 32% of Australians aged 55-64 participated in training compared to 41% across the OECD. In fact, the disparity in training rates between young and old is greater in Australia than in the average OECD country (see Box 12 on unequal access to training).

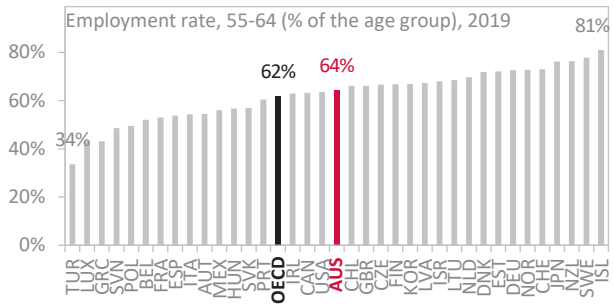
20A Australian men retire at similar age to OECD average



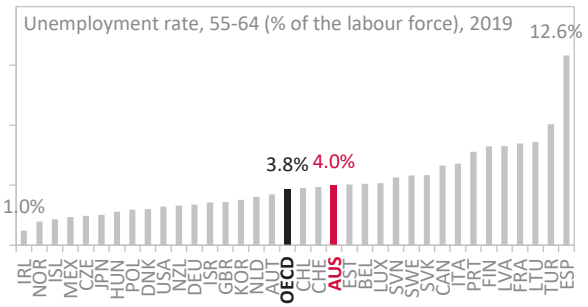
20B Women retire later than the average, but below leaders



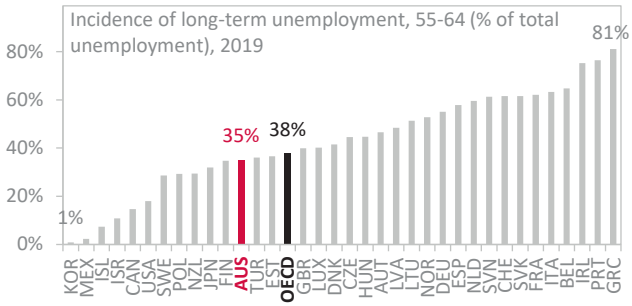
20C Old-age employment is also above avg but lags leaders



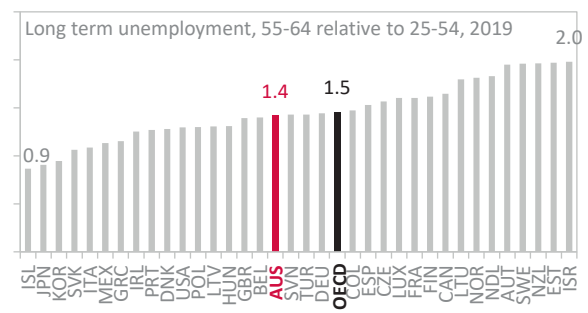
20D Pre-pandemic old-age unemployment was quite low



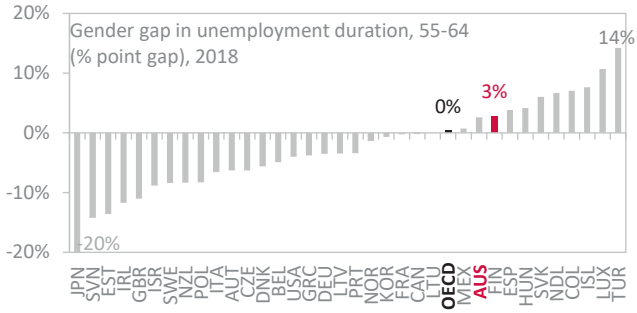
20E High unemp. duration among older is still below OECD avg.



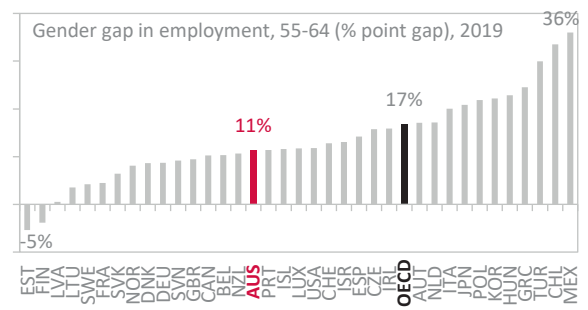
20F Age-based unemp. duration disparity not unusual



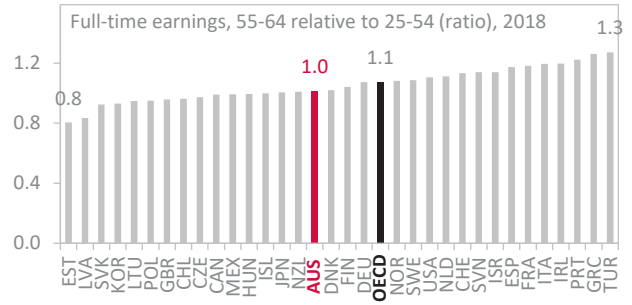
20G And while older women's unemp. duration is above avg.



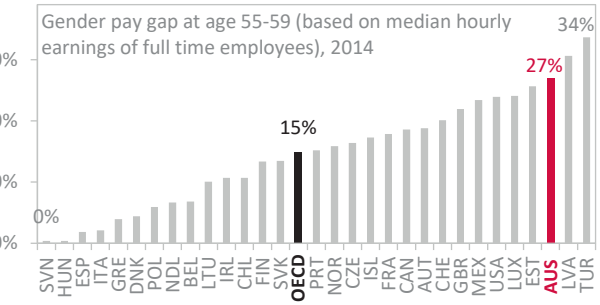
20F ...the gender gap in old-age employment is much lower



20G Earnings differences between prime and old age are typical



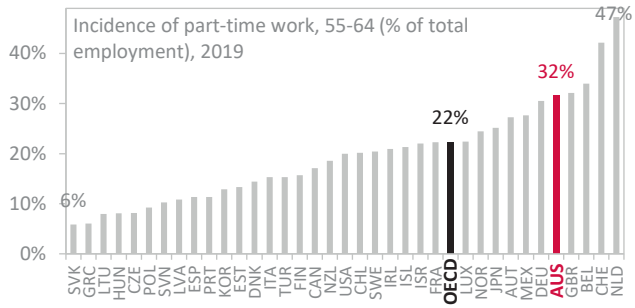
20F but older women face one of the largest pay gaps



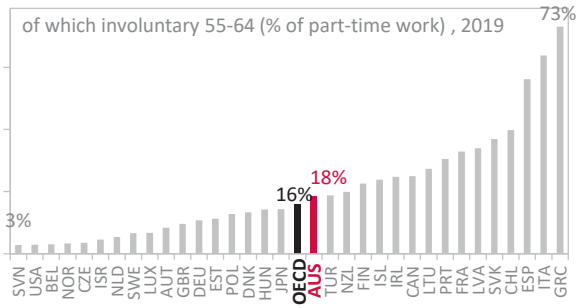
Source: Authors' analysis of OECD and ABS data.

OLDER PEOPLE'S LABOUR MARKET INDICATORS ACROSS THE OECD

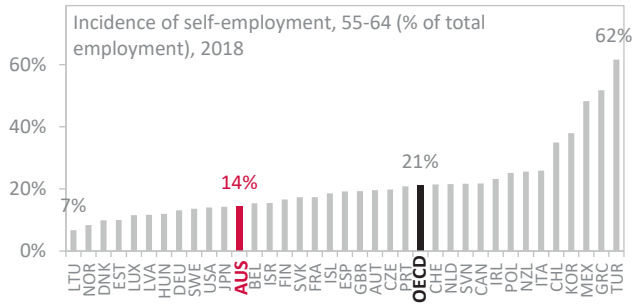
21A **Older Australians more likely to work p/t than OECD avg.**



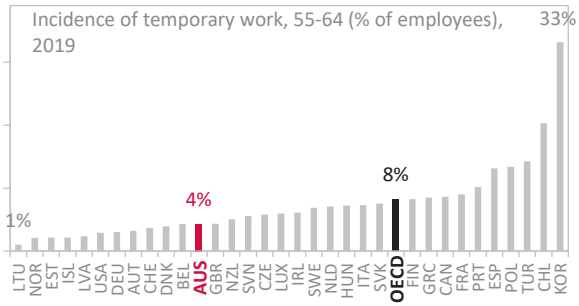
21B **…, which is slightly more likely to be involuntary**



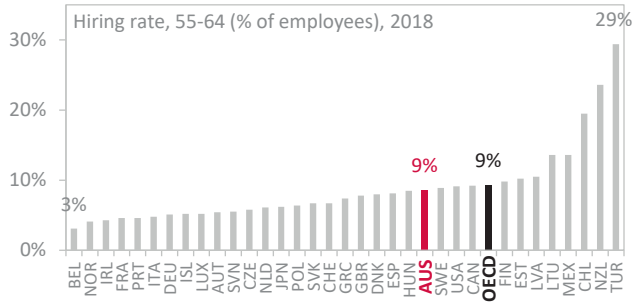
21C **Their rate of self-employment is lower than OECD avg.**



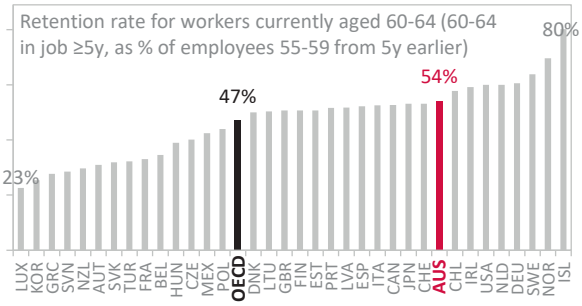
21D **… and they're less likely to be in temporary work**



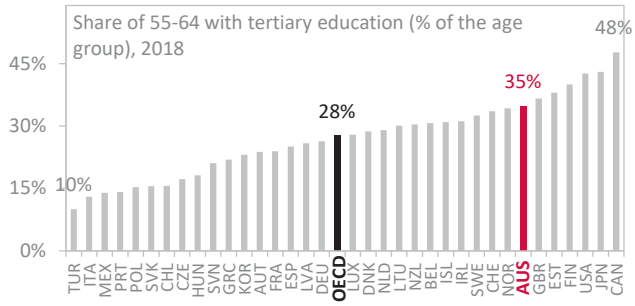
21E **So, while hiring rate of older Australians is typical,…**



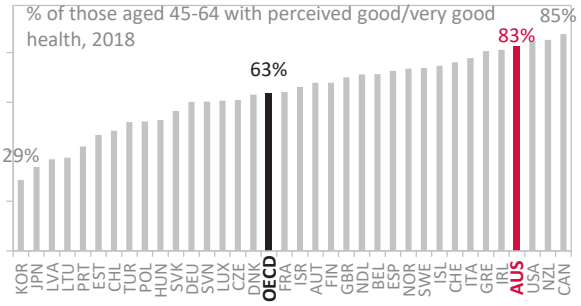
21F **… they tend to stay in their jobs longer than OECD avg.**



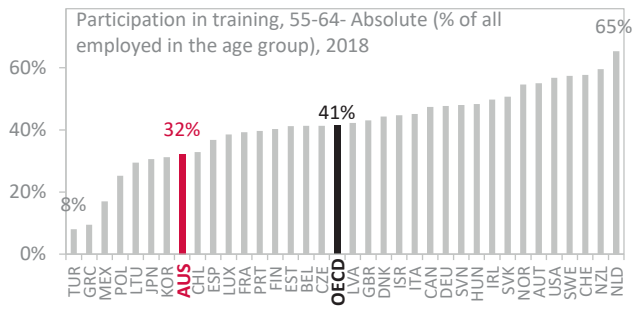
21G **Older Australians have relatively high education levels**



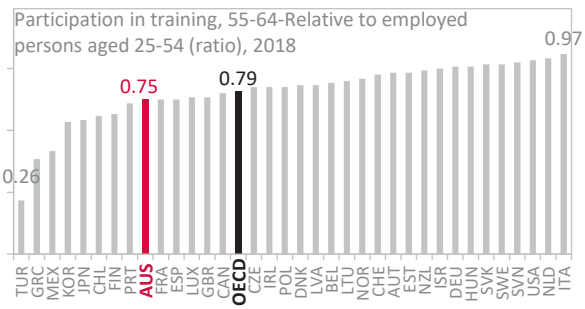
21H **…and some of the best health outcomes in OECD**



21I **But further investment in their education is low**



21J **…in fact, they face greater age disparity then elsewhere**



Source: Authors' analysis of OECD data

9. Comparing insecure work patterns over time: Not all bad

Concerns about rising job insecurity are common. Such concerns are also cyclical, coinciding with economic downturns (Foster and Guttmann 2018). When we talk about insecure work, this usually refers to jobs held by *non-standard* workers, including those who work part-time (particularly those doing so involuntarily), are self-employed, or are hired on short, fixed-term, or casual contracts.

Non-standard workers are disproportionately affected by adverse economic shocks as observed in Australia and elsewhere during the recent and other recessions (OECD 2019b, 2020b, Biddle and Gray 2020). For example, they have greater risk of losing employment, shifts, and earnings (OECD 1990, Campbell and Burgess 2018). Older people with insecure work are also more likely to retire (Gong and He 2019) and suffer health decline (Cheng and Chan 2008).

Women and older people more likely to have insecure work, but insecurity declining on some measures

Here, insecure employment patterns of older workers are compared against prime-age workers and over time. The results are presented in Figure 22, showing data for the last 30 years, where available. In sum, the findings suggest that (1) older women are more likely to be engaged in insecure work; (2) part-time and casual work remains a feature of the Australian labour market; but (3) increases in the incidence of insecure work may be overstated (see also Wilkins and Wooden 2014). The trends do not suggest that more can't be done to address existing levels of job insecurity.

Results echo those in international comparisons above (though definitions and years of comparison may differ). For example, older workers are more likely to be working part time and a high proportion do so involuntarily (22A). Older women and older men are about 8pp and 6pp more likely to be working part time than their younger counterparts. Indeed, the more labour supply from women and older workers has driven the overall share of part-time work, which rose from 10% in 1967 to over 30% in 2021 (Cassidy and Parsons 2017; Authors' analysis of ABS data).

Unlike for other groups, a good proportion of the rise in part-time work among younger men since 1991 appears to be based on choice (22B). That is, the share of young men working part time increased as the proportion doing so involuntarily declined. By contrast, prime-age women, older women, and older men experienced a rise in the incidence of involuntary part-time work, of about 5-6pp between 1991 and 2019.

While incidence of temporary work increased sharply in the pre-GFC period, it has trended downward since (22F). Such contracts are also unusual, making up about between 4% and 6% of employment. Women are about 1pp more likely to have temporary contracts than men.

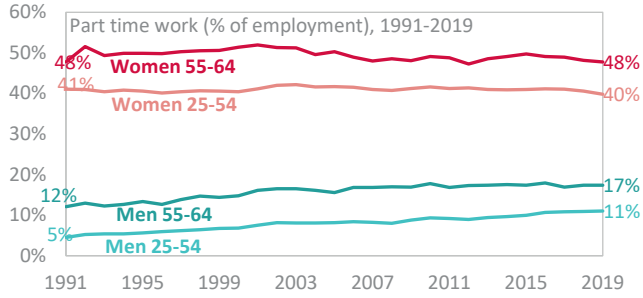
Casual employment is more common. About a fifth of employees have casual work, defined as those with no leave entitlement (22F). While the total rate is steady across the economy, there is a convergence between the sexes and between the young and old. For example, about a third of older women in 1991 had casual contracts, but by 2021 declined to one fifth, broadly in line with the overall rate.

There has also been a decline in shares of people who are self-employed in recent years (likely because of older people remaining in paid employment longer; 22G). Older men are most likely to be self-employed, with a rate of 19% in 2018, down from 21% in 2012.

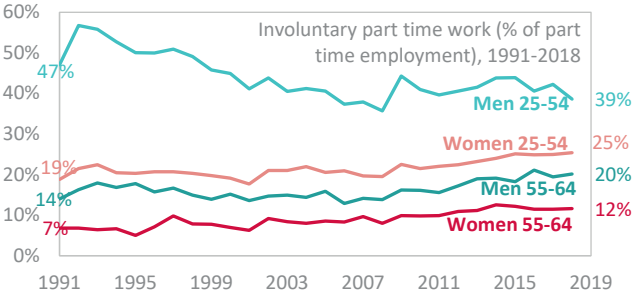
Changes in temporary, casual, and self-employed work have been offset slightly by an increase in people working multiple jobs (22H). But the increase has been small. For example, 6.7% of older women in the labour force reported multiple jobs in 1995, which increased to 8.1% in 2018.

INSECURE WORK TRENDS

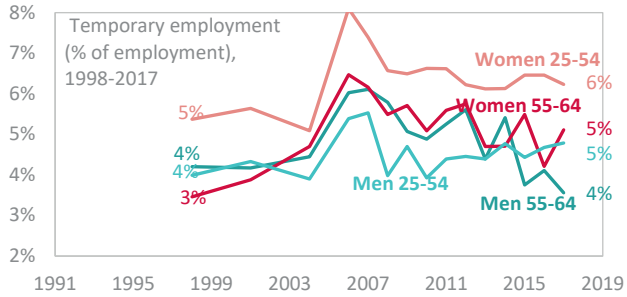
22A Part time work is high for women, increasing for men



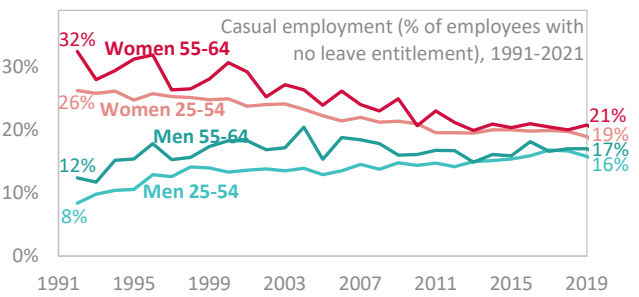
22B For women and older men, it is increasingly involuntary



22E Temp. contracts are uncommon and recently declining

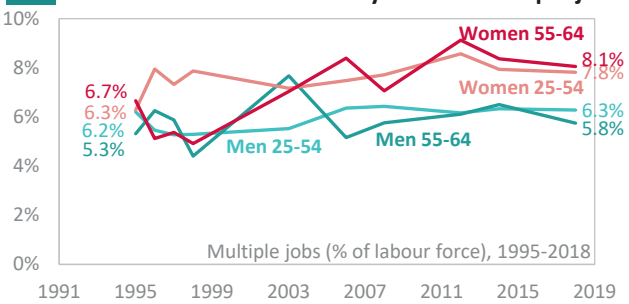


22F Casual employment also declining but still high



22G Older men are most likely to be self-employed

22H Older women are most likely to have multiple jobs



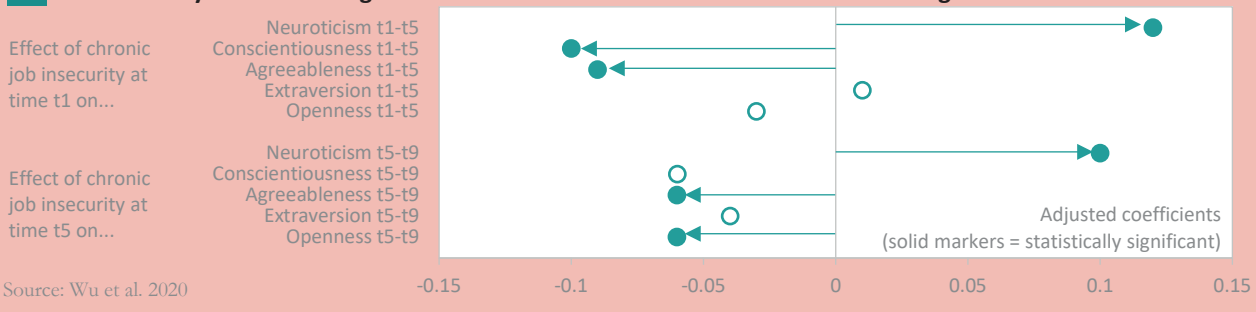
Source: Authors' analysis of OECD and ABS data

Box 15 CEPAR research spotlight The impact of insecure work

CEPAR's Sharon Parker, with colleagues, studied the links between job insecurity and personality change (Wu et al. 2020). The research is based on the idea that experiences influence five key personality traits (*neuroticism, conscientiousness, agreeableness, extraversion,* and *openness*). These in turn manifest in behaviours that affect how the person feels and performs at work. For example, neuroticism reflects a tendency to experience anxiety and have a defensive response to uncertainty or threat, while agreeableness reflects being able to maintain stable relationships.

Tracking Australian workers over time (and testing for *reverse-causality*), the authors find that chronic job insecurity leads to an increase in neuroticism and a decrease in conscientiousness and agreeableness (Figure 23). They suggest that organisations could mitigate these by reconsidering contractual arrangements and offering greater support.

23 Job insecurity can lead to higher neuroticism and lower conscientiousness and agreeableness



Source: Wu et al. 2020

10. Comparing involuntary retirement over time: Declining

Most people retire voluntarily at older ages. But for some, retirement is not a choice. In 2019, about 36% of men and 28% of women aged 55 to 64 were forced out of work because of health, caring, and labour market reasons.

The broad trends are positive (Figure 24). Involuntary retirement due to own ill health has been steadily declining. Indeed, for younger men and women (aged below 55), health as a reason for retirement declined from 58% in 2007 to about 25% by 2019 for men and 28% to 13% for women. The trend could be due to younger cohorts experiencing better health outcomes and/or their ill health posing fewer work challenges (e.g., declining disability discrimination, more adaptable employers and workplaces, a structural change in tasks and occupations).

The health of family members or friends also matters. For example, women are more likely to retire because of caring responsibilities than men. The proportions are low but have increased slightly for older women aged 65+: about 3% retired for caring reasons in 2007, which increased to 5% by 2019.

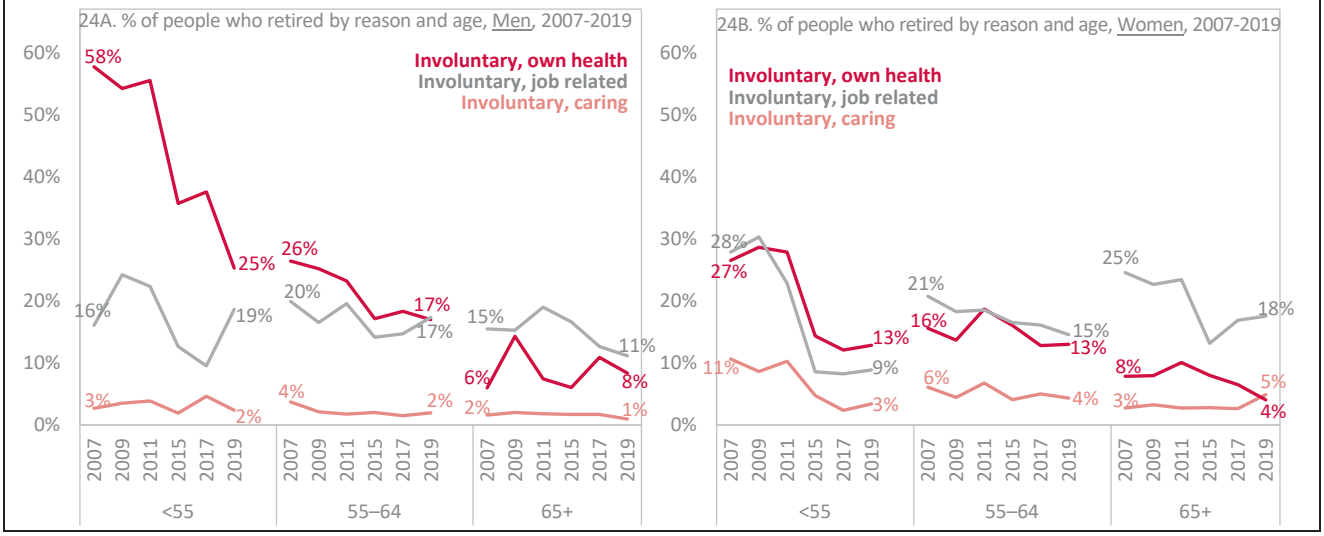
Involuntary retirement due to job-related issues – such as retrenchment or going out of business – has also declined. Younger women, aged below 55 years, saw their experience in the labour market improve the most. The proportion that retired because of job-related factors declined from 28% in 2007 to just 9% by 2019. But women aged 65+ also saw declines, from 25% to 18%. Men aged 55 years and above saw a small 3-4 percentage point decline. There is a concern that labour market effects of the COVID-19 recession may reverse some of these trends, causing an increase in job-related involuntary retirement among older Australians (see Section 3).

Similar insights were drawn by Treasury (2020) using the same survey data presented here but over a longer period. They found that involuntary retirement for all ages declined from 46% in 1984-2005 to 37% in 2013-2019. Treasury analysis of HILDA also found declines in involuntary retirement, from 59% in 2001-2003 to 42% in 2012-2015.

Overall, while the prevalence of involuntary retirement has been declining, with the largest declines at younger ages, it remains high. The recent recession may push some out of the labour force and others to work longer to offset financial losses.

INVOLUNTARY RETIREMENT TRENDS

24 Despite declining rates over the last decade, involuntary retirement remains high among older Australians



Source: Author's analysis of ABS 6238.0 Retirement and Retirement Intentions, Australia, 2006-2019.

Note: '*Involuntary, caring*' includes 'retiring to care for ill/disabled/elderly person'; '*Involuntary, own health*' includes retiring due to 'own sickness, injury or disability'; '*Involuntary, job related*' includes 'retrenched/dismissed/no work available', 'temporary/seasonal/holiday job', 'own business closed down or sold' and 'unsatisfactory work arrangements/wanted to work part–time'; '*Voluntary*' includes 'reached retirement age/eligible for superannuation/pension' and 'to have holiday/pursue leisure activities'. The category 'to care for children/pregnancy' has not been included in caring responsibilities to maintain consistency as that data was not available for all years.

Box 16 CEPAR research spotlight Involuntary retirement

Though health as a reason for involuntary retirement has declined markedly, it still is the most cited factor.

CEPAR Associate Investigator Julie Byles, in a study with other colleagues, with data from over 20,000 older Australians, confirmed an association between retirement and physical dysfunction among men and women. Retirement was associated with a 5-14% increase in difficulties with mobility and daily activities (Byles et al. 2016).

But to what extent could challenges to continue working be related to *mental* health? CEPAR Deputy Director Kaarin Anstey and colleagues (2006) found that early retirement was highly associated with mental health conditions. Amongst younger men, retirees were significantly more likely to have a common mental disorder relative to men still in the labour force. This was not the case for retired men of, or nearing, the traditional retirement age of 65 (as also reflected by data on general health presented previously in Figure 14). The findings highlight the need to consider mental health and related factors, when encouraging continued employment amongst older adults.

CEPAR researchers also studied involuntary retirement due to economic reasons. Associate Investigators Fedor Iskhakov and Erik Hernaes (2006) explored whether individuals eligible to retire early are pushed out of work or retire voluntarily. Using Norwegian data, they found that the *push* factors are important determinants of retirement, especially for women, and especially in years when pension eligibility age was reduced in Norway. Such research underscores the value of targeting employers and the labour demand side of the economic equation.

CEPAR Research Fellow Cathy Gong explored both health and economic factors. In Gong and He (2019), she reported that work conditions, such as fixed term and casual contracts, were associated with forced exits (Fig. 25).

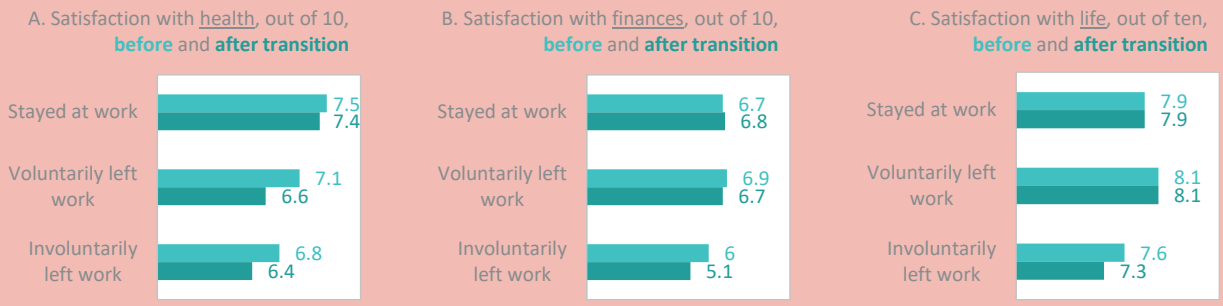
25 Job conditions, including insecure contracts, were key drivers of involuntary exits for older workers

	Voluntary exits		Involuntary exits	
	Increased exits	Decreased exits	Increased exits	Decreased exits
Personal	• Age	• Single • Dependents		
Health	• Long term health condition		• Long term health condition	
Financial	• Higher partner income	• Having a mortgage • Partner working		• Partner working
Employment	• Longer tenure in occupation • History of unemployment		• History of unemployment	
Work conditions	• Part time work • Casual contract • Prefer to work less	• Preference to work more	• Preference to work less • Fixed term contract • Casual contract	• Public sector
Job dissatisfaction	•		• Dissatisfied with job security • Dissatisfied with work	

Note: Based on Household Labour Dynamics in Australia (HILDA) data transitions of workers aged 45-64. Source: Gong and He (2019)

In a related paper, Gong and CEPAR Chief Investigator the late Hal Kendig found that involuntary retirement affects happiness in old age. Those who leave paid work of their own volition do not experience the distress and drop in satisfaction those forced to leave do, even in the presence of increased welfare dependency and declining health (Figure 26). Byles found evidence of something similar. In a study of over 200,000 participants, she found that retirement was linked to psychological distress in both genders between 45 and 64, particularly for those who retired involuntarily (Vo et al. 2015).

26 Overall life satisfaction declines when people leave paid work involuntarily



Note: Based on labour market transitions of those aged 45-64 in HILDA data. Source: Gong and Kendig 2018

PART IV: NOW OVER TO EMPLOYERS AND GOVERNMENT: HOW TO BENEFIT FROM DEMOGRAPHIC CHANGE

As the preceding sections make clear, the next few decades offer an economic opportunity for Australian firms: an increasing resource of older workers who are healthier, more educated, and highly productive. To what extent can the supply of such workers be met with greater demand from employers? And do employers have the strategies to overcome workplace ageism, and effectively recruit, deploy, and retain older workers? Moreover, what can Government do to help?

11. Employer strategies for an older workforce

So far, most employers are underprepared. Globally, executives identify the need to improve age diversity but too few have put in policies and processes to respond (Forbes 2011, OECD 2020a). New data suggests that the same is true in Australia (Box 18-20; AHRI and AHRC 2021).

One reason is awareness or negative attitudes to older workers (Ng and Feldman2012). Few employers realise the productivity potential of an age-diverse workforce. Yet research suggests that firms with 10% more older workers than average have 1.1% greater productivity (OECD 2020a). It could perhaps relate to characteristics commonly ascribed to older people, such as loyalty, experience, resilience, and lower turnover, or it could relate to skill complementarity of an age-diverse workplace (Box 13, CIPD 2014b, Richardson et al. 2014, OECD 2001-2019).

Some employers also don't appreciate that welcoming, age-friendly workplaces are good for both health and productivity (PwC and Beyond Blue 2014). In the absence of age-friendly practices, performance can suffer (Kunze and Bruch 2013).

Another reason could be poor management capability to improve work processes. Here government could play a greater role, pushing for better manager training in its workforce and educational strategy activities, including in running an age-diverse workplace. If provided with clear management policy advice, about two thirds of employers claim they would be likely to explore and implement them (Perron 2020).

An expanding literature is seeking to bring greater clarity about the types of measures that would help maximise the potential of an ageing workforce. One example consists of research developed by CEPAR researchers, described in Box 17. Referred to as the 3I model, it stipulates that to be ready for an older workforce, employers need to *Include* workers over the life cycle, *Individualise* the responses to circumstances, and set up processes that *Integrate* workers of all ages. Here are twelve examples of good practice from literature, reproducing the types of strategies proposed in OECD (2020a) and CEPAR's 3I model by Andrei and Parker (forthcoming).

Recruitment and retention – preventing age discrimination and promoting an age-diverse climate

(1) Workforce strategy and leadership: Employers need workforce strategies that cater to life stages and individual circumstances of employees rather than target specific generations (Costanza and Finkelstein 2015, Smeaton and Parry 2018). Such strategies need to primarily focus on skill needed by the firm, regardless of personal characteristics like age. Leaders could promote age-friendly workplaces via, for example, inclusive vision statements.

(2) Recruitment: There is ample evidence of biased recruitment (Section 7, Ahmed et al. 2012). This may be on top of other intersectional forms of discrimination, which explains difficulties faced by older women (Neumark et al. 2019). Policies targeting each stage of recruitment can help, including job advertisement wording (OECD 2018b), screening software (e.g., removing age identifiers), use of structured interviews, and selection decisions cognisant of explicit and implicit bias (CAB 2018, OECD 2020a, Smeaton and Perry 2018). For example, Petery et al. (2020) offer a series of positive and negative stereotypes associated with age that can be used to develop less age-biased recruitment and selection materials (see Box 13).

(3) Manager training: Ageism can be costly to firms (Meisner 2012, AARP 2020). Passive legislation is helpful but not enough (Box 21, UNECE 2019, OECD 2019c, OECD 2014) and mandatory diversity training is less effective in reducing ageism (OECD 2020c, Kulik et al. 2007, Dobbin and Kalev 2016, Kulik et al. 2000, Bohnet 2016). Instead, firms may need to set up accountability processes and include workshop-based training of managers in leading a diverse workforce and debunking ageist myths (AARP 2016, Dobbin and Kalev 2016, EASHW 2016).

(4) Internal mobility: Structured internal mobility can raise retention rates for all age groups (Keller 2018).

Training and development – promote information exchange and collaboration processes

(5) Training and mentoring: Regular training helps all workers to match their skills to their job (Hartlapp and Schmid 2008, Shacklock et al. 2007, Brooke and Taylor 2005, McGowen et al. 2015) and consequently raise productivity (Huselid and Becker 2011, Kraiger 2003). The training can take many forms, including inductions, coaching, topic-specific training, and feedback and review (Rieger et al. 2018, Bridgeford 2007, Sekerin et al. 2018, Trenner 2013, CIPD 2014a, Flinchbaugh et al. 2016). Entrepreneurial training programs have also been shown to be beneficial for older workers (OECD 2020a). But to be successful, training needs to be embedded in the organisation (Salas et al. 2012).

Mentoring is also a form of training and can also involve reverse mentoring. Group performance evaluations can work well alongside mentoring programs to ensure older workers get credit for mentoring and knowledge sharing efforts (Mercer 2019). It can also foster collaborations and boost complementarity of skills.

(7) Mid-life reviews: Providing support to employees over the lifecycle, including financial and retirement planning and pathways to retirement, career coaching, and personal development plans help align skills and aspirations between employees and organisations (OECD 2020a, Serido et al. 2013, CAB 2018, Eurofound 2016, Beausaert et al. 2011, Beauseart et al. 2014, Evan 2017, Kidd et al. 2003, Borgen et al. 2013, CIPD 2005)

(8) Job rotation and shadowing: Employers can also build resilience and increase knowledge sharing among employees by introducing practices such as job rotations and job shadowing (Čič and Žižek 2017, Flinchbaugh et al. 2018, Azizi et al. 2010, De Spiegelaere et al. 2013, Kalleberg et al. 2006, Eriksson and Ortega 2006, Casad 2012)

(9) Team learning: Learning in groups has been shown to be a beneficial strategy to increase productivity where communication between employees is particularly important, such as in hazardous environments (Gillespie et al. 2010). It can include group problem solving and lead to mutual understanding of work tasks (Hollenbeck et al. 2004, Delise et al. 2010, Hughes et al. 2016). In a multigenerational workforce, it also allows for greater knowledge and experience sharing (OECD 2020a).

Improving job quality – prevent life-span related losses and promote fit with unique skills

(10) Health and wellbeing: Workplace initiatives can promote health and well-being related to exercise, eating, mental health, and lifestyle. But these need to complement financial, physical, social, and emotional wellbeing programmes to be effective (Fidelity 2017, OECD 2020a, Evans-Lacko and Knapp 2018). It should also include ergonomic interventions.

(11) Job design and job fit: Improving job quality, whether via earnings, job security, or quality of the working environment, has been linked to measures of productivity and well-being (Marmot et al. 2020, Arends et al. 2017, Warhurst et al. 2018) and increased profitability (Harter et al. 2012, Rayton et al. 2012).

For older workers this could involve retraining, relocating to less demanding jobs based on work analysis, or changing working hours (EASHW 2016). Well-designed work can also help alleviate mental health issues that may arise in an age-diverse workforce, especially among older workers (see Box 17).

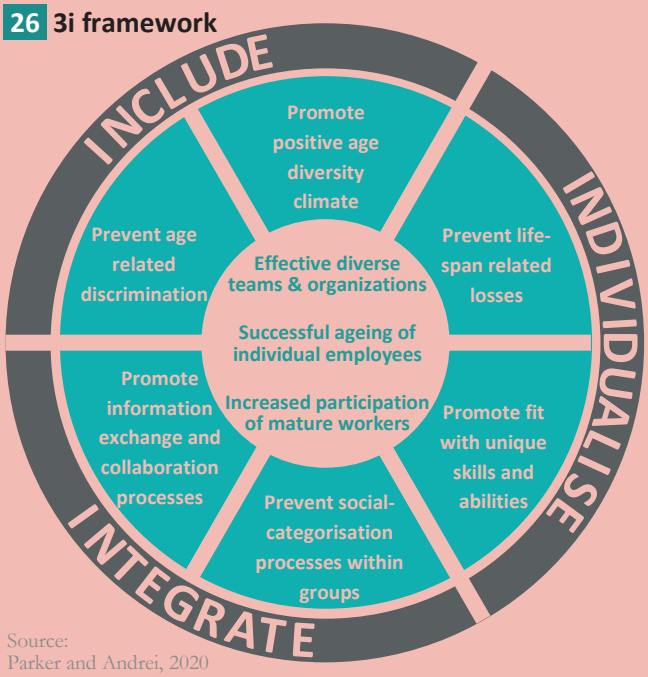
(12) Flexibility: Providing tailored flexibility to employees based on their lifecycles and changing needs, especially to carers of children and elders can enable employers to attract and retain a workforce that is more diverse and productive (McNamara and Tinsley-Fix 2018, Moen et al. 2016, Wood 2019, Baird and Heron 2013, Tomlinson et al. 2018). In fact, evidence suggests that flexible work benefits carers and non-carers (Rodriguez-Sanchez et al. 2020).

Box 17 CEPAR research spotlight **Employer strategies for a multigenerational workforce**

Decades of research have shown that employee-focused management strategies, including good work design, can have a positive impact on individuals, teams, and organisations. CEPAR's Chief Investigator Sharon Parker is at the global forefront of this research. For example, she has reviewed 100 years of work design research (Carpini et al. 2017) which helped with the formulation of a set of tools to improve the work quality.

Recently, Parker's team have tailored these tools to help employers in better managing an older workforce. They developed the 3i model, which consists of strategies that: *Include* older workers and create an age-friendly environment; *Individualize* work by adapting work to specific challenges, needs, and preferences of employees of different ages; and *Integrate* workers of different ages via effective collaboration and knowledge sharing processes (Figure 26; Parker and Andrei 2020; Andrei and Parker, forthcoming)

26 3i framework



Source:
Parker and Andrei, 2020

The 3i model underpins research conducted by Chief Investigators Sharon Parker and Marian Baird and their research team. The aim is to stimulate and evaluate organisational interventions to promote successful ageing, increase participation of mature workers, improve the effectiveness of teams and organisations, and promote a better balance between work and care responsibilities. This research stream combines large-scale surveys of Australian employees (Mature Workers in Organisations Survey – M-WOS), with in-depth organisational case studies to provide evidence-based solutions for the effective management of an older and more age-diverse workforce. Initial results are reported in Boxes 18-20.

There are different tools within the 3i framework. For example, the team uses an approach known as *SMART work design* to evaluate the way that work, roles, and tasks are designed. It stands for: *Stimulating* work (that requires a variety of skills and tasks and problem solving); *Mastery* (whereby one's role is clear, includes feedback, and tasks that can be completed from beginning to end); *Agency* (ability to organise one's own schedule and exercise own judgement); *Relational* aspects (with a sense of support, purpose, and social worth); and *Tolerable demands* (adequate time pressures, emotional demands, and consistency between instruction and feedback). Evidence shows that even small improvements across the SMART themes can help prevent harm, enhance wellbeing, and increase productivity (Parker 2014, 2015). And embedded within a wider *Thrive at Work* model, the interventions can target mental health problems at work.

Despite the benefits of good work design, poor work design abounds. Indeed, Parker and CEPAR Research Fellow Daniela Andrei tested how managers designed jobs and found that it was common to make boring jobs even more boring (Parker et al. 2019). And when problems arose, managers sought to 'fix the worker' (e.g., with penalties) rather than 'fix the job' (e.g., re-organising tasks).

Still, as reported in Parker and Jorritsma (2020) there are various ways in which the field is affecting change. For example, Parker's team has been involved in raising awareness among individual workers via the media, training business leaders, and has involved decision-makers via national organisations and policy fora. Helping prepare employers for an ageing workforce is one aspect of this effort.

Box 18 CEPAR research spotlight — Include: Accepting and valuing mature workers

In an inclusive workplace, the contribution of mature workers is valued without discrimination or stereotyping. Done well, this can improve performance and employee engagement and reduce turnover and retirement.

So how inclusive are Australian workplaces? To answer this, a team of CEPAR researchers led by Chief Investigators Sharon Parker and Marian Baird surveyed over 2,000 Australian workers in selected organisations. The workers represented a broad range of occupations, industries, and roles (older workers were over-sampled).

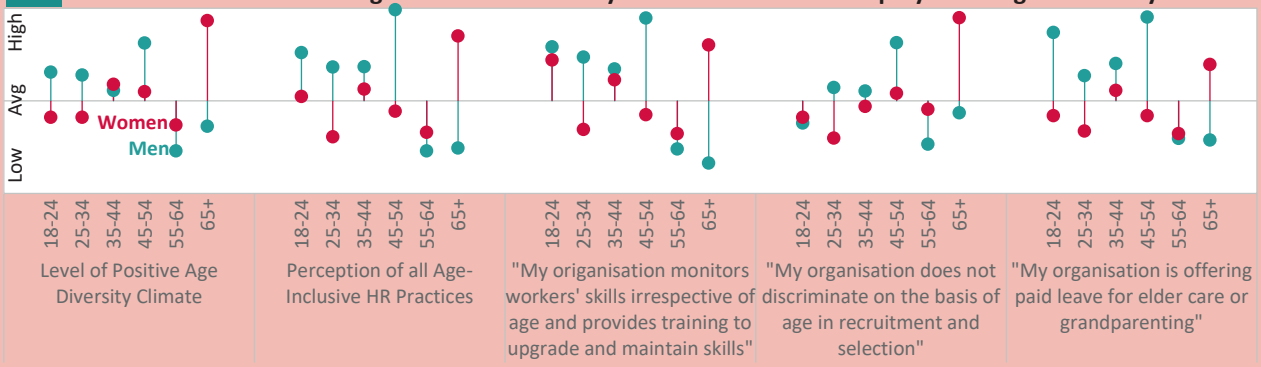
The results, published in a CEPAR industry report (Andrei et al. 2019), suggests that employers can do better. Many fail to create an age-inclusive climate. For example, compared to younger workers, those aged 55-64 did not believe HR practices were age-inclusive, thought training was not provided regardless of age, and report that their employer did not offer adequate leave for caring for older adults (Figure 27).

Another concerning finding was that younger male workers, who were generally more positive about the age-friendliness of their workplace, felt it was important for people to retire to make way for the next generation.

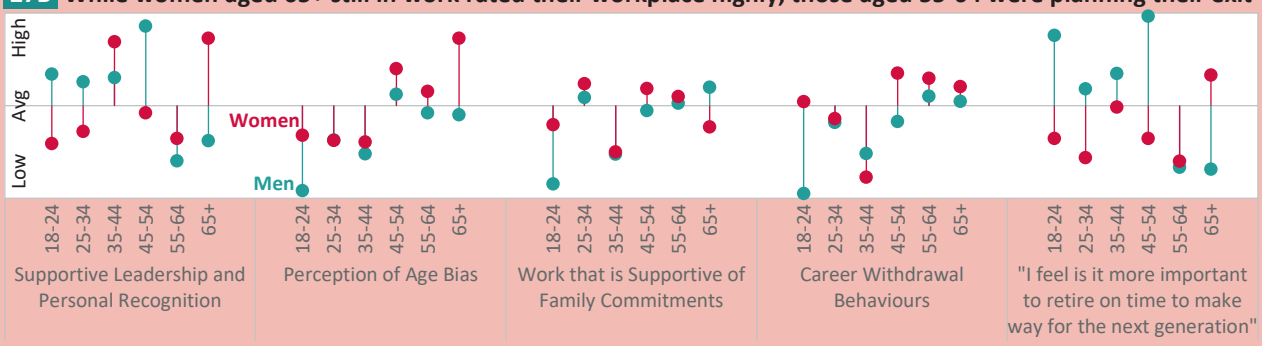
On a more encouraging note, women aged 65+ felt that their workplaces were age-inclusive across most measures. One area that they thought needed improvement was supportiveness for family commitments. The different experience of women aged 65+ may relate to the fact that those still working are more likely to be senior professionals. Interestingly, the team also found that female managers felt the highest obligation to retire to make way for the next generation, whereas female machine operators scored the lowest.

The research confirmed the idea that poor leadership, unfair treatment, and a less age-diverse environment was associated with higher intentions to leave among both younger and older employees.

27A Male and female workers aged 55-64 consistently marked down their employers on age-inclusivity



27B While women aged 65+ still in work rated their workplace highly, those aged 55-64 were planning their exit



Source: Andrei et a. 2019

A lack of age inclusivity in HR practices is echoed in work by Associate Investigator Donald Truxillo, who studied how age bias translated to hiring. With other co-authors, he found that based on resumes, participants evaluated older applicants as less hireable than younger applicants with equal qualifications (Zaniboni et al. 2019).

Box 19 **CEPAR research spotlight** **Individualise: Adapting work to older workers**

Physical abilities and personal motivations change with age (see Box 8). But they do so in different ways. So, an individualised workplace is one where the needs and abilities of workers are accommodated over their lifecycle.

The survey described in Box 18, led by CEPAR Chief Investigators Sharon Parker and Marian Baird, also looked at job design and fit. Again, the results differ by age and sex.

Findings suggest perceived availability of individualised HR practices is low to moderate. And scores are worst for older workers over 55 (except women aged 65+; Figure 28). For example, workers aged 55-64 had the lowest scores when answering whether the employer had '*alternate career paths with a specific focus on employees of different ages*', '*offered phased retirement programs*', or whether there were opportunities to redesign or transfer jobs to something less strenuous (not shown in figure). By contrast, younger workers were more positive. For example, young men, were most likely to agree with presence of opportunities for '*challenging and meaningful new roles or work assignments*', unlike older men.

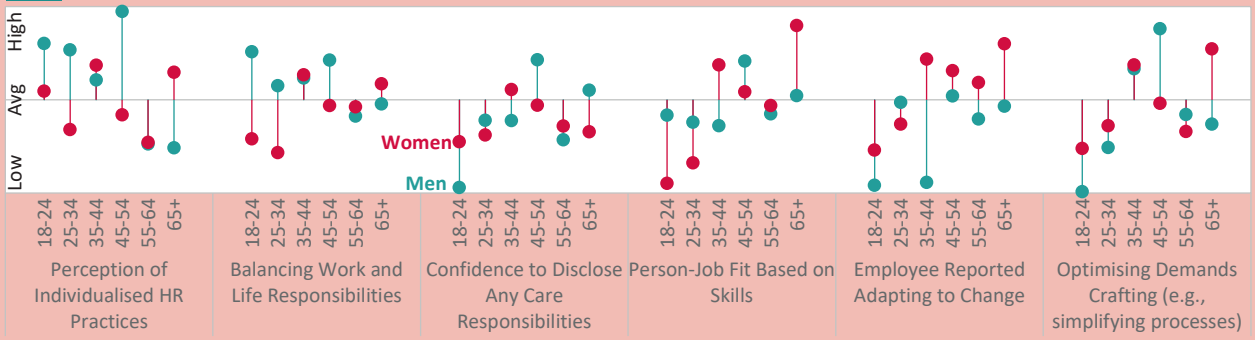
When it came to balancing work and care responsibilities younger workers fared worse than older workers. For example, among those below 45 year of age, about 40% of both men and women found it difficult to balance work and family/care responsibilities. Among 55-to-64-year-olds only a quarter of men and a fifth of women did so.

What about how workers adapt to their jobs? Here the team found something surprising. Unlike the older worker stereotype, male and especially female employees aged 45+ reported higher scores of adapting and learning new ways of completing core tasks and/or crafting tasks to simplify them or make them more efficient.

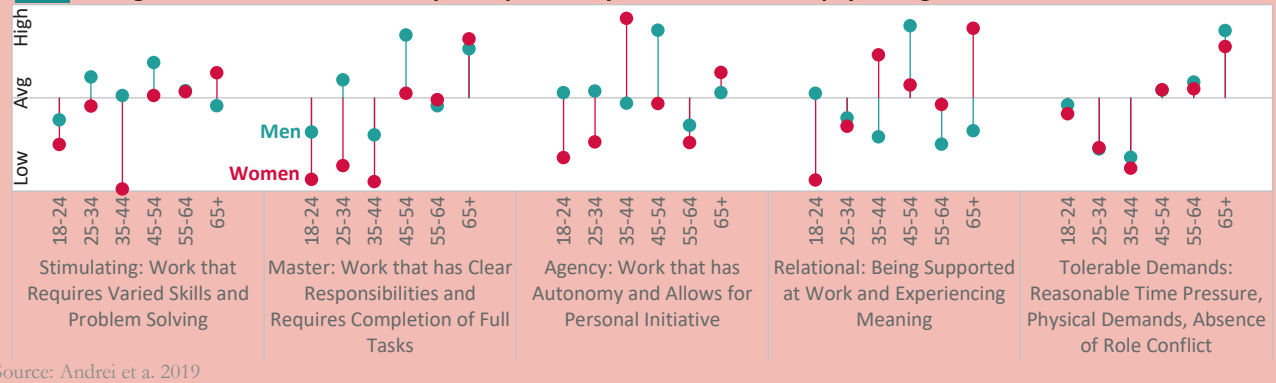
Job fit and quality can also be evaluated based on how well it meets psychological needs across five SMART domains: Stimulating, Mastery, Agency, Relational (e.g., part of a supportive team), and Tolerable demands. Overall scores were in line with SMART job design but not everyone had the same experiences.

Young women (below 45) reported that their jobs that were neither stimulating nor allowed them to feel mastery over tasks. Instead, they felt that the jobs had high demands. Women over 45 felt positive about their job design across all domains, except Agency. And men of all ages scored their jobs highly but younger men (like younger women) felt that demands on them were too high.

28A **Older workers were generally least likely to report that HR practices were well individualised**



28B **Younger women were least likely to experience jobs that met their psychological needs**



Source: Andrei et a. 2019

Box 20 CEPAR research spotlight **Integrate: Knowledge sharing in an age-diverse workforce**

The better integrated older workers are in an organisation, the better their strengths can be harnessed, and the better their age-diverse teams can function.

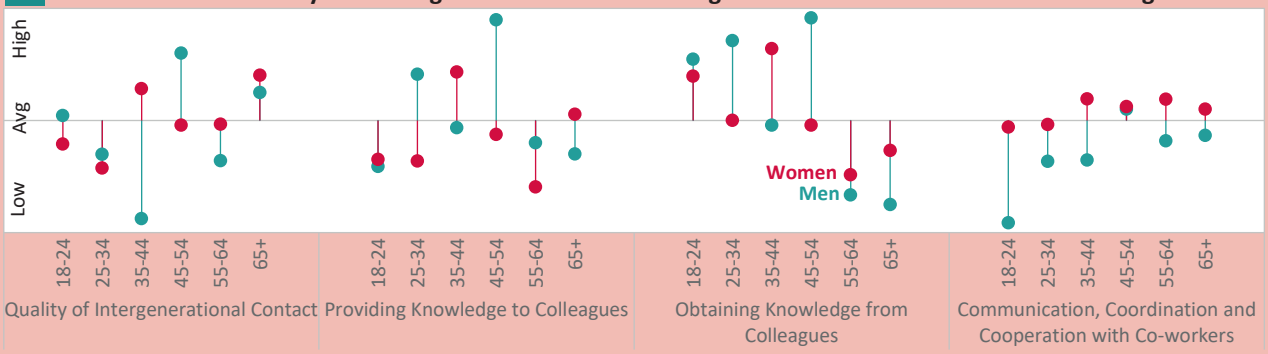
One way of gauging older worker integration is to assess how well knowledge is shared across age groups. CEPAR Chief Investigators Parker and Baird's team explored this as part of their major study of mature workers (see Boxes 18-19).

They found that on average, workers reported low to moderate levels of integrative practices in the workplace. And those aged 55+ had the most negative views about mentoring practices in their organisations. For example, about half (47%) of Australian workers aged 55+ said that their employer did not offer mentoring programs. By contrast, less than a third (30%) of younger workers aged under 55 years held this view.

Older workers also reported less positive views about knowledge transfer. Their responses suggested that they are less likely to be the source of knowledge and found it hard to obtain knowledge and advice from co-workers. This is despite that older workers, particularly women, see themselves as more effective at communicating, coordinating and assisting their colleagues.

As suggested by theory, the team found evidence that integration is beneficial. Older employees working in organisations thought to support mentoring and knowledge exchange also reported greater work engagement, job satisfaction, and psychological wellbeing, and were less likely to leave or experience burnout.

29 Older workers less likely to be sought out for their knowledge and to be offered advice from colleagues



Source: Andrei et a. 2019

12. Public policy support: Multi-pronged strategy needed

There is no single policy that can help Australia take advantage of an age-diverse workforce. Rather a menu of policies will be needed simultaneously. An analogy is the public health approaches to smoking, which involve a multitude of actions across different domains including regulation, taxation, and information campaigns. Rather than a piecemeal approach, measures and measurement could be brought together in an age-diverse workforce strategy, monitored by a dedicated agency with responsibility to engage employers to affect real change (e.g., like the Workplace Gender Equality Agency). Internationally, there are no obvious examples of ageing strategies to draw on that have been proven to work and have effectively engaged employers (OECD 2019b).

The strategy would be built on existing knowledge about what works in terms of management practice, workforce planning, and lifecycle approach to workforce participation. Employers would be encouraged to invest in health and welfare of their workforce, education and training at older ages would become as normal as education in youth, and employment agencies would seek to re-activate those out of the labour force regardless of welfare receipt.

Legal and regulatory protection and support

In 2004, the Federal Age Discrimination Act was passed to protect older workers from discrimination. It was one of several forms of legal protections of older people in the workplace (see Box 21).

Yet legal and regulatory barriers exist which affect people differently depending on their age, with sometimes a lack of Commonwealth and State coordination. For instance, the ATO does not recognise redundancies over the age of 65 as genuine, penalising older employees (Professionals Australia 2015), and worker compensation policies are not required to cover those aged over 65.

The industrial relations system results in a significant level of job insecurity for older part time or casual employees. Measures to address this could include requiring extra loadings in earnings, wage subsidies, and greater protection against unfair dismissal. Safe Work Australia's strategic framework (2012) provides an avenue to direct research and intervention, but some suggest that this is unlikely to be enough (Noone and Bohle 2017).

For example, AHRC (2016) called for governments to systematically address existing barriers and employment related discrimination; the ALRC (2013) proposed reform across six areas: participation, independence, self-agency, system stability, system coherence, and fairness. And the National Inquiry into Employment Discrimination Against Older Australians and Australians with Disability highlighted the need for establishing a Minister for Longevity with a National Action Plan.

Financial incentives

Financial incentives to retire are dependent on access ages to different forms of retirement income. These can act as a signal for an expected or acceptable retirement age for workers. Past increases in the pension eligibility age in Australia have been linked to observed increases in mature age labour force participation (Ryan and Whelan 2013, Atalay and Barrett 2015, Mavromaras and Zhu 2015, Warren 2015).

In the future, the focus is likely to shift away from the *stick* of pension eligibility to the *carrots* of enabling and incentivising older people to work on their own terms, with policy levers that improve health, skills, and labour market opportunities across different socio-economic groups. In the absence of pension age changes, the Age Pension means test could play a greater role. For example, in recent years there have been various changes to the Work Bonus, which exempts earnings from the means test and allows older people to better combine work and pension receipt.

Such issues have been addressed in detail in related CEPAR reports (see Chomik et al. 2018b, 2018c, 2018d, Chomik and Piggott 2012a; several insights are also reproduced in Box 22).

If thinking about lifecycle workforce participation, particularly of women, then reforms that improve access to childcare could help, alongside a greater push for flexible working arrangements.

Labour Market Programs

As discussed throughout this report various barriers exist for workers, relating to health, disability, care, and skill and experience, which in turn implies that Active Labour Market Policies need to be highly targeted.

Age discrimination still exists in Australia's COVID-19 recovery wage subsidy programs. The *JobMaker* effectively discriminates more against older people or prime-age workers who find re-entry into work difficult (Downes et al. 2021).

And mutual obligation requirements for participation are more relaxed at older ages, which means that there are lower incentives to find work (OECD 2017c). Jobseekers above the age of 55 can fulfill their mutual obligation requirements through approved voluntary work, suitable paid work which includes self-employment, or both (DSS 2021). The abolition of such exemptions in other countries has seen job search improve.

Many older jobseekers report that the employment programs are not effective and do not provide the required assistance (Wickramsinghe and Bowman 2018).

While career information is provided for older workers (DESE 2021), the rates of awareness and take-up are unreported.

Some argue that recently provided incentives for employers to hire (Restart program) have been a failure and are too passive a labour market measure, and that greater employer engagement could play an effective role in improving mature age labour force participation (Gartrell 2015; Wickramsinghe and Bowman 2018).

Box 21 CEPAR research spotlight Legal protections for mature workers

Australian laws provide various layers of protections for mature workers from discrimination, and entitling them to rights related to flexibility, leave, and health and safety.

To bring clarity to the topic, CEPAR's Rafal Chomik, Alison Williams, and Marian Baird (2019) compiled a summary of these in an accessible fact sheet, outlining national and state legislation.

The Australian Human Rights Commission Act of 1986, the Age Discrimination Act of 2004 and the Fair Work Act of 2009 all prohibit workplace discrimination based on age.

But which act applies depends on the type of work. The Fair Work Act covers over 70% of Australian employees and provides workers with protection against age discrimination, and workers aged 55+ the *right to request* flexible work arrangements based on age alone. Disability and carer responsibilities can also be valid reasons for the right to request flexible work. The Carer Recognition Act of 2010 also acknowledges carers at the Commonwealth level, while many states have enacted legislation to protect the rights of carers. Other relevant areas include leave entitlement and health and safety in the workplace, where Australia has disparate acts that have been harmonised across states, administered by different bodies.

Yet the presence of legislation and *tick-box* compliance may not be enough. CEPAR Chief Investigator Sharon Parker and co-authors found that proactively initiating safety-oriented changes in the workplace is a distinct form of safety behaviour (Curcuruto et al. 2019).

Her study involved chemical work operators. It found that in high-risk situations, where it may be impossible to prescribe all potential safety procedures, high reliability can be maintained through self-initiated safety initiatives. Objective safety improvement outcomes six months later were predicted by the safety interventions. They found that, compared to simple compliance, future-oriented proactive behaviour meant proactive problem solving and greatest improvement in workplace health and safety.

Box 22 CEPAR research spotlight Retirement income system and inbuilt incentives to work or retire

Retirement income system incentives have a large role to play. For example, based on experiments run by Partner Investigator Olivia S. Mitchell in the US (Maurer et al. 2018), people will voluntarily accept an actuarially fair payment in exchange for continuing to work. The experiment used a single mortality gradient, so if implemented it would be progressive (i.e., it would have favoured poorer people who tend to die earlier).

Some argue that forcing people to work longer may in fact be bad for morbidity and even mortality. This is where other CEPAR research can contribute. CEPAR Associate Investigators Erik Hernaes and Simen Markussen, along with CEPAR Director John Piggott (2013), utilised a natural experiment using detailed Norwegian data that allowed causation patterns to be drawn. They report in their 2013 paper that there was no causal effect of changing pension age on mortality for those over the age of 60. They suggest that policymakers should therefore not consider effects on health and life expectancy when discussing or making decisions about the pension age.

Associate Investigator Ralph Stevens (2017) examined the pros and cons of pegging retirement ages to life expectancy rates, as some have suggested for Australia. Stevens proposes ways in which policy can be designed such that eligibility age increases gradually and predictably, and where ideally the average remaining years of life at retirement increases over time.

In further research, CEPAR Deputy Director Hazel Bateman and Ralph Stevens (and others) investigated the behavioural implications of increasing the pension age in the Netherlands (Alonso-García et al. 2018). They found that spending patterns and saving preferences of retirees are updated to reflect expected major life events; retires tend to hold on to precautionary savings for health and other emergencies.

Back in an Australian context, Senior Research Fellow George Kudrna, and Chief Investigator Alan Woodland, examined the effects of labour earnings exemptions on labour supply and retirement through general equilibrium analysis of the Australian Age Pension means test (Kudrna and Woodland 2011, Kudrna 2016). They found that exemptions lead to positive impacts in terms of labour supply at older ages, without costing much in terms of increased pension expenditure.

Incentives may apply differently to different types of workers. Associate Investigator Julie Byles and colleagues (Majeed et al. 2017) found that the odds of women doing paid work in later life increased with education and decreased with poorer health. They also found that partnered women were less likely to work than unpartnered women in later life. Targeting work incentives for partnered women may also increase the participation of men.

Conclusion

This research brief has assembled an array of data and research insights into Australia's ageing workforce. It has demonstrated that demographic change is delivering a large talent pool of older people who will be healthier and more educated than ever before. If they are to thrive and prosper in the labour market, then Australia needs to do better to dismantle remaining barriers related to health, care, training, discrimination, and work conditions and to ensure that employers have the right strategies to recruit, deploy, and retain them. Thankfully, there is growing evidence of what works.

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About CEPAR

The ARC Centre of Excellence in Population Ageing Research (CEPAR) is a unique collaboration between academia, government and industry, committed to delivering solutions to one of the major economic and social challenges of the 21st century.

Funded primarily by an initial seven-year grant from the Australian Research Council (ARC), with generous support from the collaborating universities and partner organisations, the Centre was established in March 2011 to undertake high impact independent multidisciplinary research and build research capacity in the field of population ageing.

Renewed funding awarded for an additional seven-year term from 2017-2023 supports an exciting new research program which will deliver comprehensive outcomes with the potential to secure Australia's future as a well-informed nation with world-best policy and practice for an ageing demographic.

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