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Sandie Rawnsley
Subscriptions Manager
Australian Journal of Labour Economics
Bankwest Curtin Economics Centre
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Contents

AUSTRALIAN JOURNAL OF LABOUR ECONOMICS
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From the Guest Managing Editor

Over the summer of 2019/20 Australia suffered from drought, devastating bushfires and floods. Commentators were concerned about the effects of these natural disasters on the state of the economy but any of these effects, at least at the national level, paled after the arrival of the COVID-19 pandemic in March 2020. For the first time since 1991/2 Australia experienced two quarters of negative GDP growth in the March and June quarters of 2020. Australia had escaped the worst of the Global Financial Crisis (GFC) in 2008/9 with only one quarter of negative growth so there had been almost thirty years of positive quarterly real GDP growth. The decline in output in 2020 was not in response to the usual factors driving the business cycle or to problems in the financial system but to government and community reactions including social distancing requirements which closed businesses and reduced economic activity. A Special Issue of the Australian Journal of Labour Economics published in September 2020 provided some early analysis of some of the key economic issues arising from the COVID-19 pandemic. This Special Issue continues the focus on the effects of the COVID-19 pandemic by examining gender issues raised by the pandemic both directly in the labour market and indirectly through its effects on particular aspects of economic and social life.

At least until June 2021, the Australian economy showed an impressive ability to bounce back from the negative performance of the first half of 2020. In that month the total unemployment rate stood at a ten-year low of 4.9 per cent and there had been a substantial decline in youth unemployment to 10.2 per cent, the lowest rate since January 2009 (BCEC 2021). Concerns that the end of JobKeeper, the reduction in benefits under JobSeeker and any scarring effects of extended lockdowns would have the immediate effect of slowing the growth of the economy proved to be unfounded. According to the ABS, labour force participation and employment in June 2021 were up on a year earlier and there was some concern about the development of labour shortages. Since then things have changed for the worse and the future of the Australian economy is clouded in considerable uncertainty. The major cities, Melbourne, Greater Sydney including Wollongong and the NSW Central Coast, Adelaide, Brisbane and Perth have all been in lockdowns of various lengths and at the time of writing (August 2021) there is no immediate end in sight to the current wave of COVID-19 infections. As the Bankwest Curtin Economic Centre (BCEC) noted, we may be in for a W-shaped recovery rather than the V-shaped one discussed at the beginning of the pandemic (BCEC 2021).

This Special Issue presents analysis based on evidence from the first year of the pandemic and discusses the future role of policy in furthering recovery from its ongoing consequences. Angela Jackson (Equity Economics) and Leonora Risse (RMIT University) begin by documenting the gender impact of the pandemic on labour market outcomes using ABS data. They use cumulative measures of a range of labour market indicators including employment, unemployment and labour force participation for the period March 2020 to February 2021 compared to the pre-pandemic average for the months of December 2019 to February 2020 to document the effects of the pandemic on these indicators for men and women. Their results show that for most indicators women were disproportionately affected. When women lost their jobs because of the pandemic they were more likely to leave the labour force than men were, probably reflecting their unpaid responsibilities including care for the disabled and elderly and their greater responsibility for home schooling as a result of school closures. The authors emphasise the role of Gender Responsive Budgeting (GRB) as a policy measure to focus attention on the gender effects of any government policy responses.

Tania Dey and Michael O'Neil (South Australian Centre for Economic Studies, University of Adelaide) consider some of the policy responses to the pandemic and argue that it has offered an opportunity to reconsider some key policies that have an important impact on women's labour market activity. Their article examines the role of women in the three Ps; population, participation and productivity, in promoting economic growth and considers how policy responses such as the Baby Bonus, childcare subsidies and parental leave could be further promoted to encourage women's economic contribution. They also consider changes in working arrangements during the pandemic, such as working from home, as a way of designing jobs in the future to take account of the unpaid work that women undertake.

The economic effects of the pandemic may have long term implications for women's wellbeing. Pre-pandemic, women had lower superannuation balances than men, on average due to their lower wages and less time in paid employment, as documented by Elisa Birch and Alison Preston (UWA Business School, University of Western Australia). Older women were also more reliant on the Old Age Pension (OAP) which is close to the poverty line than were older men. The authors argue that the pandemic is likely to have exacerbated these problems as young workers and women's employment and labour force participation were particularly badly affected in 2020 with likely long-term implications for superannuation balances. Recent policy changes may have marginally improved the size of women's superannuation balances but the effects on those of retirement age will take decades to become evident and may be insufficient to overcome the underlying effects on women's superannuation balances of less time in paid employment and lower wages. Many women are likely to remain susceptible to a higher risk of poverty in old age. The authors argue for rebalancing retirement policy toward the OAP and for more detailed data to enable closer investigation of superannuation balances by gender and age.

The final two articles in this Special Issue focus on particular aspects of the pandemic which have been the subject of policy discussion; the effect of lockdowns on domestic violence and the changes in the level of benefits and compliance rules for those receiving unemployment benefits now known as JobSeeker. Solmaz Moslehi (Monash University), Jaai Parasnis (Monash University), Massimiliano Tani (UNSW Canberra) and Josephina Vejayaratnam (Monash University) present 24 months of police data from New South Wales and Victoria on domestic and non-domestic assaults to show that the 2020 lockdowns reduced the number of both types of assaults reported though the relative importance of domestic assault reports increased. The results suggest differences between assaults reported to the police and the level of domestic violence registered by community organisations and elsewhere and referred to in the press. The reasons for these differences require further investigation. It is also important to acknowledge that police reports do not measure the full extent of domestic violence.

The Coalition government made significant changes to the welfare system with the onset of the pandemic including the introduction of the Coronavirus Supplement and the suspension of Mutual Obligation. Elise Klein (ANU), Kay Cook (Swinburne University), Susan Maury (Good Shepherd, Australia and New Zealand) and Kelly Bowey (Centre for Excellence in Child and Family Welfare) conducted a small survey of long-term welfare recipients to investigate how they were affected by these changes. They found that they were very positive about the changes as the additional money enabled them to provide more necessities to their families and gave them time to increase their unpaid work including more time to help their children with home schooling. The authors argue that these preliminary results should be explored further for policy reform of the welfare system.

In conclusion, I would like to thank the authors for their thoughtful contributions and for their enthusiasm and commitment in meeting the tight deadlines for this Special Issue. We all hope that these papers will make a positive contribution to future policy debate. I owe a special thank you to my colleagues on the editorial team; Barbara Broadway, Mike Dockery, Boyd Hunter, Raja Junankar and Phil Lewis who contributed their time in the preparation of this issue. I would like to especially acknowledge Boyd Hunter who has had a long association with this journal and made a significant contribution to its continuation. Enjoy your retirement, Boyd. Finally but not least, I would like to thank Sandie Rawnsley for her excellent work as an editorial assistant to the journal and for getting this issue out in a timely manner.

Anne Daly
Guest Managing Editor

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AUSTRALIAN JOURNAL OF LABOUR ECONOMICS
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A gender lens on the workforce impacts of the COVID-19 pandemic in Australia

Leonora Risse *RMIT University*
Angela Jackson *Equity Economics*

Abstract

This paper documents the impacts of the COVID-19 pandemic on the Australian workforce, analysed through a gender lens. A suite of labour market indicators, disaggregated by gender, is examined to identify the ways in which men and women were affected differently by the economic impacts of the pandemic as well as by government policy. Using ABS Labour Force Survey data, the paper develops a cumulative measure of workforce losses over the course of the pandemic, calculated comparatively for men and women, and assessed relative to the workforce's pre-pandemic composition. This measure finds that women experienced the bulk of the cumulative losses in employment throughout the first twelve months of the pandemic from March 2020 to February 2021 – equivalent to a 55 per cent share of total months of lost employment – despite comprising only 47 per cent of total employment prior to the pandemic. Younger women, especially, experienced a disproportionately higher share of employment losses. The Victorian workforce, where lockdowns were implemented for a longer period than in other states and territories, is highlighted as a case study of the disproportionate impact of the pandemic on women's employment. Applying a gender lens to this analysis can inform the application of gender responsive budgeting in the government's future policy-making processes. We also highlight the need to further disaggregate data through an intersectional lens to more fully understand the impacts of the pandemic on particular demographic cohorts of the workforce.

JEL Codes: H53, J16, J21
Keywords: women's labour force participation; gender equality; COVID-19; public policy; gender responsive budgeting

Corresponding author: Dr Leonora Risse; School of Economics, Finance and Marketing; RMIT University; leonora.risse@rmit.edu.au; ORCID: 000000022896101X

1. Applying a gender lens to an analysis of the pandemic's impacts

As the COVID-19 pandemic erupted during the early months of 2020, the Australian and state governments responded with a range of measures to contain the spread of COVID-19, including implementing international and interstate border closures, lockdowns, social distancing and obligations on businesses to implement COVID-19 safety plans. To accompany these containment measures, governments provided a range of support programs designed to mitigate the economic impacts of the pandemic on individuals, households and businesses (Australian Treasury, 2021; Cassells and Duncan, 2020; Storen and Corrigan, 2020). In the words of the Prime Minister, the government's goal was "to save lives, and to save livelihoods" (Prime Minister of Australia, 2020a).

However, concerns were ignited that the repercussions of the pandemic would not be evenly distributed across society and that gender gaps in economic outcomes would be exacerbated, due to a confluence of factors. Firstly, many of the industries that were most acutely affected by the pandemic containment measures were female-dominated or large employers of women, reflective of the gender segregated nature of the Australian workforce (Lind and Colquhoun, 2021; Senate Finance and Public Administration Committee, 2017). Secondly, risks emerged that the changes in household activities brought about by the pandemic, such as the shift to home-learning during school closures, would see a shift towards a traditional allocation of household roles. Concerns arose that men would be more likely to prioritise their traditional role as the breadwinner, while women would be expected to take responsibility for the heightened demands of unpaid care, housework and home-learning. Thirdly, concerns were raised that government support predominantly assisted male-dominated industries and occupations (Wood, Griffiths and Crowley, 2021). Fourth, many of the occupations that experienced intensified pressure and demand for their services during the pandemic – such as frontline nurses, aged care workers, mental health workers, education and training workers – are female-dominated. This presented a higher risk of mental health distress and burnout among the female workforce. Collectively these factors meant that the pandemic posed the risk of stalling, or even worsening, progress in closing the gender gaps that already existed in Australia's workforce (Cassells and Duncan, 2021; WGEA, 2020; World Economic Forum, 2021).

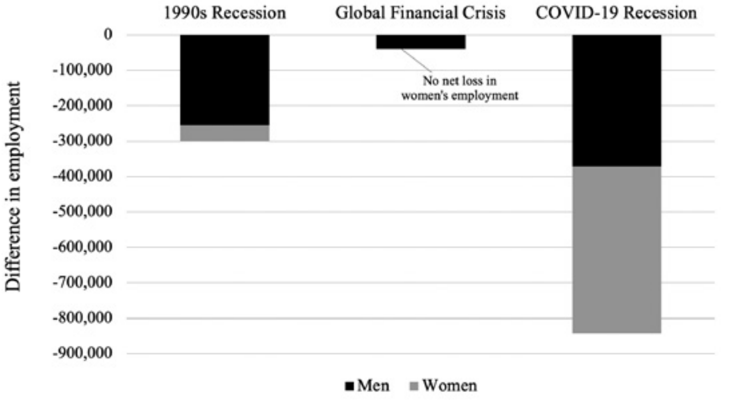
While many previous analyses of the impacts of the pandemic and policy responses have disaggregated the data by gender, this paper contributes to existing literature by contextualising this analysis as an example of gender impact assessment (European Institute for Gender Equality, undated; Sharp and Broomhill, 2013; UN Women, undated). This process of applying a gender lens to analyse the impacts of an economic shock or policy – even one that seems gender-neutral – enables us to detect gender-patterned impacts which could have unintended impacts on gender equity goals. In the context of policy analysis, this process is known as Gender Responsive Budgeting (GRB). The pandemic provides a case study to illustrate the insights that can be gained by applying a gender lens, which can inform the design of more effective and gender equitable policy responses in the future.[1]

To give an example: the government's policy package to support households during the pandemic included making childcare free for several months during the beginning of the pandemic when lockdowns were in place and schools were closed. Gender patterns in the unpaid care of children in Australian society meant that the temporary free childcare policy had larger implications for women's employment than for men (Craig, 2020; Hand, Baxter, Carroll and Budinski, 2020).

The economic conditions underlying the pandemic are also part of this picture, because the spread of the virus, as well as the containment measures enacted to try to suppress the spread, had the effect of curtailing economic activity. During the first twelve months of the pandemic, Australia experienced two major waves in case numbers. The first wave peaked on 30 March 2020 (with a 7-day rolling average case count of 382 cases daily) and the second wave peaked on 4 August 2020 (with a seven-day rolling average case count of 551 cases daily) (Ritchie *et al*., 2021). Correspondingly, Australia's GDP declined by 0.3 per cent in the March quarter of 2020, and a further 7 per cent in the June quarter of 2020 (ABS, 2021a). This constituted the first recession for the Australian economy since the early 1990s, and saw the national unemployment rate peak at 7.4 per cent for men and 7.5 per cent for women in July 2020 (ABS, 2021b). This compares to previous economic downturns in Australia, where job losses were concentrated among men (Figure 1). In the 1990s recession, the national unemployment rate peaked for men at 12.0 per cent and 10.1 per cent for women (ABS, 2021b). This comparison alone implies that a different set of policy responses are likely to be needed.

1 In this paper, unless otherwise specified, gender is defined according to the binary classification, owing to the way that the data has been collected. We acknowledge the individuals who identify with genders beyond this binary definition and highlight this as an area for future data improvements.

Figure 1. Change in employment during economic downturns by gender, Australia

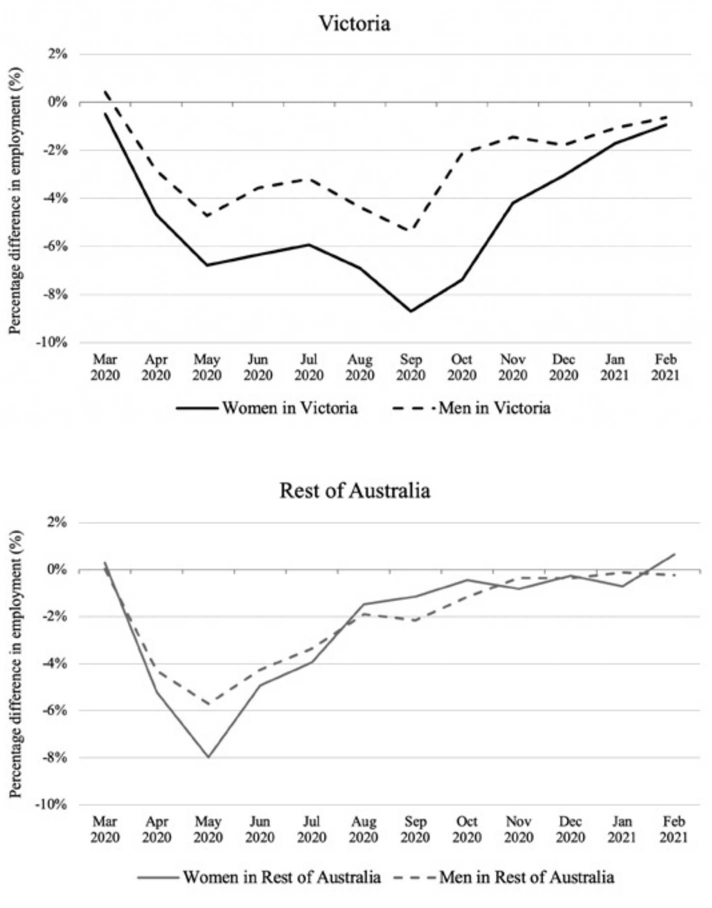


Source: Authors' calculations using ABS Labour Force, Australia. Seasonally-adjusted data series. Net change in national employment measured from the pre-period to the peak of each economic downturn.

The gendered impact of the COVID-19 pandemic has been particularly evident when comparing men's and women's rates of workforce participation. Women's labour force participation rate nationally fell to its lowest point to 57.5 per cent in May 2020, declining by 3.7 percentage points in the space of three months. Men's labour force participation rate declined to 68.0 per cent, a fall of 2.8 percentage points (ABS, 2021b). In the September quarter of 2020, GDP growth turned positive, marking the start of the Australian economy's recovery which has continued, to date, throughout 2021 (ABS, 2021b).

Most of the second wave of COVID-19 cases in Australia occurred in the state of Victoria (Australian Government Department of Health, 2021). Because Victoria consequently endured a second COVID-19 lockdown from June 2020 to November 2020, the negative impacts on the Victorian economy were more prolonged compared to the national economy. Victoria's state final demand contracted for a third straight quarter in September 2020. Throughout 2020, Victorian men's unemployment rate reached a high of 7.0 per cent in June 2020, while Victorian women's unemployment rate kept climbing to a high of 8.6 per cent in October 2020. Victoria's labour force participation rate fell to its lowest point in September 2020, to 68.2 per cent among men and 57.7 per cent among women. It was not until December 2020 that the Victorian economy saw a rebound in state final demand (ABS, 2021a). Overall, throughout the first twelve months of the pandemic, Victorian women experienced a deeper fall in employment, relative both to Victorian men and to women elsewhere in Australia, indicative of the disproportionate effect of the pandemic on women's employment (Figure 2).

Figure 2. Percentage change in employment, by gender, Victoria and Rest of Australia



Source: Authors' calculations using ABS Labour Force, Australia. Seasonally-adjusted data series. Percentage difference relative to monthly average of pre-pandemic quarter.

One of the key components of the Australian Government's support package during the pandemic was the introduction of a financial payment for workers whose jobs and employment income were at risk. The scheme was designed to financially compensate workers for lost earnings, as well as preserve the connections between employees and their employers while the economy went into 'hibernation' during the pandemic (Prime Minister of Australia, 2020a). The Australian Government's JobKeeper scheme provided a flat-rate fortnightly pre-tax payment of $1500 per worker. The JobKeeper scheme was announced at the end of March 2020 and the first payments were processed in early May 2020 (Senate Select Committee on COVID-19, 2020). It was available to permanent part-time, full-time and long-term casual staff of eligible businesses that suffered a reduction in turnover of at least 30 per cent (for businesses with a turnover of $1 billion or less) or at least 50 per cent (for businesses with a turnover of over $1 billion). Eligibility conditions applied and many workers were out of scope, including casual staff who did not have 12 months of continuous employment, temporary visa holders, and employees of universities and local governments. Workers in the early childhood education and care sector became ineligible for the payment in July 2020, coinciding with the end of free childcare which had been offered from April 2020 as part of the Australian Government's pandemic response. In September 2020, the JobKeeper payment was scaled back and differentiated rates were set for full-time and part-time workers. The fortnightly payment was lowered to $1000 for fulltime workers and $650 for part-time workers. The JobKeeper scheme ended in March 2021.

2. What do we know so far about the gender-patterned impacts of the COVID-19 pandemic?

The prolific body of research has been undertaken in the last 18 months examining the gender-patterned impacts of the pandemic. Early analyses highlighted the different nature of the pandemic's shock on the economy compared to previous recessions in Australia, with female-dominated services industries being most vulnerable to job losses and business closures as a result of the pandemic and containment policies such as school closures (Cassells, Duncan, Kiely and Mavisakalyan, 2020). Also distinct from previous economic downturns, women's capacity to maintain their connection to the workforce during the pandemic was jeopardised by school closures, enacted at various times throughout the pandemic to help contain the spread of COVID-19 within the wider community (Hérault, Kabátek, Kalb, and Meekes, 2020). The tendency for women, more so than men, to assume a larger share of unpaid care tasks within the household, including home-schooling, meant that women's workforce participation was more sensitive to school closures. The higher health risks of COVID-19 among elderly and vulnerable cohorts of the population also had the potential to suppress women's capacity to continue their paid workforce involvement, given that women are more likely than men to have responsibility for caring for others, including their elderly family members and people living with a disability (Craig and Churchill, 2021).

Warnings about the potential for the crisis of the pandemic have even more severe economic impacts on women, and repercussions for gender equality, were raised globally (Alon, Doepke, Olmstead-Rumsey and Tertilt, 2020; Baird and Hill, 2020; United Nations, 2020; UN Women, 2020). These early analyses flagged the importance of government taking the gender-patterned impacts into account when forming their policy responses.

As the months of the pandemic unfolded, studies continued to monitor a range of labour market indicators according to gender, including employment, hours worked, unemployment, under-employment and workforce participation rates. Forecasts that women's economic opportunities would be more severely impacted by the pandemic than men's came to fruition (Wood, Griffiths and Crowley, 2021; Workplace Gender Equality Agency, 2020). Churchill (2021) provides a comprehensive documentation of Australia's labour force statistics throughout the pandemic up to June 2020, using ABS Labour Force Survey data disaggregated by gender and age. This analysis detected that younger women experienced a greater worsening in employment outcomes than other cohorts, and cautioned that gains in women's workforce outcomes could be eroded by the pandemic unless governments provided targeted support and opportunities for younger cohorts. Similarly, the Melbourne Institute, using their Taking the Pulse of the Nation Survey, detected that women, especially younger women, experienced a larger percentage point rise in unemployment than men during the first two months of the pandemic, although men were more likely to experience a reduction in hours (Broadway, Payne, and Salamanca, 2020). Kalb, Guillou and Meekes (2020) provided an informative picture of gender-based changes in ABS labour force indicators over the course of the pandemic up to December 2020, also disaggregating by geographic region, and parental and relationship status. Using the ABS Labour Force Survey and Weekly Payroll Jobs and Wages data to measure impacts by gender, Gilfillan (2020) calculated that, between two data points of March 2020 and October 2020, men experienced slightly more losses in jobs than women when calculated as a percentage loss. This analysis also computed that men experienced a larger loss in wages, attributable to proportionally more men than women working full-time rather than part-time.

International studies illustrate that similar gender-patterned impacts were being felt globally (UN Women, 2020). In their gender analysis of the first two months of the pandemic in Canada, Lemieux, Milligan, Schirle and Skuterud (2020) detected a larger job loss and fall in aggregate hours of work among women, compared to men, during these early stages. Over a longer time horizon, an analysis of Canadian employment data from February to October 2020, by Fuller and Qian (2021), detected a larger net loss in employment among women than men. This analysis found that the gender differential was driven by men's employment recovering more strongly than women's as the economy recovered, with job recovery particularly weak among women with children. Educational qualifications influenced job losses and recoveries: in this Canadian analysis, women with lower educational qualifications experienced larger job losses during the initial months of the pandemic, owing to their higher likelihood of being employed in service jobs that could not be done from home. Women with higher educational qualifications experienced less of an initial fall in jobs, but their employment was weaker to recover than less educated women, in part because service jobs could return when restrictions were lifted. School closures have been linked to women's disproportionate share of job losses. In the US, the states that offered mostly remote instruction during the pandemic experienced a larger widening between men and women's workforce participation rates (Collins, Ruppanner, Landivar and Scarborough, 2021).

Changes in the allocation of unpaid domestic work and care within households has been a complementary part of the gender analysis of the impact of the COVID pandemic. Some analyses, such as a study of UK households by Chung, Birkett, Forbes and Seo (2021), detected that the shift to working-from-home among both men and women could result in a more gender equitable sharing of housework and caring for children at home. However, surveys of Australian households have detected that, despite the average number of hours spent on unpaid housework and care rising among both men and women, overall women increased their hours of unpaid housework and care even more than men (Craig, 2020; Craig and Churchill, 2020). A similar shift towards traditional gender roles was also observed in studies of US households (Dunatchik, Gerson, Glass, Jacobs and Stritzel, 2021). A study of multiple countries, including Germany, Singapore and the US, detected that men and women's attitudes towards gender roles in society could be reshaped by their own and their partner's labour market experiences throughout the pandemic (Reichelt, Makovi, and Sargsyan, 2020). However, the question of whether the shift towards working-from-home will have the effect of either re-entrenching or dismantling traditional gender norms is an issue for researchers to continue to monitor over time (Ibarra, Gillard and Chamorro-Premuzic, 2020).

Another key focus of gender-based analyses has been the impacts of the pandemic on family relationships and rates of violence against women, with researchers drawing a link between the pressures of the pandemic and restrictions on mobility, and a higher incidence of family and domestic violence (O'Sullivan, Rahamathulla and Pawar, 2020). In addition to clear repercussions for women's safety and wellbeing, the threat or incidence of family and domestic violence is also a factor that influences women's workforce participation and economic security.

We contribute to this existing body of work by offering a statistical measure of labour market impact that encompass both the initial impacts of the pandemic and the Australian economy's climb towards recovery. This contributes to understanding the forces that shaped the pandemic's impact on the Australian labour market, including the influence of gender norms and the gender-segregated nature of Australia's workforce composition, as well as the potential for government policy responses to have different implications for men and women's economic opportunities and outcomes.

3. Analytical approach

3.1 Measuring the cumulative impacts of the pandemic over time

Many existing studies have analysed the effects of the pandemic by simply comparing numbers across points-in-time, commonly using the month of either February or March 2020 as a starting point. A more innovative approach is demonstrated by Lemieux, Milligan, Schirle and Skuterud (2020), who use difference-in-differences in their gender analysis of the Canadian labour market. They compare the change in employment between the months of February 2020 and April 2020 to the change employment between same two months in 2018. We expand on these approaches in two key ways.

Firstly, to assess the impact of the pandemic, we examine monthly labour market data during the pandemic relative to the pre-pandemic quarter. This pre-pandemic reference point is computed by taking the three-month average for the indicator of interest for December 2019, January 2020 and February 2020. We use seasonally-adjusted data where available which controls for calendar-patterned, seasonal factors. We acknowledge that our pre-pandemic reference period unintendedly coincides with the bushfires and other natural disasters that Australia experienced during the summer of 2019-2020. To the extent that the bushfires and other natural disasters suppressed workforce opportunities during the pre-pandemic quarter, our analysis under-states the impact of the pandemic. Using the latest data available, our analysis extends up to March 2021, which also corresponds to the date that one of the key forms of Australian Government support, the JobKeeper scheme, came to an end.

Secondly, we recognise that measuring the workforce impacts of the pandemic by comparing static data points in time fails to fully represent the effects of all the units of time that are spent out of the workforce between these data points. In the context of examining the gender-patterned impacts of the pandemic, Mooi-Reci and Risman (2021, p.165) highlight that "prolonged unemployment spells lead to erosion of skills and talents, loss of social connections and networks, fewer employment prospects, and greater job insecurity", pointing to the value of considering cumulative losses, not just comparative snapshots in time. Looking only at point-in-time comparisons overlooks the deleterious effects that time spent out of employment can bring. Unemployment has immediate impacts on individuals, with a loss of earnings and increased probability of distressed mental health (Bartelink, Zay, Guldbrandsson, and Bremberg, 2020).

Furthermore, time spent out of the workforce can be especially erosive for workers during periods of economic downturn. Entering the labour force during periods of high unemployment can bring costs to new job seekers, including a lesser likelihood of achieving a job match that makes best use of their skills and a lengthier period of job search (Bell, Codreamu and Machin, 2020; Borland, 2020). Workers who experience an interruption to their employment can suffer a deterioration of skills and miss out on the ongoing accumulation of on-the-job experience that benefits those who retain employment. Those who have experienced a break in employment can lose the continuity of service required for eligibility for certain leave benefits such as parental and long service leave.

These labour market scarring effects have been found to persevere for up to ten years, translating into lower wages and a lower likelihood of employment for the individual than would otherwise be experienced. There is a gender dimension to this, as previous research has found that entering the workforce at a time of high unemployment has a more severe long-term effect on women than on men (Andrews, Deutscher, Hambur and Hansell, 2020). A one percentage point increase in the youth unemployment rate at the time of entry into the workforce corresponds to a 1.5 per cent decrease in earnings among women and 1.8 per cent decrease in earnings among men during their first year of employment. After five years, this translates into a 0.7 per cent decrease in earnings among women and a 0.6 per cent decrease in earning among men, which stretches to a 0.4 per cent decrease in earnings among women and a 0.1 per cent increase in earnings among men after ten years. Even for those workers who retain their employment during periods of recession, the experience of being employed in a job that is below their skill requirements, or of working fewer hours than they are seeking, also means forgone earnings and productivity.

To account for these effects, we develop a measurement of the impact of the pandemic that sums up the labour market losses experienced at each month of the pandemic, generating a cumulative measure of units of employment lost over time.

We compute these cumulative losses using the formula expressed in Equation 1. The labour force indicator of interest is denoted by y, and cumulative losses are denoted correspondingly by Y. Units of time are denoted by t, where t =1 corresponds to March 2020. We calculate these cumulative losses separately for each gender, represented by K. The pre-pandemic level used in the analysis as a reference level for comparison is represented by y^*, computed as the average value of the preceding three months.

$$\sum_{i=1}^{t} Y_K = (y_{Kt} - y_K^*) \text{ where } y_K^* = \frac{y_{K(t-1)} + y_{K(t-2)} + y_{K(t-3)}}{3} \qquad \text{(Equation 1)}$$

For our measures of employment and labour force participation, this formula generates a cumulative measure of the number of months that individuals were no longer employed or participating actively in the workforce throughout the pandemic. For our measures of unemployment and under-employment, this formula generates a cumulative measure of the number of additional months in which individuals were in states of unemployment or under-employment during the pandemic. This methodological approach overcomes a shortcoming of static point-in-time comparison measurements, where subsequent periods of recovery fail to fully represent the effects of the forgone months of employment that occurred prior.

While we focus on labour force indicators, we recognise that measuring the full costs of the pandemic is a more complex exercise beyond the aim of this study. Beyond jobs, there are many additional factors to consider when quantifying potential impacts. These include the repercussions of educational disruptions for young people's future economic prospects (Foster, 2020) and the impacts on safety, violence, mental health and other dimensions of wellbeing, which can also be gender-patterned (Broadway, Mendez, and Moschion, 2020). Researchers have also made the perceptive point that the capacity for the pandemic to destabilise traditional gender norms, including in ways that some individuals might find confronting, could prompt anxiety and other negative repercussions for health and wellbeing (Ruppanner, Tan, Scarborough, Landivar and Collins, 2021). Furthermore, we highlight that quantifying the net costs of COVID-19 containment measures would require comparing the outcomes that were observed during the pandemic relative to the outcomes that would otherwise have been experienced if containment measures were not taken, which is also beyond the scope of this study.

A further strength of our analysis is that we assess gender-disaggregated changes in workforce indicators relative to the gender composition of the workforce that was observed pre-pandemic. That is, the relative falls in employment experienced by men and women are compared to each gender's respective share of total employment to begin with. This provides a more accurate reference point by which to measure the gender-disaggregated changes that occurred.

3.2 Data

Our analysis uses labour force data collected monthly by the Australian Bureau of Statistics (ABS). The ABS Labour Force Survey is a survey of Australia's residential population aged 15 years and older, with a sample size approximately 26,000 dwellings which generates a sample of approximately 50,000 people (ABS, 2021d). One-eighth of the sample is rotated out of the sample each month and a dwelling from the same geographical area recruited into the sample to replace them. The sample covers approximately 0.32 per cent of Australia's residential population aged 15 years and over. The ABS makes seasonally-adjusted data available at monthly intervals for aggregate labour force indicators, disaggregated according to several demographic characteristics include gender and age. A limitation of the Labour Force Survey is that it excludes temporary residents from the respondent sample (for example, migrants on temporary visas) who are part of the workforce. However, data on the composition of temporary visa holders in Australia show that, although there is gender variation within some visa subclasses, visa holders are not significantly unbalanced in gender composition overall (Australia Government Department of Immigration and Border Protection, 2016). We infer that their exclusion from the sample is unlikely to drive any of the gender differentials we might observe in the data.

Employment data that are disaggregated according to workers' industry, occupation and educational qualifications are made available by the ABS at quarterly intervals, and only in original data series form. Because these disaggregations are only available at quarterly point-in-time intervals, cumulative losses or gains cannot be meaningfully calculated as part of our analysis. We approach these quarterly data as a sequential set of data points that must be examined collectively, again as distinct from simply comparing the first and most-recent point in time.

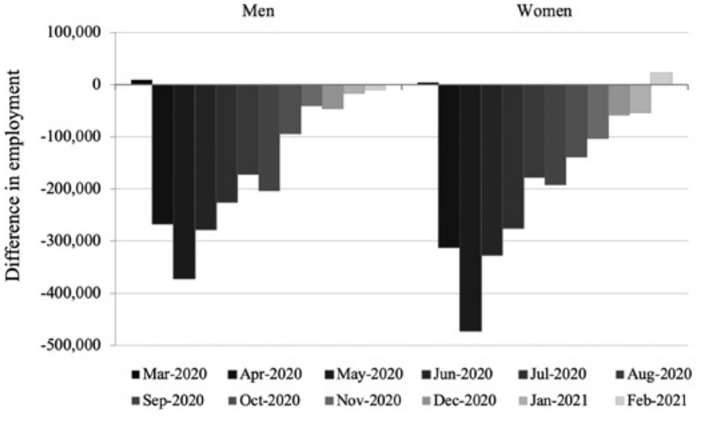
In addition to employment numbers, we examine gender-specific rates of unemployment (a measure of the people who are actively looking for paid work and available to start work within the next four weeks), under-employment (a measure of the people who are employed but working fewer hours than they are seeking), and the labour force participation rate (a measure of people of working age who are either employed or actively looking for and available to start work).

Workers who retained their employment and income through the Australian Government's JobKeeper scheme are classified in the ABS data as employed, regardless of how many hours they worked. This means that workers who worked zero hours, but retained their job through the JobKeeper scheme, are counted in the employment numbers. In this respect, the employment numbers can primarily be interpreted as a measure of job retention and income security. Treasury's analysis of the uptake of the JobKeeper scheme found that women constituted 47.1 per cent of JobKeeper recipients nationally during the month of April 2020 (Australian Treasury, 2020b). Compared to females' share of private sector employment prior to the pandemic, Treasury's analysis found that women were over-represented among JobKeeper recipients. This is indicative, at least in part, of women's over-representation among the workforce sectors that were most affected by the pandemic restrictions. Workers who were ineligible for JobKeeper, who were made unemployed, or who dropped out of the workforce completely, were not counted among the JobKeeper numbers.

4. Results

Firstly, we inspect the effect of the pandemic on aggregate employment numbers. The monthly change in the number of people in employment, disaggregated by gender, is illustrated in Figure 3. Women experienced a larger fall in aggregate employment numbers relative to men, most sharply during the first two months of the pandemic. In May 2020, by the time lockdowns had been enacted across all jurisdictions, around 472,000 fewer women and 371,000 fewer men were employed relative to pre-pandemic levels. Summing these losses over a twelve-month time-period (March 2020 to February 2021), the cumulative loss in employment status amounts to a net loss of 2,084,881 months of employment for women, and 1,716,182 months of employment for men (Table 1). Proportionally, women experienced 54.8 per cent of these cumulative employment losses, meaning they were over-represented relative to their 47.4 per cent share of pre-pandemic total employment. Women's over-representation is evident in both the full-time and part-time workforces. While women comprised 37.7 per cent of the pre-pandemic full-time workforce, they experienced 43.2 per cent of cumulative losses in total full-time employment. While comprising 68.1 per cent of the pre-pandemic part-time workforce, women experienced 72.4 per cent of cumulative losses in part-time employment.

Figure 3. Change in employment relative to pre-pandemic levels, by gender, Australia



Source: Authors' calculations using ABS Labour Force, Australia. Seasonally-adjusted data series. Difference in employment for each month, relative to the monthly average of the pre-pandemic quarter.

Table 1. Cumulative change in aggregate labour force indicators relative to pre-pandemic quarter, by gender, Australia

	Change in employment		*Change in full-time employment*		*Change in part-time employment*		*Change in unemployment*		*Change in under-employment*		*Change in labour force*	
	Men	*Women*	*Men*	*Women*	*Men*	*Women*	*Men*	*Women*	*Men*	*Women*	*Men*	*Women*
Month												
Mar 2020	4,958	4,243	11,991	-7,058	-3,081	11,301	4,969	11,678	38,068	3,871	13,832	15,921
April 2020	91,163	-312,245	-113,605	-106,433	-152,961	-205,812	91,169	47,150	397,182	246,002	-175,368	-265,095
May 2020	111,015	-472,048	-165,720	-150,390	-205,676	-321,658	110,969	98,667	357,350	170,759	-260,368	-373,380
June 2020	140,668	-326,791	-178,926	-151,297	-99,067	-175,494	140,669	135,344	293,684	98,690	-137,368	-191,447
July 2020	144,066	-274,718	-172,362	-129,735	-53,001	-144,983	144,069	153,411	268,109	88,271	-81,268	-121,306
Aug 2020	112,694	-178,412	-151,986	-120,634	-20,615	-57,779	112,669	95,730	278,312	89,377	-59,868	-82,683
Sep 2020	118,267	-192,032	-198,952	-118,880	-4,354	-73,152	118,269	101,351	286,399	92,947	-85,068	-90,681
Oct 2020	116,679	-139,077	-104,171	-118,153	9,982	-20,924	116,669	127,455	185,683	80,688	22,532	-11,621
Nov 2020	94,650	-103,454	-64,196	-77,775	23,766	-25,679	94,669	140,926	103,632	21,159	54,232	37,472
Dec 2020	99,659	-58,599	-72,533	-43,755	26,300	-14,845	99,669	101,289	37,142	-24,285	53,432	42,690
Jan 2021	92,624	-54,311	-49,680	-16,273	32,567	-38,038	92,569	83,984	31,963	-54,379	75,532	29,673
Feb 2021	65,712	22,563	-37,499	54,357	27,595	-31,793	65,669	38,184	44,045	-45,070	55,832	60,747
Cumulative change up to Feb 2021	1,192,156	-2,084,881	-1,297,638	-986,025	-418,544	-1,098,855	1,192,026	1,135,170	2,321,568	768,030	-523,913	-949,710
Gender share of cumulative change	51.2%	54.8%	56.8%	43.2%	27.6%	72.4%	51.2%	48.8%	75.1%	24.9%	35.6%	64.4%
Gender share pre-pandemic	54.1%	47.4%	62.3%	37.7%	31.9%	68.1%	54.1%	45.9%	41.1%	58.9%	52.7%	47.3%

Source: Authors' calculations using ABS Labour Force, Australia. Seasonally-adjusted data. May 2021 release. Data refers to change in number of people relative to the pre-pandemic level for the respective indicator, which is computed as the three-month average of December 2019, January 2020 and February 2020.

Turning towards unemployment numbers, a larger absolute number of men experienced unemployment, but women were over-represented relative to their pre-pandemic share. Women constituted 45.9 per cent of pre-pandemic total unemployment, but 48.8 per cent of the cumulative increase in unemployment over this twelve-month period.

In the face of higher unemployment prospects, labour force participation numbers reflect, in part, the extent to which jobseekers stepped out of the workforce completely. A decline in the number of people in the workforce can not only reflect jobseekers' disillusioned response to the difficulty of finding work, but also the challenges of maintaining a paid job while caring for family members during the pandemic. Surveys of Australian households inform us that, on average, women were taking on the bulk of the additional domestic caring, parenting and home-schooling responsibilities that arose during the pandemic (Craig, 2020; Craig and Churchill, 2020). While women constituted 47.3 per cent of the Australian labour force pre-pandemic, they represented 64.4 per cent of the cumulative decline in labour force numbers throughout the pandemic. This indicates that women's job losses were more likely than men's to be absorbed through a withdrawal from the labour force, more so than through a rise in unemployment.

A weakening in labour market opportunities can also take the form of under-employment, where a worker remains employed but receives fewer hours of work than they would like. Pre-pandemic, women's under-employment already notably exceeded that of men's. Both men's and women's under-employment numbers rose throughout the pandemic, but men were over-represented relative to their pre-pandemic share. This can be attributed, at least in part, to women's higher levels of under-employment to begin with, combined with men's over-representation in full-time employment and overtime hours, which provides more scope for men's hours to be curtailed while still retaining their job. Comparatively, weakened labour market opportunities for women were more likely to take the form of job losses or workers stepping out of the labour force completely. These dynamics were observed despite the availability of the JobKeeper scheme that aimed to sustain workers' attachment to their employer, even if it meant working fewer or zero hours.

Changes in hours worked provide further insight into gender-patterned differences in how the pandemic affected intensity of workforce participation (Table 2). A comparison of women's share of cumulative changes in employment numbers relative to their pre-pandemic gender share shows that women were over-represented in the net declines in employment within the 35-39 hours and 40-44 hours categories. It is most likely that these workers experienced either a reduction in hours or a job loss, although it is also conceivable that some women who shifted out of these categories could have moved into categories that demanded even more hours, due to higher demand for their services during the pandemic. This is a possibility if we consider, for example, the intensified need for female-concentrated occupations such as nurses and aged care workers. This also reflects a distinction that governments made between the essential and non-essential workforce when declaring which types of economic activity could continue as part of their containment measures. An earlier study of the impact of the pandemic on the Dutch labour market found that gender gaps in labour force impacts were not as profound in non-essential occupations (Meekes, Hassink and Kalb, 2020).

In all other categories of hours worked, men experienced a relatively larger share of job losses relative to their pre-pandemic share. Looking at workers who work more than 45 hours weekly, men comprised at least 70 per cent of the workers in these categories pre-pandemic, but were more likely than women to move to another category, implying a decline in hours. Women comprised at least 60 per cent of workers who worked up to 34 hours per week pre-pandemic, yet they experienced only between 33 per cent to 46 per cent of total job losses in this category of hours worked.

Table 2. Change in employment, relative to pre-pandemic levels, by gender and hours worked

	Cumulative change up to Feb 2021		*Gender share of cumulative change*		*Gender share of pre-pandemic employment*	
Weekly hours worked	*Men*	*Women*	*Men*	*Women*	*Men*	*Women*
0 hours (Did not work)	-1,181,486	-1,096,146	51.9%	48.1%	46.4%	53.6%
1-9 hours	400,857	345,932	53.7%	46.3%	38.3%	61.7%
10-19 hours	320,242	226,260	58.6%	41.4%	35.4%	64.6%
20-29 hours	717,932	480,513	59.9%	40.1%	36.2%	63.8%
30-34 hours	1,777,512	881,868	66.8%	33.2%	41.2%	58.8%
35-39 hours	-621,987	-1,026,286	37.7%	62.3%	53.2%	46.8%
40-44 hours	-895,738	-1,307,329	40.7%	59.3%	62.3%	37.7%
45-49 hours	-830,754	-316,729	72.4%	27.6%	69.1%	30.9%
50-59 hours	-808,630	-107,603	88.3%	11.7%	73.5%	26.5%
60-69 hours	-339,946	-58,106	85.4%	14.6%	76.1%	23.9%
70 hours or more	-380,260	-57,127	86.9%	13.1%	80.1%	19.9%

Source: Authors' calculations using ABS Labour Force, Australia, Detailed. Original series data available monthly.

Partly, signs of labour market recovery reflect new entrants joining the workforce, and not necessarily displaced workers regaining employment. This is evident in our analysis of net employment changes by age cohort, as it is not possible for most people to change their age cohort within the period under analysis. Mid-age and older age cohorts experienced net employment gains during the recovery, while younger age groups experienced net losses, which were largest amongst young women (Table 3). Cumulatively, by far it was women aged 15 to 24 years who shouldered the largest number of employment losses throughout the first twelve months of the pandemic. Partly these age-based differentials reflect younger workers' higher share of casual employment, which pre-disposes them to a higher chance of losing their job if employers are more inclined to hold on to permanent and full-time staff during precarious times. The gender differences in net employment losses are profoundly observable when comparing younger-aged women to younger-aged men (Figures 4 and 5). Gender differentials within a given age group can also be attributed to parental and other care pressures falling disproportionately on women throughout the pandemic.

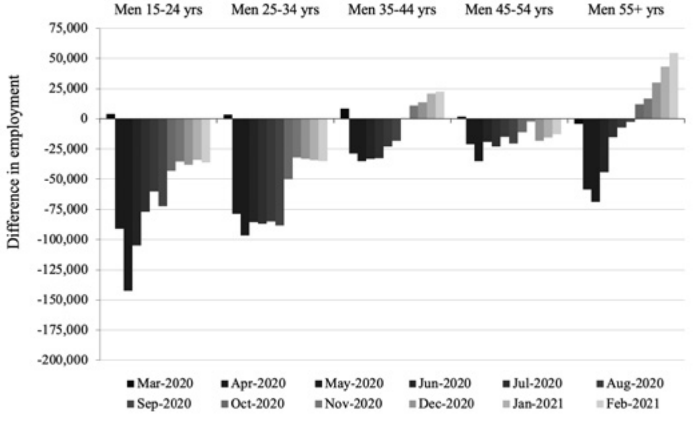
Compared to younger women, older women's net employment numbers increased. The entry of a larger number of older-aged workers into the workforce during this period of economic pressure could reflect an 'added worker effect', where additional members of the household join the workforce during times of economic precariousness, as a way of buffering total household income. However, despite older women exhibiting net employment gains over this time period, older men made up the disproportionate share of net gains in employment among the older age cohorts.

Table 3. Cumulative change in employment, relative to pre-pandemic levels, by gender and age

	Cumulative change up to Feb 2021		*Gender share of cumulative change*		*Gender share of pre-pandemic employment*	
Age group	*Men*	*Women*	*Men*	*Women*	*Men*	*Women*
15-24 years	-729,663	-954,331	43.3%	56.7%	50.0%	50.0%
25-34 years	-701,045	-711,577	49.6%	50.4%	52.9%	47.1%
35-44 years	-92,899	34,170	158.2%	-58.2%	53.5%	46.5%
45-54 years	-191,615	-231,067	45.3%	54.7%	51.6%	48.4%
55 years and older	-43,953	-197,877	18.2%	81.8%	54.4%	45.6%

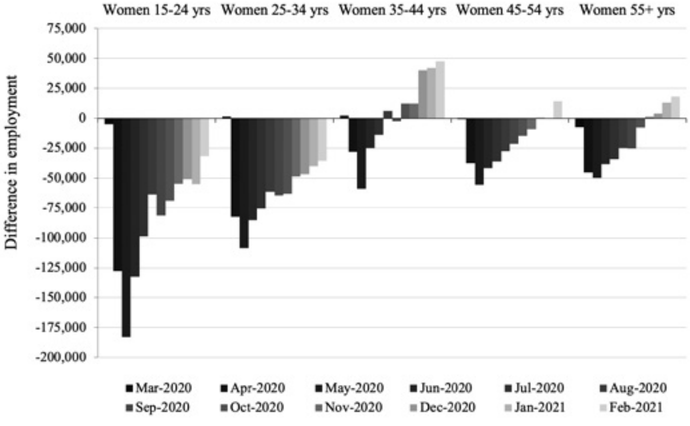
Source: Authors' calculations using ABS Labour Force, Australia. Seasonally-adjusted data available monthly. In the 35-44 age group, men experienced a net loss in employment while women experienced a net gain and the age cohort overall experienced a net loss. As a result, men's share of 'Gender share of cumulative change in employment' exceeds 100%, and women's net gain generates a negative sign.

Figure 4. Change in men's employment relative to pre-pandemic levels, by age, Australia



Source: Authors' calculations using ABS Labour Force, Australia. Seasonally-adjusted data series. Difference in employment for each month relative to monthly average of the pre-pandemic quarter.

Figure 5. Change in women's employment relative to pre-pandemic levels, by age, Australia



Source: Authors' calculations using ABS Labour Force, Australia. Seasonally-adjusted data series. Difference in employment for each month, relative to monthly average of the pre-pandemic quarter.

The larger cumulative loss in women's employment was, in part, attributable to gender patterns in industry and occupation of employment. Many of the industries that encountered large declines in jobs throughout the pandemic were those in which the gender balance was not too far from parity to begin with, and yet women carried a larger volume of employment losses (Table 4). Retail trade is the fourth-largest industry of employment for women, though its workforce composition is fairly gender balanced with women comprising 56 per cent of all workers (ABS, 2021c). Yet, three months into the pandemic, there were 73,000 fewer women employed in retail compared to pre-pandemic levels, yet only 11,300 fewer men. In part, this reflects differences in the types of retail jobs in which men and women were employed.[2] By November 2020, women's employment in retail trade was still 2,000 less than pre-pandemic levels, though men's net employment had increased by 44,400. The accommodation and food services industry is the fifth-largest employer of women across the entire workforce, yet is fairly gender balanced in its composition, comprised of 55 per cent women and 45 per cent men (ABS, 2021c). Indicative of women's over-representation among job

2 Within Retail Trade, a larger share of women are employed in the retailing of clothing, footwear and personal accessories and in departments stores, while a larger share of men are employed in the retailing of motor vehicle, electronic goods, hardware, and building and garden supplies, and in occupations that are not forward-facing to the public such as shelf fillers (Authors' calculations using ABS *Census of Population and Housing 2016, TableBuilder*). These female-concentrated sectors of the retail industry were more profoundly affected by the business restrictions and declines in consumer demand experienced in the first months of the pandemic (ABS *Retail Trade, Australia*).

losses in this industry, by November 2020, 65,800 fewer women were employed in accommodation and food services relative to pre-pandemic levels, while men's jobs had fallen by 33,500. Similarly, in professional, scientific and technical services, where women make up around 44 per cent of the workforce, women's employment was below pre-pandemic levels at every quarter, while men's job numbers rose above pre-pandemic levels in some quarters. This gender-based disaggregation also enables us to identify areas of the labour market where men experienced larger losses in employment compared to women. In the public administration and services workforce, where men occupied 56 per cent of jobs prior to the pandemic, men experienced a net job loss at every quarter, whereas women's employment numbers exceed pre-pandemic levels at every quarter. Construction, which is 88 per cent male, provides an example where men's employment was weaker than pre-pandemic levels in every quarter, while women's employment was higher.

Our occupation-based disaggregation detects instances where relative job losses were not necessarily commensurate with initial gender shares (Table 5). For example, among professionals, which is 56 per cent female in composition, women were over-represented in job losses. There were 47,000 fewer women in this industry were in employment by the end of the May 2020 quarter, compared to only 7,500 fewer men. Similarly, there are also instances where men have been over-represented among job losses. Among machine operators and drivers, which is 90 per cent male, men absorbed all of the net losses in jobs, while women's net employment numbers strengthened relative to pre-pandemic conditions. Employment changes within the community and personal services workforce – which is around 72 per cent female – provide an example where job losses were generally commensurate with initial gender shares. By May 2020, there were 224,100 fewer women and 89,100 fewer men employed in this occupation: this amounts to women experiencing around 72 per cent of these net losses.

Table 4. Change in employment relative to pre-pandemic levels, by gender and industry, Australia

	Difference in employment relative to pre-pandemic level								*Gender share of pre-pandemic employment*	
	May 2020		*Aug 2020*		*Nov 2020*		*Feb 2021*			
Industry	*Men*	*Women*	*Men*	*Women*	*Men*	*Women*	*Men*	*Women*	*Men*	*Women*
Agriculture, Forestry and Fishing	19,400	2,100	27,000	-2,600	8,700	-2,100	-2,200	3,700	65.9%	34.1%
Mining	-10,200	-600	2,100	-500	19,300	5,600	4,000	6,600	83.2%	16.8%
Manufacturing	-32,200	-14,500	-47,800	-16,900	-69,400	-1,500	-22,300	2,800	71.3%	28.7%
Electricity, Gas, Water and Waste Services	21,400	11,400	7,400	8,000	14,000	5,600	13,000	3,600	77.7%	22.3%
Construction	-11,100	5,700	-52,500	21,000	-27,900	18,500	-40,100	9,500	87.6%	12.4%
Wholesale Trade	-6,300	10,100	8,600	7,800	-18,400	-1,100	-1,000	1,600	66.7%	33.3%
Retail Trade	-11,300	-73,000	-3,000	-53,500	44,400	-2,000	63,000	7,700	43.6%	56.4%
Accommodation and Food Services	-115,200	-161,800	-68,700	-87,800	-33,500	-65,800	-28,300	-54,800	44.8%	55.2%
Transport, Postal and Warehousing	-71,000	-27,200	-70,300	16,300	-31,400	18,800	11,900	11,500	80.3%	19.7%
Information Media and Telecommunications	-10,200	-13,800	-4,400	-12,800	-6,000	-12,700	-6,400	-3,200	58.0%	42.0%
Financial and Insurance Services	22,600	-9,100	16,700	-8,900	15,100	-5,800	12,600	-8,100	49.4%	50.6%
Rental, Hiring and Real Estate Services	-1,400	6,800	1,500	-300	-6,700	-1,500	100	-5,300	51.1%	48.9%
Professional, Scientific and Technical Services	-32,100	-33,400	-1,500	-54,300	43,800	-37,000	46,100	11,900	55.7%	44.3%
Administrative and Support Services	-29,500	-30,100	-13,200	-34,700	8,000	-10,500	-25,600	-29,400	49.4%	50.6%
Public Administration and Safety	-19,700	34,100	-23,000	56,000	-200	44,900	-10,300	39,700	53.4%	46.6%
Education and Training	-25,500	-38,200	9,800	6,900	1,200	16,900	-28,600	-8,300	28.9%	71.1%
Health Care and Social Assistance	-13,600	-59,500	-3,200	-15,700	-8,100	-37,800	-2,600	17,800	22.3%	77.7%
Arts and Recreation Services	-47,500	-45,700	-14,200	-30,500	-7,100	-12,400	1,100	-7,000	50.3%	49.7%
Other Services	-25,400	-26,500	-33,200	-21,900	-19,600	-8,500	1,900	14,500	55.0%	45.0%

Source: Authors' calculations using ABS Labour Force, Australia, Detailed. Original series data available at quarterly intervals. Industry categories are defined according to the Australian and New Zealand Standard Industrial Classification (ANZSIC).

Table 5. Change in employment, by gender and occupation, Australia

	Difference in employment relative to pre-pandemic level								*Gender share of pre-pandemic employment*	
	May 2020		*Aug 2020*		*Nov 2020*		*Feb 2021*			
Industry	*Men*	*Women*	*Men*	*Women*	*Men*	*Women*	*Men*	*Women*	*Men*	*Women*
Managers	-14,500	-19,700	25,700	5,700	-27,400	10,600	32,500	41,100	61.5%	38.5%
Professionals	-7,500	-47,000	7,900	-1,900	82,600	26,400	81,900	66,000	44.2%	55.8%
Technicians and Trades Workers	-96,500	-12,500	-87,000	-16,900	-26,300	-3,100	-49,800	14,000	84.0%	16.0%
Community and Personal Service Workers	-89,400	-224,100	-42,300	-13,900	-22,700	-101,900	24,600	-71,600	29.9%	70.1%
Clerical and Administrative Workers	-13,800	-3,200	- 30,500	24,400	6,600	32,500	-56,500	8,000	27.5%	72.5%
Sales Workers	-35,300	-111,300	-16,500	-15,200	5,400	-52,900	20,500	-35,000	38.6%	61.4%
Machinery Operators and Drivers	-25,900	4,200	-51,800	2,800	-17,900	3,000	25,100	1,300	89.5%	10.5%
Labourers	-115,900	-49,700	-97,500	-9,600	-74,100	-3,200	-92,100	-9,000	67.1%	32.9%

Source: Authors' calculations using ABS Labour Force, Australia, Detailed. Original series data available at quarterly intervals. Occupation categories are defined according to the Australian and New Zealand Standard Classification of Occupations (ANZSCO).

Disaggregating by gender and education reveals an education gradient in employment losses, among both men and women. For example, men and women with secondary school education experienced a larger fall in employment (6.6 per cent and 13.1 per cent respectively) than men and women with a diploma qualification or higher (4.4 per cent and 4.9 per cent respectively), when comparing the pre-pandemic quarter of February 2020 to the May 2020 quarter.

When inspecting these employment losses relative to pre-pandemic employment shares, gender differentials are noticeable among workers at the lowest end of the education spectrum. Among workers with no post-secondary qualifications, women comprised around 47 per cent of the employment cohort pre-pandemic. Yet by May 2020, women in this education cohort had experienced a net loss in employment of 258,000 jobs, compared to 147,700 lost jobs among men, and women's net employment loss continued to exceed that of men's for each subsequent quarter.

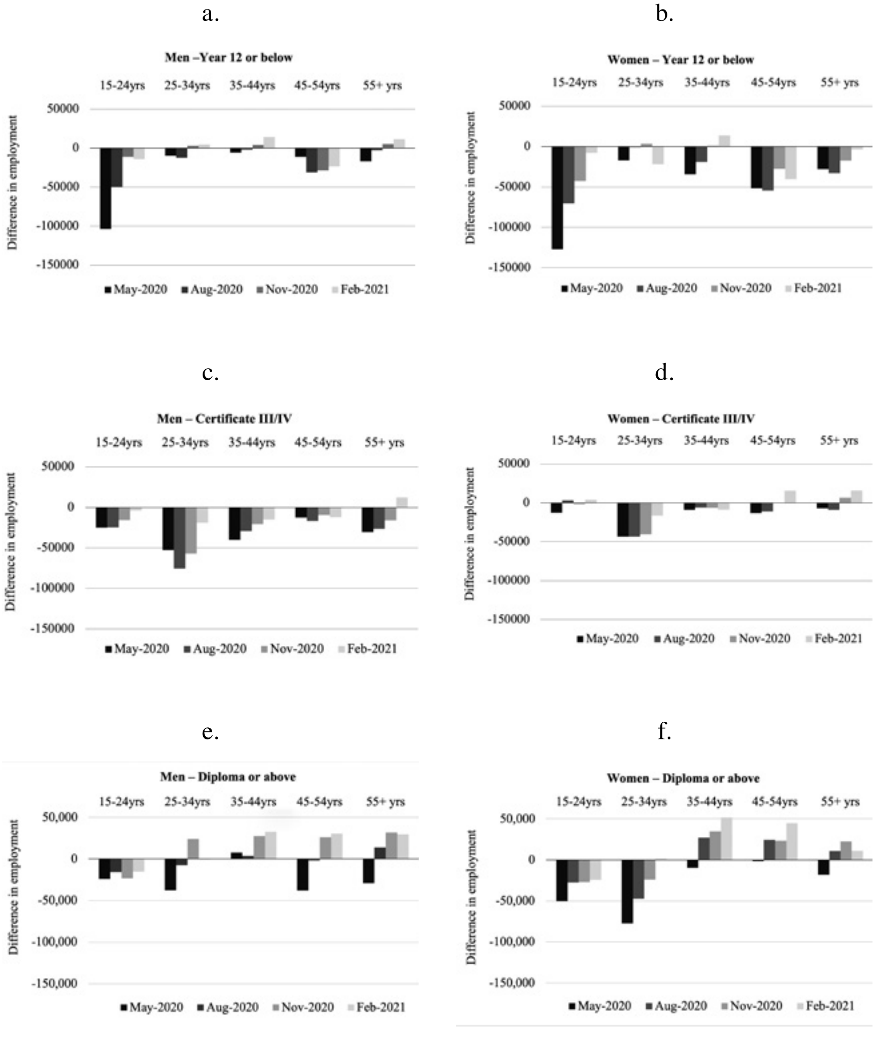
Looking at the intersections of gender and education with age, young women with higher qualifications were impacted more severely than similarly-qualified young men through the pandemic. Between the February 2020 and May 2020 quarters, employment numbers of women aged 15-24 years with a diploma qualification or higher fell by 20.8 per cent, compared to a 15.0 per cent fall for men in the same education and age cohort. In the 25-34 year cohort, employment for women with a diploma qualification or higher fell by 8.0 per cent, compared to a 4.9 per cent fall for men of the same age. The dynamic was opposite amongst older cohorts. Men with a diploma qualification or above in the 55 years and older cohort experienced a 5.9 per cent fall in employment between February 2020 and May 2020, compared to a 3.7 per cent fall for women in the same cohort.

Table 6. Change in employment relative to pre-pandemic levels, by gender and educational qualifications, Australia

	Difference in employment relative to pre-pandemic level								*Gender share of pre-pandemic employment*	
	May 2020		*Aug 2020*		*Nov 2020*		*Feb 2021*			
Highest educational qualification	*Men*	*Women*	*Men*	*Women*	*Men*	*Women*	*Men*	*Women*	*Men*	*Women*
Diploma or above	-121,400	-157,100	-7,900	-12,600	86,300	29,600	76,800	84,300	46.4%	53.6%
Certificate III/IV	-160,600	-85,800	-72,700	-66,400	-118,400	-42,000	-37,800	10,300	66.2%	33.8%
Year 12 or below	-147,700	-258,000	- 98,200	-177,200	-27,500	-82,700	-7,200	-58,900	53.1%	46.9%
Level not determined	30,900	37,500	16,900	31,500	-14,300	6,700	-45,600	-21,000	59.2%	40.8%

Source: Authors' calculations using ABS Labour Force, Australia. Original series data available at quarterly intervals. Educational qualifications are defined according to the Australian Standard Classification of Education (ASCED). Diploma or above includes: Diploma, Advanced Diploma, Bachelor Degree, Graduate Diploma, Graduate Certificate, and Postgraduate Degree. Year 12 or below incudes no educational attainment. 'Level not determined' constitutes around 3 per cent of the total sample.

Figure 6. Change in employment relative to pre-pandemic levels, by gender, education and age, Australia



Source: Authors' calculations using ABS Labour Force, Australia, Detailed. Original series data available at quarterly intervals. Difference in employment for each quarter, relative to pre-pandemic quarter. Educational qualifications are defined according to the Australian Standard Classification of Education (ASCED). Educational qualifications are defined according to the Australian Standard Classification of Education (ASCED). Diploma or above includes: Diploma, Advanced Diploma, Bachelor Degree, Graduate Diploma, Graduate Certificate, and Postgraduate Degree. Year 12 or below incudes no educational attainment. 'Level not determined' constitutes around 2.5 per cent of the total sample and is not illustrated.

5. Comparison between Victoria and Australian Government responses

The gender-disaggregated analysis presented in this paper provides an instructive example of how to undertake gender impact analysis, which can then be used to inform policy design. This is a methodological approach that governments, of all levels, can adopt as a means of developing policy that supports the principles and objectives of gender equity. Such a process of undertaking a gender impact assessment, and using the analytical insights to inform and guide policy formation, is part of a process recognised internationally as gender responsive budgeting (OECD 2021; Sharp and Broomhill, 2013; UN Women, undated website).

The process of GRB involves analysing government policies for potential differences in their impact on men and women. This analysis can then guide decisions on whether to pursue a policy proposal, amend the proposal or formulate additional policies to support gender equity goals. In broader international practice and literature, it has been recognised that GRB incorporates three broad processes that can be implemented in isolation or together: gendered-informed resource allocation, where an assessment of budget proposals is undertaken; gender-assessed budgets, where assessment of the impacts of the budget are conducted; and need-based gender budgeting where an assessment of gender needs informs the budget process (Downes, von Trapp and Nicol, 2017). Undertaking these steps requires the collection of gender-disaggregated data combined with an understanding of the deeper economic, societal, cultural and institutional factors that shape men and women's participation in the economy and broader experiences in society. Conducting ongoing evaluations of a policy's impact after the initial gender impact assessments is part of the GRB process, and involves articulating a set of gender gap indicators against which progress can be benchmarked (Government of Canada, 2021). Applying an intersectional lens to gender-based economic analysis is important for understanding the different experiences of diverse groups of women within the population, as is exemplified by Canada's approach to gender-based analysis and has been similarly prescribed for designing health policy responses (Government of Canada, 2021; Ryan and El Ayadi, 2020).

As noted in our review of previous studies, the disproportionate impact of COVID-19 on women was acknowledged early in the pandemic by analysts, researchers and international agencies. In particular, it was clear that women accounted for a higher proportion of overall job losses during the COVID-19 recession when compared to previous economic downturns (Figure 1). It was, consequently, widely commented that the governments could not rely on the same set of policy responses that had been used in previous downturns (Wood, Griffiths and Crowley, 2021). However, there were differences in the degree to which governments in Australia acknowledged, assessed and addressed these gender-patterned impacts. Comparing the responses of the Victorian Government to that of the Australian Government provides a case study in how the principles and processes of applying a gender lens, such as through the application of GRB, can shape a government's policy responses.

5.1 Australian Government policy approach

The Federal Budget 2020-21, focused squarely on facilitating Australia's recovery from the pandemic, was released on 6 October 2020, and did not include any gender analysis of the economic impact of the pandemic (Commonwealth of Australia, 2020). Although the Treasurer acknowledged in the 2020-21 Budget speech that the majority of job losses throughout the pandemic had been experienced by women, no systematic gender analysis was undertaken in the 2020-21 Federal Budget and no policies were announced to specifically address the impact of COVID-19 on female employment.

These observations are consistent with the assessments made by the Senate Select Committee on COVID-19 that "despite strong evidence early in the pandemic that women were being disadvantaged, neither the pre-existing economic inequality experienced by Australian women nor the pandemic's direct economic impact has been meaningfully considered in the government's economic response" (Senate Select Committee on COVID-19, 2020, p. 84). In terms of support for women, the Federal Budget 2020-21 announced a $256 million Women's Economic Security Package focused on female leadership and promoting women in STEM. This expenditure amounted to only a fraction of the total of $233 billion in new government spending outlined across the whole of the Budget (Commonwealth of Australia, 2020).

A centrepiece of the 2020-21 Federal Budget was the $74 billion JobMaker plan which included tax cuts, additional expenditure on infrastructure, and boosting apprenticeships (Commonwealth of Australia, 2020). These policies were similar to those implemented during previous recessions when the economic impacts had been greater on male than female employment. Analyses of the predicted impacts of the proposed tax cuts have found that this policy will disproportionally benefit men, delivering $2.28 of benefits to men for every dollar of benefit for women (The Australia Institute, 2020). The Australian Government's expenditure on infrastructure supports a construction industry that is 88 per cent male (ABS, 2021c), while apprenticeship policies support a cohort that is 65 per cent male (NCVER, 2021). At the same time that Federal Government support was channelled towards these male-dominated sectors, the Australian Government ended the JobKeeper support scheme for workers in the childcare sector in July 2020, ahead of schedule, despite extending the scheme for all other eligible sectors until March 2021. The childcare and early childhood education workforce in Australia is over 95 per cent female (ABS, 2016). No other sector of the workforce had JobKeeper support withdrawn ahead of schedule.

In May 2021, with the Australian economy having shifted from recession to recovery yet still experiencing some restrictions on business activity, the Australian Government released its 2021-22 Federal Budget. As part of the 2021-22 Federal Budget, the Australian Government re-instated the Women's Budget Statement, which included a gender-based analysis of the impact of the pandemic (Commonwealth of Australia, 2021b). The 2021-22 Budget outlined a package of policies to specifically support women, mainly focused on women's safety and addressing violence against women (Prime Minister of Australia, 2021). Policy changes were announced in relation to childcare and superannuation eligibility that would generate relatively greater benefit to women than for men, providing examples of how existing policy setting disproportionately disadvantage women. However, the share of women who stand to benefit from these policy adjustments is limited in scope.[3] More fundamentally, the Australian Government did not undertake any steps to systematically apply GRB across the whole of the budget's policy initiatives. It did not implement any policies to specifically support women's economic participation in the aftermath of the recession and its stimulus measures disproportionally favoured male-dominated sectors of employment (Commonwealth of Australia, 2021a). When asked about the matter in the lead-up to the Budget, the Minister for Women's Economic Security, Jane Hume, stated "I don't think you can appropriately put a gender lens on the budget" (cited by Commins, 2021, p. 7).

5.2 Victorian Government policy approach

The Victorian Government's 2020-21 Budget was delivered on 24 November 2020 and included analysis of the gender impact of the pandemic (State of Victoria, 2020). It highlighted that while women's employment fell by 6.7 per cent from the March to September quarters (equivalent to 109,000 women), male employment only fell by 3.9 per cent (equivalent to 70,000 men).

The centrepiece of the Victorian Government Budget was a Jobs Plan (State of Victoria, 2020). In addition to large additional investments in social housing and infrastructure, the Jobs Plan focused on supporting women to return to the workforce (State of Victoria, 2020). It included $170 million to make kindergarten and childcare programs free during 2021 to support women returning to the labour market, and $82 million to increase the availability of outside school hours care (State of Victoria, 2020). The budget also included direct employment supports for female jobs (State of Victoria, 2020).

The Victorian Government's approach in the 2020-21 Budget employed aspects of GRB, including an assessment of gender-based needs and gender-informed resource allocation. The result was a set of policies that addressed female economic participation in the aftermath of the recession. This was augmented in the 2021-22 State Budget with funding for the establishment of a unit within the Victorian Treasury to undertake GRB in the future (State of Victoria, 2021). The creation of a GRB unit will allow for the third element, gender-assessed budgets, to be conducted going forward.

Given the gender-sensitive policy response of the Victorian Government, compared to the apparent absence of a gender lens in Federal Government policy responses, we may expect to see that the gender differential in rates of economic recovery will be narrower in Victoria than for the rest of Australia, as could be

3 The proposed reduction in childcare subsidies only applies to families who have two or more children in childcare (Commonwealth of Australia, 2021b). The proposed improvement in superannuation eligibility only applies to women with a monthly income of $450 or less. The Federal Budget reported that women constitute 63 per cent of the cohort who would benefit from this policy change (Commonwealth of Australia, 2021b). The Australian Treasury's Retirement Income Review concluded that removing the $450-a-month threshold was important for gender equity but would only have a small effect on women's retirement incomes (Australian Treasury, 2020a).

indicatively analysed by comparing the two graphs presented in Figure 2. However, isolating the effects of these different approaches is complex given the multiple factors at play, including in other jurisdictions, and the fact that the impacts of the Victorian Government's policy responses may not yet be visible in labour market data. Nevertheless, there is a need to continue to track and analyse the impacts of the pandemic and governments' comparative policy responses, including the longer-term effects across a range of indicators such as gender gaps in workforce earnings, job security, superannuation, representation in senior occupations and leadership, unpaid care allocation, mental health and other measures of wellbeing. The incidence of further COVID-19 outbreaks and implementation of containments restrictions in other jurisdictions in Australia throughout 2021 and beyond must continue to be analysed through a gender lens.

6. Discussion and conclusion

This study provides a statistical documentation of the gender-patterned nature of the economic effects of the COVID-19 pandemic in Australia, analysing labour force indicators across the first twelve months of the pandemic. Even though aggregate labour market indicators look to have recovered to pre-pandemic levels as the economy emerged from the recessionary period of 2020, the job losses that occurred throughout the pandemic cannot be passed over. Relative to their share of employment in the months immediately leading up to the pandemic, women were over-represented in the cumulative losses in employment throughout the first twelve months of the pandemic. Women were also over-represented among the cumulative rise in unemployment and in the cumulative losses in labour force participation numbers. Men were over-represented among the cumulative increase in underemployment, indicative of relatively more men than women being able to retain a job during the pandemic despite working fewer hours than they hope for. Collectively, these findings indicate that women were more likely than men to drop out of the workforce completely under the pressures of the pandemic, which has repercussions for gender gaps in overall economic security, lifetime earnings and superannuation.

The gender-differentiated effects that were observed in the Australian labour market are similar to the global picture, illustrating how gender norms relating to work and family roles – the male-breadwinner/female caregiver model of society – transcends country borders and is a pervasive feature of many cultures more broadly.

Some caveats and considerations surround our findings. Although the Australian economy has emerged from recession, the longer-term economic effects of the pandemic are still unfolding. Our analysis has identified that the cohort that has experienced the bulk of job losses are younger-age women, implying that proportionately more women than men will be predisposed to the scarring effects of unemployment. Longer-term, this can have a bearing on gender gaps in lifetime earnings.

We also highlight that, in addition to labour force indicators, a broader suite of wellbeing measures need to be considered when analysing the impact of the pandemic, including women's safety and the incidence of violence, measures of mental and physical health, financial stress and housing insecurity. Furthermore, the aggregated labour force statistics presented in this analysis do not reflect the experiences of the especially vulnerable cohorts of women. Single-parent mothers, Aboriginal and Torres Strait Islander women, women living with a disability, LGBTIQ women, migrant women, and women from culturally and linguistically diverse backgrounds are among those for whom the economic impacts of the pandemic have generally been more severe. There is a need for gender impacts to be further analysed through an intersectional lens, to account for the influence of these other demographic characteristics.

Although our analysis identified that women, on average, carried the bulk of workforce losses overall, we acknowledge that there are many thousands of men in Australia who also experienced job losses, financial insecurity, and pressures on their mental health. Studies have also identified the health risks that men have been highly vulnerable to during the COVID-19 pandemic (Betron, Gotter, Pulerwitz, Shattuck and Stevanovic-Fenn, 2020).

Our gender-based analysis of the impact of the COVID-19 pandemic and assessment of the government's policy responses exemplifies the rationale for the adoption of gender lensing, which can be formally enacted in policymaking through the legislation of GRB. In simple terms, GRB involves conducting a gender-based assessment of the impact of a policy shock or a policy setting and using this analysis to inform policy design. The importance of gender lensing is consistent with a finding of the Australian Senate Committee that "the Australian Government should have undertaken analysis of the gendered impact of the decisions it made when responding to the pandemic. This would have improved the information available to decision makers and ensured that specific impacts were considered before finalising fiscal or policy measures" (Senate Select Committee on COVID-19, p. 84). While GRB is not currently a formal procedure in the Australian or any State and Territory Governments, in the 2020-21 Victoria Budget announced in May 2021, the Victorian Government announced the establishment of the Gender Responsive Budgeting Unit in the Department of Treasury and Finance. In terms of embedding mechanisms to instil gender equity into economic analysis and policymaking, this is a significant marker of progress.

In future analysis, it would be informative for public policymaking to examine the impacts of gender-sensitive policy responses and assess the extent to which a gender lens contributes to a narrowing of men's and women's economic outcomes over time in Australia. Although it is a complex task to analyse – as testing for causality requires careful analytical design, and any differences in prevailing economic conditions and the nature of external shocks needs to be controlled for – it can be hypothesised that the gap between men's and women's economic outcomes is expected to narrow at a greater rate in settings that adopt GRB compared to those that do not. In the context of the COVID-19 pandemic and building ongoing resilience to future economic shocks, investing in our understanding of the impact of gender lensing is particularly valuable for policymakers striving for an equitable and inclusive economic recovery. Irrespective of the pandemic, the tools of GRB provide policymakers with mechanisms to both embed the principle of gender equity into policymaking and enhance the analytical rigour of the policymaking process, both of which are critical ingredients for responsible and effective public policy.

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COVID-19: An Opportunity to Reset Policy Levers for Better Gender Equality in the Economy and Society[a]

Dr Tania Dey[b] *South Australian Centre for Economic Studies, University of Adelaide*
Associate Professor Michael O'Neil *South Australian Centre for Economic Studies, University of Adelaide*

Abstract

This paper presents a discussion on economic incentives and social norms that have contributed to the changing participation of women in the Australian labour market. While that participation continues to increase there is still more that can be done to improve equality and equity in the workforce that will contribute to national productivity and income. COVID-19 offers the opportunity of looking freshly at changing social norms and our economic policies to maintain and reward the participation of women in the labour market. Australia as a nation will be better off and families and children likewise.

JEL Codes: J16, J18, J2
Keywords: Female workforce participation, social norms, public policy, gender equity, COVID-19

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[b] Corresponding author: Tel: +61 8 8313 4915; Email: tania.dey@adelaide.edu.au

1. Introduction

In this paper we analyse key issues and potential barriers impacting women's career progression in Australia and ask:

- why it is important to increase women's participation in the paid workforce?;
- how increasing full-time participation of women can contribute to the three Ps of economic growth i.e. population, participation and productivity?;
- consider how education, employment, occupational outcomes and gender inequality issues impact women's earnings both now and in the future;
- is gender inequality only a workplace issue?; and
- can promoting gender equality enrich women financially and men socially?

In the year ending September 2020, net natural increase dropped by 3.8 per cent. The pandemic had its toll on net overseas migration, which dropped by a massive 65 per cent compared to the previous year (see, ABS, National State and Territory Population, 2021) mostly due to reduced international student numbers and other temporary visas. Fertility rates have decreased from 1.97 babies per woman in 2009 to 1.66 babies per woman in 2019 (see, ABS, Births, 2020). Female labour force participation fell last year but is bouncing back. Women were disproportionately affected due to the pandemic with more job losses (see, Melbourne Institute, 2020) and a larger share of unpaid work (see, ABS, Household Impacts of COVID-19 Survey, 2021). The backdrop to any review or understanding of trends in the Australian population is that the general population is ageing, fertility rates continue to be at a low level and overseas migration is a significant component of population growth. In a post-COVID-19 environment migration to Australia has been significantly curtailed impacting both the education and tourism sectors. We commence our discussion with an examination of women's increased participation in the workforce as one of the driving forces behind economic growth. We conclude with a general discussion of policy options to increase women's participation in the workforce.

2. Women and the Three Ps of Economic Growth

Population, participation and productivity are the three key drivers of economic growth. A steady improvement in these areas – and we ask to what extent can increasing the full-time participation of women in the workforce contribute to each of these – will ensure that a nation continues on its path to prosperity.

2.1 Population

Our analysis of ABS population projections indicates that between 2017 and 2066 there will be fewer children to refresh the population and fewer income earners will be responsible for taking care of a higher proportion of aged population. According to ABS Demographic Statistics, in the year ended 30 June 2018, net overseas migration contributed 61 per cent to total population growth whereas natural increase contributed 39 per cent.

The Baby Bonus provided evidence that fertility rates are responsive to policy influences and was successful in increasing the birth rate (see Drago *et al*., 2011). Australia could solely rely on net overseas migration for population growth but it may be desirable to facilitate some growth through natural increase, in order to mitigate population ageing. Australia needs a policy which encompasses migration rates and fertility rates. That said, if Australia wants to rely on population growth as a driver of economic growth/prosperity then Australia needs policies that enable women to have children without having to trade-off their employment opportunities, i.e. policies that support their dual role of parenthood and work – both for mothers and fathers.

It becomes even more necessary under the current circumstances when not only the Australian economy but Australia's demographic composition is also suffering due to stalling migration inflicted by COVID-19. According to ANU demographer Dr Liz Allen the pandemic could lead to lower birth rates. This can be disastrous for generations to come. If Australia's birth rate (which is already low) drops to 1.5 or below which is considered well below the replacement level then there will be more people who would need to be cared for but less people to work towards a tax base for adequate delivery of services (see, Allen, 2020).

2.2 Participation

We note that ABS population projections shows that a smaller proportion of the working age population will be available to work over the period ending 2066 which has potential implications for economic growth (see, ABS, Population Projections, 2018). It follows that a suite of policy options will need to be explored to maintain and increase the participation rate of those who currently have relatively low participation rates. Participation rates are declining for both men and women. Hence in a post-pandemic world government stimulus is needed in both male-dominated sectors such as construction and mining as well as female-dominated sectors such as education and health and social services sector to create jobs for both men and women alike.

The Australian Government has used various policy levers to bring about increased workforce participation among older cohorts especially in terms of the age pension and superannuation. There are benefits to the individual and the economy from the knowledge and experience accumulated by older Australians over their working life. However, increasing participation from older Australians cannot be coerced by policy alone, there are other soft issues that must be addressed as well, such as age discrimination at workplaces, creating a safer and inclusive workplace for older Australians and taking care of mental and physical wellbeing of older workers.

In the same vein the 2015 Intergenerational Report was clear in support for 'boosting opportunities for women to reap the economic benefits of increased participation by women'. The report points out that even though the overall proportion of the working age population is projected to decline over time, female employment is projected to continue to increase. The report recommends that policies that help boost female participation will help Australia achieve an even higher level of future prosperity.[1]

Government policies will have a role to play. Childcare subsidies are one example, a subsidy to support and encourage women with young children to return or stay in the workforce. Affordability and accessibility of childcare is an ongoing issue for parents with young children who are currently in the work force and who wish to be in the workforce. The ABS Consumer Price Index (CPI) shows that childcare costs (out of pocket expenses only) have been increasing well in advance of overall inflation over an extended period. The CPI calculated from the weighted average of CPIs of capital cities in Australia indicates that prices for childcare grew at an annual average rate of 5.8 per cent over the decade to 2018/19 whereas the overall CPI rose at an average rate of 2.1 per cent over this period (ABS, 2019).

The Productivity Commission (2015) estimated that if childcare-related barriers were removed for the number of parents (working part time or not working) who reported having difficulties with the affordability and accessibility of suitable childcare, then 165,000 FTE workers could have been added to the labour supply in July 2014.

There is general agreement that access to childcare and cost thereof does impact a woman's decision to engage in the work force during the early years of a child or even during the primary school years. It might be expected that the participation gap would disappear once the children are in high school. However, the evidence points to the persistence of the participation gap (see, ABS, Gender Indicators, 2018).

Analysis of the new Childcare Subsidy (CCS) which came into effect on 1 July 2018 shows that secondary income earners, who are mostly mothers face a high effective marginal tax rate for increasing their workdays from part-time to full-time. And this effective marginal tax rate is higher than that faced by high earning full-time workers.[2] Hence, families as a unit decide that it is not rational for the secondary income earner, who in most cases are mothers to work full-time while the family has to bear the cost of formal childcare (Stewart, 2018).

In the post pandemic world some families are confronted with either job losses or pay cuts. Hence families may choose to opt out of childcare and in most cases women will undertake the caring responsibilities. On the other hand childcare is a service which is essential so that individuals can explore job opportunities. The Grattan Institute shows that the more government spends on childcare subsidies the higher is women's participation in the workforce and the macroeconomic impact in terms of GDP (see, Wood, Griffiths and Emslie, 2020).

2.3 Productivity

Productivity is the third lever of economic growth. The 2015 Intergenerational Report estimates that average annual productivity growth will be 1.5 per cent per year for

1 There is a recent divergence in thinking in terms of measuring growth by a more holistic "well-being" and inclusive growth which also accounts for the distribution of growth/inequalities as opposed to through GDP alone. See https://www.weforum.org/agenda/2014/05/growing-disconnect-gdp-wellbeing/

2 Information on the new Childcare Subsidy Scheme can be found here: https://www.servicesaustralia.gov.au/individuals/services/centrelink/child-care-subsidy

the next 40 years, which is substantially lower than the higher productivity growth of 2.2 per cent observed in the 1990s (see, The Australian Government, The Treasury, 2015). The report acknowledges recent advancements in technologies and suggests that both quality of life and productivity can be improved if technology is harnessed appropriately and proper reforms are undertaken.

Harnessing technology for economic growth and boosting women's participation in the workforce offers two pathways to sustained economic growth and if appropriately implemented, will provide a boost to living standards (economic objective) and quality of life (social objective). Greater diversity in the workforce has been proven to generate greater creativity and exploration. These factors in turn drive up innovation and productivity, thus adding value not just at the business level but to the whole economy. An estimate by Deloitte shows that increasing gender diversity in Australian businesses could add $10.8 billion to the Australian economy (see, Deloitte, 2019).

Furthermore, to support Australia's changing age structure, we need sustained investment in human services (health, aged care, childcare, education/training) – industries that are predominantly delivered by the female workforce - hence female workforce participation is critical to support Australia's ongoing productivity.

During the pandemic we have harnessed technology at a rapid rate. We have set up remote work spaces at our homes, cut back on commuting times and established a new work from home culture which was perhaps not so widely practiced before the pandemic. Even though these are early days, work from home has been found to increase productivity (see, Dockery and Bawa, 2020).

3. Women and GDP – A Macroeconomic Perspective

The significance of women's labour force participation and utilisation is not limited to the impact on individual and household incomes and future earnings potential. Access Economics (2006) analysed the 2002 Intergenerational Report and showed that changes in the percentage of women in the workforce has implications for Australia's output and productivity. Both will significantly affect Australia's capacity to meet the challenges of an ageing population. The report further noted that more women than men are year 12 graduates and obtain tertiary education. If a country fails to utilise its valuable human capital it is essentially losing out on potential productivity gains.

According to Daly (2007), reducing gender inequality in the labour market could play a key role in addressing the twin problems of population ageing and pension sustainability. Birth rates and female employment both tend to be higher in countries where it is relatively easy for women to work and have children. This presents a challenge for economies such as Japan and Italy, which are characterised by an ageing population and low female employment levels.

The Grattan Institute estimated that in 2012 if Australia could boost female workforce participation to the level of Canada (which at that time had six per cent higher female labour force participation) then Australia's GDP would be $25 billion higher. In a recent report, advocating for cheaper childcare, the Grattan Institute estimated that under various proposed childcare subsidy schemes costing between $5 billion to $12 billion, women's participation would increase by 13 per cent (hours) to 27 per cent (hours) with an increase in GDP ranging from $11 billion to $27 billion. The more government spends towards boosting women's participation in the workforce, the higher is the economic impact of such policies (see, Wood, Griffiths and Emslie, 2020).

KPMG (2018) modelling suggests that if the gap between Australia's male and female workforce participation rates could be halved then Australia's annual GDP would be $60 billion greater in 20 years' time (from December 2018 to December 2038).

Estimates by McKinsey Global Institute (2015) show that in a full-potential scenario in which women play an identical role in labour markets to men, as much as $28 trillion, or 26 per cent, could be added to global annual GDP in 2025. If all countries were to match the progress toward gender parity of the best performer in their region, it could produce a boost to annual global GDP of as much as $12 trillion in 2025. This $12 trillion of incremental GDP represents a doubling of the output likely to be contributed by female workers globally between 2014 and 2025 in a business-as-usual scenario. If female participation in Australia matched the best in the region there would be a 12 per cent increase in GDP by 2025 or $225 billion (see, MGI, 2015).

While the results from economic modelling and the time period over which the benefits would occur, all point in the same direction. So it is of practical significance to explore options for increasing the participation of females in the workforce if Australia hopes to continue on the path of uninterrupted economic growth and enjoy high living standards.

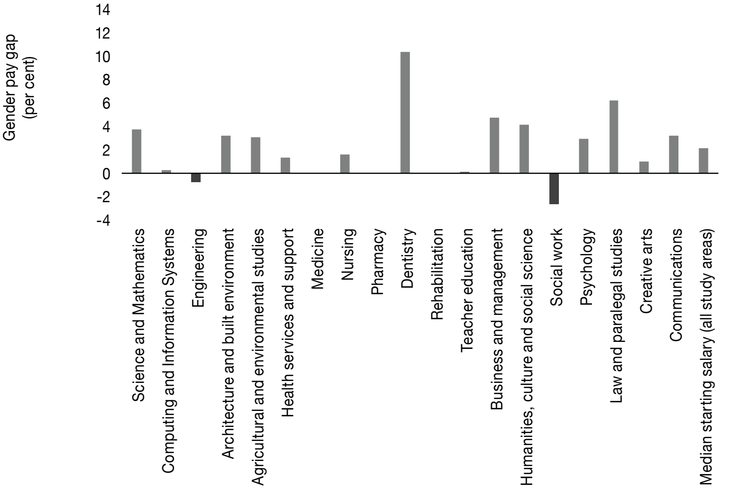
The shift from unpaid to paid work isn't costless, someone has to do the unpaid work. There are several factors affecting female participation in the labour force such as the pay gap, access to childcare, the tax and benefit system, discrimination and bias. A detailed discussion of these factors are provided in the following sections.

4. Gender Pay Gap

The gender pay gap in Australia can not only be attributed to shortcomings in Australia's Industrial Relations system but also to career choices made by men and women at the beginning of their career. ABS Gender Indicators indicates that the median undergraduate salary for women in their first full-time occupation is $63,400 whereas for men it is $65,000, which is a gender pay gap of 2.5 per cent.[3] This gap while relatively small cannot be explained by structural differences in choice of industry – the gender pay gap exists for women in most streams of employment related to study with the exception of engineering where women earn 0.9 per cent more and social work where women earn 2.9 per cent more than men at the start of their career– Figure 1. The largest pay gap for women exists in dentistry where men earn 12 per cent more compared to women. Rehabilitation and pharmacy are the only two areas where there is no gender pay gap.

3 We calculate the pay gap using the typical approach used in the literature, which is the difference between male and female earnings expressed as a proportion of male earnings.

Figure 1. Gender pay gap for women (undergraduates) in their first full-time employment by study area, all ages, 2020



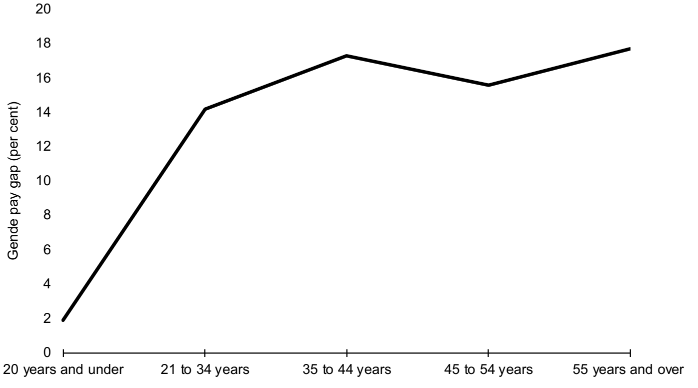
Source: ABS (2020), Gender Indicators Australia, Cat. No. 4125.0.

The ABS Average Weekly Earnings reveals that, full-time adult ordinary time earnings for men is $1,804 per week whereas for women it is $1,562.[4] Nonetheless, ABS data shows that the gender pay gap has been narrowing over time.[5] Figure 2 shows that the gender pay gap is least pronounced in the younger age groups aged 20 years and under and 21 to 34 years, beyond which it becomes more pronounced.

4 Some caution needs to be exercised when comparing gender differences in incomes when using average weekly earnings since differences may reflect compositional variations, including differences in occupations, industries and experience levels.

5 Gender pay gap can be calculated in different ways, from full-time adult average weekly ordinary time earnings, adult hourly ordinary time cash earnings.

Figure 2. Average weekly full-time earnings and gender pay gap by age, May 2018



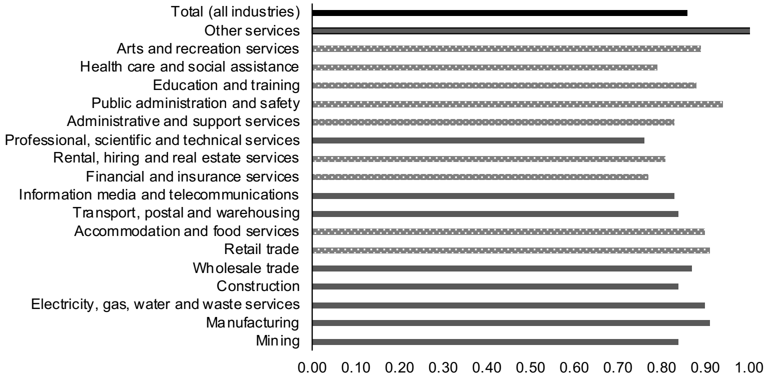
Source: ABS (2021), Employee Earnings and Hours, Australia, Cat. No. 6306.0.

A widening in the pay gap with increases in age can be largely attributed to penalties women experience as a consequence of bearing children in terms of subsequent impacts on labour force participation, occupation, hours of work and promotion (for example see, Kleven *et al*., 2018). A subsequent study of male's and female's earnings in six countries (Austria, Germany, Sweden, Denmark, the US and the UK) shows that men and women's earnings follow a similar pattern before parenthood (see, Kleven *et al*., 2019). However, after the birth of the first child women experience a massive drop in their earnings while male earnings remain unaffected. Differences remained and 'plateaued' even ten years after child birth. Analysis shows that Scandinavian countries have the smallest long-run child penalties followed by English- speaking countries. German-speaking countries recorded the highest penalties. Child penalties or penalty for parenthood can originate from lower female employment hence reduction in labour supply, number of hours worked and wage rate. Kleven *et al*. (2019) found that parental leave and childcare policies could not explain the magnitude of these penalties. On the contrary, they found that gender norms have an important role to play in determining child penalties.

In terms of the disruptive effect of motherhood on workforce participation, research is growing that shows that it's not just about women taking a break from the workforce, it's also about the way in which this 'career break' is disfavourably viewed by workplaces/employers in unconscious ways (see, Verniers and Vala, 2018). For example, when women take longer maternity leave, they are viewed by the colleagues as being 'less agentic/career-oriented', which then makes them less likely to be considered for future promotions (see, Fuegen *et al*. 2004). However if men take parental leave, they are not subject to this change in perception (see, Burgess, 2013).

Figure 3 shows that a gender pay gap exists across all industries irrespective of whether they are male or female-dominated. For example, in terms of industries with high levels of female employment, the female to male ratios of mean full-time adult ordinary time average weekly earnings are 0.79 for healthcare and social assistance and 0.88 for education and training.

Figure 3. Female to male rate ratio of mean full time adult ordinary time average weekly earnings, by Industry, May 2020



Note: Patterned bar indicates industries where a higher proportion of women work.
Source: ABS (2020), Gender Indicators Australia, Cat. No. 4125.0.

In terms of occupations where a higher proportion of women are employed compared to men, the ratio for hourly ordinary time cash earnings is 0.87 for clerical and administrative support workers, 0.85 for community and personal service workers, 0.86 for sales workers and 0.87 for professionals. The ratios for these occupations falls further for weekly total cash earnings where the difference in total hours worked between males and females has a direct impact on total earnings (see Table 1).

Table 1. Female to male ratio of adult ordinary time cash earnings and weekly total cash earnings by occupation, 2018

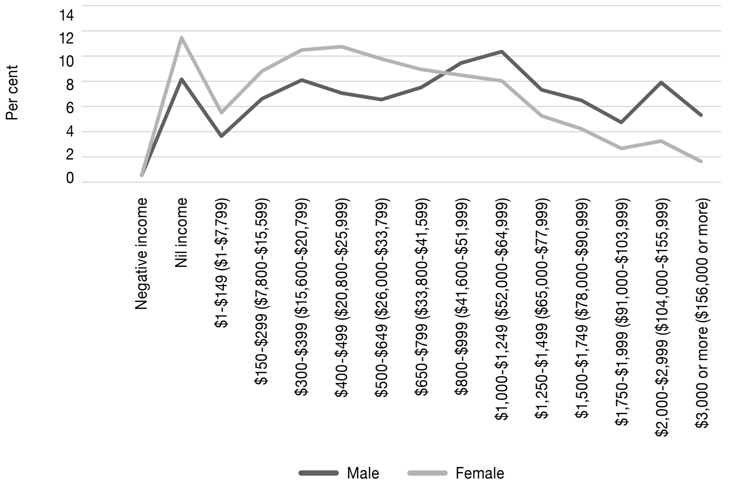
Occupation	*Hourly ordinary time cash earnings*	*Weekly total cash earnings*
Managers	0.87	0.85
Professionals	0.87	0.74
Technicians and trades workers	0.78	0.56
Community and personal service workers	0.85	0.74
Clerical and administrative workers	0.87	0.75
Sales workers	0.86	0.74
Machinery operators and drivers	0.89	0.72
Labourers	0.84	0.63

Source: ABS (2020), Gender Indicators Australia, Cat. No. 4125.0.

A recent report by Financy Women's Index found that the pandemic has widened the full-time employment gap between men and women in Australia (see, Financy Women's Index, 2020).

Figure 4 shows the distribution of men and women across various personal weekly income ranges from the 2016 Census. While a higher proportion of men earn personal weekly income in the higher income ranges, a higher proportion of women earn personal weekly income in the lower income ranges.

Figure 4. Proportion of men and women earning total weekly personal income at various levels, 2016 Census



Notes: 1) Calculations exclude "not stated" and "not applicable". Not applicable refers to persons under 15 years old.
Source: ABS (2016), Census of Population and Housing, Employment, Income and Education, Tablebuilder.

Our analysis of ABS Census data shows that:

- fewer men than women earn between the income ranges $1-$149 and $650-$799. (40 vs 54 per cent);
- more men than women earn between the income ranges $800-$999 and $3000 or more (greater than minimum wage and equal to average wage (52 vs 34 per cent);
- This type of proportional income distribution is important to take into account for policy considerations.

A recent report found that gender discrimination, years off-work due to interruptions, industrial and occupational segregation are the major factors responsible for a pay gap (see, KPMG, 2019). An article by Risse (2019a) identifies the following factors as resulting in lower pay for women in Australia:

- higher engagement in part-time work;
- working in industries which pay less;
- working in lower risk occupations;
- working in more junior roles;
- lack ambition and confidence; and
- poor negotiation skills.

Lower pay results in less financial empowerment, less money in their name for home loans and less superannuation to cover their retirement years. One of the first steps in finding a solution for reducing/ eliminating the gender pay gap is to recognise that the gender pay gap exists in the first place. Other solutions that can be adopted by organisations are increased transparency about current rates of pay, salary bands and being clear about items that can be negotiated. Also reviewing and adopting strategies to remove 'unconscious bias' in hiring and rewarding employees can ensure that employees are hired and remunerated on the basis of merit and value. In addition, Australia's Fair Work Legislation needs to consider how to meaningfully measure and compare the value of jobs done by men and women that are so different in nature (see, Risse, 2019b).

5. Barriers to Women's Participation in the Workforce

Descriptive analysis

Unpaid work is not accounted for in GDP calculations and would consequently provide a sizeable boost to the economy if it were. A majority of this unpaid work is done by women (see Melbourne Institute, 2018). It is important to take these facts into account when formulating policies to incentivise women's participation in paid employment.

A recent analysis by PwC (2017) estimated the value of unpaid work in Australia was $566 billion (in 2016 terms) and if this was accounted for in the national accounts then Australia's economy would be as big as $2.2 trillion.

A time of use study by the ABS (2006) shows that women do twice the unpaid work than men per day and men do twice the employment related work compared to women each day. The Melbourne Institute's (2018) report based on HILDA data also confirms that women spend more time in housework and caring for others and less time in paid employment compared to men. This gendered division of labour is more pronounced in families with children.

HILDA tracks couples for a period of time and hence is able to track whether the birth of the first child triggers more traditional divisions of labour (see, Melbourne Institute p, 2018). HILDA data suggest that couples might be negotiating the division of paid and unpaid work among themselves. In that case more equitable arrangements regarding care and housework should be observed among couples where both partners do equivalent shares of paid work.

A recent ABS survey found that in December 2020, women were twice as likely to have spent 20 or more hours in supervision of children compared to men (27 per cent vs 13 per cent) while women were also twice as likely to have spent five or more hours in unpaid indoor work (54 per cent vs 28 per cent) (see, ABS, Household Impacts of COVID-19 Survey, February 2021).

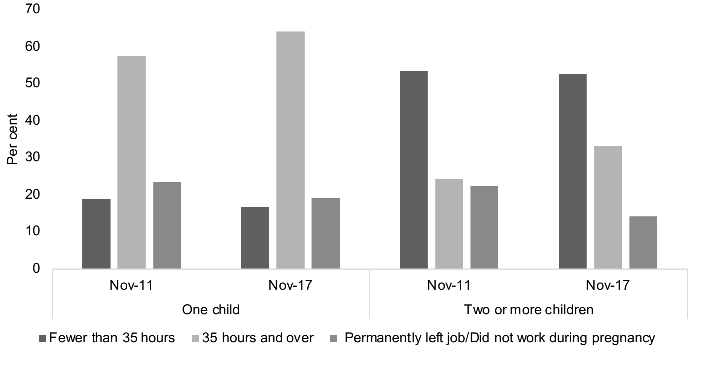
As female's participation in the labour market has increased over time, the distribution of unpaid work between men and women has become an increasingly important issue. This is potentially a social issue which involves taking non-market decisions between partners such as a decision to hire a cleaner and make more time available for paid employment. The unbalanced share of unpaid work done by women limits their availability in the labour market and can also act as a deterrent, forcing them to reduce their hours of paid work further or quit the labour market altogether. There are economic and social implications inherent in this for women and for government in the short run (e.g. lower tax revenue) and the long-run (e.g. demand on pensions and allowances).

5.2 Pregnancy

Our analysis so far shows that the birth of a child is a major turning point in a woman's professional life (in terms of employment options), earnings and personal life. Hence it is worth analysing more closely how pregnancy affects a women's life.

The social trend in Australia is that women increasingly shift to part-time work as they have children reinforcing the fact that childbirth is indeed a turning point in a woman's career. This trend is illustrated by Figure 5 which shows that women who already had at least one child were more likely to be working part-time hours.

Figure 5. Usual weekly hours worked in occupation while pregnant immediately before stopping for birth of child, by number of children, November 2017



Source: ABS (2018), Pregnancy and employment transitions, Australia, November 2017. Cat. No. 4913.0.

According to ABS and HILDA data, female workforce participation in Australia declines dramatically once a woman has a child and it never fully recovers (see, ABS, Pregnancy and Employment Transitions, 2018 and Melbourne Institute, 2018). ABS data shows that a significant numbers of highly qualified women are falling out of the workforce either partially or fully once they have children. If spending time with children is a normal good such that people do more of it as their incomes rise, it will be hard to change this preference with policies.

5.3 Childcare

Childcare is another reason that prevents women from increasing participation in the labour market. Analysis by PwC (2017) shows that childcare comprises the highest valued component of unpaid work in the economy. PwC (2017) found that mothers across all levels of socio-economic status are likely to take time away from paid employment to perform unpaid childcare. Interestingly, the analysis shows that even though more advantaged areas may substitute unpaid work for paid domestic help, the remainder of the unpaid work is still distributed in the same proportion between men and women. Interestingly, people in locations with higher education levels are more likely to spend more time on unpaid childcare. This is due to household earning capacity and ability of a mother to take time away from paid work and for the household to live off one income. This partly explains why despite being more educated than men women's participation rate is lower than men.

ABS has collected data on whether childcare affected parents' labour force participation, focussing on parents with children aged 0 to 12 years and who do not work full time but would prefer to do more work. Overall 40 per cent of women in this cohort were prevented from working more hours due to childcare responsibilities.

Table 2 highlights the proportion of women who were affected by childcare by various characteristics. The key impacts were:

- a significant proportion of women were affected by childcare irrespective of their household income or the type of childcare used;
- women working as an employee and women who have an unincorporated business were significantly affected; and
- irrespective of family composition, women reported being affected due to childcare.

Table 2. Impact of childcare on women with children aged 0-12 years old

Characteristics	*Impact of childcare*
Equivalised disposable household income quintiles	34 per cent of women belonging to lowest income quintile were affected
	41-43 per cent of women belonging to second, third, fourth and fifth income quintiles were affected
Type of childcare	46 per cent women of using formal childcare were affected
	45 per cent of women using informal care were affected
	52 per cent of women using both types of care were affected
Main source of household income	42 per cent of women whose main source of income is employment
	41 per cent of women whose main source of income is unincorporated business reported as affected by childcare
Contribution of government pensions and allowances to gross household income	46 per cent of women in households who receive 1 per cent to less than 20 per cent in government contributions reported being affected
	34 per cent of women who receive more than 90 per cent in government contributions reported being affected
Family composition of households	In one family households 57 per cent of women belonging to families where both parents were working reported being affected
	In a one parent families 55 per cent women reported being affected due to childcare.

Note: (a) Estimates with relatively high standard errors have not been reported here; (b) See Table A24-A28 for detailed data.
Source: ABS (2015-16), Household income and wealth, September 2017, Cat. No. 6523.0.

5.4 Income tax and childcare subsidy

The tax system in Australia creates negative incentives for women to increase their workforce participation. Census data shows that more than 50 per cent of women in Australia earn income which can be classified as low income for tax purposes in Australia.

The new CCS implemented from 1 July 2018, has an underlying problem. For income tax purposes the individual is the taxing unit. However, the childcare subsidy is assessed based on household income. Hence, when a women decides to increase the number of work days the individual cost benefit analysis done by the family is based on the women's income not on household income. Our calculations show that if a female works three days a week she pays a total tax of $138 per week and her daily take home pay after tax is $245 – Table 3. If she increases her work week to five days then her tax liability more than doubles and her daily after tax take home pay per hour decreases in comparison to if she was working three days ($31 vs $28 per hour). In short, the tax system does not provide incentives to women to increase their participation in the workforce, women still end up working part-time.

Table 3 also shows how tax as well as childcare costs in combination can impact a female's decision to increase work days. We assume a household where the male member of the household earns *male full-time adult average weekly ordinary time earnings* and the *female member of the household earns female full-time adult average weekly ordinary time earnings*. We have also assumed a childcare cost of $120 per day. We have then calculated the childcare subsidy based on household income. It should be noted that we haven't included the effects of withdrawal of benefits such as family tax benefit, rent assistance, parenting payment in our analysis. Including these will have a stronger effect on the take home pay of women.

In a typical household where both parents are working and given women are more engaged in caring for children, the need for childcare arises when the mother goes to work. Hence even though the childcare subsidy is calculated based on household income, the out of pocket child care cost would always be related to a mother's salary even though it is a joint household expenditure.

Table 3. Tax, childcare subsidy and female wages

Working days per week	*Wages (female)*	*Tax/ per week (female) (b)*	*Wages after tax/per week*	*Wages after tax/per day*	*Out of pocket childcare cost/ per week/child (after subsidy)*	*Wages after tax and childcare cost/ per week*	*Marginal wage after tax and childcare cost working an extra day per week*	*Pay per hour after tax for women irrespective of parental status ($)*	*Wages after tax and childcare cost per hour, one child ($)*	*Wages after tax and childcare cost per hour, two children ($)*
Three days per week	873	138	735	245	133	602		31	25	20
Four days per week	1,165	240	925	231	202	723	121	29	23	16
Five days per week (a)	1,456	341	1,115	223	282	833	110	28	21	14

Note: (a) Wages for Five day work week is female full-time adult average weekly ordinary time earnings; (b) Tax per week is calculated from ATO's tax withheld calculator; (c) childcare subsidy calculated from Centrelink estimates assuming the male member of household earns a full-time adult ordinary time earnings and calculating the household income accordingly. Calculations done assuming an eight hour work day.
Source: (a) ABS (2018), Average Weekly earnings, Australia, February 2019, Cat. No. 6302; (b) based on an average daily wage of $291(c) ATO; (d) Centrelink.

Table 3 shows that if a female increases her work day from three to four days or five days then her marginal wage from the fourth day is $121 and from fifth day is $110. Although her take home pay may be larger in aggregate if she works more days, the marginal decline in her daily take home pay is a strong disincentive to working more days. The situation worsens if a family has two children who go to childcare.

6. Future of Employment for Women

The future of work is changing with advancements in technology and automation. According to the Australian Jobs Report 2019 industries such as Healthcare and Social Assistance, Education and Training and Professional, Scientific and Technical Services are projected to grow fastest in the five years to 2023. And occupations such as community and personal service workers and professionals are projected to have highest growth rates.

In a recent report Deloitte (2019) analysed the shift in the nature of occupations from 'hand' to 'head' to non-routine occupations which require use of both 'head' and 'heart'. However, many of the occupations expected to be created, such as teachers and nursing aides, typically have lower wage structures although it could be argued they create high social value. These occupations require higher levels of interpersonal skills, empathy and extensive human interactions and are less susceptible to automation.

Employment conditions, pay scales and social value in these occupations will require reviews and rewards in future years. This could entail a role for Fair Work Commission and equivalent state jurisdictions to reconsider how these awards are determined and the case for gender pay equity principles can be addressed in conjunction with wage inequality issues (see Gillian Whitehouse 2001). COVID-19 has further shown that frontline jobs held by women are essential even in times of crisis.

7. What Can be Done by Government, Organisations and at Societal Level

Our analysis emphasises the need for re-balancing family life, with more equitable distribution of caring for children, amount of domestic chores etc. with paid employment. These are matters of public policy, social change and equity.

7.1 Changes that can be made in female and male education and career choices

While women are equally, if not more educated than men, women still face gender discrimination at the very start of their career. Both unconscious bias against women as well as their lack of confidence in their abilities compared to men plays a role here. Studies using HILDA data shows that women over-invest in workplace capabilities. While men over-invest by 4 per cent, women over-invest by 11 per cent (see, The Conversation, 2018). In addition gender-linked stereotypes, roles and norms also prevent women from negotiating freely in the workplace leading to inequalities in pay and promotions (see, Wade, 2001). Women are also susceptible to encountering penalties and backlash for demonstrating too much ambition and assertiveness in the workplace (see, Bowles, 2007; and Bowles, 2019).

Merely promoting tertiary education for women is not enough; better mentoring programs for women who are young graduates and an end to 'pay discrimination' based on gender is required. For example, the Women in Economics Network which is part of the broader Economic Society of Australia has launched state-based mentoring programs for female undergraduate students studying economics to provide them with a better perspective as they enter the profession of economics. Similar programs are required in other fields of study.

Women choose fields of study which ultimately orientates them to work in industries which mostly employ women and in low paid occupations. More women should be encouraged to take up fields of study which culminate in higher paid occupations such as STEM, as seen in Figure 1 where starting wages appear to be higher for females in engineering. However, given the demanding nature of occupations (e.g. STEM), more flexible work arrangements in careers for men and women with young children will help women retain and pursue their STEM careers even during the child bearing and rearing stages of their lives and will provide men in STEM with the option to spend more time with their children. While government is providing incentives to encourage more women to study and take up careers in STEM a recent study shows that an under-representation of women in STEM acts in the favour of women given the higher demand for skills in non-STEM careers such as health, education and society and culture over time and in the future (see, Dockery, Phillimore and Bawa, 2020) as seen in starting wages for social work in Figure 1.

Having said that, it is also important that industries such as healthcare and social assistance and education and training. which employ mostly women overcome their notion of gender stereotypes and provide equal employment opportunities for both men and women. These industries will be the growth industries of the future as structural changes in Australia continue to transition from more male-dominated industries such as manufacturing to service oriented industries where the majority of women work (see, DJSB, 2019). Breaking the gender stereotype in occupational roles will not only increase employment opportunities for men but also ensure the future labour supply in 'caring roles' (see, WGEA, 2016). There is also scope for public policy intervention here to promote educational choices and career choices in such future growth industries for men.

Women in leadership roles are also important. A female in senior management can have an important influence on career development through careful mentoring, illustrating leadership and management and productive workplace relationships. When a female in a junior position sees that all the leadership roles are occupied by men then she is less encouraged as compared to if there are more women in senior positions (see, Gould *et al*., 2018).

The underlying mechanism here is that men tend to progress up the career ladder at a faster pace than women. Workplaces need to carefully scrutinise how they decide on promotional decision so they are not swayed by subjective/unconscious/ institutional biases that favour men and redesign their organisational practices to be more objective and ensure the most competent candidate is appointed to the position (see Bohnet, 2016).

Also workplace policies that unintentionally/inadvertently disadvantage workers with parental duties e.g. scheduling meeting times that collide with school/ childcare pick up times should be carefully considered. In addition, allowing remote access to participate in meetings while not in the office; providing flexibility/on-site care for children during school holidays can also help bridge the gap in participation.

7.2 Government policies to be considered

The future of work is changing with advancements in technology and automation. The McKinsey Global Institute (2019) states that occupations requiring physical activities and repetitive occupations will decline and occupations that are difficult to automate will grow in the future. It is predicted that there will be higher demand for social, emotional and cognitive skills, such as communication, empathy, critical thinking, creativity, and complex information processing. Women are known to possess many of these attributes which may provide women with an edge over men in the future. Occupations such as carers, education workers etc. will have higher demand in the future. Many of these occupations are categorised as low paid. Women are also in industries such as retail and tourism which have uncertain futures. Moreover, it would be unwise to ignore the positive externality to society that occupations such as teachers and carers generate. Higher wages negotiated through conventional industrial relations channels will be much more desirable as compared to pre-election boosts to wages in low paid female-dominated sectors such as child care (see, Wood and Chivers, 2019). Unions will have to play a stronger role in wage setting. Another option is to lower the tax rate for low paid occupations which have high ongoing demand – Risse (2019b).

The current policies on parental leave payments in Australia are also designed with women as the primary caregiver in mind. For example, if a woman earns more than a certain income threshold ($150,000 per annum) while her partner earns less, the couple is not eligible to receive parental leave payment. On the contrary if the earnings are reversed in terms of gender then the woman can receive parental leave payments.

Caring is not a single gender prerogative. 'Care givers' are male and female. The focus of policy makers should be to design policies that respond to and influence culture and attitudes and are able to catch up with today's world. The current policy in regard to 'care givers' is reinforcing social attitudes when inclusive parental leave policies are required that reinforce gender equality. Equal treatment in policy and hence opportunities would reinforce equality in the labour market and promote non-discrimination. This requires balance in the design of leave between genders for a start.

Important lessons can be learned from other OECD countries, which provide different options of parental leave for mothers, fathers and a separate provision where a couple can share parental leave between themselves (see, Crabb, 2019). Parental leave policies are a crucial determinant of future labour supply.

Income tax and childcare subsidy arrangements currently prevent women from increasing their number of work days per week. Under the current tax and subsidy scheme it is not optimal for a female on an average wage to work more than three days a week. A female working four days or five days a week takes home daily wages which are well below minimum wages after paying tax and childcare costs.

KPMG (2018) has analysed four disincentives for women to increase their participation in the workforce. These are their marginal tax rate, loss of family tax benefit, loss of childcare subsidy and extra out of pocket childcare expenses. Making well researched changes to the tax system and childcare subsidies to ensure women do not face financial disincentives can help boost female participation in the workforce.

Our analysis of ABS data shows that part-time work for women in Australia is entrenched across all sectors of the labour market. Policies such as childcare subsidies should be based on gender equity analysis (as is done by the European Commission and countries like, Austria, Denmark, Belgium, Finland and Sweden) rather than taking household income as a yardstick for measuring subsidies.

In addition, in a country which is characterised by an ageing population, policy prescription might be required so that fertility rates do not fall further. Women are increasingly delaying having children or opting out altogether. This might be a rational choice guided by the preferences of women. However, if women prefer not having children due to the detrimental effect on their career and a higher share of unpaid work i.e. if women perceive their marginal private cost of having babies a lot higher than marginal private benefit and in economic terms, demand less babies despite the positive externalities to society from more babies being born, then that reflects a market failure which then requires policy intervention. Policies which are built around the right incentives and which take into account socio-economic circumstances should be able to incentivise women to work full-time or increase their participation in the workforce. Paid parental leave as well as current childcare subsidies are practical and functional tools but they need amendment and more government investment such that men can spend more time with their family and women can increase their participation in the workforce to strike a balance between work and life. In addition further scope exists to modify or introduce superannuation payments for low paid marginalised female workforce who work intermittently in casual employment.

7.3 Changes in work-place for women and men, social changes and non-market arrangements

It is true that the Australian governments have sought to address maternity leave and workforce retention. Paid maternity leave has become more widely available, from both employers and the government. So when women have children they are increasingly choosing to take maternity leave instead of quitting the workforce. Paid parental leave reduces training and recruitment costs for women for businesses due to higher workforce retention (see, PC, 2009). As mothers who take maternity leave are more likely to return to work, female workforce participation has increased.

However, women face new challenges when they return to work from maternity leave. They face workplace discrimination, undertake more domestic work, face the high cost of childcare, and report lower satisfaction levels from life. The good news is that society is slowly adapting to parental roles and responsibilities, Australia is transforming (Broomhill and Sharp, 2004). Men with alternative views to traditional arrangements should be encouraged so that the social stereotype of men as the breadwinner and women as the carer and homemaker continue to evolve.

The changing social norms in Australia where fathers want to be more involved in caring should also be taken into account. Between 1996 and 2017, a father's use of flexible work arrangements and working from home to care for children has doubled (see, ABS, 2017). Yet men experience difficulties when trying to access flexible working arrangements. This in turn is a significant barrier for men who want to participate more in childcare and unpaid domestic labour (see, O'Leary and Russell, 2012). Research shows that men are more unwilling to use family-friendly work arrangements due to factors such as the perceived or actual impact on their occupation, personal identities and career progression (see, Bain and Company, 2015). More gender neutral policies which acknowledge the disproportionate share of household work done by women and incentives for men to utilise workplace flexibility can bring about better work life balance.

Non-market arrangements between couples regarding household and caring responsibilities cannot be enforced by government. If women choose to participate more in the work force then unpaid occupations such as cleaning, cooking, picking up children and other daily responsibilities can be outsourced. If men are also willing to work flexibly then couples can negotiate and come to an agreement on their unpaid workload. There is opportunity for development of a more structured market for these unpaid occupations which are usually categorised as low-skilled. Government can play an important role in regulating the rights of workers who work in these low-skilled occupations.

Workplaces have to be cautious and proactive about workplace discrimination. One approach that workplaces can adopt is to focus on achieving targets, timely completion of deadlines and looking at how productive their employees are rather than how much time they spend at work. Offering flexibility with regards to start and finish time at work may be useful in certain occupations but families with young children need more than that. Working collaboratively at workplaces is important but it is equally important to have the option of working from home. This balance can help young families to meet deadlines at work without being physically present at work and at the same time engage more in family activities. For example, some companies are paying full-time salary for a nine-day fortnight in recognition of the changing work patterns and requirements for flexibility.[6]

Gender equality at the workplace is very much linked to gender equality in society. Soft campaigns targeted towards more equitable share of unpaid work done by men and women can be effective in changing the mindset in Australian society. Soft campaigns should also be targeted towards changing workplace perspectives on flexibility not just for working mothers but 'working fathers' (a term not used as often). The ultimate objective is to balance childcare and family life while 'capturing and supporting' women's incentives and return to the workforce. No society can afford to disregard the knowledge, experience and productivity of such a large segment of the workforce. Culture in workplace, parental and roles within families are socially defined – they are malleable and can be changed for the better.

While economic prosperity is important for a family as well as a country, the importance of well-being is increasingly being recognised globally (New Zealand's Well-Being Budget). Policies need to recognise that 'quality of life, relationships and hence caring' are the key to a happy life, not just consumerism or spending (see, Brisbane Times, 2020).

6 A similar pay policy is adopted by a company called Grace Papers in an article in The Sydney Morning Herald. See https://www.smh.com.au/lifestyle/life-and-relationships/the-four-day-fallacy-busting-the-myth-of-part-time-working-mums-20190906-p52ou1.html

8. COVID-19 and the 'Pink-Collar Recession'

Between 14th March and 2nd May 2020 accommodation and food services (down 27 per cent), arts and recreation services (down 19 per cent), rental, hiring and real estate (down 13 per cent), professional and technical services (down 11 per cent) and other services (down 10 per cent) experienced most job losses (see ABS, Weekly Payroll jobs and Wages in Australia, 19 May 2020). These are all service based industries and four out of five employed Australians work in services.

During the previous recession the government took measures to boost fiscal spending in infrastructure projects to boost construction jobs, provided tax incentives to businesses to expand and hire. It is not just in previous recessions that the government has adopted policies to stimulate demand, it is really commendable how government has provided support to businesses and households during the COVID-19 pandemic through Job Keeper and early release scheme for Superannuation etc.

The IMF discusses the important role public investment spending can play in the fiscal response to the COVID-19 pandemic. It emphasises that in both during the immediate crisis and the recovery phase, there is a need for strong prioritisation and project selection processes, accompanied by clear policy objectives, dedicated coordination mechanisms, and high transparency.

In Australia, the government would do well to look closely at the composition of the unemployed before taking further action. According to the HILDA Survey data analysed by the Melbourne Institute approximately 3.5 million people (28 per cent) employed in the industries most impacted by the economic shutdown in response to COVID-19 tend to be low-wage workers, many of whom were doing short term casual jobs and are disproportionately female and/or young.

According to the OECD (2020b) policy action should be based on:

- protecting people and places left behind;
- supporting small businesses and vulnerable workers; and
- responsive and coordinated governance.

The COVID-19 pandemic is placing women at the frontline with women making up 70 per cent of the health care workforce, exposing them to a greater risk of infection. Women are also doing much of the unpaid work at home including increased caring responsibilities given school closures, taking care of elderly relatives (see, Cooper and Mosseri, 2020). As documented above women also face high risks of job and income loss and face increased risks of violence, abuse or harassment during times of crisis and quarantine (see, Boxall *et al*., 2020). According to OECD (2020a), all policy responses to the crisis must embed a gender lens and account for women's unique needs, responsibilities and perspectives.

Job losses as well as safety concerns have led many parents to keep their children out of childcare to the effect that the sector was becoming less viable with a sudden and substantial reduction in numbers. The Government bailout announced in April ensured that an essential service like childcare survived.[7] This arrangement was to be in place for six months. However the government ended this scheme by 13th July 2020 ahead of the six month period initially announced. A recent survey of 2,200 parents reveals that more than half (60 per cent) of Australian households currently using childcare will have a parent forced to reduce work when full childcare fees return (Hislop, 2020). Many child care centres almost closed – due to the government making childcare free, but not providing adequate funding to child care centres to cover for the loss of fees, (remembering they still had to pay the salaries of staff).

Given the current labour market scenario and many second earners being affected it is unlikely that parents will be able to afford childcare fees. Under the circumstances it is unlikely childcare will see the same demand for its services which will make operating childcare economically unviable for many centres.[8] But childcare must remain open to ensure that essential workers can go to work and also those who have lost their jobs can be successfully redeployed.

Government implemented several measures throughout 2020 through to 2021 to keep the sector viable which includes: a Relief Package (6 April to 12 July), a Transition Payment (13 July to 27 September 2020), and a Recovery Package (28 September to 31 January 2021). Despite these measures, employment in childcare services dropped by 25,200 jobs and preschool education shed 3,400 jobs (Australian Industry and Skills Committee, 2020).

Another important aspect that requires attention from government is boosting women's superannuation guarantee. Women already had lower super balances upon retirement compared to men. But the latest government policy of Early Super Release has accentuated this gender imbalance further as more women are withdrawing from their super. Unless this issue is properly addressed this will lead to more poverty among women in future.

The pandemic saw mass uptake and adoption of technology as workers shifted offices from CBD to our homes and found new ways of working effectively and efficiently. Latest data from the ABS Household Impacts of COVID-19 survey shows 46 per cent of the workforce worked from home in late April and early May. By comparison, the ABS's 2019 data showed slightly less than a third saying they 'regularly worked from home' – a number likely inflated by those catching up on work from the office.

Perhaps it is time to rethink our National Employment Standards to roll out wider flexibility and provision to work from home than was accorded in the pre-pandemic era. Reduction in commuting times and meetings has freed up more time for work as well as better work life balance. A recent survey by Metova[9] shows that

7 Under the new system parents won't have to pay any out of pocket childcare fees. The government would provide centres with 50 per cent of their pre-COVID19 fees and the job-keeper package would help cover the wages of educators and staff.

8 Parent advocacy groups think that many centres cannot operate with just 50 per cent of pre-COVID19 revenue so increasing this to 75 per cent would be a significant step. Childcare centres could not operate viably if a third of families pull their children from care, meaning mass closures will result.

9 See infographic here: https://metova.com/infographic-work-from-home-covid-19/

48 per cent of those surveyed agree that they are more productive working from home while 57 per cent would prefer to work from home in the future. Some 76 per cent used video conferencing as their daily work. As the restrictions are lifted it is necessary to rethink the existing norms of work and how to reset existing policies to increase national productivity.

9. Conclusion

The starting principle with respect to gender should be in our view the principle of equality. Promoting equality between men and women ought to be the bedrock of public policy. From that basis it follows that the promotion of gender equality in the workplace is a subset of, but linked to, gender equality in society; we can go one step further to suggest that gender equality in the workplace is a key policy objective to promote gender equality overall.

In our efforts to achieve a 'work-life balance', promoting equality while eliminating inequality necessarily involves support for change for both men and women. Our discussion shows that from the perspective of equality objective indicators with respect to the workplace include:

- workforce participation rates for men and women;
- part-time work, un- and under-employment rates;
- gender pay gaps and barriers to career progression;
- occupational segregation; and
- assumptions and practices around caring roles for children and ageing elders.

Participation rates for women with dependent children have increased over time, while participation rates for men with dependent children haven't changed much. Cultural and social attitudes likely play a role but policy has a role to play in workplace and gender equality.

Lower workforce participation rates for women with dependent children can largely be explained by:

- unbalanced design of work-life policies based on gender;
- the interplay between earnings, income tax and the childcare subsidy;
- availability and affordability of suitable childcare;
- career disruption and change in work patterns following pregnancy; and
- a higher share of unpaid household work and caring roles.

In our brief review of the gender pay gap in Australia we find that it is more pronounced for women in mature age groups, which can be partly attributed to the "motherhood penalty". Contributing factors include the predominance of part-time work, gender discrimination, career disruption, industrial and occupational segregation, imbalance in the share of unpaid work and other behavioural factors.

It would be unwise to disregard the knowledge, experience and productivity of women who form such a large segment of the workforce. There are economic and social implications inherent in this for women (e.g. lower pay, less financial empowerment, lower superannuation balance) and for government in the short run (e.g. lower tax revenue) and the long-run (e.g. demand on pensions and allowances). Our discussion suggests the Australian public policy with respect to children and families, childcare, responsibilities for aged care, parenting leave and employment and workforce participation requires a radical re-think. In thinking about the family unit (that is not homogenous) parental leave, support for children, the sharing of responsibilities and return to employment apply equally to men as they do to women. Gendered division thinking is too often the unstated assumption underlying public policy design.

We reiterate that the 'end objective' of society, workplaces and government should be to achieve 'work-life balance' for individuals and families. 'Facilitating and supporting' women return to the workforce and offering 'flexibility and incentives' to men so that they have the option to spend more time with their children are equal policy objectives to achieve a 'work-life balance'.

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Women, COVID-19 and Superannuation

Elisa Birch and Alison Preston*
UWA Business School, The University of Western Australia

Abstract

This paper draws on evidence from various Australian data sources to offer a descriptive analysis of recent trends in employment participation and superannuation outcomes of males and females. The paper has three aims. The first is to review recent policy developments in terms of their likely effect on the gender gap in superannuation balances. The second is to consider the effects of COVID-19 on the gender gap in balances and, the third is to consider future policy directions and research needs. Preliminary evidence suggests that the gender gap in balances amongst young males and females may have widened as a result of COVID-19 policy responses. The research also highlights the need for regular, systematic and comprehensive reporting of superannuation data detailing coverage, contributions and balances with the data disaggregated by gender and age.

JEL Codes: G23, H55, I38
Keywords: gender, superannuation, pensions, wages, retirement

* Corresponding author: Alison Preston: Alison.Preston@uwa.edu.au

1. Introduction

Next year (1 July 2022) marks 30 years since the commencement of the Superannuation Guarantee (Administration) Act 1992 (The SG Act). The SG Act mandates employer superannuation (pension) contributions for most employees in Australia. At the time of introduction, the vision for the national superannuation system was for, amongst other things, a compulsory superannuation guarantee (SG) contribution rate of 12 per cent for every employee by the year 2000, greater financial independence for future retirees, and a stable system of retirement savings with contributions preserved until 'genuine retirement' (Keating, 1991, pp.12-13). Underlying considerations included a concern with population ageing, the fiscal costs of a government funded Age Pension, and low domestic private savings (*ibid*.).

Nearly thirty years later there is growing concern about the retirement income system in terms of its costs, sustainability, equity and complexity. These concerns have been at the centre of numerous recent inquiries and reports (e.g. Productivity Commission (PC) (PC, 2015 and 2018), the Commonwealth of Australia Senate Economics References Committee inquiry (CoA, 2016), and a recent Treasury report (CoA, 2020)). Recent policy responses include changes to rules covering default superannuation accounts (known as 'MySuper'), changes to SG eligibility rules and increases in the SG contribution rate.

A particular concern with the retirement income system relates to the outcomes for older women and their capacity to retire with dignity and independence (CoA, 2016; Austen *et al*., 2020). This concern arises from the large and persistent gap in the retirement incomes of men and women and the high incidence of poverty in retirement - particularly amongst single women. The latter relates to the fact that many female retirees are dependent on the Age Pension safety-net for income in retirement (CoA, 2020) and that the Age Pension rate is close to the poverty line. It is noteworthy that incidence of poverty in old age in Australia is above the mean for the OECD as a whole (OECD, 2019).

Given the above, this paper has three aims. The first is to review recent policy changes in terms of their likely effect on the gender gap in superannuation balances. In this regard we follow an earlier and related paper by Jefferson (2012). The second is to take stock on the superannuation coverage and savings of men and women and consider how the COVID-19 pandemic may impact on the superannuation balances of males and females. The third is to consider future policy directions and data requirements for effective policy analysis and decision making.

The remainder of the paper is organised as follows. It begins in Section two with a consideration of what we mean by gender equity in the context of the Australia's retirement income system. Section three provides contextual information in the form of a brief descriptive and gendered overview of select labour market indicators. Section four considers the likely gendered effects of the recent policy changes noted above, including the 2020 temporary COVID-19 superannuation withdrawal provision. Section five examines the superannuation coverage and balances of males and females. Section six concludes the paper.

2. The Australian Retirement Income System and Gender Equality

The Australian retirement income system is comprised of three pillars: (1) a means tested, universal, Age Pension safety-net; (2) compulsory superannuation savings via the SG levy; and (3) voluntary superannuation savings, including additional personal superannuation contributions and employer superannuation contributions above the mandated minimum. A potential fourth pillar includes non-superannuation savings, including housing. Most superannuation savings are under pillar 2 and most are in defined contribution (DC) schemes where the amount of income at retirement is the amount accumulated in the scheme. It is dependent upon, amongst other things, contributions, fund performance and earned interest. Upon retirement, employees may make a lump-sum withdrawal of their savings or convert their savings to an annuity, or undertake a combination of both. DC schemes differ from defined benefit (DB) schemes where the amount of income an individual receives at retirement is a function of their years of employment and salary over their last few years. In short, DC schemes are, inherently, a riskier source of retirement income than DB schemes. For more detailed information on the superannuation system see CoA (2020), Polidano *et al.* (2020) and Kingston and Thorp (2019).

The age at which a person can access their superannuation is known as the preservation age. In 2020, the preservation age for superannuation was 58 years and through a series of gradual incrementations will increase to 60 years by 1 July 2024. This contrasts with the Age Pension where the eligibility age is presently 66 years and 6 months for persons born 1 July 1955 to 31 December 1956, rising to 67 years for those born from 1 January 1957 onwards. Within the retired-age population around 68 per cent of males and 73 per cent of females receive the Age Pension with 43 per cent of males and 39 per cent of females receiving a part-pension (Oguzoglu *et al.* (2020), based on estimates derived from 2013 data from the Department of Social Services).[1]

Australia's national superannuation scheme was, as noted, introduced in 1992 and at the time provided for an SG contribution rate of 3 per cent of ordinary time earnings (and 4 per cent if the payroll exceeded A$1m). In 2002, the SG rate was increased to 9 per cent of ordinary time earnings, rising to 9.25 per cent in 2013, 9.5 per cent in 2014 and 10 per cent on 1 July 2021. In the absence of any legislative amendments, the SG rate will increase by 50 basis points per year until reaching 12 per cent by 1 July 2025 – 25 years later than originally envisioned by Keating (1991).

The adoption of a national superannuation scheme via legislation was in response to a failed proposal by the Australian Council of Trade Unions (ACTU) and the then Commonwealth Government at the 1991 National Wage Case (NWC) for three, one per cent (total 3 per cent) increases in award-based superannuation entitlements. This 1991 NWC claim followed an earlier NWC decision (in 1986) where the Australian Conciliation and Arbitration Commission upheld the ACTU

1 More recent estimates (for 29 June 2018) suggest that the share of people aged 65 and over receiving the Age Pension is equal to 60.7 per cent for males and 65.4 per cent for females (AIHW 2019, Figure 2). Information on part-pension recipients is not available in this publication.

and Hawke Government NWC claim involving an explicit tax and superannuation trade-off as a way of minimising wage growth and wage inflation (Dabscheck, 1987; Keating, 1991). The Commissions' rejection of the 1991 proposal related, in part, to concerns about inequality in coverage of superannuation entitlements and provisions in awards and concern that, in the context of a highly centralised wage setting system, it would be endorsing over-award wage bargaining via the backdoor of superannuation (AIRC, 1991).

While the adoption of a national superannuation scheme has significantly extended the coverage of superannuation savings, it has also contributed to large differences in the superannuation balances and retirement incomes of men and women (Coates, 2018; Austen *et al.*, 2020; Jefferson and Preston, 2005). For example, in 2017-18 (based on the most recently available Australian Bureau of Statistics (ABS) superannuation data), the gender gap in mean and median superannuation balances amongst those with a balance greater than zero was 38.9 per cent and 44.4 per cent respectively (ABS 2019a). While increases in female attachment to paid employment across the life-course may contribute to a narrowing in gender gaps in superannuation balances, evidence suggests that, even within a mature superannuation[2] system, few women will achieve financial independence in retirement (Austen *et al.*, 2020; Feng *et al.*, 2019; CoA, 2016).

Sizeable gender gaps in superannuation largely relate to male-female differences in work histories (part-time work, career interruptions), the gender-pay gap, the gender gap in life-time earnings and contribution patterns (Jefferson and Preston, 2005; Jefferson, 2009; Feng *et al.*, 2019; Austen and Mavisakalyan, 2018; CoA, 2016). Estimates in Jefferson and Preston (2005) based on vignettes for differing combinations of part-time and full-time work, for example, suggest a gender gap in lifetime earnings of around 45 per cent. In Austen and Mavisakalyan (2018) the estimated gender gap in median lifetime earnings is 50 per cent. This is based on 15 years of longitudinal data from the Household, Income and Labour Dynamics in Australia (HILDA) survey. A more conservative estimate may be found in the recent Treasury *Retirement Income Review* report, where the gender gap in life-time earnings is estimated to be 31 per cent, with this translating to a gender gap in superannuation balances of around 33 per cent (CoA, 2020).

Gender gaps in superannuation balances may also derive from gender gaps in financial literacy (Fernandez-Lopez *et al.*, 2015; Preston and Wright, 2019), design features of the system (e.g. taxation concessions, fund performance, fees, contribution rules etc.) (Austen *et al.*, 2020; Jefferson, 2012; Feng *et al.*, 2019) and marital status. Fernandez-Lopez *et al.* (2015), for example, show that women living alone in a one-person household are more likely to save for retirement than women living in a two or more person household.

A key matter in debates concerning gender equality in retirement incomes is the unit of analysis; in other words, whether or not the focus should be the household

2 Estimates vary as to when the superannuation system might be considered fully mature. The Treasury's (CoA, 2020) view is that it will be in the 2040s when most of the workforce will have had an SG contribution rate of at least 9 per cent for 40 years.

or the individual. For others the equality issue relates to equal access to retirement income for equal contribution to the workforce. In this paper we consider gender equality in terms of equality of male and female access to retirement incomes and financial independence in retirement. Within the Australian system this means a focus on superannuation savings as the expectation is that, over time, retirement will increasingly be funded from superannuation (CoA, 2020). In focusing on individuals rather than households we note the argument that, within households, there is no guarantee that those with ownership and control of retirement assets will make decisions that are in the interests of their partner (Mavisakalyn *et al.* (nd), cited in Austen *et al.*, 2020). We also note that one-third of women are not in relationships by retirement age (CoA, 2016) and that, although women's interests with respect to superannuation at separation may be protected under family law, this does not necessarily apply to women in de-facto relationships. Women in de-facto relationships in Western Australia, for example, do not have the same entitlements as married women at separation (Simic, nd). We also eschew the suggestion that equality should relate to equal access to retirement income for equal contribution to the workforce, noting that such a position privileges paid work over unpaid work and discounts the significant and hidden economic importance of unpaid work (PWC, 2017).

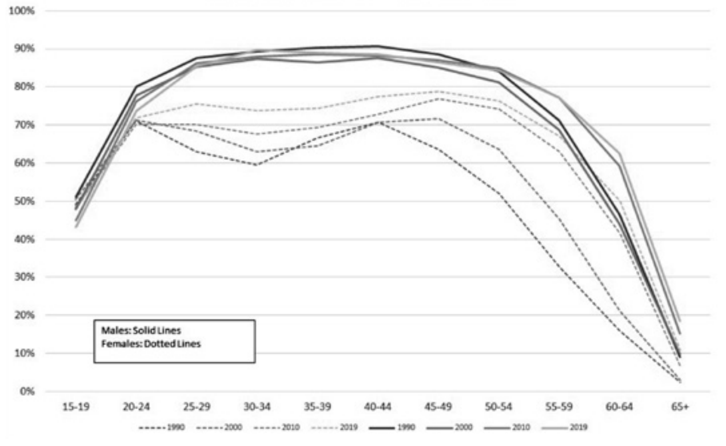
3. Background: Gendered Patterns of Employment, Wages and Financial Literacy

Employment, unemployment and underemployment

Since 1992 and the adoption of a national system of superannuation, there has been a profound change in the character and composition of the Australian labour market, particularly when viewed through a gender lens. Amongst other things there has been a significant increase in the female employment/participation (EP) ratio (per cent of the female population in employment) and, as a result, a narrowing of the male-female difference in the EP ratio (from a gap of 41 per cent in 1992 to 14.4 per cent by 2021) (see Table 1). While the male EP ratio has increased amongst older men, for females there has been an increase in employment participation across the age distribution – particularly amongst those of child-bearing years and amongst older women (see Figure 1). The changes reflect, amongst other things, changes in traditional gender roles, increased part-time employment opportunities, changes in women's working preferences, ageing and an increase in the Age Pension eligibility age (RBA, 2018).

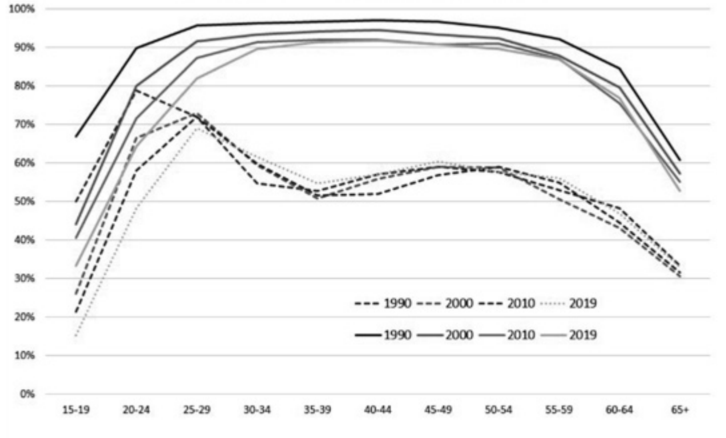
Although developments have seen a narrowing in the gap in male and female labour force and employment participation rates, stark gender differences remain in the patterns and forms of employment (see Figure 2). For example, in 1992, 23 per cent of all employment was of a part-time nature (fewer than 35 hours per week), with females accounting for 75 per cent of all part-time employment. By 2021, 32 per cent of all employment was part-time with females continuing to hold the major (67.6 per cent) share (Table 1). A substantial share of part-time employment is of a casual nature. For example, in 2020, 9.5 per cent of those in full-time employment were casually employed vis-a-vis 47.5 per cent in the part-time sector (ABS 2020a, Table 7.3). The incidence of casual employment is also particularly high among younger workers (aged 15-34 years) with recent estimates showing a casual employment rate of 31.5 per cent and 36.3 per cent amongst male and female employees, respectively (ABS 2020b, Table 1.12).

Figure 1. Employment/Population Ratios by age, year and sex



Source: ABS (2020c), Original Series.

Figure 2. Share of employed in full-time employment by age, year and sex



Source: ABS (2020c), Original Series.

Table 1. Key labour market indicators, 1992, 2020 and 2021[4]

	1992				2020				2021			
Occupation	*Male*	*Female*	*Difference*[1]	*Gender Gap (%)*[3]	*Male*	*Female*	*Difference*[1]	*Gender Gap (%)*[3]	*Male*	*Female*	*Difference*[1]	*Gender Gap (%)*[3]
Employed ('000)	4408.3	3222.6	1185.7	36.8	6848.6	6154.7	693.9	11.3	6848.0	6229.6	618.4	9.9
Employed Full-time ('000)	3972.5	1895.8	2076.7	109.5	5533.9	3342.9	2191.0	65.5	5486.5	3387.8	2098.7	61.9
Employed Part-time ('000)	435.7	1326.8	-891.1	-67.2	1314.7	2811.8	-1497.1	-53.2	1361.5	2841.9	-1480.4	-52.1
Full-time employment (% total employment)	90.1	58.8	31.3%pts	53.2	80.8	54.3	26.5%pts	48.8	80.1	54.4	25.7%pts	47.3
E/P ratio[2]	66.0	46.8	19.2%pts	41.0	67.0	58.0	9%pts	15.5	66.8	58.4	8.4%pts	14.4
Underemployed ('000)	241.3	317.6	-76.3	-24.0	518.7	688.6	-169.9	-24.7	480.1	614.3	-134.2	-21.8
Underemployment rate (% of labour force)	4.9	8.9	-4.0%pts	-44.9	7.3	10.6	-3.4%pts	-32.1	6.7	9.4	-2.7%pts	-29.0
Unemployed total ('000)	545.6	349.4	196.2	56.2	383.2	332.8	50.4	15.1	427.8	350.3	77.5	22.1
Unemployment rate (% of LF)	11.0	9.8	1.2%pts	12.2	5.3	5.1	0.2%pts	3.9	5.9	5.3%	0.6%pts	11.3
Labour Force total ('000)	4953.8	3572.0	1381.8	38.7	7231.8	6487.5	744.3	11.5	7275.8	6579.9	695.9	10.6
Labour Force Participation Rate (%)	74.2	51.4	22.8%pts	44.4	70.8	61.1	15.9%pts	15.9	70.9	61.	9.1%pts	14.7

Source: ABS (2021a), Table 23. Seasonally Adjusted.

Notes: 1 The difference is computed as the male value minus the female value. 2 E/P ratio denotes Employment / Population ratio. 3 The gender gap is the difference as a share of the female value. 4 All values are for seasonally adjusted figures for March (March 1992, March 2020 and March 2021).

The growth in part-time employment has been accompanied by a growth in underemployment (the share of workers wishing to work more hours) and a growth in multiple job holding. Estimates show that women have significantly higher rates of underemployment than males (Table 1) and rates of multiple job holding. In 2001 the share of young persons (aged 20-29 years) in employment and holding more than one job was 7.2 per cent for males and 9.4 per cent for females. By 2017 the corresponding shares were 8.6 per cent (for males) and 14.6 per cent (for females) (Birch and Preston, 2020, Table 5). Underemployment is also a particular feature of the youth labour market and youth underemployment rates are significantly higher today than in the recession year of 1992. In 1992 the youth (aged 15-24 years) underemployment rate (as a share of the labour force) was equal to 9.3 per cent for males and 11.6 per cent for females. By 2021 the corresponding shares were 14.6 per cent and 18.1 per cent. When considered together with youth unemployment rates, youth underutilisation rates are now more than 30 per cent (see, Birch and Preston, 2020, Figure 6).

Wages

Alongside the marked changes in employment structures over the last few decades there has also been a significant change in the way in which wages are determined. In 1992 wage setting in Australia was highly centralised with the 1991 NWC marking the start of the gradual shift towards more decentralised arrangements (via the adoption of the Enterprise Bargaining Principle) (Preston, 2001). ABS estimates for May 2018 (the most recent available data) shows that, for persons aged 25-64 years, the majority of employees (41.6 per cent) have their pay set via an individual arrangement, 40 per cent via a collective agreement and 18.5 per cent via an award. Younger persons are also more likely than older persons to be covered by an individual arrangement (ABS, 2019b, Table 1).

From the perspective of superannuation accumulations these changes matter as wage increases negotiated via enterprise agreements serve as an important source of overall wage growth (ABS 2021b). Since the 2008 Global Financial Crisis (GFC) wage growth, nationally, has been relatively slow in Australia, weighed down by stagnant wage growth amongst young people (Birch and Preston, 2021). For example, in the 10 years to 2018, workers aged 15-34 years experienced either negative or zero average annual wage growth, while those aged 35-64 years saw their average wages increase by around 1.4 per cent per annum (PC, 2020).

Wage growth also differs markedly across sectors and industries with sectors such as Mining, Education and Health Care typically enjoying faster wage growth than sectors such as Retail Trade, Accommodation and Food Services and Administrative and Support Services (see Table A8, Birch and Preston, 2021). There is, of course, a gender dimension to this, with women disproportionately employed in sectors with low pay and low wage growth (Birch and Preston, 2021).

The economic shock associated with the COVID-19 pandemic has also impacted on wage growth and on the decisions of the Fair Work Commission's (FWC) Expert Panel (The Panel) charged with determining Australia's national minimum wage (NMW). In 2020, The Panel awarded a 1.75 per cent increase in the NMW but, in a break with tradition and in exercising the Commission's power to delay the increase on account of 'exceptional circumstances', the timing of access to this adjustment was staggered for different groups of workers depending on The Panel's assessment of their sector's capacity to pay (i.e. the extent to which the sector had been affected by the economic crisis). Workers covered by 'Group 3' awards (Accommodation, Arts, Recreation, Retail, Hospitality) (around one-third of workers) were required to wait until 1 February 2021 for their wage increase while workers covered by 'Group 1' awards (awards covering frontline sectors such as Health and Education) saw their pay increase from 1 July 2020. In the 2021 NMW case the recommendation was for a 2.5 per cent wage increase to come into effect on 1 July 2021. In its decision the FWC noted that the SG rate would increase by 0.5 percentage points from 1 July 2021 and that adjustment was "…lower than it otherwise would have been in the absence of the SG rate increase" (FWC, 2021, at paragraph 58).

Financial Literacy

In the Productivity Commission (PC, 2015) inquiry into superannuation policy, concerns were raised about the financial literacy of Australians and their capacity to engage with the financial system and superannuation policy – particularly that concerning superannuation and taxation arrangements. There is, however, considerable debate as to what it means to be financially literate (PC, 2015). Lusardi and Mitchell (2014, p.6) define it as the "… ability to process economic information and make informed decisions about financial planning, wealth accumulation, debt and pensions". Relatedly, they identify three financial literacy concepts central to their concept of financially literacy: (1) numeracy and capacity to do calculations related to interest rates, such as compound interest; (2) understanding of inflation; and (3) understanding of risk diversification (ibid., p.10).

In a submission to the *Treasury Retirement Income Review*, and drawing on data from the 2016 Household, Income and Labour Dynamics in Australia (HILDA) Survey where a set of five questions were included testing the financial literacy concepts outlined above, Preston (2020a) shows that only 50 per cent of adult males in Australia may be described as having 'high' financial literacy while the corresponding share for women is 36 per cent. Financial literacy also varies across the age distribution and in Australia has an inverted U-shaped relationship (i.e. lower amongst the young and the old). In 2016, only 28 per cent of teenage males and 15 per cent of teenage females could correctly answer three questions testing basic financial literacy concepts covering interest, inflation and diversification (Preston, 2020b).

When disaggregating superannuation balances by financial literacy it is apparent that those with higher balances have higher financial literacy (although the direction of causation is unclear; i.e. having higher balances may induce individuals to acquire financial literacy) (See Table 2). In short, there is a correlation between financial literacy and balances. Empirical analysis based on HILDA suggests that around 7 per cent of the gender gap in average superannuation balances of non-retired adults in Australia may potentially be explained by gender differences in financial literacy (Preston and Wright, 2021).

Table 2. Mean superannuation balances of non-retired adults in 2018 disaggregated by sex and financial literacy

	Number of financial literacy questions correctly answered (out of five)					
	0	*1*	*2*	*3*	*4*	*5*
Males	\$58,794	\$25,519	\$60,856	\$68,183	\$121,356	\$182,782
Females	\$24,712	\$26,360	\$34,631	\$56,531	\$74,065	\$124,475
Sample size	191	269	658	1,525	2,915	5,118

Source: HILDA. Wave 18. Estimates weighted to reflect population totals. (Previously reported in Preston, 2020a, p.23).

4. Recent Policy Initiatives and Debates Concerning Superannuation

In this section we consider recent policy changes that may impact on the superannuation balances of males and females and gender gaps in these balances. Specifically, we consider increases in the SG contribution rate, the removal of the \$450 per calendar month earnings threshold for SG contributions from 1 July 2022 (thus extending compulsory superannuation to low-income earners), changes to contribution caps, changes to the rules covering default superannuation accounts known as 'MySuper', and temporary changes to the rules covering early withdrawal as a result of financial hardship arising from COVID-19.

SG contribution rate

The SG contribution rate is, as previously noted, set via legislation and between now and 2025 is set to increase by 50 basis points per year until equal to 12 per cent of ordinary time earnings at 1 July 2025. In the lead up to the 2020/21 Budget there was much debate about the planned increases in the SG rate, the capacity to afford the increases in the current economic climate, the likely wage-superannuation trade-off and related consumption versus savings trade-off (CoA, 2020; Martin, 2021; Breunig and Sobeck, 2020; Coates *et al*., 2020).

Arguments in favour of maintaining the SG rate at 9.5 per cent (i.e. repealing the legislation for further SG increases) are outlined in the Retirement Income Review (CoA, 2020) and include: (a) gender equity – a 12 per cent rate would benefit men more than women given their higher lifetime earnings; (b) higher living standards during working life as a result of the likely wage-superannuation trade-off; (c) a 9.5 per cent contribution rate could delivery an adequate standard of living in retirement, particularly when combined with the Age Pension; and (d) government expenditure saving associated with reduced taxation concessions as a result of lower contributions.

Compelling arguments in support of maintaining the SG levy at 9.5 per cent have been made by Coates *et al*. (2020) and Breunig and Sobeck (2020). In Coates *et al*. (2020) and Breunig and Sobeck (2020) the focus is on the pass-through rate, i.e. the share of the superannuation increase that would otherwise have translated to a wage increase. Using Australian Taxation Office data Breunig and Sobeck (2020) compare wage growth during the years that the SG rate was increased and estimate a pass-through rate of between 70-100 per cent. In other words, increases in the levy appear to come at the expense of wage growth. This was also explicitly acknowledged at the recent (2021) NWC decision, as noted above.

Other contributors to the debate note that the pass-through rate may depend on worker bargaining power and/or may be reflected in changes in other margins (e.g. hours of employment). Others still argued that there was no compelling evidence that a freeze in the SG levy would translate to higher wages and that, notwithstanding the fact that a higher SG levy may see widening gender gaps in superannuation balances, there was merit in getting more labour rewards where possible, even if in the form of superannuation (Martin, 2021).

Eligibility rules

Most employees are covered by the SG Act and, therefore, entitled to SG contributions. Exemptions apply to employees who are under 18 years of age and working less than 30 hour per week and to those who are on paid parental leave. Exemptions also apply to employees earning below $450 in a calendar month from a single employer although decisions made in the 2021-22 Budget should see the removal of this threshold from 1 July 2022 once enacted by law. It is estimated that around 300,000 individuals (63 per cent women) will receive additional superannuation as a result of this decision (CoA, 2021b, p.26). Contrary to the expectations of many, the 2021 Budget did not extend the SG coverage to those on parental leave arrangements. From a gender equality perspective this was a disappointment, particularly given research showing that gender gaps in superannuation arise, in part, from breaks in contributions when young and missed accumulations arising from compound interest effects (Feng *et al*., 2019).

Contribution caps and tax concessions

Additional superannuation contributions are encouraged and incentivised in the superannuation system. Contributions may be concessional (before tax) or non-concessional (after tax), with concessional contributions taxed at a rate of 15 per cent. There is a cap or concessional contribution limit (maximum A$27,500 per financial year from 1 July 2021). The government also makes co-contributions to superannuation to a maximum of $500 per person depending on an income threshold and the individual making a personal contribution of $1,000. In the 2020/21 financial year those with financial year earnings equal or less than the lower-income threshold of $39,837 are eligible for the maximum $500 payment, or a portion thereof for earnings up to $54,837. The system also provides for 'spouse equalisation strategies', enabling high-earning individuals in a couple relationship to direct contributions to their spouse if their own superannuation savings are likely to exceed the limit for concessional tax treatment at retirement. From 1 July 2021 this limit will be $1.7m (up from $1.6m).

There is considerable debate about the contribution caps, equalisation strategies and taxation measures and it is beyond the scope of this paper to engage in the detailed debates. In brief, there is no tax advantage associated with superannuation contributions for those in the lowest tax bracket (low-income earners) and considerable advantages for high-income earners (disproportionately men) (Austen *et al*., 2015). Indeed, as Austen *et al*. (2015) note, government wealth transfers to men (in the form of tax concessions) are even greater when taking into account those not in employment and outside the labour market.

Estimates in the recent 2021 Intergenerational Report (CoA, 2021a) suggest that superannuation tax concessions as a proportion of GDP will increase from 2.0 per cent in 2021 to 2.9 per cent in 2061 – with the increase largely arising from earnings related tax concessions. The report also estimates that "By around 2040 the cost of superannuation tax concessions will exceed the cost of Age Pension expenditure" (CoA, 2021a, p.117).

MySuper and member accounts

Low-fee superannuation funds (known as 'MySuper' products) were first introduced in 2014 via legislation enacted in 2012 and are the default superannuation accounts for new employees. Their aim is to support the balances of individuals by placing limits on fees and the automatic enrolment into default products (particularly for younger adults) and offer a streamlined investment strategy. Estimates suggest that most (two-thirds) offer a balanced, single diversified product where around 70 per cent of funds are invested in higher risk assets and 30 per cent in lower risk assets. The need for these default MySuper products arose from evidence highlighting the lack of engagement of employees with their superannuation, including their choice of superannuation fund, investment strategy, knowledge of tied products (e.g. life insurance), number of accounts held and fees charged (Jefferson, 2012). In other words, poor financial literacy.

From 1 July 2021 the arrangements governing MySuper products will be further strengthened as a way of protecting the contributions of employees. The arrangements flow from Productivity Commission recommendations (PC, 2018) and will see the implementation of new performance tests on funds and new arrangements that will enable superannuation accounts to follow members when they change jobs. Under the former funds that fail to meet the performance test may be prohibited from recruiting new members. The 'stapling' or 'following' initiative is designed to address the problem of individuals holding multiple accounts and seeing their superannuation savings needlessly spent on fees and charges. While the Australian Prudential Regulation Authority (APRA) has, for many years, been actively encouraging the consolidation of superannuation accounts, currently around 26 per cent of the superannuation population continue to hold multiple accounts, although this is down from 39 per cent in 2017 (ATO, 2021). Estimates by the Treasury suggest that as much as $30bn a year is spent on superannuation fees in Australia (CoA, 2021b). Given the low rates of financial literacy documented earlier and the large gender gap in financial literacy, the expectation is that these MySuper initiatives will likely benefit women and may, at the margin, contribute to a narrowing of the gender gap in superannuation.

Withdrawal provisions

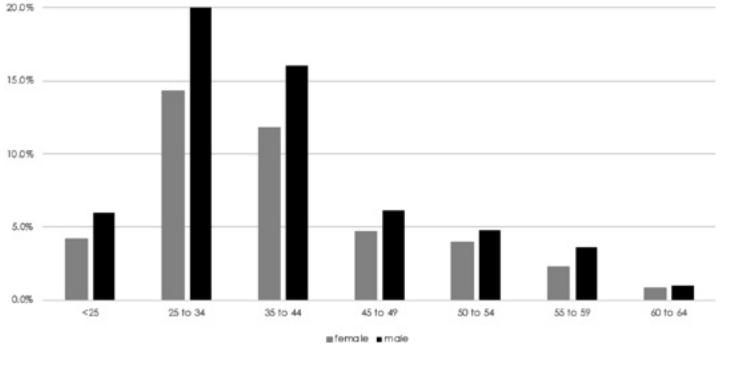
Notwithstanding Keating's (1991) vision of a superannuation system with contributions preserved until 'genuine retirement', there are various grounds through which individuals may apply to have early access to their superannuation savings.

Early access grounds include incapacity, a terminal medical condition, compassionate grounds for the individual or a dependent, financial hardship and first home buyer provisions.

During 2020, and as a result of the COVID-19 pandemic, the withdrawal arrangements were temporarily eased to assist individuals financially affected by the crisis. Successful applicants could access up to A$10,000 of their superannuation before 1 July 2020 and a further $10,000 between 1 July 2020 and 31 December 2020. Persons eligible to apply included those who were: unemployed; recipient of a JobSeeker payment; were made redundant or had their working hours reduced by 20 per cent or more; or were a sole trader after 1 January 2020 and their business had been affected (ATO, 2021).

Data from APRA (2021a) shows that, from the inception of the scheme to 31 January 2021, there were 3.5 million initial applications and 1.4 million repeat applications. The average payment was $7,638 and the total payment $36.4bn. Out of a total pool of superannuation funds of $3 trillion this is small (around 1.2 per cent). Figure 3, replicated from Figure 4 in APRA (2020) shows that the majority of APRA-regulated fund members in receipt of an early release payment (ERP) were males (57 per cent) and that recipients (males and females) were most likely to be aged between 25-34 years. The 2021 Intergenerational Report concludes that the scheme will only see a modest reduction in total funds under management (CoA, 2021a). While this is likely the case given the relatively small share of funds (1.2 per cent) withdrawn under the scheme, it remains to be seen how the withdrawals will impact on gender balances over the longer term.

Figure 3. Distribution (%) of fund members in receipt of covid-19 early release payment by age and sex



Source: APRA (2020). Chart 4.

5. Superannuation coverage and balances

In this section we report on the coverage and balances of those with superannuation with an analysis that, where possible, is disaggregated by gender. We draw on data from the ABS, APRA and HILDA. When compared with data on earnings, there is a serious information deficit when it comes to data on superannuation coverage and balances, and even less publicly available data disaggregated by age, sex and other characteristics such as region (e.g. States /Territories).[3] The most recently available ABS superannuation data, for example, pertains to the 2017/18 financial year and the next data release is reported as unknown. In the Section 6 (our conclusion) we advocate for more frequent and comprehensive reporting of superannuation matters, with a gender and age disaggregation a requirement.

Coverage

ABS coverage data for males and females in 2017/18 are shown in Table 3 with comparative data for 2003/4 provided. The estimates show that 71.9 per cent of all those aged 15 and over had a superannuation account with a balance greater than zero. Amongst those in the working age population (aged 15-64 years), coverage was lowest amongst young people (aged 15-24 years) at 50.3 per cent and unchanged from rates recorded in 2003/4.

Table 3. Superannuation coverage (%) by age and sex, 2003/4 and 2017/18[1]

		2003-04			*2017-18*	
	Males	*Females*	*Total*	*Males*	*Females*	*Total*
Age						
15–24	50.4	50.9	50.6	49.6	50.8	50.3
25–34	85.8	78.0	81.9	86.1	84.1	85.0
35–44	84.9	72.6	78.7	89.6	84.1	86.9
45–54	85.1	71.1	78.0	87.9	83.7	85.7
55–64	71.3	51.1	61.3	83.6	77.4	80.4
65 and over						
65–74	40.5	23.5	31.6	62.3	50.6	56.3
75 and over	21.3	12.9	16.5	33.8	25.8	29.5
Total 65 and over	32.9	18.8	25.3	51.3	40.0	45.4
Total	69.8	58.1	63.9	74.4	69.5	71.9

Notes: 1. Coverage defined as having a superannuation account and a balance above zero.
Source: ABS 2019b, Table 12.1.

3 We note that the Australian Taxation Office (ATO) Longitudinal Information Files (Alife) may, in the future, help fill this data void. For a review of the files and their usefulness for retirement policy research see Polidano *et al*. (2020).

Comparable data from HILDA are reported in Table 4 and show that of those aged 20-64 years fewer than 10 per cent report being retired and, of those in employment, around 82 per cent and 86 per cent of males and females, respectively, report having a superannuation account (with a balance of zero or more). Both the ABS and HILDA figures show that there is widespread coverage in the Australian superannuation system.

Table 4. Superannuation Coverage, HILDA data

		As share of total population (aged 20-64)			*Of those in employment (aged 20-64)*	
	Total population	*Total employed* (%)	*Total not-retired* (%)	*Total retired* (%)	*Has super and employer contributes* (%)	*Mean employer contribution rate* (%)
Males	7,194,990	83.0	94.7	5.3	82.2	10.0
Females	7,386,812	72.4	91.6	8.4	86.2	9.9

Source: Authors calculations. HILDA. Wave 18. Estimates weighted to reflect population totals. Sample comprised of persons aged 20-64.

Balances, ABS and HILDA data

Table 5 summarises the superannuation balances of the superannuation population with a balance greater than zero. Comparisons are made between financial year 2003/4 and 2017/18. Across the sample population the gender gap in mean balances was 38.9 per cent in 2017/18. Estimates based on mean and median balances show falling gender gaps for all age groups other than those aged 25-34 where the gender gap has increased. This is notwithstanding significant increases in employment participation by females in this age group. It points to structural issues as a factor affecting gender superannuation balances in the Australian superannuation system (Feng *et al*., 2019).

Empirical evidence by Feng *et al*. (2019) highlights the detrimental consequences (on superannuation savings) of career interruptions on superannuation savings in a DC system. Using administrative data from a large longitudinal Australian database covering 10 years of member contributions, they show that the gender balance gap widens over time and that the gap, unsurprisingly, is highest in the highest contribution quartile. They also show that the savings gaps occur early in paid working life and are attributable to gaps in the contribution records of young women arising from time out of the workforce or moving to part-time or casual work during the family formation years. While a return to full-time paid work in later life may help build up balances and narrow the gender gap, in the words of Feng *et al*. (2019, p.166) "… the damage in terms of foregone wages and associated retirement savings in their own account has already been done, and women's balances are much lower". They also note that those who do return to paid employment in their 40s after a period out of the workforce most likely also have lower relative incomes (e.g. as a result of occupational downgrading etc.). They conclude that there is little evidence that changing employment patterns of younger generations of women will see this problem resolved. Their conclusions echo that of others (e.g. Jefferson and Preston, 2005; Austen and Mavisaklyan, 2018).

Table 5. Superannuation balances and gender gap (%), 2003/4 and 2017/18 – mean and median[1]

	2003-04			*2017-18*		
	Males $'000	*Females $'000*	*Gender Gap[2] %*	*Males $'000*	*Females $'000*	*Gender Gap[2] %*
Mean Balances						
Age						
15–24	4.8	3.8	26.3	6.3	6.1	3.6
25–34	26.7	21.6	23.6	41.7	31.6	31.8
35–44	69.5	35.6	95.2	100.3	69.3	44.9
45–54	137.3	63.0	117.9	196.4	129.1	52.2
55–64	240.2	122.1	96.7	332.7	245.1	35.7
Total 15+	95.1	47.3	101.1	168.5	121.3	38.9
Median Balances						
Age						
15–24	2.8	1.9	47.4	3.0	2.2	34.1
25–34	16.9	12.6	34.1	30.0	20.0	50.0
35–44	35.5	16.2	119.1	70.0	50.0	40.0
45–54	63.2	25.3	149.8	132.0	75.0	76.0
55–64	109.6	50.9	115.3	183.0	118.6	54.4
Total 15+	30.2	14.1	114.2	65.0	45.0	44.4

Notes: 1 Based on those with a superannuation balance above zero. 2 The gender gap is computed as (male balance – female balance) / female balance * 100. It shows how much more the female balance has to be to equal that of males.
Source: ABS 2019b, Table 12.3.

Assessing the impact of COVID-19 on male and female balances

In this section we consider the effect of the temporary relaxation of the superannuation draw-down rules on the superannuation balances of males and females. COVID-19, of course, will have affected balances in other ways including through external factors such as stock market volatility and through effects related to snap lock-downs, social distancing measures and border closures. It is beyond the scope of this paper to consider these other various effects.

Within the national superannuation scheme DC schemes are, as noted, the most common type of fund arrangements. Superannuation savings in these schemes are linked to earnings and earnings volatility may, therefore, be expected to impact on superannuation contributions. In 2020, the ABS released a new statistical series (Weekly Payroll Jobs and Wages in Australia) to monitor the impact of COVID-19 on employment and wages (ABS 2021b). The series does not cover sole traders and is, therefore, likely under-representative of small business. Figure 4 shows movements in weekly wages of males and females indexed to March 2020. It is apparent that, for most of 2020, male wages were below pre-COVID-19 March rates. Female wages, in contrast, were faster in returning to their March 2020 rates, no doubt bolstered by JobKeeper Payments. How these rates translate to superannuation contributions is, however, less clear. While employers in receipt of JobKeeper subsidies were still required to pay the SG contributions they were not required to pay any SG contributions on JobKeeper payments that exceeded normal pay.

Figure 4. Weekly payroll wages, Australia, January 2000 to June 2021, males and females

Source: ABS 2021b.

To gauge the general effect of COVID-19 and associated effects on superannuation balances we draw on annual fund level data as reported by APRA (2021b). The data are not directly comparable with ABS data on account of different samples and ways of collecting the data. The APRA data, for example, are based on information provided by the funds (registrable superannuation entities) that are regulated by APRA. Public sector superannuation schemes may choose not to be regulated by APRA, although a number do agree to report to them. (For more information see APRA, 2019). The APRA data are, nevertheless, useful for the contemporary insights they offer into changes in superannuation balances of males and females. Comparisons are made between balances at the end of the 2018/19 financial year and 2019/20 financial year. Data for the 2020/21 financial year will not be available before December 2021. Any draw-downs made in the 2019/20 financial year and reduced contributions as a result of variations in earnings etc. will be reflected in the 2019/20 data.

Table 6. APRA: Member average fund balances by sex and age, and gender balance gap (%)

Age	*Females*[1]	*Males*	*Gender Balance Gap*[2] *(%) at June 2019*	*Gender Balance Gap (%) at June 2020*	*Gap Difference (2019-2020) (%pts)*
	(i)	*(ii)*	*(iii)*	*(iv)*	*(v)*
<25	$4,792.6	$5,672.3	7.7	18.4	-10.7
25 to 34	$22,512.6	$26,984.7	4.7	19.9	-15.2
35 to 44	$54,112.0	$66,545.8	28.8	23.0	5.8
45 to 49	$79,644.6	$100,624.1	35.4	26.3	9.1
50 to 54	$99,093.1	$125,871.7	38.9	27.0	11.9
55 to 59	$127,834.2	$161,462.6	36.9	26.3	10.6
60 to 64	$157,190.1	$186,862.1	21.9	18.9	3.0
Average all fund member accounts (members aged 15+)	$65,395.7	$86,641.7	25.7	32.5	-6.8

Notes: 1 Columns (i) and (ii) report member average fund balances at June 2020. 2 The gender gap is computed as a percentage of the account balances of females.
Source: APRA (2021b).

Table 6 presents a summary of member average fund balances at June 2020 and June 2019 by sex and age. Estimates are derived by dividing total members' benefits by total number of member accounts separately for males and females. In 2020, there were 157 Member Funds with 10.4m female member accounts (remembering that an individual may have more than one account) and 11.9m male member accounts. The final column of Table 6 (column 'v') shows changes in the gender balance gap between the two financial years. Focusing on members aged 25 to 34 years, the estimates show that, at June 2019, the gender gap in balances was equal to 4.7 per cent and by June 2020 it had increased to 19.9 per cent. Amongst groups older than 34 years (i.e. groups less hard hit by COVID-19 in terms of labour market effects (Birch and Preston 2021)) the gender gap in balances has narrowed between the two financial years. It is beyond the scope of this analysis to explain why the gender gap has widened amongst younger members. It may reflect draw-down arrangements, although we note earlier data showing that a greater share of males than females took advantage of the early drawdowns. It may also, as noted, reflect disruptions to contribution payments, e.g. if workers were stood down and not entitled to JobKeeper payments (the example being short-term casuals).

6. Summary and Conclusion

This paper has three main aims. The first is to review recent policy changes in terms of their likely effect on the gender gap in superannuation balances. The second is to take stock on the superannuation coverage and savings of men and women and consider the effect of the COVID-19 pandemic on male and female superannuation balances. The third is to consider future policy directions and data requirements for effective policy analysis and decision making.

Australia's national superannuation system was introduced in 1992 with a central feature being mandated employer contributions. In the years since then there have been numerous reforms, policy changes and inquiries with the aim of promoting greater efficiency and equity in the retirement income system. There is now widespread coverage in terms of share of the population with a superannuation account or fund membership (over 80 per cent amongst those aged 25-64). However, across the age distribution males, on average, have significantly higher superannuation balances than females. While recent policy changes (e.g. removal of the $450 earnings threshold, government co-contributions for low-earners, initiatives to reduce account duplication and funds lost to fees and charges and changes to the mandatory contribution rate) may, at the margin, increase female balances, the net effect will be on-going sizeable gender gaps in superannuation balances for many years to come.

In terms of COVID-19, it is too early to say how it has affected long-term balances of males and females. Preliminary data suggests younger members (aged less than 35 years) may have been particularly hard hit by policy responses to the COVID-19 pandemic. This may show up in the form of lower superannuation balances, partly as a result of COVID-19 withdrawal provisions and partly as a result of lost contributions related to shut-downs etc. Evidence presented in this paper suggests that there may also be a gender effect as given by data suggesting an increase in the gender gap in the balances of younger members.

The gender gap in superannuation balances and, thus, retirement incomes, largely relates to structural factors and the linking of retirement savings to earned income. Across the life-course, males, on average, have stronger attachment to paid employment and, on average, have higher salaries. Such arrangements mean that women are at greater risk of being dependent on a spouse and/or the safety-net Age Pension for income in retirement. In other words, they face a higher risk of poverty in old age. While this should be a concern for policy makers there seems to be little concern with the risks that the current system poses for women. Indeed policy makers are of the opinion that the gender gap in superannuation balances will "…narrow substantially as the superannuation system matures and women benefit from greater labour force participation…" and that "In the future, more women will have superannuation and spend more years contributing to their superannuation, including through higher voluntary contributions" (CoA, 2021a, p.115). We hold a less optimistic view. We see no evidence from three decades of data on employment participation that gendered patterns of paid employment across the life-course are converging. We likewise question the extent to which women, in the future, will be able to narrow the gap through voluntary contributions. In short, we support initiatives that would see a rebalancing of the retirement income system back towards the Age Pension.

In concluding this paper, we draw attention to the limited suitable and timely data for monitoring and assessing the superannuation balances of males and females. An annual publication reporting data on coverage, balances (including zero balances), the number of accounts held, voluntary contributions (incidence and amounts) by sex, age, State and type of fund (e.g. Industry, Retail, Public Sector) would go a long way to helping understand how women and young people are performing in Australia's retirement income system. Likewise, we would like to see a more gendered analysis of government contributions to superannuation, noting that projections are for superannuation tax concessions to exceed the cost of the Age Pension by 2040 (CoA, 2021a, p.117).

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Assaults during lockdown in New South Wales and Victoria

Solmaz Moslehi *Department of Economics, Monash University*
Jaai Parasnis *Department of Economics, Monash University*
Massimiliano Tani* *School of Business, UNSW Canberra*
Josephina Vejayaratnam *Department of Economics, Monash University*

Abstract

We study the relationship between COVID-19 lockdowns and domestic assaults in New South Wales and Victoria using police data on crime by Local Government Area over the period 2019-2020. We apply both Ordinary Least Squares and a fixed effect estimator, and find that domestic assaults decline during the lockdowns of 2020, but less than other types of assaults. As a result, there is a higher relative incidence of domestic assaults rather than an overall increase in crime. The results are robust to omitted variable bias based on Oster's (2019) test, and mimic Boman and Gallupe (2020) – a similar study carried out in the US.

JEL Codes:
Keywords: domestic assault, lockdown, COVID-19

*Corresponding author: Northcott Dr, Campbell ACT 2612, Email: m.tani@adfa.edu.au, Tel: +61 2 5007 5114

1. Introduction

On the 20th of January 2020 the Director-General of the World Health Organization declared the novel coronavirus outbreak to be a public health emergency of international concern (World Health Organization, 2020). Following this announcement, governments around the world adopted containment and reduction strategies to limit the spread of COVID-19 (Wilder-Smith and Freedman, 2020). The approaches implemented have enforced a combination of social distancing and stay-at-home orders.

Though the strategies that have been employed by governments have had the principal objective of limiting the spread and impact of COVID-19, they have also resulted in disruptions in the everyday lives and routine activities of individuals. Anxiety and stress levels have risen across the population but especially for households at the lower end of the income distribution (e.g. Paloyo *et al*., 2020).

Over the first year of COVID-19 and the ensuing restrictions, news of domestic assaults has become more common. Indeed, in November 2020 the Guardian, a prominent independent Australian newspaper, published an article defining 2020 as "the worst year" for domestic violence in Australia (https://www.theguardian.com/society/2020/dec/01/the-worst-year-domestic-violence-soars-in-australia-during-covid-19). Is it the case? Have domestic violence crimes risen as a result of the lockdowns?

We investigate this hypothesis using detailed police data on crime reported by Local Government Area (LGA) in the two most affected states: New South Wales and Victoria. Our analysis captures the 24 months of 2019 and 2020 and compares trends in domestic and non-domestic assaults exploiting spatial variation in the imposition of lockdowns in the two states by LGA. We restrict our analysis to assaults to reduce the potential heterogeneity across various types of crimes vis-à-vis their potential links to mobility, using the maintained, likely assumption that mobility affects each type of crime to varying degrees. Domestic assaults are classified as such when they involve "family violence", as assessed by police (Victoria), or relate to "domestic violence" based on the Crimes (Domestic and Personal Violence) Act 2007 in New South Wales. We use the term 'domestic assaults' to define assaults flagged as related to domestic or family incidents.

We find that the reduction in mobility associated with lockdowns reduces the number of reported crimes, but the reduction is much larger in non-domestic relative to domestic assaults. As a result, domestic assaults have risen, but only in relative terms: lockdowns are associated with a compositional shift rather than an increase in the number of crimes. Against the background of a rising trend in domestic assault in NSW over the last 5 years (NSW Bureau of Crime Statistics and Research, 2021) and an overall increase in family violence-related criminal offences in Victoria (Crime Statistics Agency, 2020), reported incidents of domestic assaults decreased during the lockdown period.

The rest of the paper is organised as follows. Section 2 provides a brief overview of the literature on crime. This is followed by a description of the data (Section 3), methodology (Section 4) and results (Section 5). Section 6 concludes.

2. Literature

Competing views exist with reference to the relationship between mobility and crime. The most common view suggests that routine activities of individuals contribute significantly to when and where crime has a higher likelihood of occurring. Crimes are more likely to be committed when the following three elements intersect – a motivated offender, a suitable target, and the absence of a capable guardian (Cohen and Felson, 1979). Individuals living their routine lives would already have all three elements necessary to produce the physical conditions for most criminal incidents. Any interruptions to the routine activities of potential offenders and victims may have a significant effect on the timing and the locations of where the crimes occur (Brantingham and Brantingham, 1995).

The restrictions implemented by state governments inherently altered both individual and community behaviour and thus resulted in changes in criminal opportunities and shifting criminal motivations (Campedelli, Aziani and Favarin, 2020). COVID-19 containment measures, such as lockdown and restrictions, disrupt the routine activities and spaces that offenders interact in, reducing opportunities for potential criminal activities. Decline in economic and social activities outside of the household during a lockdown reduces the opportunity of interactions between victims and criminals. Hence, we expect that assault in general and violence targeting women outside the household decreases during the lockdown. In line with this theory, Shen, Fu and Noguchi (2021) find that the 2020 lockdown in Japan led to a 12.7 per cent decline in violent crime victimisation rates per 100,000 people.

The competing view on mobility and crime, proposes that the existence of negative stimuli may lead to an increase in criminal activity (Agnew's 1992 general strain theory). Stressors may prevent individuals from attaining positive goals, decrease access to positive stimuli or increase negative affect due to exposure to negative stimuli. The potential financial stress and anxiety due to employment uncertainty (Felson *et al*., 2012) and stress associated with social isolation may create or exacerbate negative stimuli for individuals. Additionally, the inability for individuals to achieve positively valued goals, due to social distancing and stay-at-home orders, may lead to increases in negative emotional responses. Thus, the increase in negative stimuli due to lockdowns, such as job loss, financial stress, and increased anxiety due to employment uncertainty (Felson *et al*., 2012), may lead individuals to engage in criminal activities they might otherwise forgo.

To the extent that crime such as assaults are related to distress, there is no doubt the COVID-19 crisis led to increase in mental distress. Parents, particularly, fathers, unemployed and parents of young children experienced significant distress during this time in Australia (Broadway, Méndez and Moschion, 2020). The Household Impacts of COVID-19 Survey in Australia, carried out in October, June and April 2020, includes a question about relationship difficulties. It shows that the proportion of relationship difficulties was higher around the lockdown time (April and October), especially for women in Victoria, where lockdowns were both longer and repeated relative to other Australian states – notwithstanding that more relationship difficulties do not necessarily translate to more assaults. While Australia's socio-economic response to

COVID-19 has been successful in containing the spread of the virus, it has highlighted the social inequalities and vulnerable groups and might leave increasing disparities in access and opportunities (O'Sullivan, Rahamathulla and Pawar, 2020).

Since the World Health Organisation declared the novel coronavirus outbreak to be a public health emergency of international concern, an emerging literature has studied the impact that social distancing and stay-at-home orders have on the incidence of crime. Empirical findings about the link between lockdown and domestic violence are mixed. For example, using data for police calls during the lockdown in some cities in the US, Leslie and Wilson (2020b), Mohler *et al*. (2020) and Sanga and McCrary (2020) show an increase in police calls for domestic violence. Mixed or opposite results have been found in other US cities (Ashby, 2020) as well as Mexico (Hoehn-Velasco *et al*., 2021).

One important factor to consider here is that police calls for service do not necessarily translate into official crime reports. A call to police may not proceed to be recorded as an offence, depending on the severity of the crime and judgements and decisions of persons involved in the situations. Important differences between physical abuse or violence and psychological violence get lost in broad offence categories in the police and crime data and can be one possible explanation for the observed difference between police calls and crime reports (Arenas-Arroyo *et al*., 2020; and Mohler *et al*., 2020).

With reference to Australian studies, Payne and Morgan (2020) find no significant difference in the occurrence of common assault, serious assault, sexual offences, and breaches of domestic violence orders in Queensland on the basis of data up to March 2020, when restrictions were first introduced in the state. In fact, there was a significant decrease in the rate of recorded serious assault and sexual offending in the very early stages of the pandemic during April 2020.

3. Data

The data is sourced from crime data provided by the New South Wales Bureau of Crime Statistics and the Crime Statistics Agency of Victoria. These agencies collect data of the monthly count of reported offences, with the data aggregated at state level, and by Local Government Areas (LGAs). Data is updated monthly and the most recent addition for New South Wales and Victorian data to date is December 2020. There are 128 LGAs in New South Wales and 79 LGAs in Victoria. Data on median personal income in LGAs is sourced from Australian Bureau of Statistics (Personal Income in Australia). The median income by LGA was very similar between the two States.

Table 1. Personal Income at LGA level in 2017-2018

	New South Wales	*Victoria*
Median	50,153.0	49,266.0
1st quartile	42,151.5	42,003.0
3rd quartile	50,888.0	50,017.5

Source: Personal Income in Australia, Australian Bureau of Statistics.

While comparable, each state uses different classifications for offences and for flagging domestic violence of family related offences. We concentrate on offences recorded under the 'assaults' category. New South Wales provided data on subcategories of assault, identifying 'domestic violence related assaults' as a separate category from other types of assault. Data from Victoria instead records a 'family incident flag' against reported offence categories. We focus on the narrowly defined and comparable category of 'offence, assaults' to estimate the differential effect of lockdown on overall offences and domestic offences as suggested by the literature though acknowledge that both states use slightly different definitions to identify domestic assaults (this leads us to add a state in addition to LGA fixed effect in the empirical analysis).

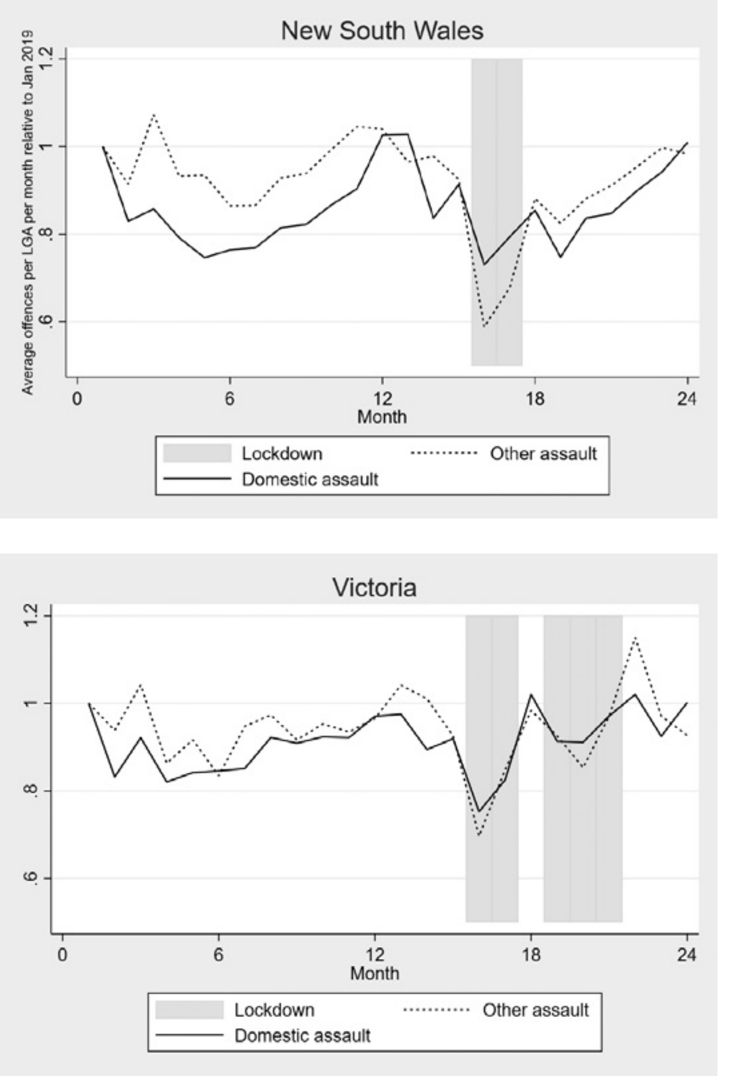
Information on lockdowns is publicly sourced from the announcement dates made by each Premier. Victoria experienced longer lockdowns compared to New South Wales. In New South Wales, a lockdown was imposed during April 2020 and this was lifted in May 2020 (Storen and Corrigan, 2021). New South Wales remained without widespread restrictions for the rest of 2020. Victoria, in contrast, experienced prolonged lockdown conditions. Similar to NSW, Victoria had no restrictions on mobility till March 2020. A State of Emergency was declared by the Victorian Government on the 16th of March 2020 (Victorian Government Gazette, 2020) which was lifted in June 2020. Between July 2020 to September 2020, Victoria was again in lockdown. We therefore identify the lockdown with April 2020 for NSW (1 month), and April-May 2020 and July-October 2020 (5 months) for Victoria.

To compare the effect of lockdown on crime we use data from 2019, as it provides a pre-COVID-19 base comparison for both states. Overall, as shown in Table 2, 4.2 per cent of the observations pertaining to New South Wales in the working sample, and 20.5 per cent of the observations in Victoria, were under lockdown.

Figure 1 provides a timeline of the evolution of domestic and other assaults, by state, for the 24 months analysed[1]. The vertical axis shows the trend in average number of domestic assaults and other assaults for each month in our sample relative to the month of January 2019. Overall, both domestic and other types of assault display seasonal patterns, especially for NSW, and a sharp decline during the lockdown periods. However, the decrease in domestic assaults during lockdown was smaller than the drop in other assaults in the corresponding lockdown period, especially in NSW, resulting in a temporary compositional shift, in this case a rise, in the proportion of domestic assaults rather than an increase in the overall number of domestic assaults.

1 The available data can be accessed at the level of offender, victim or offence. We use offence data, which do not report the characteristics of either offender or victim.

Figure 1. Assaults in New South Wales and Victoria (Jan 2019 to Dec 2020)



Notes: Data includes all LGAs from Victoria and New South Wales, average offences at state level relative to January 2019. 24 Monthly observations from January 2019 to December 2020, 1 denotes Jan 2019 and 24 denotes Dec 2020. Lockdown is April 2020 (NSW) and April-May 2020 and July-September 2020 (VIC).

Source: New South Wales Bureau of Crime Statistics; Crime Statistics Agency of Victoria.

The effect of lockdown on average assault crimes is perhaps clearer in the summary data reported on Table 2, which reports the average monthly number of assaults by type, state and lockdown status. Although these figures are not weighted by population size, they nevertheless indicate the marked decline in the number of other assault types vis-à-vis domestic assault during lockdown times.

Table 2. Mean Number of Assaults by State (Jan 2019-Dec 2020)

	New South Wales		*Victoria*	
	No lockdown	*Lockdown*	*No lockdown*	*Lockdown*
Domestic assaults				
Monthly mean	2,659	2,244	981	627
As % of no lockdown	100%	84.4%	100%	63.9%
Observations	*3,013*	*131*	*4,835*	*1,247*
Other assaults				
Monthly mean	2,618	1,609	429	137
As % of no lockdown	100%	61.5%	100%	31.9%
Observations	*6,026*	*262*	*5,886*	*1,512*

Notes: Data includes all LGAs from Victoria and New South Wales over the period January 2019 to December 2020, and are **not** adjusted by state population size. Lockdown is April 2020 (NSW) and April-May 2020 and July-September 2020 (VIC).

4. Methodology

As the series on domestic and other assaults do not appear to display any particular trend over the period, besides seasonal patterns, we use standard estimation techniques rather than estimators accounting for I (1) or higher order processes.

We estimate the effect of the lockdown using the statistical model:

$$y_{ist} = \alpha + \beta Lock_{st} + \gamma Dom + \theta Dom\ Lock_{st} + s\delta_1 + time\delta_2 + State\delta_3 + \varepsilon_{ist} \qquad (1)$$

where y is the total number of monthly assaults, i is a dummy variable indicating whether it is domestic or other assault, respectively, s is the LGA, and t is an indicator of the month (time trend going from 1 to 24). The variable $Lock$ indicates whether crime occurs at a time of lockdown. Dom is a dummy variable equal to one if the assault is domestic-related and zero otherwise, $State$ indicates if the LGA is located in NSW or Victoria, and ε is an idiosyncratic error term. The parameter of interest is θ – the effect of lockdown, $Lock$, interacted with Dom, the dummy variable for domestic assaults.

Using LGA fixed effects ensures that time-invariant differences between locales are accounted for. This likely applies to population, too, given the relatively short time span covered in the analysis (24 months). Equation (1) is estimated on data pooling together all types of assaults. The results are reported in the first column of Table 3 (labelled 'pooled').

We then perform regressions by Ordinary Least Squares (OLS) separately, by type of assault (i.e. without the variable Dom and the interaction term $Dom\ Lock$), for comparison purposes and report the results on the second and last column of Table 3.

As shown in the relevant columns, β is negative in each regression, implying that lockdowns are negatively associated with the average number of crimes committed in a month over the period regardless of the type of assault. In the case of domestic violence (second column of results in Table 3), lockdown reduces the count of assaults by 4.652 crimes/month, but in the case of other types of assaults (last column) the decrease is almost double (8.063). The months in lockdown are therefore associated with a *decline* in the monthly number of *both* crimes, but at different *rates*. As a result, the relative composition of assault crimes tilts in favour of domestic violence, but that occurs in the context of a declining number of both assaults.

The results under the first column in Table 3 suggest that θ is both positive and statistically significantly different from zero: on average during lockdown domestic assaults, adds about 2.265 crimes to the monthly count of assaults: domestic violence increases during lockdowns because it has become more common in relative terms though there were both fewer assaults in total and fewer family assaults. Our findings are based on police reports, but during lockdown victims and perpetrators are likely to spend more time together due to decreased mobility outside the household, and this may prevent possible victims from notifying the police. As a result of this natural bias, the compositional change invites the need to pay more attention to other data sources capturing the problem - for instance the volume of calls to helplines or answers to ad hoc surveys.

Table 3. Effect of lockdown on assaults

Dependent variable: monthly count of offences	*Assaults (pooled)*	*Domestic assaults*	*Other assaults*
Lockdown	-7.498***	-4.652***	-8.063***
	(0.617)	(0.382)	(0.654)
Domestic-related assault	-4.903***		
	(0.296)		
Lockdown * Domestic-related assault	2.265***		
	(0.838)		
LGA fixed effects	YES	YES	YES
State fixed effects	YES	YES	YES
Controls for time	YES	YES	YES
Observations	22,912	9,226	13,686
R-squared	0.818	0.928	0.880
Oster delta	1.490	-4.993	-3.626

Notes: Estimations includes LGAs from Victoria and New South Wales. Monthly observations from January 2019 to December 2020. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

To verify if the results are robust to the possibility of omitted variable bias we run the test developed by Oster (2019). This approach exploits the fact that the bias from observed variables informs to some extent about the bias of unobserved confounders by assuming proportionality between the two biases. Estimating movements in coefficients and R2, this method enables the identification of how large the explanatory power of unobserved variables would have to be to render the estimated treatment effect insignificant. A value of 1 is normally regarded as a benchmark: absolute values above it imply that the results are unlikely subject to omitted variable bias. In contrast, the results are likely driven by omitted variable bias if absolute values are between zero and one (the negative sign implies that the direction of bias from observed and unobserved covariates is opposite).

The last line of Table 3 shows the results of Oster's test: they are well in excess of the benchmark, implying that unobserved covariates do not present a threat to the results presented. As a result, the estimates reported in Table 3 can be considered 'robust to omitted variable bias' (Oster, 2019).

We then perform separate analyses on two groups of LGA, depending on whether they are below or above the median income to explore the heterogeneity of assaults with respect to income levels and more broadly socio-economic status.

Table 4. Effect of lockdown on assaults by median income in LGAs

Dependent variable: count of assaults	*Low income LGAs*	*High income LGAs*
Lockdown	-8.519***	-5.744***
	(0.540)	(1.440)
Family-related assault	-2.269***	-10.310***
	(0.350)	*(0.540)*
Lockdown * Family-related assault	3.677***	-0.096
	(0.903)	(1.677)
LGA fixed effects	YES	YES
State fixed effects	YES	YES
Controls for time	YES	YES
Observations	15,340	7,572
R-squared	0.848	0.725

Notes: Estimations includes LGAs from Victoria and New South Wales. For low income LGAs: sample restricted to LGAs with median income below the respective state median income. For high income LGAs: sample restricted to LGAs with median income above the respective state median income. Monthly observations from January 2019 to December 2020. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 4 summarises the results. The main coefficient of interest is the interaction between timing of assault (during lockdown or else) and type of crime (domestic or other). The point estimates suggest that the relative increase of domestic assaults occurs in LGAs below median income: the effect is no different from zero in LGAs with above-median incomes. This is perhaps not surprising, as individuals in lower socio-economic status might have less opportunity to relieve stress and anxiety outside the households. At the same time, it suggests that socio-economic status and assault status are not only related but the former likely influences the latter. As a result, solutions that target relative deprivation may reduce crime and the public resources used to fight it.

We explored the role of unemployment rate at LGA level in this relationship between lockdown and assaults. We re-estimate the statistical model (1) after adding controls for the monthly unemployment rate at the LGA level[2]. The results (available from authors) are similar in magnitude and significance to those reported here.

So, how do these results square with the newspaper headlines that domestic violence has grown during the lockdown imposed to combat COVID-19? Besides our suggestion that the increase is the result of a relative shift, rather than an increase in absolute numbers, two important caveats should be highlighted. First, there is a difference in the crime reported by support agencies and police reports, as personal conditions may self-select sub-groups of the population to seek support through agencies but not through the police, and vice-versa. We use police reports and as such are bound to its advantages and limitations. The reports enable us to have a consistent definition over time and across regions. However, they are likely to suffer from under-reporting and may not capture the full extent of distress in the community.

The second caveat is that police reports do not measure the total extent of domestic violence and distress. As such, it is not possible to disentangle assaults that occur as a result of conditions (e.g. psychological) from other assaults that generate domestic violence and distress. There is further possibility that lockdown may cause a change in reporting behaviour. For example, the victims were not able to leave home so, could be reluctant to report violence because of the possible consequences to them and other family members.

Our study underlines the key distinctions (i) between calls and official reports and (ii) between absolute numbers and relative shares. Bullinger, Carr and Packham (2021) show that stay-at-home policies in Chicago resulted in an increase in domestic violence–related calls for police service, but a decrease in total calls. In line with the present results, official reports by police officers and arrests for domestic violence crimes fell by 6.8 per cent and 26.4 per cent, respectively. The lockdown measures lead to a decline in overall crime, however, reduction in domestic violence crimes in Chicago was around 5 times smaller than the decline in overall crime rates.

5. Conclusion

We use police record data to test whether the lockdown imposed to reduce the spread of COVID-19 raised the count of domestic assaults in New South Wales and Victoria. We find that domestic assaults have only increased in relative terms, as the lower mobility generated by the lockdown is associated with lower crime counts, especially in non-domestic crimes. Notwithstanding the limitations of the data and a relatively

2 The unemployment rate was sourced from Small Area Labour Markets (SALM), March quarter 2021, produced by the National Skills Commission (https://lmip.gov.au/default.aspx?LMIP/Downloads/SmallAreaLabourMarketsSALM)

simple analysis, we find that such effect is almost entirely occurring in LGAs with below-median income levels. We show that all assaults, including domestic assaults, decreased during lockdowns in absolute terms. Our results point to the need to carefully distinguish between reported offences and other measures of crime and absolute number of crimes and relative shares.

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Gendered impacts of changing social security payments during COVID-19 lockdowns: an exploratory study

***Elise Klein** *Australian National University*
Kay Cook *Swinburne University of Technology*
Susan Maury *Good Shepherd, Australia and New Zealand*
Kelly Bowey *Centre for Excellence in Child and Family Welfare*

Abstract

During the 2020 COVID-19 pandemic, the Australian Government dramatically changed its approach to social security by introducing a temporary $550 per fortnight Coronavirus Supplement and the temporary suspension of mutual obligations. In late October 2020, we launched an online survey that asked respondents about how these changes impacted on their everyday lives and time use. Our findings suggest that the suspension of mutual obligations was extremely positive for respondents especially because it reduced the psychological and time pressure which make it harder for respondents to undertake long-term planning and preparation for employment. There were also considerable gendered impacts including how the reduction in time and psychological pressure allowed respondents to engage in their unpaid work such as looking after children and community engagement. Furthermore, our findings suggest that people placed onto mutual obligations undertake a range of productive work which provides important inputs into the economy and society more broadly despite being considered to be unproductive members of society. Respondents indicated that this work is easier to do when they had the time and economic base to do so, suggesting that a rethink of contemporary social security policy is needed.

JEL Codes: J16, H55, I31
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*Corresponding author: Tel: +61 414 786 179, Email: elise.klein@anu.edu.au

1. Introduction

Welfare conditionality is an ongoing feature of the Australian social security system. Unemployment is framed not as a structural issue of advanced capitalist economies, but a problem stemming from individual behavioural deficiencies, in which people are unable or unwilling to use their time productively and are considered to be lazy, 'bludgers', and/or faulty citizens (Brown, 2015; Cahill, 2014; Dee, 2013). This approach has resulted in 'conditional' welfare programs, (or 'mutual obligation' as it is referred to in Australia), where payments are conditional on recipients undertaking tasks such as attending provider appointments, training, submitting job applications and undertaking 'work-like' activities for their payments (Brady, 2011). Mutual obligation is mandatory, and so people are often met with sanctions, including having their payment suspended, if they do not undertake these obligations and report them in a timely manner.

Critiques of welfare conditionality are diverse but often include the failure of policy to recognize not only the limited availability of dignified and suitable jobs – even before COVID-19 (Standing, 2014) – but also that people draw on social security for various reasons, not just because they cannot find work. These reasons may include an illness, a disability or other work such as undertaking care and social reproduction (Klein and Razi, 2018), and whilst there are some specialty payments for these groups of people, tight eligibility criteria makes it hard to access them and so people remain on JobSeeker (Parliamentary Budgetary Office, 2020; Soloman 2021). Specifically, the Federal government recently completed a review of who is on JobSeeker to work out why they have people staying on the payment, concluding,

> *"A growing share of recipients—two thirds in 2019 compared to half in 2007—have been on the payment for more than a year, and a growing share does not have full capacity to work… Successive governments' changes to eligibility criteria for payments including the disability support pension, parenting payment and the age pension have had the net effect of diverting some prospective or existing recipients onto JobSeeker, some of whom are likely to experience higher barriers to employment"* (Parliamentary Budgetary Office, 2020: ii).

This latter point is particularly important as many people, particularly women, need social security to supplement their reduced incomes due to unpaid, albeit productive, work such as unpaid care work (Craig *et al*., 2010). These tensions arising from ideology are at the heart of questions of productivity and what and who counts as a productive member of society.

Feminist scholars have found mutual obligation particularly problematic because it overlooks unpaid care work and social reproduction more broadly (Cain, 2016; Andersen, 2019). As argued by McDowell (2005), welfare conditionality policies "ignore the relational values of care and love for others that inform voluntary and unpaid care, assuming instead that value lies only in financially remunerated forms of effort" (p.372). As mentioned above, this goes to a major and enduring tension of mutual obligation; its inability to recognize various productive activities people undertake –

including unpaid care work (Land, 2002; Blaxland, 2010). First Nations scholarship has also underlined the importance of the diversity of work people undertake, often intricately linked to looking after country (Hall 2016). 'Caring for Country' is often used to describe work undertaken by First Nations people, encompasses "looking after all of the values, places, resources, stories, and cultural obligations associated with that area, as well as associated processes of spiritual renewal, connecting with ancestors, food provision, and maintaining kin relations" (Altman *et al*., 2007: 37). Caring for Country is linked to the maintenance of cultural ties, identity, autonomy and health, resulting in the betterment of the socio-political, cultural, economic and physical and emotional wellbeing of First Nations peoples (Salmon *et al*., 2019).

Instead of valuing the variety of ways people work and contribute, people receiving social security payments are often subject to stigma. Stigmatisation is used to craft a punitive anti-welfare common-sense (Tyler, 2013) that creates public consent for punitive welfare approaches (Soldatic and Pini, 2009). These public feelings are used to justify the creation of a "vast web of disentitlement strategies" around welfare provision (Wacquant, 2009: p. 91), of which "surveillance, sanctions and deterrence" are key (Fletcher and Wright, 2018, p. 323). Such approaches reconfigure entitlement into individual fault and fraud. In Australia, welfare dependency is seen as a scourge in a nation of hard workers, illustrated in 2014 by then Treasurer Joe Hockey's declaration that his government would end the 'age of entitlement' (Kenny 2014).

Yet during the 2020 COVID-19 pandemic, the Australian Government dramatically changed its approach to social security. Specifically, the Australian government introduced a temporary $550 per fortnight Coronavirus Supplement (the 'Supplement') from 27 April 2020 for a period of six months to increase nine working-age social security payments[1]. For many recipients, particularly those receiving the JobSeeker Payment, which includes a significant proportion of single parents whose youngest child is over 6 years of age, and people with health impediments, this effectively doubled their income.

Recognition of the stalled labour market and social distancing regulations triggered by the pandemic also saw the temporary suspension of mutual obligations– including attending regular meetings with providers, regular income reporting, applying for a set number of jobs per month, volunteering and/or participating in Work for the Dole. The suspension was initially in place from 23 March to 27 April and was extended and reimplemented at various points throughout 2020 depending on state-based restrictions, with a gradual re-introduction commencing from 9 June 2020 (Ruston and Cash, 2020). The Supplement was reduced by $300 to a rate of $250 per fortnight from 25 September to 31 December 2020 (Department of Social Services 2021), and ceased on the 31st March 2021. On the 1st of April 2021, the Government gave a small increase of $50 per fortnight in the JobSeeker allowance while at the same time, ramping up mutual obligations.

1 The payments were: JobSeeker Payment (formerly the Newstart Allowance), Partner Allowance, Widow Allowance, Youth Allowance, Austudy, ABSTUDY Living Allowance, Parenting Payment, Farm Household Allowance, Special Benefit (Services Australia 2021a).

These unprecedented policy shifts in response to the COVID-19 pandemic in Australia provided an opportunity to examine the outcomes of a more supportive and caring social security system. In this context, the aim of our broader research project was to understand how people who relied on social security during 2020 experienced these dramatic changes – which according to the ABS (2020), women (15 per cent of all Australian women 18 years and above) were more likely to receive the Coronavirus Supplement compared to males (11 per cent of all Australian males 18 years and above). This paper aims to examine the experiences of the cohort in our sample who had their mutual obligations suspended.

2. Methods

In late October 2020, we launched an online survey that asked respondents how the significant increase in payments and the suspension of mutual obligations impacted on their everyday lives and time use. The survey, which ran from 20 October to 1 December 2020, was open to people who received the Supplement as well as those who did not, including people who did not receive social security payments. The primary research questions were:

- What were the positive and negative impacts of providing a $550 Coronavirus Supplement to people receiving social security payments?
- What were the positive and negative impacts of temporarily suspending mutual obligations?
- Did the temporary increase in payments and the suspension of mutual obligations change the way respondents used their time?

The survey was promoted through Twitter, Facebook and via the public platforms of community organisations, not-for-profit welfare agencies and individuals linked to the researcher's networks using the snowball method of recruitment[2]. The survey was voluntary and took about 15 minutes to complete. Questions were both multiple choice and open-ended short answer to ensure respondents had an opportunity to share their thoughts further. To determine the impacts of the policy changes, respondents were asked about (1) the positives and (2) negatives of both the $550 Supplement and suspension of mutual obligation experienced in separate, open-ended questions. Following these questions, respondents were also asked about (3) any other impacts resulting from these Coronavirus measures. People who had their mutual obligations suspended were also asked (4) how their use of time changed (if at all). All aspects of the research were reviewed and approved by the Human Research Ethics Committee at Swinburne University of Technology.

The survey had a range of questions for various experiences during COVID-19 lockdowns including people who did not receive social security, people who did receive social security but did not receive the Supplement, and those that did receive the Supplement. The data was captured anonymously through Qualtrics and resulted

2 Snowball sampling is a respondent-driven research method whereby respondents include themselves in the study through linked networks and chains of referral (See, Handcock and Gile, 2011).

in the 173 full responses which were included in the analysis. Of these, 146 received a social security payment, while 27 people did not. Among those 146 receiving social security payments, 92 received the Supplement and 54 did not.

Of the 92 people who received the supplement. Eighty-two of these 92 respondents answered a question on mutual obligations during COVID-19. Of these, 22 people (27 per cent) were required to continue to meet their mutual obligations, 13 people (16 per cent) had a partial exemption, 25 people (30 per cent) had a full exemption, 13 people (16 per cent) indicated their payments never have mutual obligations, and nine people (11 per cent) were unsure. The 38 people who indicated they had a partial or full suspension of mutual obligations are the focus of the research. Table 1 shows how three quarters (74 per cent) of these participants were female and 80 per cent were between the ages of 35 and 64. The majority (68 per cent) of these participants had received a Centrelink payment for 1 year or more. The vast majority (69 per cent) were in receipt of the JobSeeker payment, with 18 per cent in receipt of Parenting Payment Single, and 3 per cent in receipt of Youth Allowance (Student). Almost half (47 per cent) had parenting responsibilities for children aged 17 years or less, with an average of 3 children (range 2–8). The mean age of participants' youngest child was 4 (range 3–7).

Table 1.

Gender	*Age group range (years)*	*State location*	*Caring for children under 17 yrs*	*Payment type*	*Length of benefit receipt*
Female: 74%	18-19: 0%	VIC: 51%	Yes: 47%	Jobseeker: 79%	Less than 6 months: 16%
Male: 24%	20-21: 3%	NSW: 14%	No: 50%	Parenting Payment Single: 18%	6 – 11 months: 8%
No answer: 2%	22-24: 5%	TAS: 3%	No answer: 3%	Youth Allowance: 3%	1 – 5 years: 29%
Non-binary: 0%	25-34: 8%	QLD: 15%		No answer: 0%	5+ years: 40%
	35-44: 24%	SA: 14%			No answer: 7%
	45-54: 27%	WA: 3%			
	55-64: 31%	No answer: 0%			
	65-74: 2%				
	No answer: 0%				

Table 1 shows the various attributes of respondents receiving the supplement with a suspension to mutual obligations (n=38) including their gender, age group, number of children, state location, payment type and payment length.

The survey responses were analysed by documenting themes emerging from the open-ended responses recorded (Zhang and Wildemuth, 2009). This systematic process uses the emergence of collective understandings of social realities from the data to construct themes (Vaismoradi *et al*. 2016). These themes are discussed in the results section of the paper.

Given that not all social security recipients answering our survey had mutual obligations, we asked respondents about the effects of the Coronavirus Supplement and the suspension of mutual obligations separately. Whilst asking separate and distinct questions, for those respondents who experienced both changes and are included in the analysis reported here, their experiences cannot be separated completely. There were differences between the two sets of questions as discussed below, however many themes were consistent and thus there is overlap in the thematic analysis.

Our sample is also small and self-selecting. It is not representative and, as such, should not be taken to reflect the experiences of all people receiving social security payments. For example, to participate respondents needed to have sufficient internet access, a computer or smart device and be proficient in English. Our sample was also skewed towards Victoria, where many of our recruiting agencies are located. Given these limitations, the findings that we report are exploratory rather than providing a definitive account of all COVID-19 experiences from social security recipients who had their mutual obligations suspended and received the $550 supplement. Nonetheless, this research provides avenues for further research and important insights into the impacts of giving time back to people who are often subject to mutual obligations.

3. Results

Before examining the responses reflecting the changes brought about by the reduction in mutual obligations, it is important to consider the impacts of the $550 Supplement. Changes brought about by the suspension of mutual obligation requirements cannot be wholly disentangled from the improved economic security bought about by the $550 supplement. In a way, these responses present as a baseline of how people were experiencing social security measures during the COVID-19 lockdown and so it is important to summarise these impacts. Respondents reported various positive changes from receiving the $550 Supplement when asked, “What has been a positive change in your life, if anything, because of the Supplement?” From the responses, four different themes emerged to this question.

First, respondents reported improved financial security; for example, one male respondent aged 55-64 years from Victoria who was receiving the JobSeeker Payment said, “Less financial stress, paid off debts, managed to pay for repairs, bought more groceries”, while a female respondent from NSW aged 55-64 years receiving the JobSeeker Payment said, “Less financial stress, less worry about the future (whilst the supplement lasts anyway).”

Second, respondents reported a greater ability to meet basic material needs. For example, one female respondent from NSW aged 45-54 years receiving the

JobSeeker Payment said, "I could buy more groceries and not worry about paying bills in the same week". A male respondent aged 35-44 years receiving the JobSeeker Payment said, "Being able to get medical and dental issues sorted out that I've had to forget about for literally years beforehand. Being able to buy new clothes for myself. Not having to ration food and meds. Being able to keep my son in new clothes".

Third, respondents reported an improvement to their psychological wellbeing. For example, one female respondent aged 35-44 years, from NSW receiving a Parenting Payment Single for over 5 years said, "I also took up horse riding lessons and it changed my whole life. I have been happier and more able to cope with absolutely everything because of having a sport to participate in each week. It is time to myself each week that I have not felt able to have in around 10 years". Another female respondent aged 35-44 years from WA receiving the JobSeeker Payment for over 5 years said, "I'm a single parent that was working part time but have still received part payment of JobSeeker as my wage was not high, I have felt more dignity whilst receiving the extra supplement as I've been able to buy enough food and pay my bills on time".

Fourth, respondents also reported that they had the resources to better look after children. A female respondent aged 45-54 years receiving the JobSeeker Payment and from SA said, "I've been able to pay bills and necessary items for my children instead of getting a loan to make ends meet". Another female respondent aged 35-44 years from South Australia receiving the JobSeeker Payment for more than 5 years said, "I was able to give my family things we usually go without". We also asked people about what the negative impacts of the $550 supplement were. Responses overwhelming said there were not any negative impacts, while a few responses noted that a negative impact was that the Supplement would end.

Changes from the suspension of mutual obligations

In the survey, we also asked people what a positive change in their life has been, if any, because of the temporary reduction of mutual obligations activities. Three themes emerged from the respondents: 1) the improvement to psychological wellbeing, 2) the freeing up of time, and 3) being able to undertake activities important to them.

First, people again reported an improvement to their overall psychological wellbeing, for example a 20-21 year old female living in Queensland and receiving Youth Allowance said, "less stress about job applications and fitting times for meetings into my busy study schedule". A Victorian female aged 65-74 years and receiving the JobSeeker payment said, "No anxiety. No waiting to hear if you got an interview. No knock backs which impacted on my self-worth".

Second, people reported having more time available, which had been usually taken up by mutual obligations activities such as appointments, job applications and other requirements. For example, a female aged 55-64 years living in South Australia and receiving the JobSeeker payment said, "No more useless activities and jumping through hoops… no more fear of being cut off", and another female respondent aged 45-54 years from Victoria receiving the JobSeeker Payment for more than 5 years reported, "No time-wasting meetings with providers who don't care about my circumstances or my wellbeing".

Third, people reported being able to use this freed-up time for activities that were important to them. For example, one female respondent aged 45-54 years from Victoria on receiving the Parenting Payment Single for less than 6 months said, "Was able to focus 100% on remote learning for 6yo twins during lockdown as well as my own mental health and wellbeing". Another female, 45-54 years from NSW receiving the JobSeeker Payment for between 1-5 years said, "Because instead of doing busywork ticking off boxes, I could really focus on study and what I needed to do to get where I wanted to go. And I was able to make progress for the first time in a couple of years towards that goal".

People were also asked about the negatives of the reduction in mutual obligations. Most responses said there were no negatives, while some people expressed concerns that it was only a temporary measure, for example, "No positive change, knowing the system in place will return is already taking effect on my mental health and epilepsy" (Male, 35-44, VIC, JobSeeker).

Analysis of gender

Whilst the themes presented above were relevant to male and female respondents, there were some gendered differences in how people talked about the relaxation of mutual obligations. Specifically, many female respondents were also primary carers of children. They reported having to juggle extra time to dedicate to their children and undertake social reproductive labour as well as engage in the labour market. For example, a female aged 35-44 years who did not receive the Coronavirus Supplement (but received the Family Tax Benefit) said, "Not having access to childcare and having my eldest remote learning has put huge pressure on my ability to complete my studies and maintain my part-time job." However, for those who benefited from the Supplement and relaxation of mutual obligation requirements, there was a sense of support for their parenting; for example, a female aged 45-54 years on JobSeeker said, "I was able to reduce work hours to facilitate home-schooling for [my] year 7 dependent child." Another mother aged 35-44 years in Western Australia and receiving the JobSeeker payment said, "It has made me feel like a good parent being able to actually care for my children and buy them clothes and shoes and send them to outings with their friends or school when normally they miss out because they know we don't have the money".

Mutual obligation also does not consider how domestic violence may impact how people experience mutual obligation policies. Some women required to perform mutual obligations have experienced domestic violence. Often, it was the domestic violence that pushed women into the need for social security support as they had to leave quickly with limited financial resources, were unable to collect child support, or had to quit or reduce employment in order to look after their children, or take time to recover from the trauma of the abuse (Klein 2021). Women recovering from the trauma of domestic violence but subject to mutual obligations often speak of mutual obligations as entering into another abusive relationship. A female respondent 35-44 years receiving a Parenting Payment Single from NSW linked the psychological abuse under mutual obligations to experiences of domestic violence, saying the break from these obligations had a profound impact on her sense of self-worth:

> *"I have PTSD because I'm a survivor of domestic violence. Anxiety is characteristic of PTSD and the way Centrelink behaves is very much like my ex-husband. One day they want one thing, so you do it, then the next day the rules change and your whole existence is in question. Centrelink is exactly like an abuser and you just can't function like that. Having those impossible-to-fulfil expectations removed meant that I was able to have a normal experience of life for the first time in around 11 years. Enough food, enough water, enough to exist, and nobody telling me every day that I am not enough."*

4. Discussion: Gender, Time Use and Productivity

In the survey we also asked specifically about time use and how "the temporary reduction in mutual obligation activities changed the way you spend time, if at all?" Respondents reported an ability to engage in a range of productive market and non-market activities. For example, one female respondent aged 55-64 years receiving the JobSeeker Payment for between 1-5 years reported how the suspension of mutual obligations helped her look for work, "More time to live properly and actually look for work properly". Another female respondent aged 35-44 years from NSW receiving a Parenting Payment Single for over 5 years, said that with the suspension of mutual obligation, "I was able to focus on getting myself back into the workforce. Yes, mutual obligation activities PREVENT people from being able to start a new business or re-enter the workforce as an employee". This respondent further expanded on these comments in the additional comments section of the survey, saying that,

> *"I have been changing lives all over the place and becoming a public figure in my community that stands for love, acceptance, mental wellbeing and togetherness.... I have an employee, I talk in panels and speeches and webinars about social impact... my life is about to change forever and I'm about to be able to say goodbye to Centrelink forever. Yet, this fortnight, I am told I am now required to start applying for 12 jobs a fortnight. It's madness. All the employers around here already know me and will wonder why on earth the founder of the area's most exciting social enterprise is applying to their cafe for a job as a barista. It MAKES NO SENSE".*

These insights are important because mutual obligation works on the assumption that people need to be compelled into the labour market because they lack initiative, motivation or skills to do it themselves (Standing 2014). In contrast, responses to our survey suggest that people, when given time and economic security, use it to engage with the labour market and other 'job-ready' activities such as further study.

When asked whether the suspension of mutual obligations changed the way they spend their time, respondents reported being able to have more time to undertake socially reproductive work, for example one female respondent aged 44-54 years receiving a Parenting Payment Single for more than 5 years said she was able to, "Focus on my health needs and my children's needs that I have been left wholly responsible for raising", another female respondent aged 44- 54 years from Victoria receiving the JobSeeker Payment for more than 5 years said, "I've been home schooling my son". Another female respondent receiving a Parenting Payment Single reported, "Yes, more time with my granddaughter", and another female respondent aged 20-21 from Queensland receiving the Youth Allowance Payment for between 1-5 years said, "I don't have the feeling of the stress in the back of my mind at all times, I have been able to focus on more important tasks". There were also several references to more time for self-care and civil engagement, which are also important for social reproduction and democratic participation. For example, a female from South Australia aged 45-54 years, receiving payments for between 1-5 years, said "Was able to train more people in advocacy", and another female aged between 55-64 years receiving the JobSeeker Payment said "More time to do what I enjoy/interests me. More time to focus on other aspects of my life (which exist) other than jobs, jobs, jobs".

These responses speak to the feminist literature that finds punitive welfare and mutual obligation particularly problematic because it overlooks unpaid care work and social reproduction more broadly (Cain, 2016; Andersen, 2019). Capitalism free-rides on social reproduction – the affective and material work that ensures the reproduction and maintenance of workers, production and society more broadly (Fraser, 2016). The free-riding is legitimised through the separation of social reproduction on one hand, to production, or what is seen as the formal economy, on the other (Fraser, 2016). This separation is fundamental to the disavowal of unpaid care as work – which is seen as either outside the economy, or not quite the economy. It also has flow on effects to the underpayment of paid care sectors, such as aged care and childcare, which is often seen as unskilled and not as valuable as other vocations (Cook, *et al.* 2017). Responses indicate that while people on social security are accused of being dependent on welfare, the economy and society are dependent on their unpaid labour. During lockdowns associated with COVID-19, they worked to educate their children when the schools were closed, look after other people in the community, and engaged in self-care and advocacy.

5. Concluding remarks

Through presenting this data, although limited, we hope to contribute further insights into the relationship between punitive social security and productivity. We have seen that the increase in payments through the Supplement allowed people to afford healthy, regular meals, and afford medicine, and this is confirmed by ABS data, which reports the Coronavirus Supplement was mostly spent on essentials, household bills, mortgage/rent arrears and medical expenses (ABS, 2020). By increasing individual capacity to look after basic health needs, improvements in physical and psychological wellbeing are also supported. This suggests that a financial base is important for people to not only survive, but to engage economically and socially.

From the responses, we also see how putting people under the psychological and time pressure of mutual obligation makes it harder for people to be 'productive' in all senses of the word – including engaging in unpaid work such as looking after children and community engagement, as well as supporting long-term planning and preparing for or engaging in employment. 'Time' here is not just the extra minutes and hours that people have without mutual obligations, but also the mental time and space; when mutual obligations is suspended, people can think without the stress and anxiety of being under scrutiny, and therefore be more purposeful with their time and what they want to do longer-term to ensure the financial security of the household.

Furthermore, we also show the diversity of what ‘productivity’ and ‘contribution’ means to people in their everyday lives. These various forms of productive work undertaken by the people who are considered to be unproductive members of society provide important inputs into the economy and society more broadly, particularly when they had the time and economic base to do so. We see this through the contributions people reported through educating children, caring for others, and participating in advocacy and community work. At the very least, there are suggestions emerging in these responses that the ideological hysteria about people on welfare bludging, using their time unwisely and the punitive social policies designed to counter this are not only incorrect, but is counterproductive. Further, on the basis of our findings, we observe that there are people on Jobseeker who don’t belong there in the sense that they are not seeking employment but rather doing other productive activities such as studying or they have health issues which make it very hard for them to find a job.

It is distressing to know that these measures were abruptly brought to an end in April 2021. Mutual obligations were reinstated, including more onerous requirements such as more job applications, training requirements and a JobSeeker ‘dob-in line’ through which employers can dob in jobseekers who reject offers of employment without a ‘valid reason’ which may result in that person’s payments being suspended. These settings also marked the end of the Supplement, but included a meagre permanent rise to the pre-COVID-19 rate of $50 per week. In practice this meant that people receiving JobSeeker payments went from having received around $40 per day pre-COVID-19, to $80/day with the $550 Supplement, to $51/day with the $250 Supplement, to under $44/day after 1 April 2021.

It is also concerning that the significance of this ‘natural’ experiment has been under researched, where very little data is available to understand the degree of the impact in people’s lives. Attempts for more research in this area is needed, and this small study we hope is a contribution towards that.

What the COVID-19 supplement and suspension of mutual obligations suggests, if intended to or not, is an ability of government to fund and implement policies that *do* help vulnerable people. An approach to social security that provides unconditional economic security, builds capabilities and addresses systemic drivers of disadvantage needs not just be a one off, but a feature of the Australian social security system.

Please note that a copy of the online survey used in this study is available from the author upon request.

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