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The Australian labour market and the early impact of COVID-19: An assessment

Jeff Borland and Andrew Charlton*

Abstract

From March to June 2020 was the most dramatic four months in the history of the Australian labour market. Never before has a such a substantial decrease in labour demand (and partial reversal) occurred so quickly. In this article, we present an overview of the early impact of COVID-19: the main drivers it brought into play and the consequent labour market developments. Aggregate effects and how impacts differed by type of job and worker are described. We conclude with a brief review of the main government response to COVID-19, the JobKeeper program.

*Borland, University of Melbourne, Victoria, 3010, Australia; Charlton, AlphaBeta, Melbourne, Australia. Corresponding author: Borland, email < jib@unimelb.edu.au>. We are especially grateful to Ian McDonald, whose comments have greatly improved the article. We also thank Ross Williams and participants in webinars hosted by Social Ventures Australia, the Economic Society of Australia, Alpha Beta, the Victorian Department of Jobs, Precincts and Regions and the National Skills Commission, for many helpful comments. The paper cites anonymised and aggregated data from Xero, released as part of its Small Business Insights Program. Jeff Borland's research has been supported by ARC Discovery Grant DP160102269.

1. Introduction – The three graphs that tell the story

Every recession is different. Some, however, are more different than others. So it is with the COVID-19 recession in Australia. With its origins in the onset of COVID-19, and the rapid pace of change thereby engendered in the labour

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market, thus far it bears little resemblance to past recessions.[1] Only four months in, already there is as much to describe, and as many questions to answer, as might usually have accumulated after several years.

With so much to take in, and with the striking character of what is underway, the story of the COVID-19 recession is being told through the 'big' graph. In that vein, we begin our overview of developments in the Australian labour market with three graphs to summarise the early impact of COVID-19.

Figure 1 shows changes in monthly hours worked in Australia from March to June 2020; compared with the 1980s and 1990s recessions. Monthly hours worked is the best way to describe changes in labour demand during the period when the JobKeeper program is in place, because its operation is artificially increasing the number of persons counted as employed. [2]

Obviously notable are the scale and speed of decrease in monthly hours worked. In previous recessions, hours worked gradually decreased over 18 months to reach a trough about 6 per cent below the start of the recession. In the current episode, hours worked fell by 9.5 per cent in just one month, from March to April; and then fell again by 0.9 per cent from April to May. From May to June, monthly hours worked rebounded by 3.6 per cent. Those magnitudes of increase

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[1] Bishop (2020) provides an overview of the economic consequences for Australia of the 1918-19 Spanish flu pandemic. In a curious coincidence, the main recent attempt to model the consequences of a pandemic for Australia was undertaken by the current Treasury Secretary, Steven Kennedy (and co-authors); see Kennedy et al. (2006). Borland (2009) provides a review of what has happened in the Australian labour market in 'usual' recessions.

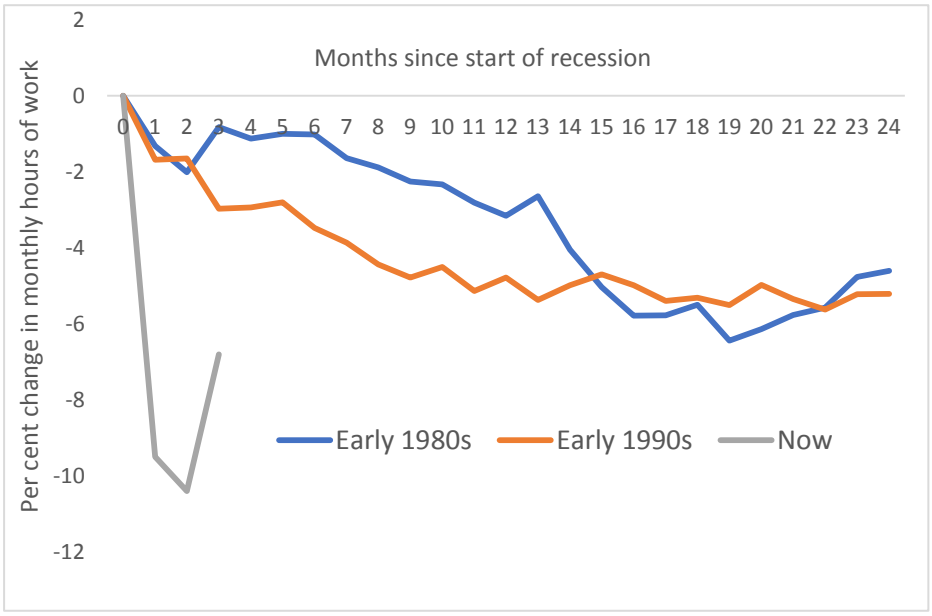
[2] Hours worked is the preferred measure of labour demand from the ABS Labour Force Survey for the period in which JobKeeper is in place; rather than persons employed. This is because the ABS definition of employment (following ILO convention) includes persons who worked zero hours but are receiving pay from an employer. This group of employed persons is artificially increased by JobKeeper. For further details, see ABS, Labour Force Australia, 6202.0 – Classifying people during the COVID-19 period.

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and decrease in hours worked in a single month have never been previously observed (at least since the start of this ABS data series in 1978).

Figure 1: Changes in monthly hours worked from the start of recessions



Source: ABS, Labour Force Australia, catalogue no.6202.0, Table 19. 1980s recession start date = September 1981; 1990s recession start date = July 1990.

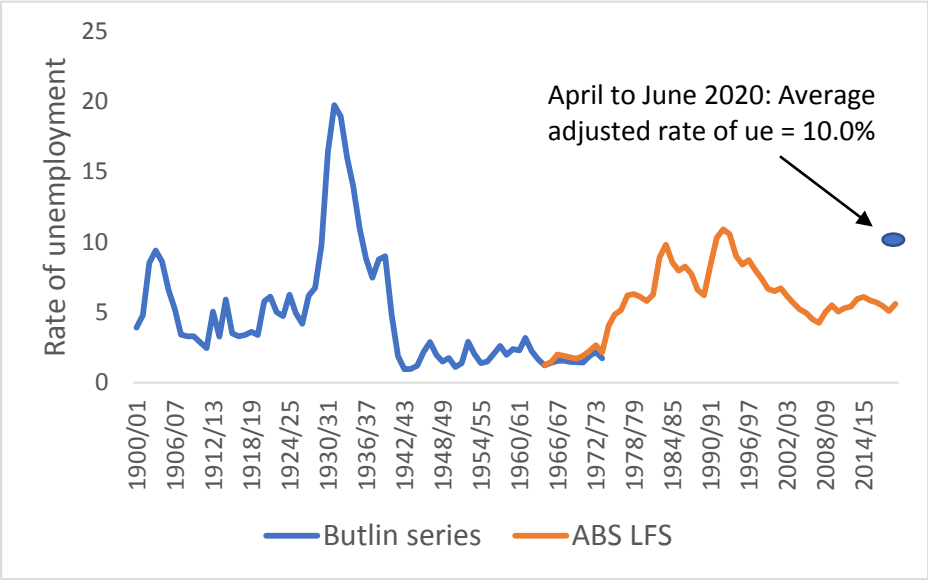
The same features of the COVID-19 recession stand out, even from a longer-run historical perspective. Figure 2 shows the rate of unemployment in Australia from the start of the twentieth century onwards, including an average rate for April to June 2020. The average for April to June is an adjusted rate, constructed by the Australian Bureau of Statistics (ABS) to be historically comparable (by correcting for the impact of the JobKeeper program). That average rate was 10.0 per cent; up from 5.4 per cent in March.[3] The only extended periods with a higher rate of unemployment have been during the Great Depression and in the early 1990s. In neither of those episodes did the rate of unemployment rise as quickly.

[3] Data are from ABS, Labour Force Australia, 6202.0, May: i) For 2020 – Employment and unemployment: An international perspective; and ii) Table 1. The adjustment made by the ABS is to add to the group of labour force participants classified as unemployed those employed persons working zero hours who indicated they had 'no work, not enough work available or were stood down.

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Figure 2: Long-run history of rate of unemployment



a] 1900-01 to 1973/74: Butlin series: Butlin, Matthew (1977), 'A preliminary annual database 1900/01 to 1973/74', RBA Research Discussion Paper 7701; b] 1966/67 to 2018/19: i] 1966-77: ABS, The Labour Force Australia, 1966-84, catalogue no.6204.0; ii] 1978 onwards: ABS, Labour Force Australia, catalogue no.6202.0; Original series - Average of August, November, February and May.

Figure 3 shows changes in the number of jobs in Australia from mid-March to early July. The series displayed are from two data sources: i) ABS/Australian Taxation Office (ATO) Payroll data – which shows employee jobs reported to the ATO through the Single Touch Payroll system; and ii) Xero Small Business Insights (SBI). Appendix 1 provides a brief overview of the main sources of data used for this study.

The ABS/ATO series shows that the number of jobs in Australia fell rapidly from 21 March to 18 April, then gradually increased to 20 June, and after that again decreased through to early July (mainly due to job losses in Victoria with the re-emergence of COVID-19). By early July the number of jobs was about 3.5 per cent below its level in mid-March, having regained more than half the initial decrease. The Xero SBI series shows that the initial decrease in jobs in small business was larger than for all businesses; and the recovery from mid-April is not evident.

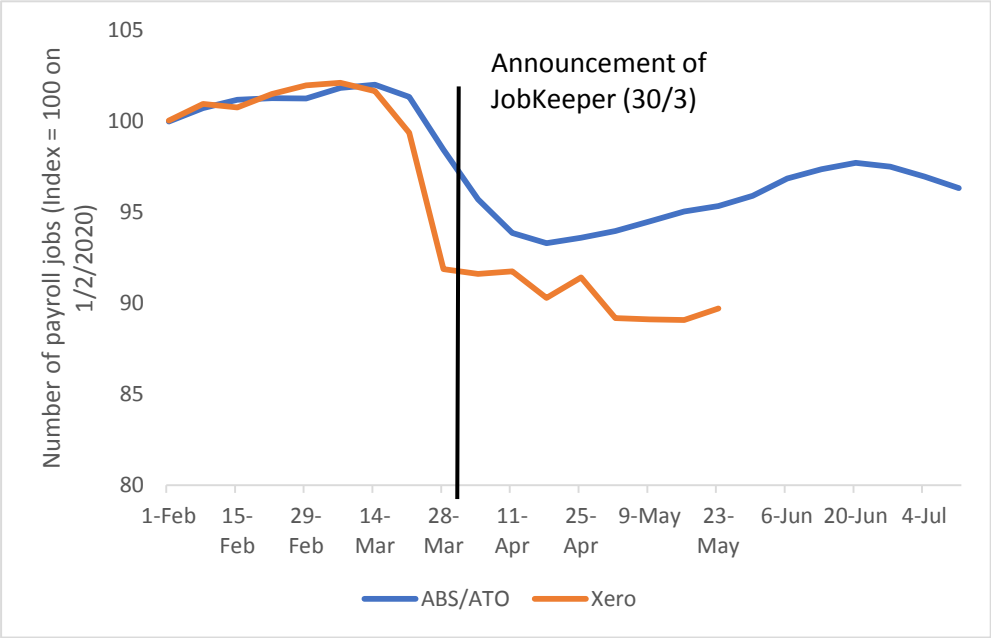
Other important features of the COVID-19 recession are apparent from Figure 3. One is that this is the first major economic downturn in Australia where (almost)

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real-time weekly data on labour market outcomes are available. These data have become available with online reporting to the ATO for tax collection purposes; and recognition by the ABS and Xero/Alpha Beta of the value of those data. Having the real-time data has allowed more precise and up-to-date assessments of the timing and causes of labour market developments. It has also meant that policy making appears to have been more influenced by data than ever before; for example, the Commonwealth Treasury's (2020) review of the JobKeeper program cites a variety of high-frequency official and unofficial data. Policy is the second feature evident in the figure. The timing of the stop to the decrease in the number of jobs, following the announcement of the JobKeeper program, stands out. More analysis of this issue is provided later in the article – Here we simply note that fiscal policy responses by governments, and their impact on households and businesses, has been a critical element of the COVID-19 recession.

Figure 3: Changes in number of payroll jobs, 1 February to 11 July 2020, ABS/ATO and Xero SBI series



1] ABS/ATO: ABS, Weekly Payroll Jobs and Wages, Week Ending July 11 2020, catalogue no.6160.0.55.001, Table 4; and 2] Xero Small Business Insights; Analysis by Alpha Beta.

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In the rest of the article, we elaborate on and analyse in more detail recent labour market developments in Australia. Section 2 provides an overview of the main drivers of labour market outcomes during the initial phase of the COVID-19 recession. Section 3 presents extra descriptive information – showing the uneven impact on labour market outcomes between workers. Section 4 makes an initial assessment of the central labour market policy introduced to deal with the COVID-19 recession– the JobKeeper program. Concluding remarks are in section 5.

2. The unfolding: Main drivers and aggregate labour market outcomes

a] Main drivers

The COVID-19 recession originated with the spread of the pandemic to Australia. The benchmark of 100 cumulative cases of COVID-19 was reached in Australia on 10 March, 44 days after its first case was reported. Thereafter, for a time, the caseload expanded rapidly – reaching 461 cases a week later and 2,135 cases two weeks later. The one-day peak of 468 cases occurred on March 28.[4]

COVID-19 is spread through personal contact – and some work and consumption activities potentially involve a high degree of contact among and between workers and consumers. The **first** main driver of the COVID-19 recession, decreased consumption spending in Australia, was brought about by consumers and governments responding to the onset of the virus by seeking to limit activities with high levels of personal contact. First, with the onset of COVID-19, some households are likely to have voluntarily decreased their consumption of goods and services involving high levels of personal contact– such as eating out and attending public events – to avoid contracting COVID-19. Second, commencing from mid-March, commonwealth and state governments introduced restrictions intended to limit activities with high personal contact.

[4] https://www.health.gov.au/news/health-alerts/novel-coronavirus-2019-ncov-health-alert/coronavirus-covid-19-current-situation-and-case-numbers#daily-reported-cases-in-australia

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Initially imposing rules for the maximum size of gatherings, ultimately (by late March) these restrictions effectively closed designated businesses such as cafes, restaurants, theatres and gyms, forcing a reduction in spending on those activities. [5] As well, bans on entering Australia from March 21, and restrictions on travel within the country, meant that aviation services were severely curtailed; and some business – for example in the retail sector – chose to voluntarily close in order to avoid risk to themselves and their employees.

Reflecting the impact of COVID-19, data from credit bureau illion shows that by late March, spending in Australia on many activities involving a high degree of personal contact had fallen dramatically. For example, in the week of 29 March spending was 35 per cent below its pre-pandemic levels in cafés, 82 per cent down in gyms, and 72 per cent lower in entertainment venues. The illion data also shows that high income individuals cut back their spending more strongly than lower income individuals. In the week of 29 March, individuals earning more than $104,000 were spending 22 per cent below their pre-pandemic levels, while individuals earning less than $65,000 were spending just 8 per cent less. Lower income individuals appear to have cut their spending less because they had a lower share of discretionary spending and were less likely to be working from home; whereas higher income individuals previously had a larger share of their spending on activities with high levels of personal contact. The trend of lower income individuals cutting their spending less than higher income individuals has persisted through the pandemic.

Early research from the United States has investigated the relative impacts of government mandated shutdowns and voluntary decreases in household consumption associated with the onset of COVID-19. That research indicates that voluntary withdrawal of spending may have been most important driver of decreases in household consumption (see Goolsbee and Syverson, 2020; Gupta et

[5] https://www.mondaq.com/australia/operational-impacts-and-strategy/929622/timeline-of-key-social-economic-covid-19-events-affecting-australian-business

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al, 2020; and Chetty et al., 2020, pp.28-29). The data from illion also suggest that voluntary decreases in spending may have been important in Australia; for example, with large decreases in spending by high income individuals on activities involving a high degree of personal contact with suppliers and other consumers (for a further perspective, see Ball, 2020). It is a topic for future work, however, to determine the relative impacts of voluntary decreases in spending and government restrictions in Australia. It seems likely that the relative impacts would have varied by country depending on the timing of introduction of government restrictions compared to the stage of progress of COVID-19.

As has already been noted, because it has been brought about by governments seeking to control the spread of the virus and consumers wanting to avoid contracting it, the early impact of the COVID-19 recession has been concentrated on industries and businesses with high levels of personal interaction among staff and customers, where transmission has been thought to be most likely. Various predictions of the direct impact on employment have been made, taking into account the likelihood that workers in those industries would be worst affected. Those estimates ranged from a decrease of about 1 million for the policies already introduced in late March, through to 3.6 million had the shutdown become more intense (Borland, 2020a; Cassells et al., 2020; Coates et al., 2020; and Wilkins, 2020).

With COVID-19 being (or appearing to be) brought under control, government restrictions on economic activity began to be relaxed at the end of April. However, the time at which relaxation commenced and subsequent pace of removal differed substantially between states.[6] Therefore, by the end of June there was considerable variation between states in regulations governing, for example, the maximum numbers of customers allowed at cafes and restaurants and attendance at arts venues and sporting events.

[6] Relaxation of restrictions commenced from late April (WA), mid-May (NSW, Queensland, SA and Tasmania) and early June (Victoria). See: https://www.australia.gov.au/news-and-updates

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Recognising the severe impact of business closures on aggregate demand and employment, commonwealth and state governments quickly introduced policies intended to buttress economic activity and to underpin household spending and business viability. Government fiscal policy has therefore been the **second** main driver of labour market outcomes in the COVID-19 recession. Table 1 provides a brief summary of the main commonwealth government stimulus measures. In the first stage of commonwealth government measures, a $17.6bn package of business assistance and payments to welfare recipients was announced on March 12. A second stage expanded that package with an extra round of assistance worth $66.6bn on March 22. The third stage was the announcement on March 30 of the $130bn JobKeeper wage subsidy program. During March the Reserve Bank of Australia had also cut the cash rate from 0.75 per cent to 0.25 per cent; and as well, all state and territory governments introduced stimulus measures, collectively worth $25bn (Daley et al., 2020, pages 18-21).

Table 1: Summary of main policy measures

Package 1: 12 March

1] Business investment incentives (via tax write-offs): $3.9bn

2] Cashflow assistance to business: $6.7bn – Direct support payments to business with turnover less than $50m; $1.3bn – Wage subsidies for apprentices

3] Household stimulus: $4.8bn via a one-off $750 payment to income support recipients

4] Assistance for severely affected regions: $1bn

Package 2: 22 March

1] Coronavirus supplement: $14.1bn – Supplement of $550 per fortnight for 6 months for selected income support recipients (eg., JobSeeker; Youth allowance)

2] Household support: $4bn – Second $750 payment for income support recipients not eligible for coronavirus supplement

3] Early release of superannuation: Able to withdraw up to $10,000 in both 2019-20 and 2020-21

4] Increased cashflow assistance to business: $23.9bn

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5] Coronavirus SME Guarantee: Guarantee 50 per cent of new loans issued by eligible lenders to SMEs (Up to $20bn out of $40bn on loans)

6] Support for aviation: $715m

Package 3: March 30

JobKeeper program: $70bn

Sources: https://www.pm.gov.au/media/economic-stimulus-package; https://www.pm.gov.au/media/supporting-australian-workers-and-business; https://www.pm.gov.au/media/130-billion-jobkeeper-payment-keep-australians-job

The quantum of government spending has been massive. Figure 4 shows the impact on COVID-19 on household cashflow from January to June 2020. COVID-19 has caused large negative impacts on household income from wages and unincorporated businesses. That impact has been more than offset, however, by government stimulus measures – with large fractions of that stimulus accounted for by superannuation withdrawals and payments through the JobKeeper and JobSeeker programs. Overall, the net impact of COVID-19 and government policies is estimated to have increased household cashflow in the period covered in this review by $23.9bn.

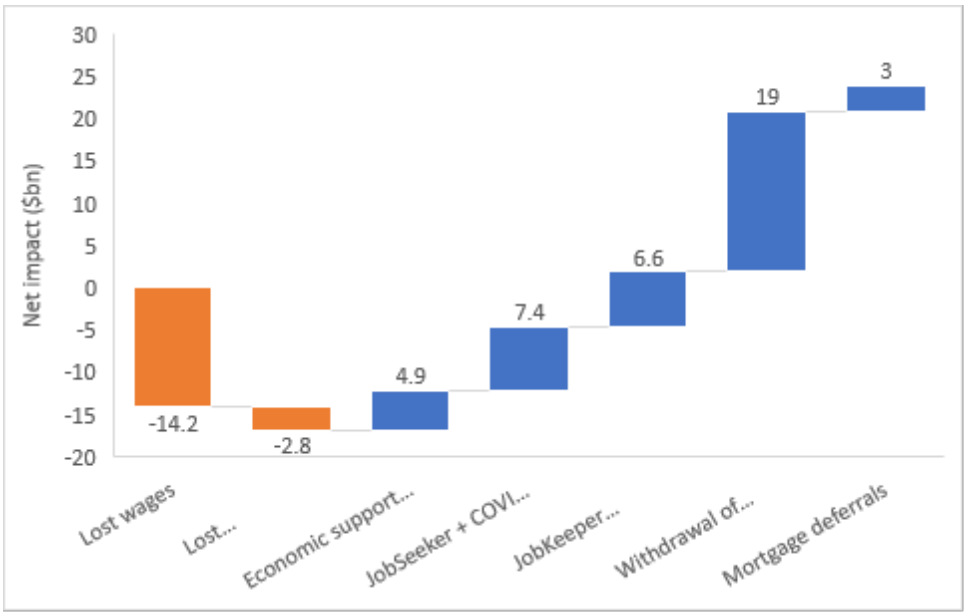
Of course, it is one thing to provide compensating sources of income – the main question for economic activity is whether that income is spent. Figure 5 provides a perspective on that question. It compares spending by government benefit recipients who received one or both of a $750 stimulus payment in early April and an increased weekly benefit payment of $550 from April to September, with spending by individuals not receiving those payments.[7] After tracking closely until late March, following introduction of these payments, spending by benefit recipients was about 20 per cent higher than other individuals.

[7] For further details on timing, eligibility and other conditions regarding these payments, see: https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/FlagPost/2020/March/Coronavirus_lump-sum_payments; https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/FlagPost/2020/March/New_coronavirus_supplement

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Figure 4: Impact of COVID-19 and fiscal policy responses on household cashflow,, Main components, April to June 2020



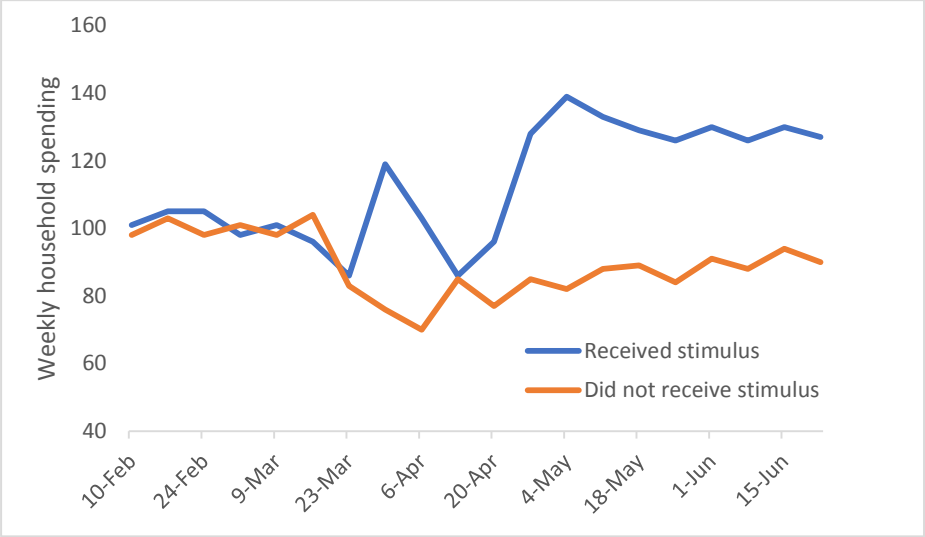
Source: Analysis by Alpha Beta.

Notes: i] Lost wages: Calculated from ABS/ATO Weekly Payroll data and ABS National Accounts; ii] Lost unincorporated income: Apply ratio of mixed income to employee salaries (ABS, National Accounts) to calculation of lost wages; iii] Economic support – One-off $750 payment: Payment recipient numbers (Australian Parliament, Senate Select Committee on COVID-19) x $750; iv] JobSeeker + COVID-19 supplement: Calculated from payment recipient numbers (existing + additional) and amount of payments (Commonwealth Department of Social Services); v] Incremental JobKeeper: Commonwealth Treasury (2020) adjusted to equal payment after-tax; vi] Superannuation withdrawal – Australian Prudential Regulation Authority; and vii] Mortgage deferrals and hardship: Australian Bankers Association data on value of mortgage deferrals with assumptions on interest payments and principal repayments.

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Figure 5: Individual-level spending, Weeks ending February 10 to 22 June 2020



Source: illion; Analysis by Alpha Beta.

In future (and perhaps to some degree already) a **third** driver of the COVID-19 recession will be the extent to which the initial impact of COVID-19 causes a longer-term and broader-based decline in aggregate demand. Such a decline could happen via a decrease in household spending (especially discretionary) due to reduced income and/or wealth and uncertainty about the future; a decrease in business investment due to lowered expectations of profitability; or a decrease in demand for Australian exports due to the impact of COVID-19 on our main trading partners and global trading networks.

b] Aggregate labour market outcomes

Labour market outcomes in Australia in the initial phase of the COVID-19 recession reflect the push and pull of decreased household consumption and fiscal policy responses. Table 2 shows the key aggregate labour market outcomes from March to June. Several main features are evident.

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Table 2: Changes in labour market aggregate outcomes (sa), March to June 2020

	March to April	April to May	May to June
Monthly hours (per cent compared to March)	-9.5	-0.9	+3.6
Employment (per cent compared to March	-4.7	-2.0	+1.2
EMP/POP rate (ppts)	-3.0	-1.3	+1.0
LFP rate (ppts)	-2.3	-0.9	+1.3
Rate of UE (ppts)	+1.1	+0.7	+0.4

Source: ABS, Labour Force Australia, 6202.0, Tables 1 and 19.

First, there was a large decrease in aggregate labour demand, evident in both monthly hours worked and employment. The decrease was concentrated from March to April. Labour demand was then relatively stable from April to May; and reversed from May to June as the threat of COVID-19 appeared to be receding and relaxation of restrictions on business activity commenced. Using the monthly hours worked measure, about one-third of the decrease in labour demand from March to May was reversed between May and June.

Second, monthly hours worked responded more than employment to changes in labour demand from March to June. No doubt this mainly reflects the impact of the JobKeeper program, which subsidises employers to retain their existing workforces. The 'one-in all-in' rule effectively forces employers to adjust to the closing and reopening of economic activity by decreasing and increasing the

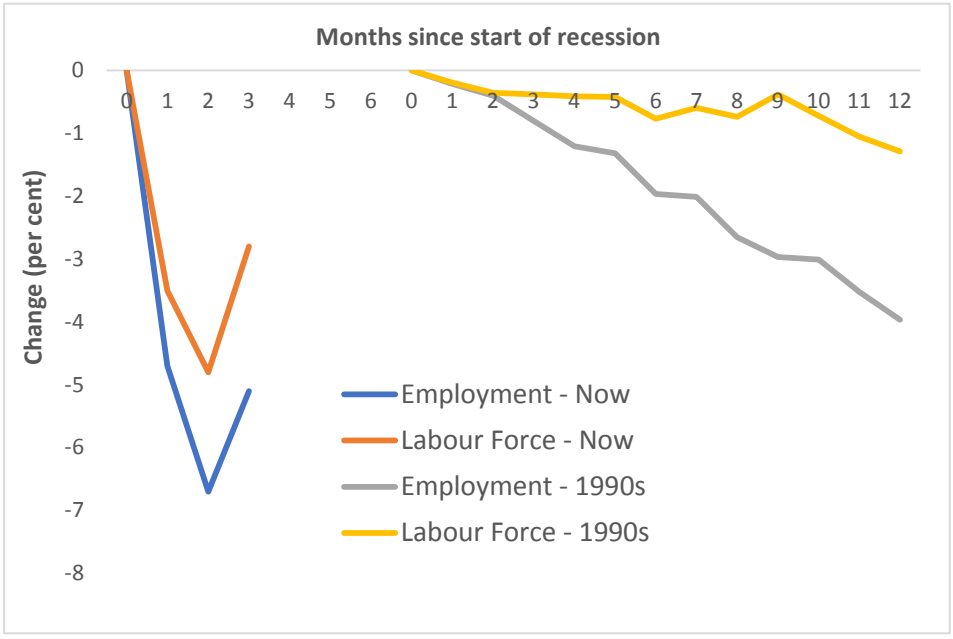
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hours of their workforces, rather than laying off and then hiring workers.[8] In previous recessions, by contrast, decreases in aggregate hours worked are accounted for almost entirely by lay-offs (Borland, 2011, p.201; and Bishop et al., 2016).

Third, the initial phase of decrease in employment brought a much larger flow out of the labour force and less flow into unemployment than in previous recessions. Figure 6 shows changes in the employment/population and Labour Force Participation (LFP) rates – from March to June and in the 1990s recession. In the 1990s a decrease in the employment/population rate of about 4.0ppts was associated with a decrease in the LFP rate of 1.3ppt. Whereas the decrease in employment/population rate from March to June of 3.3 ppts has been associated with a decrease in the LFP rate of 1.9ppt.

Figure 6: Changes in EMP/POP rate and LFP rate, Now and 1990s recession, By month



Source: ABS, Labour Force Australia, 6202.0, Tables 1 and 19.

[8] The one-in all-in rule means that employers who claim JobKeeper for any employee have to claim the payment for all their employees. Hence, laying off employees is not an option for businesses receiving the JobKeeper subsidy. Appendix Table 2.1 presents data on the number of persons employed working zero hours from March to June 2020.

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The larger flow out of the labour force is likely to reflect two main influences: first, a strong discouraged worker effect due to the scale of the decrease in labour demand from March to May (that is, workers who have lost their jobs believe they have no prospect of finding employment, and hence do not search for work); and second, workers (mainly females) withdrawing from the labour force due to the need to look after children as school closures were implemented.[9]

3. Who is being affected?

In this section we review changes in several main labour market outcomes - hours of work, employment and labour force status - for different types of jobs (by industry; occupation; and employment status) and different types of workers (by gender; age; country of birth; and location of residence).[10]

a] By industry

Changes in employment by industry reflect that the initial impact of COVID-19 was to cause a decrease in spending on activities with high levels of personal contact; and then the partial resumption of that spending with the virus appearing to have been brought under control.

Changes in employment for selected industries from February to May 2020 – the period when total employment declined substantially - are shown in Table 3. Two measures of employment are reported using data from the ABS Labour Force Survey: first, the percentage decrease in persons employed; and second,

[9] It has also been suggested that the larger flow to OLF might reflect removal of job search requirements on recipients of the JobSeeker payment. But a comparison of gross flows for March to April 2020 against the average of the flows for the same months in the previous three years finds that only about 10 per cent of the increase from previous years to this year in the change in OLF stock from March to April is explained by increased flows from UE to OLF.

[10] Wilkins (2020) forecasts impacts by types of workers based on assumptions on the industries most likely to be affected by decreases in consumption due to COVID-19.

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the share of the decrease in aggregate hours worked accounted for by each industry. Accommodation & food services and arts & recreation services experienced the largest percentage decreases in employment. As well, those two industries, together with retail trade, accounted for 18 per cent of employment in February 2020, but 42 per cent of the decrease in employed persons to May. [11]

Table 3: Changes in employment in selected industries, February to May 2020

	Per cent decrease in employment (%) (sa)	**Share of decrease in hours (%) (original)**
Accommodation& food services	-31.2	24.4
Transport, postal & warehousing	-9.8	11.6
Retail trade	-4.5	9.9
Other services	-10.1	9.6
Manufacturing	-7.4	8.5
Professional, scientific and technical services	-4.9	8.4
Arts and recreation services	-35.4	7.8
Administration & support services	-10.4	7.3

[11] Other industries, that might be regarded as less directly affected by the shutdown, did however account for sizable proportions of the decrease in aggregate hours worked; such as manufacturing and professional, scientific and technical services.

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Health care and social assistance	-3.3	7.2
Education & training	-7.9	6.6
Information, media & telecommunications	-15.9	2.5

Source: ABS, Labour Force Australia, Detailed – Quarterly, 6291.0.55.003, Table 4 and EQ11.

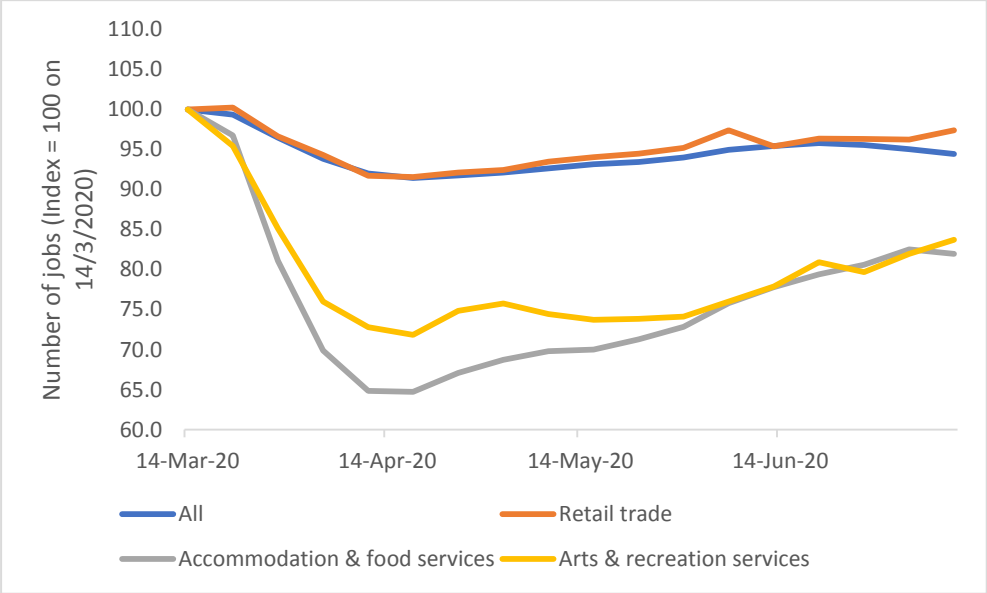
Using data from the ABS/ATO Payroll series it is possible to describe changes in the number of jobs by industry for the period to early July, which encompasses the initial recovery in total employment.[12] Figure 7 shows series for total jobs and for the number of jobs in the three industries with high levels of personal contact. Consistent with COVID-19 being the main cause of changes in employment, strong increases in the number of jobs occur in the three industries from mid-April as the threat of COVID-19 receded and government restrictions began to be relaxed.

[12] Changes in employment by industry using data from the ABS Labour Force Survey and the ABS/ATO Payroll series are highly correlated. See Appendix Figure 2.1.

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Figure 7: Changes in number of jobs, Selected industries, 14 March to 11 July 2020



Source: ABS/ATO: ABS, Weekly Payroll Jobs and Wages, Week Ending July 11 2020, catalogue no.6160.0.55.001, Table 4

With the impact of COVID-19 on employment being so concentrated by industry, changes in the industry composition of employment are an important window to understand the broader labour market impacts of COVID-19. Young people, females and workers in occupations such as community and personal services and sales are relatively concentrated in the most affected industries. That concentration by industry explains why their labour market outcomes have been disproportionately adversely affected by the impact of COVID-19. Appendix Tables 2.2a to 2.2c show how hypothetical rates of change in employment by occupation, age and gender – predicted using just the impact of the rate of change in employment by industry from February to May – are highly correlated with actual rates of change.

At the same time as emphasising how the impact of COVID-19 has had a pronounced impact on the industry composition of employment, it should not be ignored that there is also likely to be substantial reallocation of employment occurring within industries due to COVID-19 (see Barrero et al., 2020). For example, spending on food services has switched from seated venues to take-away; purchases of books and clothing have moved from physical stores to on-

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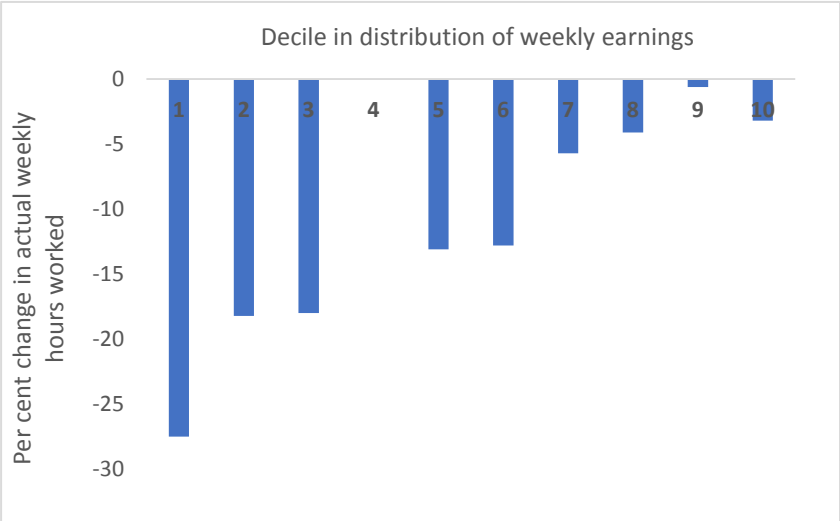
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line suppliers; and tourism within Australia is substituting for international travel.

b] By other job characteristics

Changes in employment from February to May 2020 varied substantially between occupations. For example, employment of community and personal services workers decreased by 29.1 per cent; whereas the decrease for professionals was only 3.2 per cent (see Appendix Table 2.3). Figure 8 shows the percentage changes in actual hours worked in occupation sub-groups; where occupations are classified into deciles ordered by average weekly earnings.[13] Decreases in hours worked by occupation have been strongly correlated with average weekly earnings – with low earners experiencing much larger decreases than high earners. Remarkably, workers in occupations in the bottom decile (ordered by average weekly earnings) experienced a decrease in hours worked of 27.5 per cent – compared to a decrease of only 3.2 per cent for workers in the top decile. Sixty per cent of the decrease in total hours worked is accounted for by workers in the bottom three deciles of the distribution of weekly earnings.

Figure 8: Changes in employment by occupation ordered by average weekly earnings, February to May 2020



[13] Average weekly earnings are for full-time employed persons. Deciles are created based on total actual hours worked in each occupation sub-group.

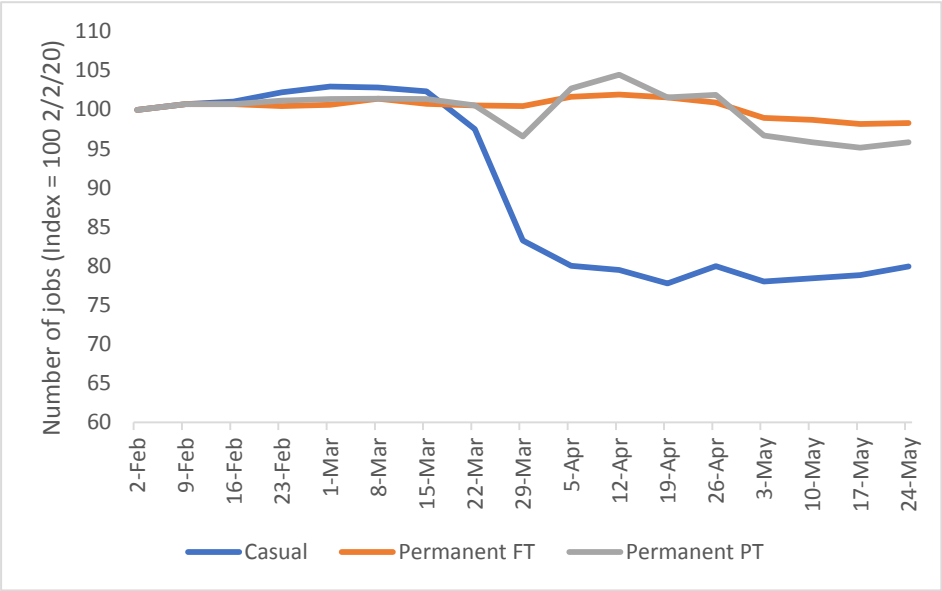
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Source: a] Actual hours worked by occupation sub-group: ABS, Labour Force Australia, Detailed – Quarterly, 6291.0.55.003, EQ07a; b] Average weekly earnings by occupation sub-group: ABS, Characteristics of Employment 2015 to 2019, Tablebuilder.

The incidence of the impact of COVID-19 has also varied between jobs by their employment status. Owner/managers without employees have experienced the largest decreases in employment and hours worked. Employees also had a large decrease in their employment. By contrast, employment for owner/managers with employees slightly increased (see Appendix Table 2.4). Within the category of employees, casual employees have experienced a much larger negative impact than permanent employees. Figure 9 shows the evolution of the number of casual and permanent jobs from February to late May. The number of casual jobs lost is much larger than permanent jobs: about 20 per cent compared to 5 per cent.

Figure 9: Number of jobs by employment status, Casual and permanent, Weeks ending 2 February to 24 May 2020



Source: Xero Small Business Insights; Analysis by Alpha Beta.

c] By gender, age and country of birth

Labour market outcomes by gender have been a much remarked-on feature of the impact of COVID-19. Females were more adversely impacted by males by the

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decrease in labour demand following the onset of COVID-19; although the gap in outcomes narrowed somewhat as recovery commenced. Females were also more likely than males to withdraw from the labour force. Table 4, for example, shows that monthly hours worked decreased from March to May by 11.8 per cent for females compared to 9.5 per cent for males; with those decreases being (respectively) 7.3 per cent and 6.5 per cent by June.

Table 4: Changes in labour market outcomes (sa), By gender, March to June 2020

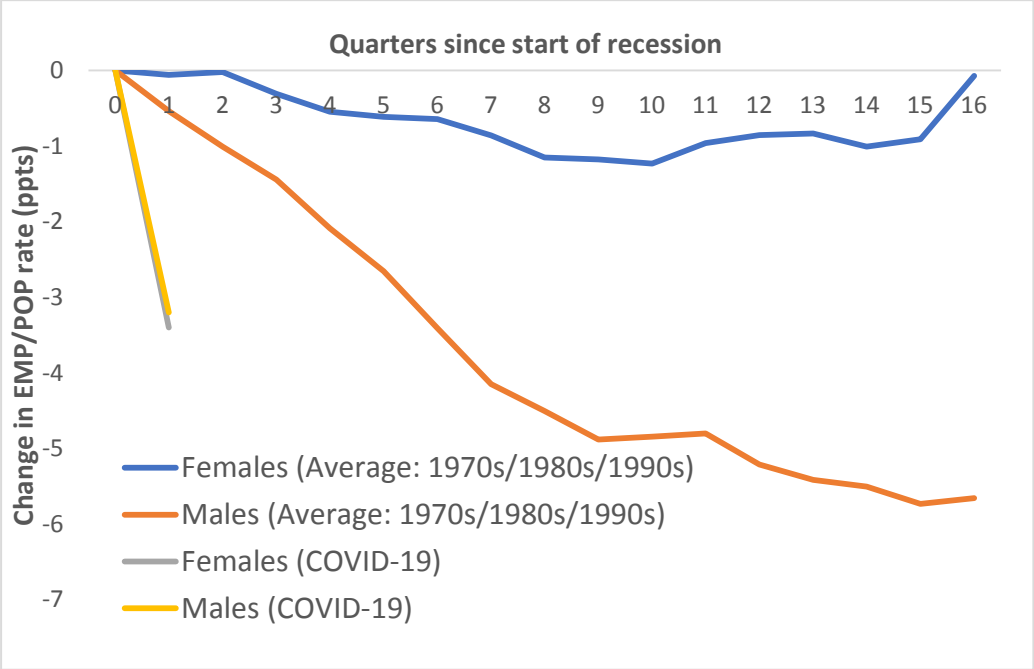
		March to May	**May to June**
Monthly hours (per cent relative to March)	Females	-11.8	+4.5
	Males	-9.5	+3.0
EMP/POP (ppts)	Females	-4.5	+1.1
	Males	-4.0	+0.8
LFP (ppts)	Females	-3.6	+1.4
	Males	-2.9	+1.2
Rate of UE (ppts)	Females	+1.8	+0.4
	Males	+1.9	+0.4

Source: ABS, Labour Force Survey, 6202.0, Tables 1 and 19.

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Figure 10: Change in employment/population rate, By gender, During recessions



Source: a] 1966-77: ABS, Labour Force Australia, Historical Summary 1966 to 1984, catalogue no.6204.0, Table 2; b] 1978 onwards: ABS, Labour Force Australia, catalogue no.6202.0, Table 1.

The impact by gender in the present recession is very different to previous recessions in Australia, which have seen substantially larger negative impacts on male than female employment – as shown in Figure 10. Previous recessions have been concentrated periods of decreased employment in male-dominated industries – especially manufacturing and construction. By contrast, the early impact of COVID-19 was on industries employing above-average shares of females. Further to the gender impact of COVID-19, there is also evidence that females have taken on a disproportionate share of home-based schooling following school closures.[14]

[14] For more details on labour market outcomes by gender in Australia, see Borland (2020b). For a general overview on COVID-19 and labour market-related gender impacts in the United States and United Kingdom see respectively Alon et al. (2020) and Hupkau and Petrongolo (2020).

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Young people (aged 15-24 years) experienced much greater decreases in employment and movement out of labour force during the initial stages of COVID-19 than prime age and older workers. Table 5, for example, shows that the employment/population rate of the young decreased by 9.8 ppts between March and May, compared to 3.8ppts and 1.4ppts respectively for prime age and older populations. As has already been described, this partly reflects that the most affected industries employ above-average shares of young workers; as well, young employees made up almost 50 per cent of the workforce in short-term casual jobs, which are excluded from the JobKeeper program (ABS, Characteristics of Employment, 2015 to 2019, 6333.0, Tablebuilder). What is also implied by the differential impact of COVID-19 by industry is that, with the commencement of reopening of economic activity, young people have benefited most. For example, from May to June, the employment/population ratio of the young rebounded by 3.3 ppts, compared to only 0.7ppt and 0.2ppt for the prime age and older populations.

While the deterioration in young people's labour market outcomes may have reversed somewhat, it is important however to note that the stage of recession during which young people are most adversely affected has not arrived yet. In past recessions, the negative impact on young people comes progressively as cohorts ending their education seek to make the transition to work and find that – with lower rates of job creation – they are less likely to find employment. Hence, any short-term recovery in employment of the young due to reopening of economic activity is likely to be followed by a second wave of impact as young people completing their full-time education struggle to find employment in a depressed labour market.[15]

[15] It is also important to note that this is against the background of increasingly difficult labour market conditions for the young in the decade post-Global Financial Crisis; see for example, Rayner (2016); Dhillon and Cassidy (2018), Borland and Coelli (2020) and Productivity Commission (2020). For a review of potential long-term scarring impacts from entering the labour market during a macroeconomic downturn, see Borland (2020c).

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Table 5: Labour market aggregate outcomes (sa), By age, Australia, March to June 2020

	EMP/ POP rate (ppts)		**LFP rate (ppts)**		**Actual hours worked in all jobs (Weekly) (%)**	
	March to May	**May to June**	**March to May**	**May to June**	**March to May**	**May to June**
Age						
15-24	-9.8	+2.7	-9.4	+3.4	-19.2	+5.1
25-54	-3.8	+0.7	-2.6	+0.9	-7.7	+1.1
55 plus	-1.4	+0.2	-1.3	+0.5	-6.5	+1.1

Source: ABS, Labour Force Survey, Detailed – Electronic Delivery, 6291.0.55.001, Table 01 and EM1a.

Employment outcomes by country of birth tell a striking story – shown in Table 6. The Australian-born population experienced a decrease in its employment/population rate rate from March to June of 2.2 ppts. The size of decrease for immigrants who have been in Australia for 5 years or more has been similar: 2.8 ppts. But for immigrants in Australia for less than 5 years the average decrease in the employment/population rate was 6.0 ppts. Undoubtedly, the difference incidence reflects the exclusion from JobKeeper of immigrants who are temporary visa holders.

Table 6: Change in employment/population rate, By country of birth and years since arrival, March to June 2020, ppts

	March to May	**May to June**
Australia	-2.8	**+0.6**

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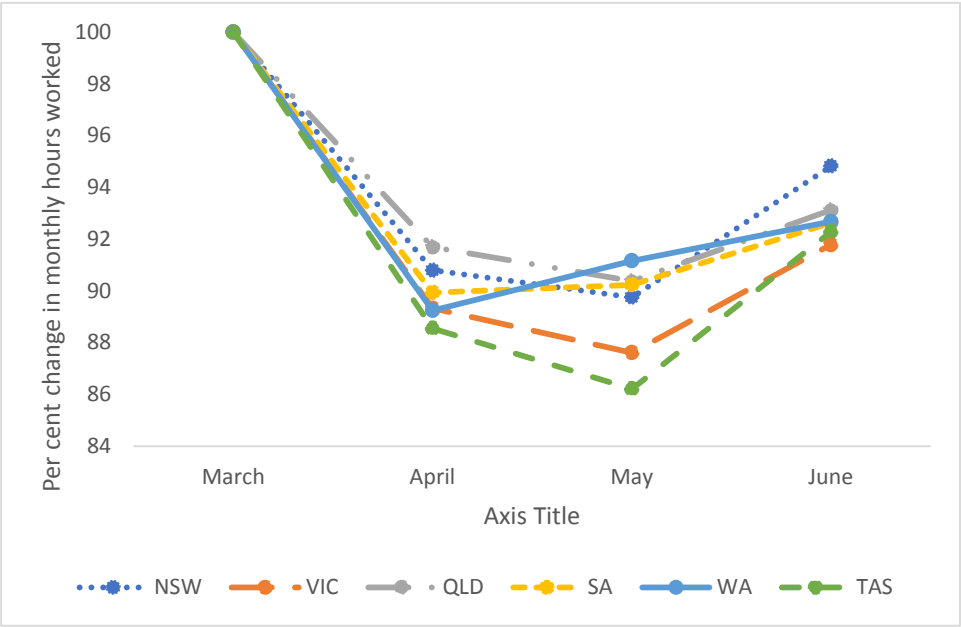
Immigrant		
Less than 5 years	-9.2	+3.3
5 years plus	-4.0	+1.2

Source: ABS, Labour Force Survey, Detailed – Electronic Delivery, 6291.0.55.001, LM4.

d] By state

No state has been exempt from labour market effects of COVID-19. But there has been considerable variation. All states saw large decreases in monthly hours worked from March to April of around 10 per cent. Thereafter, as shown in Figure 11, experiences between states have differed somewhat – and perhaps not surprisingly, in a way that that appears correlated with COVID-19 being brought under control and with the timing and extent of relaxation of government restrictions. As a guide, Table 7 presents a brief overview of changes to restrictions from mid-May to mid-June.

Figure 11: Monthly hours worked by state, March to June 2020



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Source: ABS, Labour Force Australia, 6202.0, Table 19.

In South Australia and Western Australia, which saw relatively few cases of COVID-19 and where relaxation began relatively early and proceeded fastest, hours worked increased from April onwards. In NSW and Tasmania, which have also been more advanced in reopening, hours worked continued to decrease to May, but then rebounded very strongly from May to June – by about 4 ppts. By comparison, Victoria and Queensland, which were slower and less advanced in reopening by mid-June, saw continued decreases in hours worked from April to May, and then smaller increases from May to June than other states.[16]

Table 7: Relaxation of restrictions on economic activity by June 15 2020

NSW	15/5: cafes etc: 10 customers in seated areas 1/6: cafes etc: 50 customers in seated areas; museums, zoos etc open; camping grounds etc open
VIC	1/6: cafes etc: 20 customers
QLD	1/6: cafes etc: 20 customers in seated areas; museums, zoos etc open; camping grounds etc open
SA	11/5: cafes etc: 10 customers in seated areas; tourist sites open; museums, zoos etc open 1/6: cafes etc: 80 customers in seated areas
WA	18/5: cafes etc: 20 customers in seated areas; unrestricted travel in state 1/6: cafes etc: 2 sqm rule in seated areas; museums, zoos etc open

[16] Subsequently, with the renewed break-out of COVID-19 in Victoria (and to a lesser extent in NSW), the number of jobs declined in those states from late June to early July, while remaining steady in other states – see ABS, Weekly Payroll Jobs and Wages, Week Ending July 11 2020, catalogue no.6160.0.55.001, Table 4

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TAS	18/5: cafes etc: 10 customers in seated areas 5/6: cafes etc: 40 customers in seated areas; museums, zoos etc open; camping grounds etc open

Source: State government websites accessed via https://www.australia.gov.au/

4. JobKeeper: A preliminary assessment

In this section we provide a brief overview and evaluation of the JobKeeper program; the major policy used by the commonwealth government to deal with the decrease in labour demand in the early stages of the COVID-19 recession.

a] Main details of the program

The initial phase of the JobKeeper program – from 30 March to 27 September – has involved the commonwealth government making a $1500 per fortnight per worker payment to eligible employees (via their employers) and to eligible self-employed individuals. The main objectives of the program are to: (i) seek to ensure viability of businesses through the shutdown of economic activity; (ii) provide financial support to households; and (iii) preserve connections between employers and their workforces (Australian Government, 2020; and Commonwealth Treasury, 2020, pp.14-16).

Eligible employees – who are nominated by their employer - include full-time and part-time permanent employees; and casual employees who (at 1 March) had been working with their employer on a regular basis for more than 12 months. Employees who had been retrenched after 1 March but then re-attached after announcement of the program are included in the scope of the program.[17]

For an employer to be able to claim JobKeeper for their employees, they must anticipate a reduction in turnover relative to a comparable period a year ago: a

[17] Eligibility also requires an employee to be an Australian citizen, the holder of a permanent visa, a Protected Special Category Visa Holder, a non-protected Special Category Visa Holder who has been residing continually in Australia for 10 years or more, or a Special Category (Subclass 444) Visa Holder.

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15 per cent reduction for a registered charity; a 30 per cent reduction for business with turnover less than $1billion; and a 50 per cent reduction for a business with turnover more than $1billion. The reduction in turnover must be for a minimum of one month during the six months in which the JobKeeper program is in operation. Self-employed individuals are eligible to receive the JobKeeper payment where they have suffered or expect to suffer a 30 per cent decline in turnover relative to a comparable a period a year ago. Eligibility for JobKeeper has also been restricted via ruling some types of organisations to be outside the scope of the program – for example, universities.

The $1,500 (before tax) payment per fortnight is a flat rate. Employees who have been stood down receive $1,500 per fortnight, regardless of their normal salary. Similarly, employees who are still working, but whose earnings would be less than $1,500, receive the full payment. Employees whose work hours are such that their total earnings are above $1,500 must have the difference between the subsidy and their total earnings paid by the employer.

Commonwealth Treasury (2020, p.7) has reported that JobKeeper payments were made for about 3.5m individuals in April-May 2020. There has been large variability across industries in the take-up of JobKeeper. For example, JobKeeper was paid for about 60 per cent of employed persons in the private sector working in the arts and recreation services industry, but to below 5 per cent in mining. Young people are under-represented in receipt of JobKeeper payments relative to their share of the overall decrease in private sector employment decrease; and males are slightly over-represented (Commonwealth Treasury, 2020, pp.17-21).

b] Impact of JobKeeper – Theory

Since its implementation, three main issues of interest have been raised regarding the impact of JobKeeper on labour market outcomes. These are:

i] its impact on employment;

ii] its impact on labour incomes; and

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iii] the overall benefit-cost of the program.

To investigate the potential effects of the JobKeeper program on these outcomes, it is useful to define profit-maximising levels of weekly hours of work for different scenarios:

• h^{preC} = profit-maximising hours of work for an employee or sole proprietor prior to COVID-19;

• h^{postC} = profit-maximising hours of work after the onset of COVID-19 in the absence of JobKeeper; and

• h^{JK} = profit-maximising hours of work after the onset of COVID-19 and with JobKeeper.

We begin by considering the impact of JobKeeper on **employment**. JobKeeper will cause an increase in employment where it increases hours of work compared to the post-COVID-19 state without JobKeeper (that is, $h^{JK} > h^{postC}$). This case can arise because the subsidy element of JobKeeper reduces the cost to a business of retaining its existing workforce. Specifically, a business can employ a worker at zero cost up to a number of weekly hours for each worker equal to ($750/worker's hourly wage rate). Where sufficient demand exists for a business's output, that decrease in cost may induce the business to offer a higher number of hours of work than otherwise. By inducing an increase in hours worked, the JobKeeper program is promoting what might be referred to as a **work connection**; that is, due to the cost of their labour being subsidised, the worker preserves a substantive connection to employment.

As an example, suppose that with the onset of COVID-19 and restrictions on activity, a café owner/chef has potential revenue of $250 per day from selling take-away coffee and food. To do this it is necessary to have a food sales worker working for 3 hours a day – which would have a usual wage cost of $75 per day. Other costs of operating the café and inputs to making the coffee and food are $300 per day. In the absence of the JobKeeper program the café would not open; but with the program, which reduces the cost of employing the food sales worker

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to zero, the café will open and there will be a positive effect on hours worked by both the owner and food sales worker.[18]

It is also important to note that an alternative type of impact on employment (but not hours of work) from JobKeeper can arise. Eligible employees can receive the JobKeeper payment, even where they are working zero hours. That is, JobKeeper does not affect hours of work, but does preserve a tacit connection between and employee and their employer; what can be referred to as a **job connection.** Preserving a job connection increases the count of persons employed in the ABS Labour Force Survey, but does not affect the measure of hours worked. The motivation for wanting to preserve job connections is that breaking the connection between an employer and employee means losing the job-worker match-specific surplus (such as the worker's firm-specific human capital); and makes necessary expensive job search and hiring respectively by the employee and employer post COVID-19, thereby prolonging the length of adjustment in the labour market.

Second, we consider the impact of JobKeeper on **labour income**. Either pre or post COVID-19 labour income could be used as the benchmark for comparison. Most relevant to JobKeeper's objective of underpinning household incomes is a comparison with post-COVID-19 labour income in the absence of the program. For this comparison, the effect of JobKeeper is to increase labour income whenever $h^{postC} \cdot w$ is less than \$750 (where w denotes the worker's hourly wage rate). An increase in income can happen either because JobKeeper causes a worker to be offered extra hours of work; or as an income transfer. An income transfer can substitute for a decrease in hours of work experienced due to COVID-19; or can happen because prior to COVID-19 a worker earned less than \$750 per week. Comparison with pre-COVID-19 income addresses the issue, which has received wide coverage, of whether JobKeeper has allowed workers to

[18] This example assumes that the food sales worker is eligible to receive JobKeeper. Where the café owner is also eligible to receive JobKeeper, there will be a further financial incentive for the business to remain open.

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increase their weekly earnings relative to their 'usual' earnings. This will occur whenever $h^{preC} \cdot w$ is less than \$750.

Third, we describe the **incidence** of benefits derived from JobKeeper. The component of JobKeeper received by an employer as a subsidy is equal to $h^{postC} \cdot w$, up to a limit of \$750. This is because $h^{postC} \cdot w$ is the amount that a profit-maximising employer would have been prepared to pay to a worker, even in the absence of JobKeeper. The component of JobKeeper that represents an increase in income to a worker is equal to the difference between \$750 and the employer subsidy. Two polar examples can illustrate. First, suppose that $h^{postC} = 0$. That is, the profit-maximising hours post-COVID-19, both with and without JobKeeper, equal zero. Hence, the entire JobKeeper payment represents an income transfer to the worker. Second, suppose that $h^{postC} \cdot w >$ \$750. That is, the employer would have been willing to pay weekly earnings above \$750, even in the absence of JobKeeper. Therefore, the entire JobKeeper payment represents a subsidy to the employer.

c] Impact on employment

It has already been noted (with regard to Figure 3) that data on the number of jobs in Australia and the timing of announcement of the JobKeeper program is suggestive of an impact of the program – in slowing or stopping the decline in jobs. However, that cannot be taken as causal evidence. For example, there are other reasons – such as implementation of government restrictions on business activity being completed at around the same time as announcement of JobKeeper – that might explain the apparent association.[19]

[19] On the other hand, there are reasons why the impact of the JobKeeper program may not coincide exactly with its date of announcement. For example, it was not until the first week of May that the first tranche of JobKeeper payments were made to employers and self-proprietors; and therefore only if employers were able to fund wage payments through to that time would the announcement be expected to have an immediate impact on employment.

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It is possible to move a little closer to establishing causal evidence for impact of the JobKeeper program on employment using two types of evidence obtained from the Xero SBI database. First, we compare the change in the number of jobs held by short-term casual employees who were not eligible for JobKeeper because they had been with their employer for less than 12 months, with the change for long-term casual employees who were eligible due to having been with their employer for at least 12 months. Second, we compare the impact of the introduction of wage subsidy programs for Australia and New Zealand. This comparison allows us to make inferences on the relation between the timing of introduction of a wage subsidy program and its impact on employment.

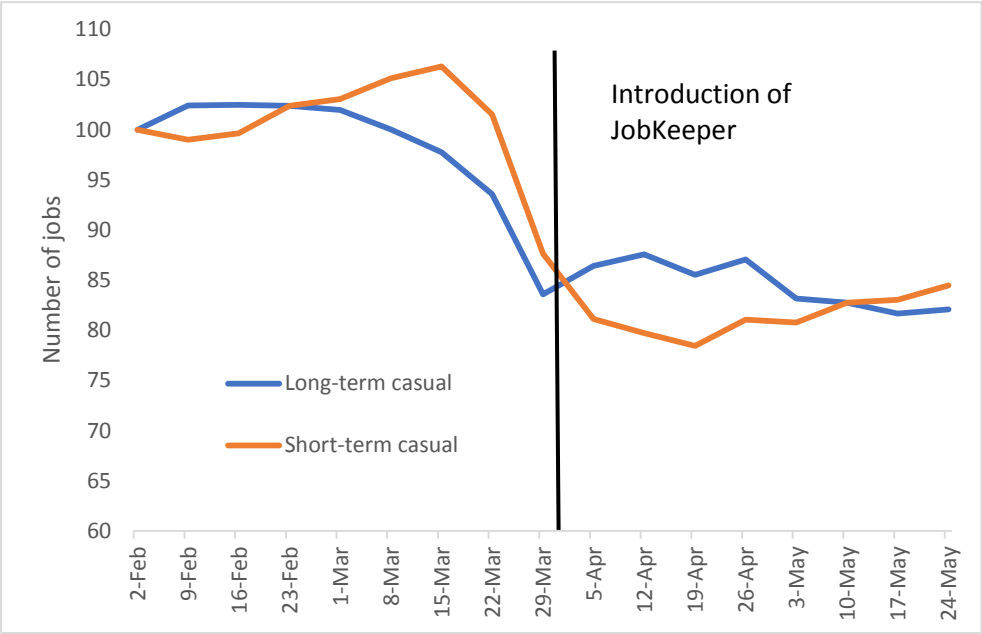
Figure 12 shows the evolution of the number of non-eligible (short-term) and eligible (long-term) casual jobs from before to after the announcement of JobKeeper. Prior to the introduction of JobKeeper, the number of short-term casual jobs had decreased by about 12.5 per cent and long-term casual jobs by 16.5 per cent. But then in the three weeks following the announcement of the program, short-term casual jobs decreased by about 9 per cent, compared to an increase of 2 per cent for long-term casual jobs. We take the comparison of job outcomes for non-eligible (short-term) and eligible (long-term) casual employees as suggesting a causal impact of JobKeeper on employment.[20]

[20] After three weeks, the series converge – which is likely to reflect that all new hires of casual employees will by definition be short-term. See also the comparison of changes in the number of jobs held by employees who were eligible and ineligible for JobKeeper in Commonwealth Treasury (2020, p.24).

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Figure 12: Number of casual jobs, By tenure with current employer, Weeks ending 2 February to 24 May 2020



Source: Xero Small Business Insights; Analysis by Alpha Beta.

More support for this finding of a causal impact of JobKeeper comes from a comparison of Australia with New Zealand. Figure 13a provides information on numbers of jobs in each country – compared against the timing of announcement of the respective wage subsidy policies. It shows that, in each country, after the introduction of the policy, there is no further substantial decrease in employment.

Of course, differences between countries in the size of job losses could be explained by a different impact of COVID-19. To address this issue, Figure 13b shows changes in total jobs and revenue for small business in each country. It shows that, in fact, there was a larger decrease in small business revenue in New Zealand than Australia. Greater 'undoing' of the revenue impact on employment in New Zealand than Australia may relate to details of their wage subsidy policies – although the policies appear relatively similar in design. [21] Hence, it raises the

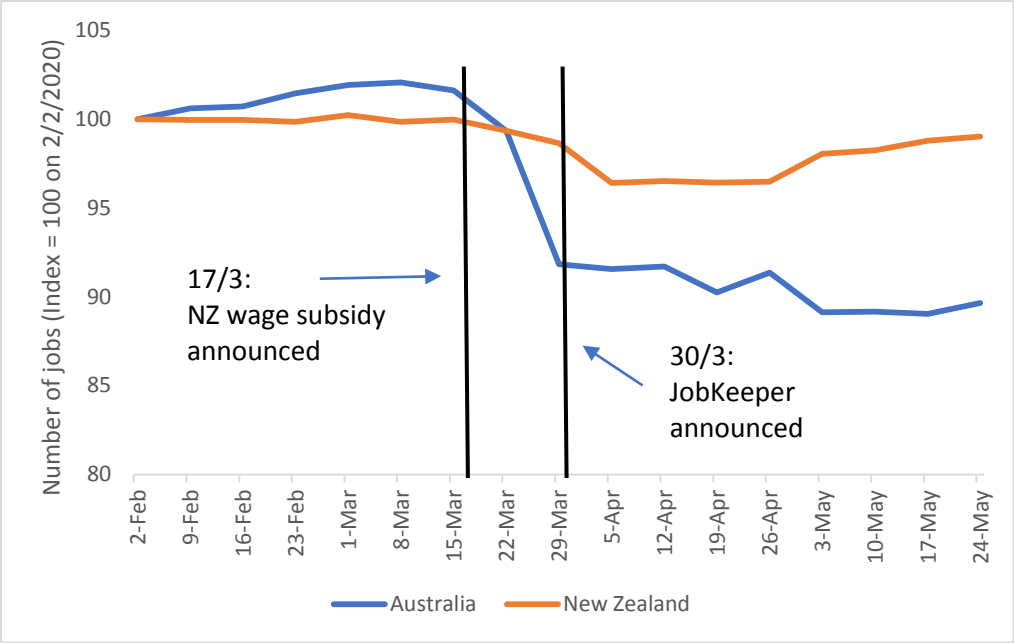
[21] New Zealand's wage subsidy program is similar to Australia: It pays employers $585.80 pw for an employee working more than 20 hours or more and $350.00pw for an employee working less than 20 hours. Employers are required to make 'best

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interesting possibility that it is the timing of introduction of the policy that matters for its impact. That is, impact of policies such as JobKeeper are mainly prospective – stopping future job losses that would otherwise have occurred.

Figure 13a: Number of jobs, Australia and New Zealand, 2 February to 24 May 2020



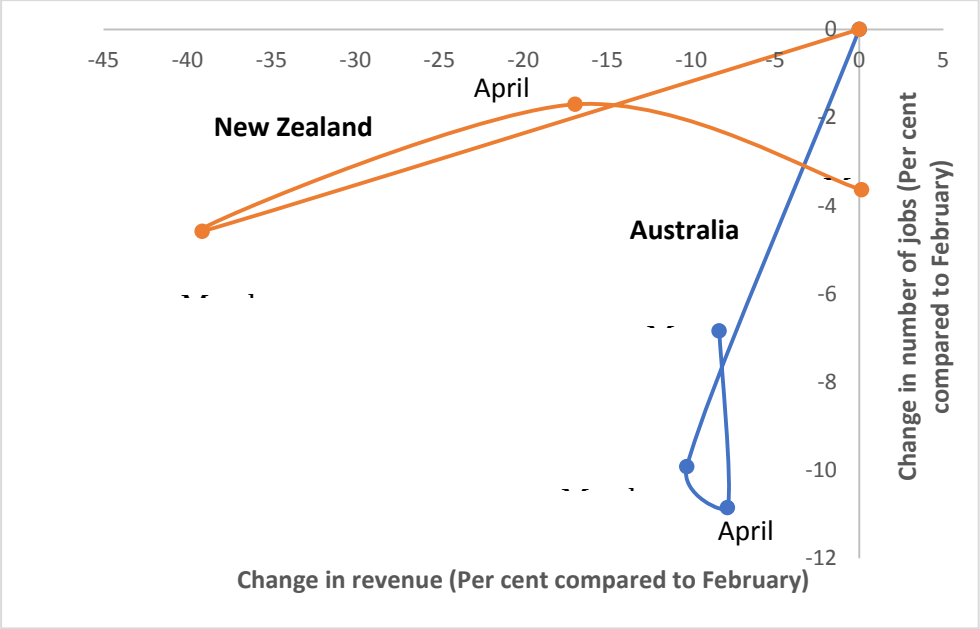
Source: Xero Small Business Insights; Analysis by Alpha Beta.

endeavours' to pay at least 80 per cent of regular weekly earnings. Eligibility requires proof of a 30 per cent decrease in revenue for any month relative to a comparable month in 2019; https://www.ey.com/en_au/covid-19/all-you-need-to-know-about-the-new-zealand-wage-subsidy

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Figure 13b: Change in revenue and jobs, Australia and New Zealand, February to May 2020



Source: Xero Small Business Insights; Analysis by Alpha Beta.

While our analysis suggests that JobKeeper has affected employment, this is very much a preliminary conclusion. Our evidence is only descriptive; and it is with regard to a specific type of employee working in small business, raising the issue of external validity. Furthermore, the operation of other stimulus programs raises the possibility that those programs increased the demand for labour by business, and that JobKeeper simply gave an incentive for that increase in demand to be directed to towards employees eligible for the program.[22]

d] Impact on labour income

The JobKeeper program has as a major objective to underpin the labour income of employees and sole proprietors in businesses adversely affected by COVID-19. The Commonwealth Treasury JobKeeper report (2020, p.28) states that one-

[22] This identification problem could be potentially be overcome by comparing similar firms which differ in their proportions of eligible and non-eligible casual employees. Making such a comparison for small businesses in the hospitality industry finds that the size of job losses experienced by a business were inversely correlated with the proportion of its casual employees who were eligible to receive JobKeeper.

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quarter of JobKeeper payments in April-May represented an increase in labour income. Expressed in 'person equivalents' this suggests that 875,000 workers have had their incomes increased by JobKeeper (relative to the post-COVID-19 outcome in the absence of JobKeeper).

There has also been great interest in the distributional implications of JobKeeper. One source of this interest has been exclusion from eligibility of short-term casual employees and some categories of migrants. The exclusion of these groups implies an increase in income inequality (at least in the short-term) between them and the eligible population of workers (Cassells and Duncan, 2020a, provide further analysis). The other interest regarding distributional impacts is those workers for whom the JobKeeper payment represents a significant increase compared to their usual earnings. The Commonwealth Treasury JobKeeper report (2020, pp.27-28) states that overall, about one-quarter of JobKeeper recipients experienced an increase in income compared to pre-COVID-19 weekly earnings, with the average increase being $275 per week. This implies that a little over one-third of the total increase in labour income has been as above-usual earnings. [23]

e] Social welfare implications

JobKeeper may have increased employment and provided income support, but that spending will need to be repaid by taxpayers. Hence, the relative size of benefits and costs of the program is important question. At this stage, it is only possible to provide a partial and preliminary answer. What is apparent, however,

[23] Such an impact has been most evident for the population aged less than 20 years. Between mid-March and late-June their jobs fell by 5.2 per cent, yet the wages paid to this group increased by 11.6 per cent. What this roughly implies is that the average worker aged less than 20 years – who has retained their job – was receiving about a 20 per cent increase in earnings. ABS, Weekly Payroll and Jobs in Australia, Week ending 27 June 2020, 6160.0.55.001, Table 4. Changes are for 14 March to 13 June. Cassells and Duncan (2020b) also provide a detailed description of replacement rates of JobKeeper by occupation.

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is that the answer will depend critically (as in most cases) on how benefits are defined.

A narrow approach to defining benefits would focus on the short-term impact of the program on workers. Using this approach, it would have to be concluded that that the JobKeeper program has been relatively expensive. The Commonwealth Treasury JobKeeper report (2020, p.28) states that one-quarter of JobKeeper payments in April-May represented an increase in labour incomes; implying that three-quarters have gone to employers as a subsidy, paying wages for workers that would have been paid for in any case by an employer.[24] Moreover, this is likely to be the peak share of JobKeeper payments going to labour, since the share would be expected to decline as economic activity recovers. Consistent with the Treasury JobKeeper report, Breunig and Watson (2020) estimate that the cost per job retained by JobKeeper for 6 months is between $70,000 and $102,000. They note that this is high by comparison with international programs; for example, the American Recovery and Reinvestment Act of 2008 had an average cost per job saved of $US47,619 (Chodorow-Reich, 2019).[25]

A broader approach to defining benefits is to also include longer-term effects of the JobKeeper program on the viability of businesses (which of course then

[24] This is roughly the size of transfer to labour that emerges from a back-of-the-envelope calculation. First, the component of JobKeeper that is paid to workers whose hours have been reduced relative to what would have occurred can be estimated as the difference between the decreases from March to May in hours worked and persons employed (adjusted for the full-time/part-time composition of the decrease in employment) – equal to 5.0 per cent. Second, the component of JobKeeper that is paid to workers whose earnings are usually below $750pw can be estimated as: (Share of workforce receiving JobKeeper)*(Share of employees whose AWE are below $750pw)*(Average fraction by which their AWE are below $750pw) = 2.5 per cent. This implies a total transfer to labour equivalent to 7.5 per cent of the workforce in March 2020, equal to 975,000 persons. This represents 27.8 per cent of workers for whom JobKeeper is being paid.

[25] See also Wilkins and Borland (2020). The issue of targeting is being reflected in media discussion of issues such as payment of bonuses to management of businesses that have received JobKeeper (for example, Powell, 2020).

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becomes an indirect source of benefits to workers). There does seem reasonable evidence that, in general, JobKeeper payments have gone to support businesses that have experienced the largest decreases in revenue. Evidence from the Commonwealth Treasury JobKeeper report (2020, p.32) indicates that businesses receiving payments experienced average declines in revenue from April 2019 to April 2020 that were 35 per cent larger than businesses not receiving payments.[26] What remains to be resolved – and will be critical for measuring the benefits of JobKeeper using a definition that includes the impact on business viabaility - is the extent to which the subsidy to business has allowed them to increase their level of activity and employment, and to remain viable for the longer-term, relative to if JobKeeper was not available.

f] Impacts on labour market dynamics

An emerging theme in discussions of whether to continue the JobKeeper program beyond its initial end-date (at the end of September 2020) is its effect on efficiency (for example, Commonwealth Treasury, 2020, pp.29-33). Employers only receive JobKeeper payments for employees in their existing workforce on March 1; and employees only receive JobKeeper if they remain connected to their employer at that time. Hence, it was always understood that the JobKeeper program would 'freeze' the labour market: reducing the extent of worker transfers between jobs (for example, from low-productivity to high-productivity firms). As well, only businesses that existed on March 1 are eligible for JobKeeper payments: thereby underpinning the survival of businesses that

[26] Another approach to investigate this question is to compare the take-up of JobKeeper by industry with ABS Labour Force Survey data on decreases in hours worked by industry. This is done in Appendix Figure 2.2 by comparing industry shares of decreases in hours worked and recipients of JobKeeper. A well-targeted program would imply a close correspondence between those shares. The figure shows that for the most part there appears to be a close relation. The main exceptions are accommodation and food services where the share of JobKeeper recipients is much less than the share of loss in hours of work; and construction where the reverse applies.

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would, even in regular economic conditions, have ceased to exist; and acting as a disincentive for new businesses to begin operation.

These costs of missing productivity growth due to freezing of labour mobility and reduced firm entry and exit, however, seem likely to be negligible. Annual labour productivity growth from 2012 to 2019 in Australia was 1.1 per cent per annum (ABS, Australian System of National Accounts, catalogue no.5204.0, Table 1). The share of productivity growth that can be attributed to employment reallocation – based on reviews of microeconomic studies of firm-level productivity - is about one-quarter to one-half (Foster et al., 1998, Table 4). Hence, the cost of missing productivity growth is equal to about 0.25 to 0.55 per cent of GDP per annum. At the time of writing in late July, the costs of underutilised labour due to COVID-19 therefore overwhelm the efficiency costs of JobKeeper. The JobKeeper program would only need to achieve a small increase in employment in order to outweigh any efficiency costs it might impose.

5. Conclusion

The impact of the COVID-19 recession on labour market outcomes in Australia is hard to keep up with. After the largest one-month decrease in hours worked from March to April, this was followed in May to June by the largest one-month increase (in the period following 1978 for which data on monthly hours are available). At the same time, labour market adjustment has been very different to previous recessions in Australia.

In this article, we have argued that what happened in the Australian labour market from March to June is best understood by looking at the main drivers – first, the impact of COVID-19 on household spending via government business restrictions and consumers voluntarily withdrawing from activities in which they perceive themselves to be at risk of contracting the virus ; and second, the government's fiscal response, and especially the JobKeeper program.

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Understanding the impact of COVID-19 on household spending means, to begin with, understanding the concentrated industry-level impact. That impact is evident from large differences in changes in the amount of work by industry. Because some types of workers and jobs are concentrated in the most affected industries, the industry impact also becomes a lens to understand, for example, why the young have been particularly hard hit during the early stages of the COVID-19 recession.

Recognising the role of the government fiscal response is essential for understanding the path followed by aggregate labour market outcomes. Take the example of employment. Both through the impact of increased household spending supported by government payments and related initiatives, and via incentives for employers to retain employees through the JobKeeper program and other business support, government fiscal policy appears to have had a strong influence on the path of aggregate employment. The same policies are also needed to understand specific developments that occurred; for example, large decreases in employment for short-term casual employees and recent migrants appearing to be associated with eligibility conditions of the JobKeeper program.

Beyond June, developments with COVID-19 and government health and fiscal policy will continue to affect labour market outcomes. A third driver will probably also have a substantial influence on the length and depth of recession that Australia experiences. Income losses for households and businesses, and their levels of confidence about the future, are likely to cause further decreases in household spending and business investment. The COVID-19 recession could then become a longer-term and broader-based type of recession (see for example McDonald, 2020). At the same time, structural changes in the labour market unleashed by COVID-19 (such as increased working from home, an acceleration in the shift to online buying and more extensive use of tele-health) promise to make for a more disrupted path to recovery (see Autor et al., 2020; and Barrero et al., 2020).

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Appendix 1: Data sources – Important details for interpreting the labour market impact of COVID-19

1] The Australian Bureau of Statistics: Labour Force Survey

The monthly Labour Force Survey (LFS) covers approximately 0.32% of the Australian civilian population aged 15 years and over. The survey occurs across a 2-week period centred on the Sunday that falls between the 5th and 11th of each month; and therefore mainly reflects developments in the first half of each month. In March 2020, that date was March 8 so that the LFS covered March 1-14. For that reason, the March LFS does not reveal any significant impact of COVID-19, since major impacts of COVID-19 occurred after that date.

The ABS classification of employment/unemployment follows conventions established by the International Labor Organisation. A person is classified as employed if they… 'were away from their job for any reason (e.g. they were stood down), and were paid for some part of the previous 4 weeks (which could include wages subsidised through the JobKeeper scheme); or were away from their job for four weeks or less for any reason, without pay, but believe they still have a job to go back to (e.g. they were stood down, with no pay)' (ABS, Labour Force Australia, 6202.0 – Summary: Classifying People During the COVID-19 Period). Hence, the JobKeeper program, and other arrangements between firms and their employees, are likely to have caused an increased proportion of persons classified as employed but who worked zero hours.

2] The Australian Bureau of Statistics and Australian Taxation Office: Weekly Payroll Jobs and Wages

The ABS/ATO Payroll data encompasses employee jobs for which a payment was reported to the ATO through the Single Touch Payroll (STP) system. The data have been released as a weekly series. Being restricted to paid employee jobs, the Payroll data excludes owner/managers of unincorporated enterprises and contributing family workers, about 8.9 per cent of employment in April 2020 (ABS, Labour Force Australia, 6202.0 – Summary: Understanding differences between labour force employment statistics and weekly payroll jobs). Around 99 per cent of businesses with 20 or more employees, and 80 per cent of businesses with less than 20 employees, are estimated to report through the STP system

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(Commonwealth Treasury, 2020, p.4). The Payroll data include all jobs, so persons who have multiple jobs are counted multiple times. About 6.7 per cent of persons employed have multiple jobs (ABS, Labour Account Australia, Quarterly Experimental Estimates, 6150.0.55.003, December 2019, Table 1). All jobs where an employee was paid are included in the Payroll data. Hence, jobs occupied by an employee receiving JobKeeper and working zero hours are included in the number of jobs in the Payroll data.

3] Xero Small Business Insights data

The Xero Small Business Insights program provides analysis on the sector's health, with its metrics based on anonymised, aggregated data drawn from hundreds of thousands of subscribers. Xero has produced a series of specialised monthly metrics, providing a week by week view of the impact of the COVID-19 event. The data series for Australia covers employees at about 115,000 businesses who receive weekly payslips – accounting for about 54 per cent of employees on the Australian Xero database. A variety of exclusion restrictions are applied to arrive at the final data set for estimating the number of jobs: (i) Very new firms and firms which ceased operations after the onset of COVID-19 are excluded; (ii) Trusts, self-managed superannuation funds and unclassified businesses are dropped; and (iii) Payslips with less than one hour of work, more than 31 days of work or a rate of pay less than $10 per hour are excluded.

4] illion data

Illion is one of Australia's leading credit bureaus with access to the anonymised and aggregated bank transactions of more than a million Australians. To track the impact of COVID19, illion and AlphaBeta have used a weekly sample of 250,000 individuals to describe spending trends across Australia by category. The illion sample is weighted by age, geography, gender and income to be representative of the Australian population.

Appendix 2: Extra tables and figures

Appendix Table 2.1: Employed persons who worked less hours than usual working zero hours, March to May 2020

	March to April	**April to May**	**May to June**	**March to June**
No work, not enough work available, or stood down	690.8	-396.6	-137.9	153.3

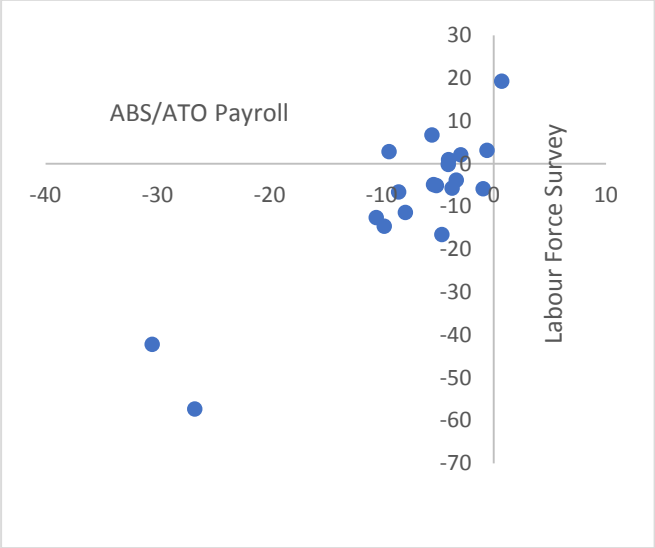
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Annual leave, holidays, flexitime or LSL	42.2	-234.1	31.2	-160.7
Began, left or lost a job during the week	334.8	-182.6	-94.5	57.7

Source: ABS, Labour Force Australia, Detailed – Electronic Delivery, 6291.0.55.001, EM2a.

Appendix Figure 2.1: Percent change in employment by industry, February to March 2020



Source: a] LFS – ABS, Labour Force Australia, Detailed – Quarterly, 6291.0.55.003, Table 1; b] ABS/ATO – ABS, Weekly Payroll Jobs and Wages in Australia, 6160.0.55.001, Table 4.

Appendix Table 2.2a: Change in persons employed (per cent), By occupation, February to May 2020

	Actual change	**Predicted change: Based on change in employment by industry**
Managers	-9.0	-10.8
Professionals	-3.2	-8.5

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Technicians and trade workers	-13.6	-12.1
Community and personal service workers	-29.1	-16.0
Clerical and administrative workers	-4.8	-9.2
Sales workers	-16.6	-13.2
Machinery operators and drivers	-9.4	-12.5
Labourers	-17.3	-13.4

Source: ABS, Labour Force Australia, Detailed – Quarterly, 6291.0.55.003, EQ09.

Appendix Table 2.2b: Change in persons employed (per cent), By age, February to May 2020

	Actual change	**Predicted change: Based on change in employment by industry**
15-24	-22.7	-16.0
25-54	-9.4	-10.1
55 plus	-7.7	-9.5

Source: ABS, Labour Force Australia, Detailed – Quarterly, 6291.0.55.003, EQ12.

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Appendix Table 2.2c: Change in persons employed (per cent), By gender, February to May 2020

	Actual change	**Predicted change: Based on change in employment by industry**
Females	-7.1	-6.9
Males	-5.6	-5.7

Source: ABS, Labour Force Australia, Detailed – Quarterly, 6291.0.55.003, EQ12.

Appendix Table 2.3: Changes in employment by occupation, March to May 2020

	Per cent decrease in hours worked
Managers	-9.0
Professionals	-3.2
Technicians & trade workers	-13.6
Community & personal service workers	-29.1
Clerical & administrative workers	-4.8
Sales workers	-16.6
Machinery operators & drivers	-9.4
Labourers	-17.3

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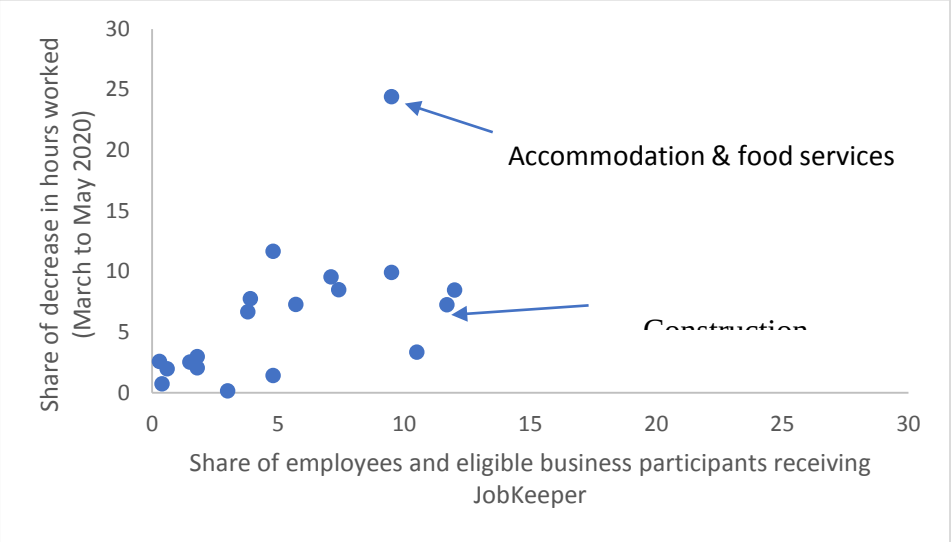
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Appendix Table 2.4: Per cent change in employment and hours worked by employment status in main job, March to June 2020

	Share of employment – March 2020	Per cent change in employment	Per cent change in actual hours worked in main job
Employee	83.9	-5.1	-6.9
Owner/manager with employees	5.6	+2.8	+0.1
Owner/manager without employees	10.2	-6.1	-18.1

Source: ABS, Labour Force Australia, Detailed – Electronic Delivery, 6291.0.55.001, EM6.

Appendix Figure 2.2: Changes to hours worked and claims for JobKeeper, By industry



Sources: a] JobKeeper take-up: Commonwealth Treasury (2020, Appendix Table 4); b] Share of decrease in hours worked: ABS, Labour Force Australia, Detailed – Quarterly, 6291.0.55.003, EQ11.

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