

JobKeeper: The efficacy of Australia's first short-time wage subsidy^a

Rebecca Cassells* Bankwest Curtin Economics Centre, Curtin University

Alan Duncan Bankwest Curtin Economics Centre, Curtin University

Abstract

The Australian JobKeeper wage subsidy is an unprecedented public policy response to a once in a century health and economic crisis induced by the COVID-19 pandemic. The focus of this paper is on the efficacy of the Australian JobKeeper program design, including how well it meets its overall objective of retaining employer-employee matches; how well it is targeted relative to the needs of both businesses and workers; and the adequacy of JobKeeper as a wage replacement scheme. We consider both the original JobKeeper design, JobKeeper 2.0 and a series of alternative wage subsidy designs that we believe would more effectively target both employers and workers, incentivise a reallocation of labour and support a faster economic recovery.

JEL Codes: J21, J33, J38

Keywords: JobKeeper, wage subsidy, COVID-19 economic crisis, short-time wage subsidy, temporary wage subsidy

^a Acknowledgments. We are grateful to Michael Kirkness for excellent research assistance. We thank Professor Phil Lewis the Editor of this journal for valuable comments. The views and interpretations presented here are the authors' own and should not be assumed to represent those of our respective institutions or those who have provided comments. Rebecca Cassells is Deputy Director and Alan Duncan is Director of the Bankwest Curtin Economics Centre, Curtin University, Australia.

* Corresponding author: Tel: +61 8 9266 1488; Email: rebecca.cassells@curtin.edu.au

1. Introduction

The COVID-19 pandemic not only represents a serious health crisis, it also induced an economic crisis the scale of which has not been seen since the Great Depression. Australia's response was reasonably swift with state leaders playing a pivotal role. Travel bans were the initial focus of early efforts to reduce infections, with quarantine requirements for foreign nationals coming from mainland China, and subsequently Iran, initiated in February and March (Australian Department of Home Affairs, 2020; Australian Department of Health, 2020a). At the end of February, a national emergency health response plan was activated by the Federal government.

The World Health Organization declared COVID-19 a pandemic on 11 March 2020 (World Health Organization, 2020), prompting several state and territory governments to declare a state of emergency, and for further travel restrictions and quarantine rules, along with restrictions on gatherings of over 500 people to be put in place. In just a weeks' time, a ban on non-residents entering Australia (20 March 2020) and non-essential services (21 March 2020) was put in place across the nation (Morrison 2020a; Morrison 2020b).

By this time, Australia's major airline – Qantas had announced that it would stand down two-thirds of their 30,000 employees.¹ Several major Australian companies quickly followed suit, with daily announcements in the final week of March of thousands of workers being stood down.² Within just a week, the Australian economy had shed tens of thousands of workers, with estimates of job losses of over 600,000 workers in the immediate fallout, and the unemployment rate rising to 13.1 per cent by August 2020 (Cassells *et al.* 2020).

The speed of the economic contraction has never been seen before, even in the bleakest of downturns. The significant early 1980s and 1990s recessions saw the unemployment rates double, peaking at 10.1 per cent and 11.0 per cent respectively. However, it took two to three years in each downturn for unemployment to reach these heights (Cassells and Duncan 2020a). Even in the Great Depression, the nearest economic shock of any comparable scale to the current COVID-19 pandemic, the unemployment level in Australia took three years from 1929 and 1931 to double from 10 to 20 per cent (Gruen and Clark 2009). This illustrates just how unique and urgent a problem policymakers were facing, particularly as the current downturn was unrelated to any typical business cycle effects but instead induced by the regulatory response to COVID-19.

In response to the economic fallout policy supports were put in place to support households, businesses and workers, all designed and announced in a very short time period. At a federal level, this commenced on the 12 March, with a GFC-style \$750 stimulus payment for low income households who were at that time in receipt of specific government payments including Age Pensioners. The merits of the timing of

1 On the 19th March, Qantas announced that it would stand down two-thirds of its 30,000 employees. <https://www.abc.net.au/news/2020-03-19/qantas-to-stand-down-two-thirds-of-employees-due-to-coronavirus/12069876>

2 This included Star Entertainment Group standing down 9,000 workers; Viva Leisure over 1,000; Myer 10,000; Mosaic Brands 7,000; Flight Centre Travel Group 3,800; Premier Investments 6,000; Accent Group 6,000; Michael Hill 1300; and Virgin Australia 10,000 workers among others.

these payments as a first response directed at welfare recipients whose circumstances were largely unchanged - they were not at this time facing any additional cost of living pressures than they were prior to the lockdown – are something to be reflected on, especially at a time when economic activity was trying to be suppressed. At the same time, small business grants of \$25,000 and a 50 per cent wage subsidy for apprentices and trainees were announced (Morrison and Frydenberg 2020).

Ten days later on the 22 March more economic support was announced by the Federal government, including early access to superannuation, up to an amount of \$10,000, and a doubling of unemployment benefits (JobSeeker), from \$550 to \$1,100 per fortnight at an estimated cost of \$66bn (Morrison and Frydenberg 2020b).

Just over a week later on March 30, the Australian Treasurer announced one of the largest single policy responses in Australia's history: JobKeeper (Morrison and Frydenberg 2020). At an estimated cost of \$130bn, and an expectation that this would support almost half the workforce for the next six months, the JobKeeper program was a huge commitment by the Australian government to support businesses and workers. Within a two week window the government had committed to invest over \$320 billion or 16.4 per cent of GDP to try and deal with the economic fallout of the COVID-19 crisis (Morrison and Frydenberg 2020).

As the crisis extended over the following months and it was clear that businesses and workers would need ongoing support, an announcement to extend JobKeeper was made on the 21st July for a further six months until March 20201 at an estimated cost of \$16.6bn (Morrison *et al.* 2020).

The focus of this paper is on the efficacy of the Australian JobKeeper program design, including how well it meets its overall objective of retaining employer-employee matches; how well it is targeted relative to the needs of both businesses and workers; and the adequacy of JobKeeper as a wage replacement scheme. We consider both the original JobKeeper design, JobKeeper 2.0 and a series of alternative wage subsidy designs that we believe would more effectively target both employers and workers, incentivise a reallocation of labour and support a faster economic recovery. This includes the removal of the cliff that businesses and workers face when turnover loss reduces below 30 per cent, retaining the employer-employee match through minimising eligibility exclusions and targeting more effectively through providing a wage replacement commensurate with current wages.

2. The JobKeeper Subsidy – a short-time wage subsidy

The JobKeeper scheme is unlike most traditional wage subsidies, which generally seek to address a labour market failure where workers face significant barriers that prevent them from gaining employment. Wage subsidies of this nature can be categorised as a hiring subsidy, and are one of the most common forms of Active Labour Market Policy. These programs gained significant traction in the 1970s and 1980s as a policy response to slower growth and rising unemployment in many countries (Organisation for Economic Cooperation and Development (OECD) 1996).

Borland (2016) provides a review of wage subsidies from an Australian perspective and defines these as a direct or indirect monetary transfer to an employer

which is linked with the hiring of a new worker. The Department of Education Skills and Employment (2020) provide a similar definition, but focus primarily on direct monetary transfers. An alternative characterisation is to divide demand-side employment policies into 'hiring subsidies' and 'wage subsidies'. The European Commission (2012); (2014) argue that wage subsidies refer to direct payments to employers to either retain or hire more workers, and that hiring subsidies encompass both direct and indirect payments with a focus on reactivating the long-term unemployed. Brown and Koetti (2015) also separate such programs into wage subsidies and hiring subsidies, referring to wage subsidies as payments designed to maintain existing employment, and hiring subsidies as payments designed to hire job seekers.

The JobKeeper scheme does not fit squarely into either of these standard definitions, having the overall aim of retaining people in employment who are not necessarily suffering from any type of human capital deficiency or standard employment barrier. Instead, JobKeeper serves the purpose of providing temporary financial support to ameliorate what is expected to be a temporary shock to the labour market and reduction in labour demand. These types of 'short-time work' or 'temporary wage subsidy' were used during the Global Financial Crisis and have multiple objectives including retaining employer-employee matches, preventing mass job losses and supporting economic recovery (International Labor Organization (ILO) 2020).

At the time of writing, more than fifty countries had implemented some form of short-time wage subsidy scheme in response to the COVID-19 pandemic. These countries span Europe, the Asia-Pacific and North and South America. For Australia, the JobKeeper package was the first time a short-time wage subsidy like those used during the global financial crisis in other countries had been introduced. This meant that the original JobKeeper subsidy was designed and implemented rapidly - announced only 10 days after travel bans on non-residents were introduced.

The Australian JobKeeper legislation passed on April 9th, 2020 under the Coronavirus Economic Response Package (Payments and Benefits) Act 2020 (Cth) and was subsequently updated to its current version on May 1st, 2020. Under the original JobKeeper scheme, eligible employers receive \$1,500 per fortnight for each eligible employee for the 6 months between 30 March 2020 and 27 September 2020. The first JobKeeper payments were delivered in the first week of May with payments backdated to the 30th March (Australian Taxation Office (ATO)) 2020 #80). Like almost all country wage subsidy schemes implemented at the time, JobKeeper was designed as a direct grant paid to the employer with various eligibility and regulatory criteria placed around the design.³

Employer eligibility

Eligibility is primarily based around turnover loss, where businesses with an aggregate turnover of less than \$1 billion are deemed to be eligible for JobKeeper payments if they have, or expect to have, a fall of at least 30 per cent in GST turnover. For

³ A number of other subsidies pay the subsidy directly to the employee, including Thailand, Argentina, Chile and Uruguay (See (International Labor Organization (ILO), 2020 #41)).

businesses with an aggregate turnover of more than \$1 billion, the threshold loss in turnover is at least 50 per cent (Australian Department of the Treasury 2020a).

A number of other eligibility exclusions and exceptions were applied. Large banks subject to the Major Bank Levy, along with government departments are ineligible for the subsidy. Charities and not-for-profits on the other hand only required an estimated fall of 15 per cent in GST turnover to be eligible for the subsidy, however universities and non-government schools despite their not-for-profit status were excluded from this lower threshold.

Employer eligibility criteria is similarly applied across most temporary wage subsidies that were launched around the world at the same time. In most countries (including Australia), all enterprises are eligible for their respective subsidy as long as they are registered within the country, but government agencies are often excluded or limited. Enterprises are generally required to show that they are facing economic difficulties as a result of COVID-19 at a particular point in time.⁴

Most countries that have implemented a temporary wage subsidy also determine if a business is facing economic difficulties by setting a level of revenue decline that must be met. This level is typically set between 20 and 50 per cent, often varying depending on the business size (ILO 2020). Another common method is to base enterprise eligibility on decreases in working hours or in the number of people employed, as is the case in Germany (German Federal Ministry of Labour and Social Affairs 2020) and France (Service Public France 2020).

Employee eligibility

Employee eligibility for JobKeeper requires employees to be employed by their employer as of the 1 March 2020, and to have been with this employer for at least 12 months prior. Employees are also required to be an Australian or New Zealand citizen, permanent resident, or hold a special category visa⁵ at March 1, 2020 (Whiteford 2020b). Employees who hold multiple jobs are only able to receive one JobKeeper payment, and employees who are currently receiving Parental Leave Pay are also not entitled to receive the JobKeeper payment (Australian Department of the Treasury 2020).

Many other countries also exclude short-term casuals, with employees generally having to be employed for a specific amount of time, or at a specific point in time to be deemed eligible. In Sweden for example, those employed for less than three months are ineligible. It is also common for countries to exclude unregistered workers, non-citizens or non-permanent residents from short-time work subsidies. For example in New Zealand and Singapore, only permanent residents, citizens, or those on specific visas are eligible for the subsidies (Morrison and Frydenberg 2020; New

4 Employers are required to estimate their actual or expected decrease in turnover relative to a comparable period, generally compared to the same period (either month or quarter) a year ago. If they meet eligibility requirements JobKeeper is paid in respect of the period that turnover is expected to fall. The Australian Taxation Office offers a Basic and Alternative test to satisfy decrease in turnover, with modifications for labour hire firms and Universities.

5 Special Category Subclass 444 visas apply exclusively to citizens of New Zealand. The visa is issued on arrival to Australia, and only requires a New Zealand citizen to present a valid New Zealand passport (Services Australia, 2020).

Zealand Ministry of Social Development 2020). Although the majority of subsidies are paid to keep employees in work, some countries only pay the subsidy if workers are temporarily stood down or laid off, such as in the UK and Korea.

Employee retention conditions

The majority of temporary wage subsidy schemes also have employee retention conditions, which fall into two main categories. First are schemes which only require employers to keep employees on the payroll over the period of the subsidy, such as in New Zealand, Australia, Germany, Ireland and the USA. Second are schemes that require employers to keep employees on the payroll for a period longer than the subsidy. For example, in France and Brazil, employees must retain their job for twice the period of the scheme. Some countries have also introduced temporary prohibition of dismissals. For example, in Argentina, employees cannot be dismissed or laid off for a 60-day period from 31 March 2020. Italy and Spain have also introduced similar measures. Within Australia an employer can dismiss an employee receiving JobKeeper, by applying the standard rules of ending employment (FairWork Ombudsman 2020).

Most schemes also have conditions regarding the minimum amount an employer must pay an employee, normally set at a percentage of an employee's normal wage. For example, in the USA salaries cannot fall by more than 25 per cent for an employee who had a wage lower than \$100,000 in 2019. In Sweden, employees must receive between 88-96 per cent of their normal wages. In France employees must be paid at least 70 per cent of their normal gross salary. Many other countries have implemented similar measures, generally requiring employers to pay between 50 and 96 per cent of an employee's normal wage. In addition to this, there is often a minimum payment floor, which is generally set at or around the minimum wage. In Australia, employees are required to receive at least the subsidy as payment, however, employers are not required to pay anything beyond that.

Across most countries, subsidy amounts are typically set to a proportion of a worker's regular wage, with most countries choosing a level between 60-80 per cent. In the UK, up to 80 per cent of a furloughed employees monthly wage can be subsidised. In Germany, subsidies range from 60 to 87 per cent depending on whether employees have children and how many months the scheme has been operating. In France, employers will receive a subsidy equal to 70 per cent of an eligible employee's wage. Similarly, eligible employees in Belgium will receive 70 per cent of their average earnings up to a cap. In Sweden, employers can effectively receive a subsidy ranging from 88 to 96 per cent depending on their circumstances.

Very few countries have opted to pay the wage subsidy as a flat rate rather than as a proportion of a worker's wage. Australia is one exception, with an initial JobKeeper rate set to \$1,500 per fortnight. New Zealand also sets a flat rate but differentiates payments for full and part-time workers – those working under 20 hours per week and those working 20 hours per week or more.

Duration and Administration

The JobKeeper scheme was initially expected to subsidise the salary of more than 6 million workers for a six month period, dating from the 30 March 2020 to the 27

September 2020 (Australian Department of the Treasury 2020a). The value of this package represents almost half of the entire wage bill (\$286bn) of Australian workers over a six month period, and almost 7 per cent of annual GDP (Cassells and Duncan 2020a).

The duration of the subsidy varies between countries but generally ranges between 3-12 months, with many countries putting in place an extension. However, some countries such as Greece provide wage subsidies as a one-off payment.

The schemes are usually funded through general taxation and government spending, but administration of the schemes vary widely. The central revenue collection agency is a common administrator of these schemes, as seen in Australia, Canada, Ireland and the UK. Other common administrators include Federal employment agencies as is the case in Germany, and social security agencies.

JobKeeper 2.0

Following a review of the JobKeeper wage subsidy in June, the Australian government announced a JobKeeper extension to March 2021, in a modified form that introduces a two-tiered weekly payment of \$600 per week for eligible workers employed for 20 hours per week or more, and \$375 for employees working less than 20 hours per week, up to December 2020. These two subsidy rates will further reduce to \$500 and \$325 respectively from 1 January 2021. JobKeeper eligibility for businesses for both periods will require businesses to meet the turnover test relative to a comparable period, which is typically defined as the corresponding quarter in 2019. We note that by the time the JobKeeper extension is set to end, which is March 2021, a comparable period of revenue decline will extend past a twelve month period. Comparing revenue in the June quarter 2021 with the June 2020 quarter would not be practical.

However, the turnover loss criteria for JobKeeper 2.0 eligibility remain the same as for the original JobKeeper scheme, with most businesses having to show a real or expected turnover loss of 30 per cent or more compared to the same month or quarter in the previous year.

3. A critique of the JobKeeper design

Designing large-scale policies in a rapid time frame will inevitably lead to a number of design flaws. JobKeeper is no exception. In this section we highlight what we see as the most significant flaws of JobKeeper with respect to principles of adequacy, equity, efficiency and simplicity. We note that some of these features have been addressed to an extent with JobKeeper 2.0; but a number remain and require attention for future iterations and refinements. We begin by examining the current level of JobKeeper support across industries relative to their impact and how well this has been targeted.

Targeting Relative to Need

As of the 10 June 2020, more than 3.3 million workers across 896,000 businesses were in receipt of JobKeeper – just over half the original estimated coverage (Senate Select Committee on COVID-19 2020). The majority of these workers were employed in the Professional, Scientific and Technical Services sector, followed by the two largest

sectors – Health Care and Social Assistance sector and Construction. Together, these sectors comprise almost one-third of JobKeeper recipients with between 22 and 36 per cent of their respective workforces receiving a wage subsidy.

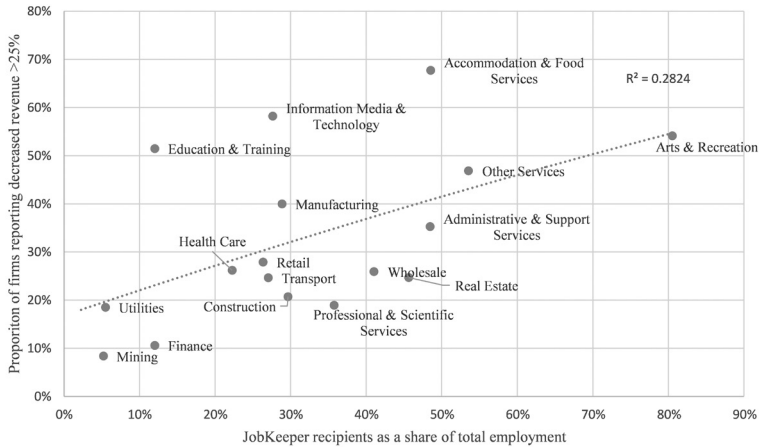
The effectiveness of JobKeeper in targeting sectors and supporting businesses and workers that have been most impacted by COVID-19 can be assessed to a degree through examining targeting relative to need. Treasury have stated in their recent review that JobKeeper has been well targeted with businesses in receipt of JobKeeper experiencing an average decline in turnover of 37 per cent compared to other businesses (Australian Department of the Treasury 2020c). However averages can mask underlying industry distributions and Treasury estimates do not include businesses and sectors that are automatically excluded from JobKeeper eligibility, yet facing substantial revenue loss such as the Higher Education sector.

We assess targeting relative to need by comparing JobKeeper receipt to businesses which reported decrease in revenue sourced from the ABS Business Indicators survey, noting that these data also have limitations (Figure 1). If JobKeeper is well targeted, we could expect industries with the largest proportion of business experiencing a fall in revenue to also have the largest share of workers in receipt of JobKeeper. To some extent this is the case. The Arts and Recreation sector has a high level of worker coverage relative to decreases in business revenue.

At the other end of the distribution, businesses operating in Mining and the Finance and Insurance sector report very low levels of revenue loss and similarly low levels of JobKeeper uptake. However, there are a number of noticeable outliers. More than 50 per cent of businesses in the Education and Training sector have recorded substantial revenue loss – half greater than 25 per cent compared to a year ago – yet only 12 per cent of workers in the sector are covered. Information Media and Technology and Accommodation and Food services also have a high proportion of businesses with revenue losses of more than 25 per cent, but relatively low coverage of workers in receipt of JobKeeper. Lower employee coverage in the Accommodation and Food services sector is likely to be related to the larger share of ineligible workers (short-term casuals).

We note the limitation of this analysis and that average business size within each sector will play a substantial role. Notwithstanding this limitation, the analysis offers some type of evidence of JobKeeper being reasonably well targeted, but that there are significant coverage gaps that are concentrated in particular sectors and sub-sectors. The childcare sector is one such example, where disruption and revenue losses are likely substantial, yet JobKeeper was withdrawn earlier.

Figure 1: JobKeeper recipients and business reports of revenue declines by industry



Note: Businesses operating in the Agriculture and Public Administration sectors are not included in the ABS Business Impacts survey.

Source: Bankwest Curtin Economics Centre | Authors' calculations from ABS Business Impacts survey and Senate Select Committee on COVID-19.

Preserving the employer-employee match

One of the key objectives of the JobKeeper program is to preserve the employer-employee relationship, enabling businesses to reopen quickly and reducing hiring and training costs that may accrue to both agents. Specifically, the Australian Government announced that JobKeeper will: 'support employers to maintain their connection to their employees. These connections will enable business to reactivate their operations quickly – without having to rehire.' (Australian Department of the Treasury 2020b). However, by its own design JobKeeper distorts and breaks pre-existing employer-employee matches. It does this in two ways. First, by explicitly excluding employee and employer groups from eligibility, including multiple job holders, short-term casuals and temporary visa workers. Second, through its original flat rate design, which induces responses to change pre-existing arrangements, including increasing weekly hours of work to match higher wages.

Exclusion of employer and employee groups

The exclusion of certain employer and employee groups challenges the overall efficacy of the JobKeeper design and its primary objective of retaining existing employer-employee matches. Short-term casual workers – workers who have been employed for less than twelve months with their current employer – are excluded from JobKeeper eligibility.

These workers number around 1 million and make up 40 per cent of Australia's total casual workforce, signifying the importance of this group of workers in supplying flexible labour to the Australian labour market. Short-term casuals are concentrated in the hospitality, retail, health care and construction sectors, which together account for almost half of all short-term casual workers (Cassells and Duncan 2020b). These sectors have also been among the most adversely impacted by the pandemic and associated regulatory responses, particularly retail and hospitality (Figure 1).

Arguments for excluding short-term casuals include the greater likelihood of unemployment benefits (JobSeeker) providing adequate income replacement for lost earnings at \$550 per week. However, similar proportions of short and long-term casual workers earn under this amount and 45 per cent of short-term casuals are earning above \$550 per week (Cassells and Duncan 2020b). A further argument for exclusion is to preference workers with longer attachment to their employer and greater firm-specific knowledge that has been accumulated over a longer period. However, the nature of short-term casual workers being more likely to concentrate in heavily impacted sectors means that both workers and employers are penalised in their ability to access a wage subsidy that was ostensibly intended for them.

The majority of temporary visa holders are also excluded, with a similar effect. This group of workers number almost 1.1 million people⁶ and are also concentrated in sectors that have been heavily impacted. While most countries also exclude non-citizens from their respective short-time wage subsidy programs, the exclusion of this group from JobKeeper eligibility again limits the number of employer-employee matches that can be retained.

Limiting JobKeeper eligibility to a single job also compromises employer-employee matches. There were more than 2.1 million workers in Australia who held more than a single job in 2016-17, and of these 410,00 held three jobs (Australian Bureau of Statistics 2019). Like short-term casual workers and temporary visa holders, multiple job holders are concentrated within and across industries that have been severely impacted. Many of these workers have had to choose which job to keep their attachment to in order to receive JobKeeper, again restricting the employer-employee match. This restriction also penalises employers who are more likely to employ multiple job holders. As a result, the number of multiple job holders has decreased by 39 per cent between the 14th March and 30th May 2020 (Australian Bureau of Statistics 2020b).

Ultimately the exclusion or limiting of these three groups, which together number some 4.2 million workers, and who are concentrated in some of the most affected sectors, works against the over-arching objective of retaining employer-employee matches. It is also likely that the exclusion of these groups and their concentration in businesses and sectors that have faced the most disruption is part of the reason why original JobKeeper estimates have never been realised.

6 <https://www.sbs.com.au/news/australia-s-temporary-visa-holders-remain-locked-out-of-jobkeeper-and-jobseeker>

Flat rate structure – simple on the surface, complex in responses it invokes

The flat rate structure was one of the unique aspects of the original JobKeeper wage subsidy design. Of the more than fifty countries that have introduced emergency wage subsidies over the course of the pandemic, none paid a single rate to all eligible workers regardless of their normal wage or employment status. New Zealand's was the closest to the Australian design, but differentiates payment by part-time and full-time work status.

There are a number of reasons why a flat rate structure would be introduced, including simplicity; minimising the administrative burden of the payment and the ease at which the subsidy can be policed; and the constraints imposed by the \$550 per week Coronavirus Supplement to the JobSeeker unemployment payment.

On the surface, the JobKeeper program gives the impression of a simple design. Most firms had to show a (real or expected) decrease in turnover of 30 per cent or more, and in return received a flat rate of \$750 per eligible worker. However, the original flat rate introduces a level of complexity – and inequity – for both employer and employees that could have been avoided. This complexity is passed from the administrator to employers and employees, through introducing a wage floor that in many instances is set at a level significantly higher than current wages received. This also creates a level of inequity between full and part-time employees, where a part-time worker on 15 hours per week effectively has access to the same weekly wage as their colleague who may still working a 35 hour week. This design feature also represents an inefficient allocation of resources – higher wage earners generally receive less and lower wage earners more. It also means that employers are left with having to address employee inequality and employees with potentially less bargaining power than before.

JobKeeper 2.0 and the new two-tier part and full-time rate addresses these issues to a degree, creating greater equity between full and part-time workers and more effective targeting. However, as the part and full-time rates will be based upon an employee's part and full-time status dating back to February 2020, this means that any new employer-employee working arrangements will now need to be undone, which again introduces another level of complexity and inequity. This also heavily disadvantages former multiple job holders that have had to reduce the number of jobs they hold in order to access JobKeeper. As of October 2020 they will now be required to move to a part-time JobKeeper payment level of \$375 per week – reducing to \$325 in January 2021 – without additional wages from their second or third job that would have formed a significant component of their weekly income prior to the pandemic. This is a significant flaw of the new JobKeeper 2.0 design and is at odds with the statements by Treasury that use multiple job holders losing their job as the justification of the original \$750 flat rate.

Constraining Economic Recovery

The effectiveness of short-time wage subsidies in achieving their principal objectives has been examined in a number of studies. Most of these studies have focused on the use of short-time work subsidies during the global financial crisis. For example, Hijzen

and Venn (2011) using a difference-in-difference approach assess the impact of short-time work across 16 OECD countries during the financial crisis and find that overall short-time work schemes played an important role in preserving employment during the downturn, particularly in Japan and Germany.⁷ However, the authors also note that the workers that were most likely to benefit were those on permanent contracts and that these benefits were likely to be limited to the crisis period and that short-time work schemes run the risk of supporting jobs that would have otherwise been maintained. The authors also caution against short-time work becoming a barrier to economic recovery by hindering labour reallocation, stating that “...*the main concerns about STW schemes relate to their potentially adverse impacts on the vigour of employment growth during the recovery and economic restructuring in the longer run.*” (Hijzen and Venn p.36). In a follow-up study Hijzen and Martin (2012) provide evidence for this hypothesis, finding a negative impact of short-time work on recovery efforts, speculating that it impedes the efficient reallocation of jobs. Boeri and Bruecker (2011) also find evidence of a negative effect of short-time work on employment during recovery resulting in an increase in job losses and state that short-time work ‘*can only be effective in the presence of severe recessions*’(p.39). Cahuc and Carcillo (2011) also put forward this argument and recommend design features that reduce adverse impacts including a commitment to ‘stable’ short-time work rules to be applied.

The obstruction of efficient reallocation of labour is a pertinent issue for economic and labour market recovery. As argued by Boeri and Bruecker (2011), a short-time work wage subsidy effectively operates as a labour hoarding device and will ultimately reduce productivity. Within the Australian context, this was raised early on by Ma *et al.* (2020), who argued that the introduction of a wage subsidy represents a risk to economic recovery through ‘locking in old lower-value economic arrangements’ and hampering new higher value arrangements and industry and job creation. This has also been acknowledged in the recent Treasury review of JobKeeper (Australian Department of the Treasury 2020c).

The potential for JobKeeper to constrain economic recovery and productivity is a reality that needs to be considered. To contend with this, Boeri and Bruecker (2011) note the importance of short-time wage models being able to adapt to changes in economic conditions. The reduction of JobKeeper 2.0 payment rates in October 2020 and again in January 2021 pre-empt such changes in economic conditions. However, there is a strong possibility that recovery may be much further away. Incorporating a design characteristic that responds to economic conditions as they arise is a more organic way to support businesses through recovery and will help minimise employer incentives to restrict economic activity and recovery. We offer some of these options in the next section.

7 Hijzen A and Venn D. (2011) The Role of Short-Time Work Schemes during the 2008-09 recession. *OECD Social, Employment and Migration Working Paper No.115*. Paris: OECD Publishing, 1-45. estimate the average jobs impact at a national level to be 234,821 for Germany and 416,095 for Japan, but note that these estimates are an upper limit.

A better JobKeeper design

Lessons can be drawn in Australia from temporary wage subsidy designs that have been introduced in other countries. Indeed, this is already the case, with the JobKeeper 2.0 design matching elements of the two-tier wage subsidy introduced in New Zealand in March 2020.

As noted in the Australian Treasury JobKeeper review, “...it may be possible to introduce a two-tiered payment system, as in NZ, based on working hours where part-time employees receive a lower payment, with part-time defined by an hours threshold – in NZ this is below 20 hours per week.” (Australian Department of the Treasury, 2020c).

Nevertheless, JobKeeper 2.0 still suffers from a number of design limitations and weaknesses relative to other potential measures.

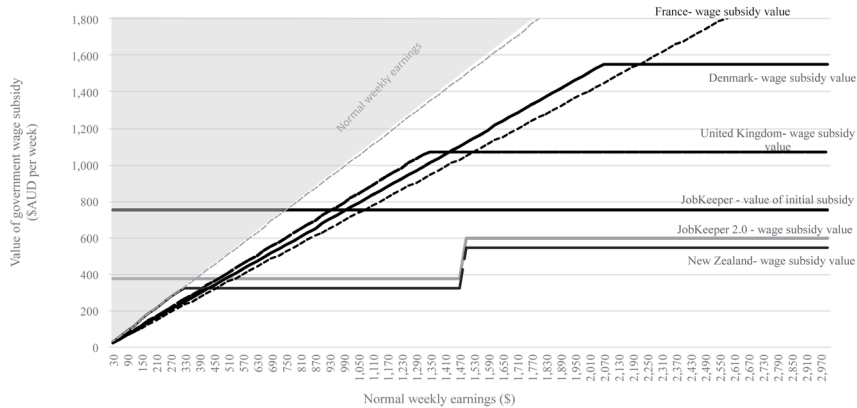
The first relates to the efficiency with which the payment is targeted. The flat-rate payments in JobKeeper create an arguably undesirable situation in which lower-paid, principally part-time workers receive more in subsidy than they were previously paid in their normal work (Cassells and Duncan 2020a).⁸

The second is that the single 30 per cent turnover loss threshold remains as the key eligibility criterion, retaining the same disadvantages as the original JobKeeper scheme.

An alternative JobKeeper design could take the form of a proportionate wage subsidy of up to 100 per cent of the normal wage, with the government’s contribution capped at a maximum payment rate rather than as a flat-rate. Such a capped wage subsidy model is more tailored, and provides a more targeted and efficient wage replacement system. And employers can still choose to pay the gap between the government subsidy and an employer’s normal wage.

8 The New Zealand wage subsidy protects against overpayment, stipulating that “employers must pass the full value of the relevant subsidy received onto the employee, except where a person’s wages or salary are normally less than the relevant subsidy rate. In [this] case, employers must pay them at least their normal wages. Employers can use any excess subsidy to help pay the wages of other affected employees.” See <https://www.employment.govt.nz/leave-and-holidays/other-types-of-leave/coronavirus-workplace/wage-subsidy>

Figure 2: Temporary wage subsidies: selected international designs



Notes: All wage subsidies are converted to AUD for comparison with Australia's JobKeeper and JobKeeper 2.0. The shaded triangle covers the area for which the wage subsidy value would exceed normal weekly earnings.

Source: Bankwest Curtin Economics Centre | Authors' calculations from various sources.

4. A modelling framework

We create a modelling framework that provides a basis to simulate entitlements to alternative JobKeeper subsidy designs over the course of transition to economic recovery. Our approach captures variation in the incidence of alternative wage subsidy designs by sector, and takes account of the potential trajectory of recovery over an 18 month period from October 2020 to March 2022, as a means to simulate changes in wage subsidy costs and entitlements over time.

The empirical analysis in this paper takes advantage of a detailed simulation of the Australian workforce, using the BCEC model SELMA.⁹ This environment captures full variations in wages, labour force status and workforce composition across detailed industry and occupation classifications, and provides a basis to model the costs and distributional impacts of alternative wage subsidy designs. Our experimental set up is as follows:

Turnover loss by industry sector

Industries are ranked according to the degree of impact that businesses within each industry group have experienced as a result of the COVID-19 pandemic. Specifically, we attach a series of empirical distributions of turnover losses $T^{\nu e}$ to ANZSIC three-digit industry groups that have either faced direct closure (DC) or have been indirectly significantly impacted (IC) by the COVID-19 contraction. The same approach is applied to industry groups that have suffered medium (ME), low (LE) or very low (VLE) effects as well as those considered essential services (ES).

⁹ The Simulation Environment for Labour Markets in Australia (SELMA).

The turnover loss distribution $f(T^e)$ for each industry group is modelled to be log-linear in form for impact levels $e = DC, IC, ME, LE, VLE, ES$ so that $\ln(T^e) \sim N(\mu_e, \sigma_e^2)$. These distributions provide a basis to simulate the likelihood of business turnover falling by x per cent or more relative to the pre-COVID-19 period:

$$\Pr(T^e \geq x | e) = 1 - F_e(x) = 1 - \Phi\left(\frac{\ln(x) - \mu_e}{\sigma_e}\right) \quad (1)$$

One eligibility criterion to qualify for JobKeeper support requires most Australian businesses to demonstrate a projected loss in turnover of 30 per cent or more against the relevant comparison period in 2019 (either the same quarter or the same month in the previous year).¹⁰

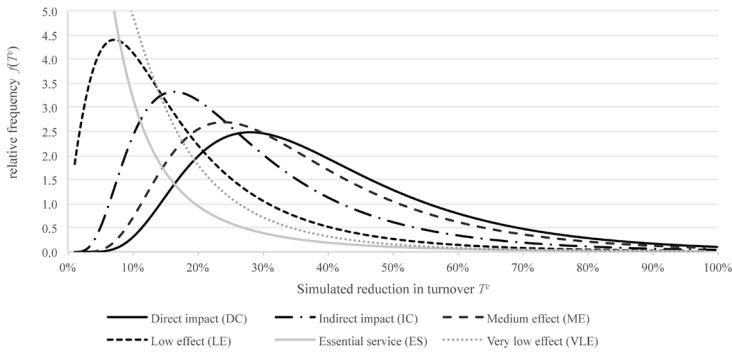
Given the assumed turnover loss distributions, the probability of JobKeeper qualification can therefore be projected as $\Pr(T^e \geq 0.3 | e) = 1 - F_e(0.3)$, which varies according to the estimated degree of impact of COVID-19 on each industry group.

The means and variances of each turnover loss distribution $f(T^e)$ are calibrated to replicate as closely as possible the job losses and observed JobKeeper caseloads by industry sector as at 10 June 2020 (Senate Select Committee on COVID-19 2020), as well as the self-reported impacts on revenues felt by businesses using data from ABS labour force and business surveys (Australian Bureau of Statistics 2020a).¹¹

10 Exceptions to this rule include businesses with turnover in excess of \$1bn, for which a demonstrated 50 per cent loss is required, and registered charities for which 15 per cent fall in turnover is required.

11 The parameters of each turnover loss distribution are calibrated to minimise the sum of squared differences between observed and simulated JobKeeper caseloads across industry sector, weighted by sector employment.

Figure 3: Simulated distributions of turnover loss from COVID-19

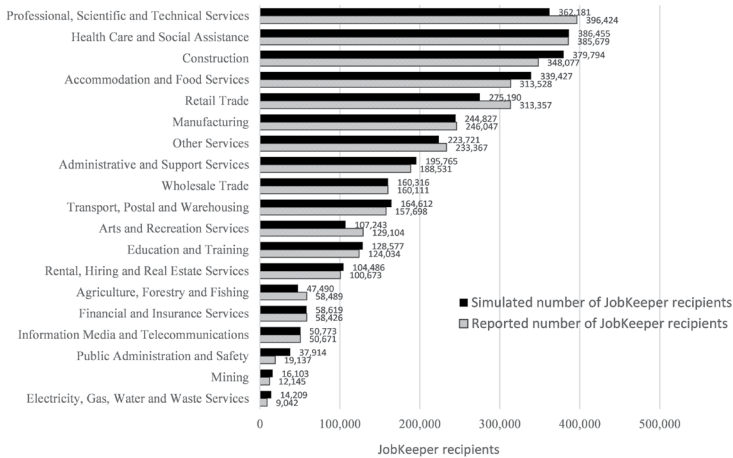


Notes: Simulated turnover loss distributions are calibrated to minimise the sum of squared differences between observed and simulated JobKeeper caseloads across industry sector, weighted by sector employment size.

Source: Bankwest Curtin Economics Centre | Authors' calculations using SELMA

Applying these turnover loss distributions to the 474 detailed groups in the ANZSIC three-digit industry classification leads to the simulated counts of JobKeeper recipients by broad industry sector shown in Figure 4. The fit is strong – a test of the similarity between simulated and observed JobKeeper counts using Pearson's chi-squared test yields a test statistic of 0.1927 (p-value = 0.0000).

Figure 4: Reported and simulated number of JobKeeper recipients, as at 10 June 2020



Source: Bankwest Curtin Economics Centre | Authors' calculations using SELMA

Importantly, the representation in equation (1) provides us with the capacity to simulate not just the distribution of turnover losses across industry sub-sectors and the likelihood of wage subsidy support under current and alternative eligibility criteria, but also the potential trajectories of economic recovery as the COVID-19 situation relaxes.

We assume a series of recovery pathways over at least 18 months for industries impacted to different degrees by the COVID-19 pandemic. These are reported in Table 1 and represented graphically in Figure 5.

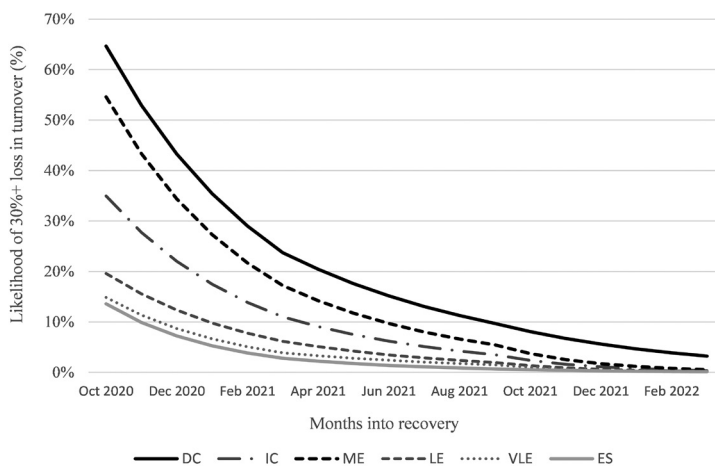
Table 1: Projected COVID-19 recovery pathways

COVID-19 impact category	Initial likelihood of 30% turnover loss	Extent of recovery to pre-COVID level		
		After 6 months	After 12 months	After 18 months
Direct impact (DC)	64.7%	70%	85%	95%
Indirect impact (IC)	34.9%	75%	90%	99%
Medium effect (ME)	54.6%	75%	90%	99%
Low effect (LE)	19.6%	75%	90%	99%
Very low effect (VLE)	14.8%	80%	90%	99%
Essential service (ES)	10.0%	85%	95%	99%

Notes: Initial likelihoods of 30% + turnover loss probabilities based on calibrated log-normal turnover loss distributions shown in Figure 3.

Source: Bankwest Curtin Economics Centre | Authors' calculations using SELMA

Figure 5: Simulated trajectories for economic recovery post-COVID-19



Notes: Initial likelihoods of 30% + turnover loss probabilities based on calibrated log-normal turnover loss distributions shown in Figure 3. Trajectories parameterised using the economic recovery schedules in Table 1.

Source: Bankwest Curtin Economics Centre | Generated using BCEC's SELMA labour market environment.

Earnings distributions by occupation

Patterns of employment across Australian businesses over the course of economic recovery are assessed using information from detailed counts of ANZSCO four-digit occupations for each ANZSIC three-digit industry classification.¹²

The distributions of wages w_k for full-time and part-time workers in each occupation k is assumed to take a log-normal form $\ln(w_k) \sim N(\mu_k, \sigma_k^2)$, with means and standard deviations parameterised using information from the 2018 Employee Earnings and Hours (EEH) and the 2017-18 Survey of Income and Housing (SIH) surveys respectively.

The level of entitlement to wage subsidies for each industry sub-sector is then generated by applying specific subsidy rules to the simulated wage distributions for all occupations within that industry, weighted by their respective industry-specific employment counts.

For a split-rate wage subsidy that provides s_{PT} for workers whose usual weekly hours h_k in occupation type k fall below some threshold \bar{h} , and s_{FT} otherwise, the expected wage subsidy value is:

$$\begin{aligned} E(s | w_k) &= \Pr(h_k \geq \bar{h}) \cdot E(s | h_k \geq \bar{h}) + \Pr(h_k < \bar{h}) \cdot E(s | h_k < \bar{h}) \\ &= \bar{p}_k \cdot s_{FT} + (1 - \bar{p}_k) \cdot s_{PT} \end{aligned} \quad (2)$$

where \bar{p}_k represents the (fixed) conditional probability¹³ of full-time employment for workers in occupation type k .

As an alternative design, we consider a wage subsidy s that replaces a proportion α of workers' wages w_k up to a single payment threshold \bar{w} . The expected wage subsidy paid in respect of workers in occupation type k under the assumption of log-normality in the wage w_k can be derived as:

$$\begin{aligned} E(s | w_k) &= \Pr(\alpha w_k \geq \bar{w}) \cdot E(s | \alpha w_k \geq \bar{w}) + \Pr(\alpha w_k < \bar{w}) \cdot E(s | \alpha w_k < \bar{w}) \\ &= \left[1 - \Phi \left(\frac{\ln(\frac{\bar{w}}{\alpha}) - \mu_k}{\sigma_k} \right) \right] \cdot \bar{w} + \Phi \left(\frac{\ln(\frac{\bar{w}}{\alpha}) - \mu_k}{\sigma_k} \right) \cdot E(s | \alpha w_k < \bar{w}), \end{aligned} \quad (3)$$

$$E(s | w_k < \bar{w}) = \alpha e^{\mu_k + \frac{\sigma_k^2}{2}} \cdot \Phi \left(\frac{\ln(\frac{\bar{w}}{\alpha}) - \mu_k - \sigma_k^2}{\sigma_k} \right) / \Phi \left(\frac{\ln(\frac{\bar{w}}{\alpha}) - \mu_k}{\sigma_k} \right). \quad (4)$$

12 The distribution of occupation types for each industry group are drawn from the 2016 Australian Census of Population and Housing, scaled to current workforce size Australian Bureau of Statistics. (2017) Census of Population and Housing, 2016. (*ABS Cat.No. 2001.0*). Accessed through *ABS Tablebuilder*. Canberra: Australia.

13 For the empirical simulations of a split-rate wage subsidy, we treat the shares of part-time and full-time workers for each occupation type k as fixed. A more complex approach could potentially allow for some behavioural change in the propensities for part-time and full-time work from the introduction of wage subsidies – driven by either employers' or workers' preferences.

Projected wage subsidy costs and distributions

The expected cost $E(S_i | e)$ to the government of providing wage subsidies s to businesses at each level of impact e for industry group i may be simulated by aggregating the expected value of wage subsidy $E(s | w_{k_i})$ across all K occupational types, and weighting by the probability of eligibility $\Pr(T^e \geq x | e)$ due to turnover loss.

Given N_{k_i} workers of occupation type k in industry group i , and using (1) to (4), the expected cost for a wage subsidy design where eligibility is based on turnover loss exceeding a single threshold x can be derived as:

$$E(S_i | e) = \Pr(T_i^e \geq x | e) \cdot \sum_{k_i=1}^K N_{k_i} E(s | w_{k_i}), \tag{5}$$

while the total cost to the government across all industry groups becomes:

$$E(S | e) = \sum_i N_{k_i} \cdot E(S_i | e). \tag{6}$$

As noted earlier, the initial JobKeeper design introduced by the Australian government in April 2020 and the modified JobKeeper 2.0 design from October 2020 both include eligibility criteria for businesses based on a single turnover threshold. Although simple in design, each suffers from the problem that eligibility for the subsidy will entirely cease over the course of a business’s recovery when turnover crosses that threshold.

This design feature creates a ‘cliff’ through the loss of potentially significant wage subsidy support that may well affect the continued recovery of a business. Indeed, the presence of this cliff could create an incentive for businesses to attenuate their recovery activities in order to maintain entitlement to the subsidy. The incentive to retain JobKeeper eligibility is also likely to be driven by continued market and trading uncertainty the longer the pandemic and associated regulatory responses continue. Businesses will develop speculative practices around future outbreaks and lockdowns that will encourage them to retain JobKeeper for as long as possible.

An alternative wage subsidy design that mitigates this problem incorporates a *graduated* series of support payments that vary according to the level of turnover loss.

Such a design provides for J distinct wage subsidy payments s_j for $j = 1, \dots, J$, available to eligible workers in businesses with percentage turnover losses between x_{j-1} and x_j , for $x_{j-1} < x_j$ and $x_J = 1$.

The probability of being eligible for subsidy payment s_j then becomes:

$$\begin{aligned} \Pr(s = s_j | e) &= \Pr(x_{j-1} \leq T^e < x_j | e) \\ &= \Phi\left(\frac{\ln(x_j) - \mu_e}{\sigma_e}\right) - \Phi\left(\frac{\ln(x_{j-1}) - \mu_e}{\sigma_e}\right) \end{aligned} \tag{7}$$

with a corresponding wage subsidy cost for industry group i given by:

$$E(S_i | e) = \sum_{k_i=1}^K N_{k_i} \cdot \left(\sum_{j=1}^J \Pr(x_{j-1} \leq T_i^e < x_j | e) s_j \right). \quad (8)$$

Empirical projections of cost measures (5), (6) and (8) are generated using BCEC's SELMA simulation environment for a series of wage subsidy designs.

5. Results: an evaluation of alternative wage subsidy designs

In this paper, we compare a number of alternative wage subsidy designs. These include the continuation of the initial \$750 flat rate JobKeeper and the recently announced JobKeeper 2.0 replacement, but also extend to a number of capped percentage wage subsidies. We also compare designs that incorporate eligibilities using a single turnover loss threshold with graduated rates depending on the level of turnover loss. Further details of these alternatives are provided in Table 2.

Table 2: Alternative wage subsidies: simulation design details

<i>Single revenue loss threshold</i>			<i>Graduated revenue loss thresholds</i>	
<i>Continuation of initial \$750 JobKeeper design</i>	<i>JobKeeper 2.0 (\$600/\$500 full-time, \$375/\$325 part-time)</i>	<i>Percentage wage subsidy (capped at \$600/\$375)</i>	<i>Graduated rate \$600 subsidy (part-time at \$375)</i>	<i>Percentage wage subsidy (capped at graduated rates)</i>
<i>For 30%+ loss in turnover</i>	<i>For 30%+ loss in turnover</i>	<i>For 30%+ loss in turnover</i>	<i>For 30%+ loss in turnover</i>	<i>For 30%+ loss in turnover</i>
<ul style="list-style-type: none"> • \$750 flat rate 	<ul style="list-style-type: none"> • \$600 for full-time • \$375 for part-time 	<ul style="list-style-type: none"> • 100%/80% normal wage • \$600 cap (full-time) • \$375 cap (part-time) 	<ul style="list-style-type: none"> • \$600 for full-time • \$375 for part-time 	<ul style="list-style-type: none"> • 100%/80% normal wage • \$600 cap (full-time) • \$375 cap (part-time)
	<ul style="list-style-type: none"> • \$500 for full-time • \$325 for part-time <p><i>(from January 2021)</i></p>		<i>For 25-30% loss in turnover</i> <ul style="list-style-type: none"> • \$400 cap (full-time) • \$250 cap (part-time) 	<i>For 25-30% loss in turnover</i> <ul style="list-style-type: none"> • 100%/80% normal wage • \$400 cap (full-time) • \$250 cap (part-time)
			<i>For 20-25% loss in turnover</i> <ul style="list-style-type: none"> • \$200 cap (full-time) • \$125 cap (part-time) 	<i>For 20-25% loss in turnover</i> <ul style="list-style-type: none"> • 100%/80% normal wage • \$200 cap (full-time) • \$125 cap (part-time)

Notes: Each wage subsidy variant may be simulated in BCEC's SELMA labour market model using relationships (1) through (8).

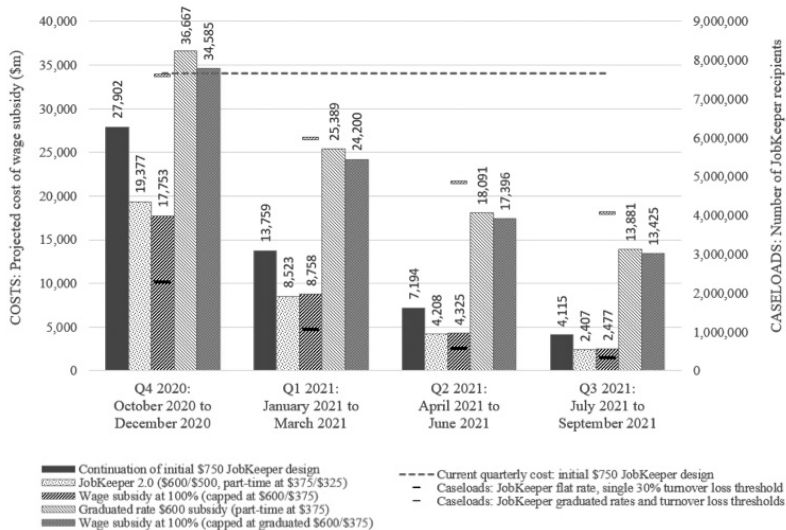
Our empirical evaluations compare wage subsidy designs according to (i) overall costs; (ii) the efficiency in targeting wage costs; (iii) the distribution of costs across industry sector; and (iv) the impact on a number of business case studies.

Costings of alternative wage subsidy designs

The current JobKeeper scheme has cost around \$34bn during the first three months of its implementation to June 2020. We show this cost as a dashed line in Figure 6, to serve as a benchmark against which to compare the quarterly costs of other wage subsidy designs.

Figure 6 compares the projected costs of a series of wage subsidy designs over four quarters from October 2020 to September 2021. Projections are based on the costings methods shown in (6) and (7), and take account of the economic recovery trajectories described in Figure 5.

Figure 6 Projected costs of alternative wage subsidy designs



Notes: Costings and caseloads projections are underpinned by an economic recovery trajectory as outlined in Figure 5.

Source: Bankwest Curtin Economics Centre | Authors' estimates using BCEC's SELMA labour market model.

Single turnover loss thresholds

A continuation of the \$750pw flat JobKeeper rate would cost \$27.9bn over the three months to December 2020 (Q4 2020) and \$13.8bn during the quarter to March 2021 (Q1 2021). This represents a combined six-month cost of \$41.7bn to end March 2021 (Figure 6). Under this scenario, we project the number of wage subsidy recipients to reach 2,270,000 by December 2020, declining to 1,060,000 at the end of the first quarter of 2021.

The Australian government recently announced that the original JobKeeper will be replaced by the new split-rate JobKeeper 2.0 subsidy from October 2020, at an

estimated cost of around \$16.6 billion over six months to end March 2021.¹⁴ We project that JobKeeper 2.0 will cost substantially more than the Australian government's estimate, around \$19.4bn during Q4 2020 and \$8.5bn during the quarter to March 2021 by which time the subsidy rate reduces to \$500/\$325. These combine to a six-month cost of \$29.7bn, some 68 per cent higher than the government's projection. This is because we predict caseloads to be higher than government projections due to a slower economic recovery.

Graduated turnover loss thresholds

To overcome the entitlement 'cliff' that comes from a single turnover threshold, we also simulate the costs of wage subsidy designs that feature a graduated series of payments that vary according to the level of turnover loss. These include a *graduated* system under which wage subsidies of \$600, \$400 and \$200 for full-time workers (and \$375, \$250 and \$125 for part-time workers) are payable for eligible workers in businesses with turnover losses of 30 per cent+, 25-30 per cent and 20 to 25 per cent respectively.

Predictably, reducing the severity of the entitlement cliff through graduated subsidy payment rates will increase the costs of the wage subsidy scheme as more businesses become eligible. Our projections suggest that the graduated wage subsidy design would cost around \$36.7bn in Q4 2020 and \$25.4bn during Q1 2021 - a combined cost of \$62.1bn over six months. Nevertheless, the added costs do sit within the original JobKeeper funding envelope.

Flat-rate versus proportionate wage subsidies

Most countries that have introduced a wage subsidy during COVID-19 have applied a proportionate capped model (International Labor Organization (ILO) 2020). This ensures that workers retain a level of salary commensurate with their productivity and also assists in maintaining employer-employee match.

The aggregate costs of a proportionate wage subsidy are remarkably similar to those of the revised JobKeeper 2.0 scheme. A capped 100 per cent wage subsidy for workers in companies with turnover losses of 30 per cent or more, with subsidy caps of \$600 for eligible employees working 20 hours or more and \$375 otherwise, would cost around \$17.8bn during Q4 2020 and \$8.8bn during Q1 2021. This combines to a six-month cost of \$26.5bn.

The same is true of a proportionate wage subsidy with graduated thresholds according to lost turnover. A 100 per cent wage subsidy scheme with graduated payment caps for full-time and part-time workers depending on the extent of turnover loss (see Table 2 for details) would cost \$34.6bn over the course of Q4 2020 and \$24.2bn during Q1 2021.

14 These estimated costings were reported in a joint media release from the Australian Prime Minister and Treasurer on 21 July 2020. Morrison S, Frydenberg J and Ruston A. (2020) *Media Release: JobKeeper payment and income support extended*. Canberra: Australia. Released 21 July 2020.

Proportionate wage subsidies are more efficient at targeting support (and will never provide more than a recipient's normal wage) compared to a split-rate subsidy scheme that will nevertheless pay more to some than their normal wage – a feature we now turn to.

Targeting of wage subsidy support

Table 3 compares the shares of wage subsidy recipients who are projected to receive more or less than their normal pay. Projections are shown for JobKeeper, JobKeeper 2.0 and a graduated rate subsidy scheme based on degree of turnover loss. We also include projections of shortfall and excess payments for 100 per cent and 80 per cent proportionate wage subsidy schemes using both single and graduated turnover loss thresholds.

The results in Table 3 make clear the fact that flat-rate wage subsidy schemes can lead to excess payments for a significant share of recipients. More than three quarters (76 per cent) of JobKeeper recipients who work part-time and 25 per cent of full-time recipients will receive *more* in subsidy payments than they normally earn.

The JobKeeper 2.0 design will mitigate this problem to a degree, but it remains the case that around 32 per cent of recipients in part-time work and 10 per cent of those in full-time work are still projected to receive subsidy payments that exceed their normal pay within an individual job – equivalent to 406,000 recipients as at December 2020.¹⁵

By design, proportionate wage subsidy schemes cannot provide more in support than a worker's normal wage, and the cap dictates the degree to which support is provided at a rate equal to usual pay. Under a capped 100 per cent wage subsidy scheme with a single 30 per cent turnover loss threshold, payments would match salaries for around 27 per cent of all recipients.

The results in Table 3 demonstrate that moving from a flat-rate scheme to a capped proportionate wage subsidy scheme in which fixed payments are converted to caps provides a fairer and more efficient allocation of support, typically at a lower cost. However, we note that the lower payment rate also means that many workers will receive wages that are far lower than their typical wage. A higher capped rate would minimise this but cost more.

15 We note that workers may receive less earnings overall due to multiple job holders having to surrender other jobs that they were holding in order to receive JobKeeper.

Table 3. Number of recipients with shortfall/excess wage subsidy relative to salary: alternative subsidy designs, as at December 2020

		Projected recipients with shortfall or excess wage subsidy relative to salary (as at December 2020)							
		Single revenue loss threshold			Graduated revenue loss thresholds				
Continuation of initial \$750 JobKeeper design	JobKeeper 2.0 (\$600/\$500, part-time at \$375/\$325)	Wage subsidy at 100% (capped at \$600/\$375)		Wage subsidy at 80% (capped at \$600/\$375)		Wage subsidy at 100% (capped at \$600/\$375)		Wage subsidy at 100% (capped at \$600/\$375)	
		#	%	#	%	#	%	#	%
Recipients with shortfall in subsidy relative to salaries:									
Full-time recipients	1,098,171 (75%)	1,241,304 (84%)	1,241,304 (84%)	1,472,533 (100%)	4,624,329 (94%)	4,624,329 (94%)	4,933,915 (100%)		
Part-time recipients	195,010 (24%)	418,965 (53%)	418,965 (53%)	797,038 (100%)	1,937,605 (73%)	1,937,605 (73%)	2,663,226 (100%)		
All recipients	1,293,181 (57%)	1,660,269 (73%)	1,660,269 (73%)	2,269,570 (100%)	6,561,934 (86%)	6,561,934 (86%)	7,597,141 (100%)		
Recipients with excess subsidy relative to salaries:									
Full-time recipients	374,361 (25%)	153,046 (10%)	-	-	309,586 (6%)	-	-		
Part-time recipients	602,028 (76%)	253,059 (32%)	-	-	725,621 (27%)	-	-		
All recipients	976,389 (43%)	406,106 (18%)	-	-	1,035,207 (14%)	-	-		

Source: Bankwest Curtin Economics Centre | Authors' estimates using BCEC's SELMA labour market model.

Distribution of support by industry sector

There has been some debate in Australia on whether wage subsidies should be restricted to certain industry sectors, with the supporting argument that this would serve to better target support to businesses that have been impacted most by the COVID-19 pandemic.

Whether a focus of wage subsidy support on specific industry sectors is merited depends in large part on the structure of the wage subsidy scheme itself. A well-designed subsidy should tailor the level of support to suit the economic situation of the business without the need for *ad hoc* targeting, and with the minimum possible distortion to behaviour.

Table 4 presents a breakdown of simulated costs and caseloads of the wage subsidy alternatives across industries, with measures (5) and (8) for each industry sector generated using BCEC's SELMA labour market simulation environment.

In terms of overall costs, JobKeeper 2.0 over the year to September 2021 is projected to be directed most towards industry groups in construction (12.2 per cent of total costs), healthcare and social assistance (10.7 per cent), professional, scientific and technical services (11.4 per cent) and accommodation and food services sectors (9.4 per cent). These shares remain relatively similar across wage subsidy variants and are driven in large part by relative workforce size across industry sectors.

When measured as a share of the industry workforce, those sectors with the greatest reliance on wage subsidy support include arts and recreation services (82,600 recipients, representing 47 per cent of the industry's workforce), rental, hiring and real estate services (78,900, 43 per cent) and administrative and support services (144,500, 40 per cent).

Table 4: Projected costs and caseloads of alternative wage subsidy designs by industry sector: year to September 2021

Industry sector	Wage subsidy costs – single revenue loss threshold				Wage subsidy costs – graduated revenue loss thresholds						
	Annual subsidy cost, year to September 2021 (\$600/\$375)		Projected number of recipients (as share of industry workforce)		Annual subsidy cost, year to September 2021 (\$600/\$375)		Projected number of recipients (as share of industry workforce)				
	\$m	\$m	# (%)	Single threshold December 2020: # (%)	Single threshold September 2021: # (%)	Graduated rate \$600 subsidy (part-time at \$375)	Wage subsidy at 100% (capped at graduated \$600/\$375)	Wage subsidy at 80% (capped at graduated \$600/\$375)	December 2020: Caseloads at graduated threshold # (%)	September 2021: Caseloads at graduated threshold # (%)	
Construction	6,005	4,204	4,213	4,068	268,700 (30%)	34,300 (4%)	10,427	10,140	9,945	769,700 (85%)	386,500 (42%)
Health Care & Social Assistance	5,905	3,679	3,476	3,305	254,700 (19%)	39,800 (3%)	11,051	10,464	10,184	986,600 (73%)	513,100 (38%)
Professional, Scientific & Technical Services	5,697	3,940	3,981	3,873	257,400 (32%)	31,100 (4%)	9,373	9,150	9,006	691,800 (89%)	340,800 (44%)
Accommodation & Food Services	5,386	3,242	2,892	2,696	237,500 (32%)	31,100 (4%)	7,720	6,974	6,667	659,400 (89%)	328,700 (45%)
Retail Trade	4,129	2,585	2,368	2,228	177,100 (17%)	29,200 (3%)	8,040	7,466	7,212	734,500 (70%)	390,300 (37%)
Other Services	3,959	2,621	2,485	2,354	169,900 (43%)	23,600 (6%)	5,483	5,098	4,915	376,200 (94%)	205,300 (51%)
Manufacturing	3,819	2,625	2,563	2,453	168,800 (25%)	23,100 (3%)	7,015	6,738	6,579	542,400 (80%)	275,400 (40%)
Administrative & Support Services	3,200	2,037	1,925	1,827	144,500 (40%)	17,100 (5%)	4,478	4,182	4,041	342,100 (94%)	171,900 (47%)
Wholesale Trade	2,631	1,805	1,788	1,722	117,000 (38%)	14,600 (5%)	4,029	3,875	3,785	286,200 (93%)	144,700 (47%)
Transport, Postal & Warehousing	2,535	1,742	1,698	1,628	110,400 (22%)	16,200 (3%)	4,806	4,607	4,498	377,900 (76%)	196,600 (39%)
Arts and Recreation Services	1,938	1,215	1,141	1,082	82,600 (47%)	11,600 (7%)	2,448	2,259	2,177	172,000 (98%)	95,600 (54%)
Education & Training	1,835	1,180	1,147	1,145	68,700 (7%)	19,700 (2%)	5,508	5,325	5,231	526,700 (57%)	308,200 (33%)
Rental, Hiring & Real Estate Services	1,812	1,238	1,223	1,172	78,900 (43%)	10,500 (6%)	2,598	2,489	2,422	174,600 (96%)	92,900 (51%)
Financial & Insurance Services	836	581	587	571	32,100 (8%)	8,400 (2%)	2,585	2,542	2,513	227,300 (59%)	129,300 (34%)
Information Media & Telecommunications	778	530	531	515	33,600 (19%)	5,300 (3%)	1,579	1,541	1,518	127,600 (71%)	67,900 (38%)
Public Administration & Safety	728	496	505	489	23,900 (3%)	12,000 (2%)	3,266	3,214	3,180	285,600 (40%)	212,000 (30%)
Agriculture, Forestry & Fishing	680	464	453	432	27,000 (10%)	6,000 (2%)	1,899	1,839	1,802	169,000 (64%)	91,300 (34%)
Mining	256	183	189	184	9,100 (5%)	3,300 (2%)	1,001	991	983	84,500 (48%)	55,600 (31%)
Electricity, Gas, Water & Waste Services	209	147	149	145	7,700 (7%)	2,400 (2%)	722	712	704	62,900 (55%)	37,800 (33%)
All industries	52,338	34,516	33,313	30,890	2,269,600 (19%)	558,100 (4.6%)	94,029	89,606	87,362	7,597,100 (62%)	4,843,000 (40%)

Source: Bankwest Curtin Economics Centre / Authors' estimates using BCEC's SELMA labour market model.

6. Concluding remarks

The rapid design and roll out of Australia's first short-time wage subsidy in response to the impact of COVID-19 offers us a number of important lessons, including how best to achieve its stated goals. This is important information not only for future wage subsidies that are used in similar emergency circumstances, but also in the context of JobKeeper 2.0 and the likelihood of further iterations of the scheme.

One of the primary goals of JobKeeper was to retain the employer-employee match, enabling businesses to reopen rapidly without having to recruit and train employees. The exclusion of short-term casual workers, multiple job holders and temporary visa holders undermined the ability of the program to achieve this overarching objective. This is particularly relevant within the most affected industries where a critical mass of workers with these characteristics are employed. A better solution for any future emergency wage subsidy would be to keep as many workers in scope as possible, if indeed the objective is to retain the employer-employee match. This could include for example reducing eligibility criteria to three rather than twelve months.

The flat-rate design has also compromised retaining employer-employee matches, with many part-time workers over compensated and many full-time workers under compensated, resulting in employers and employees renegotiating hours of work and roles. The flat-rate design has also meant that resources have not been as efficiently and equitably targeted as they could be and was one of the key flaws in the original JobKeeper.

JobKeeper 2.0 addresses some of these issues by introducing two payment levels, which will deliver greater equity between full and part-time workers and more effective targeting. However, as the new part and full-time rates will be based retrospectively on an employee's part and full-time status as of February 2020, this means any new employer-employee matches will now need to be unravelled, introducing another level of complexity and inequity within the system. This also heavily disadvantages former multiple job holders that have had to forego previous jobs in order to access JobKeeper, but have become more reliant on a single JobKeeper payments as a result. The imminent reduction in payment rates for a former part-time multiple job holder is unlikely to fully compensate prior wages.

The potential for a wage subsidy like JobKeeper to constrain economic recovery and productivity is also a reality that needs to be taken into account as it can incentivise labour hoarding and restrict new job creation. A wage subsidy that is flexible responds to economic conditions as they arise will help minimise these issues.

Notwithstanding these issues, JobKeeper 2.0 is an improvement on the original JobKeeper design, especially from the perspective of targeting. However, it still falls short of an ideal given that it suffers from the same problem as the original JobKeeper in having a single turnover loss threshold and therefore a cliff beyond which eligibility would entirely disappear. A preferred model in our view is one that combines a proportionate wage subsidy with a graduated scale of entitlement depending on the degree of business turnover loss. In doing so this would improve targeting and also make a policy fit-for-purpose in navigating through a post-COVID-19 recovery. A proportionate wage subsidy with graduating entitlements at different levels remains within the existing funding envelope for JobKeeper.

References

- Australian Bureau of Statistics. (2017), Census of Population and Housing, 2016. (*ABS Cat.No. 2001.0*). Accessed through *ABS Tablebuilder*. Canberra: Australia.
- Australian Bureau of Statistics. (2019), Multiple Job Holders. *ABS Cat.No. 6160.0 Jobs in Australia, 2011-12 to 2016-17 (Table 4)*. Canberra: Australia.
- Australian Bureau of Statistics. (2020a), Business Indicators, Business Impacts of COVID-19 Survey, July 2020. *ABS Cat.No 5676.0.55.003*. Canberra: Australia.
- Australian Bureau of Statistics. (2020b), Labour Force, Australia, April 2020. *ABS Cat.No 6202.0*. Canberra: Australia.
- Australian Department of Health. (2020a), Coronavirus (COVID-19) advice for travellers. Canberra: Australia. August 2020.
- Australian Department of Health. (2020b), Coronavirus (COVID-19) current situation and case numbers. Canberra: Australia. August 2020.
- Australian Department of Home Affairs. (2020), COVID-19. Australia. February 2020.
- Australian Department of the Treasury. (2020a), JobKeeper Payment — Information for employers. *Fact Sheet - Economic Response to the Coronavirus*. Canberra: Australian Government. May 2020.
- Australian Department of the Treasury. (2020b), JobKeeper Payment — Supporting businesses to retain jobs. *Fact Sheet - Economic Response to the Coronavirus*. Canberra: Australian Government. April 2020.
- Australian Department of the Treasury. (2020c), The JobKeeper payment: three-month review. Canberra: Australian Government. June 2020.
- Australian Taxation Office (ATO). (2020), Amount of JobKeeper payment. Australian Government. June 2020.
- Boeri T and Bruecker H. (2011), Short-Time Work Benefits Revisited: Some Lessons from the Great Recession. *IZA Discussion Paper No.5635*. 1-52.
- Borland J. (2016), Wage Subsidy Programs: A Primer. *Australian Journal of Labour Economics* 19: 131-144.
- Brown AJG and Koetti J. (2015), Active labor market programs – employment gain or fiscal drain? *IZA Journal of Labor Economics* 4:12: 1-36.
- Cahuc P and Carcillo S. (2011), Is Short-Time Work a Good Method to Keep Unemployment Down? *IZA Discussion Paper Series, No. 5430*. 1-33.
- Cassells R, Dockery AM, Duncan AS, *et al.* (2020), Potential Job Losses in the COVID-19 Pandemic. *Bankwest Curtin Economics Centre COVID-19 Research Brief #2*. 1-5.
- Cassells R and Duncan AS. (2020a), JobKeeper and JobSeeker: How many workers will lose and how many will gain? *Bankwest Curtin Economics Centre COVID-19 Research Brief #3*. 1-6.
- Cassells R and Duncan AS. (2020b), Short-term and long-term casual workers: how different are they? *Bankwest Curtin Economics Centre COVID-19 Research Brief #4*. 1-3.
- Centers for Disease Control and Prevention. (2020), COVID-19 Pandemic Planning Scenarios. CDC Coronavirus Disease 2019 (COVID-19) Factsheet. June 2020.

- Department of Education Skills and Employment. (2020), Wage Subsidies. *JobActive Fact Sheet*. Australian Government: February 2020.
- European Commission. (2012), Long-term unemployment. *European Employment Observatory (EEO) Review*. Luxembourg: Publications Office of the European Union. September 2012.
- European Commission. (2014), Stimulating job demand: the design of effective hiring subsidies in Europe. *European Employment Policy Observatory (EEPO) Review*. Luxembourg: Publications Office of the European Union. May 2014.
- FairWork Ombudsman. (2020), Ending employment & the JobKeeper scheme. Australian Government. June 2020.
- German Federal Ministry of Labour and Social Affairs. (2020), Questions and answers relating to short-time work (*Kurzarbeit*) and skills development.
- Gruen D and Clark C. (2009), What have we learnt? The Great Depression in Australia from the perspective of today 19th Annual Colin Clark Memorial Lecture. Brisbane, Australia.
- Hijzen A and Martin S. (2012), The Role of Short-Time Working Schemes during the Global Financial Crisis and Early Recovery: A Cross-Country Analysis. *OECD Social, Employment and Migration Working Papers No.144*. Paris: OECD Publishing, 1-38.
- Hijzen A and Venn D. (2011), The Role of Short-Time Work Schemes during the 2008-09 recession. *OECD Social, Employment and Migration Working Paper No.115*. Paris: OECD Publishing, 1-45.
- International Labor Organization (ILO). (2020), Temporary Wage Subsidies Fact Sheet. *ILO Fact Sheet: May 2020*.
- Ma J, Pitchford R and Tourky R. (2020), Wage subsidies during COVID-19 are a bad idea. Canberra, Australia.: Australian National University.
- Morrison S. (2020a), *Media Release: Australia is closing its borders to all non-citizens and non-residents*. Canberra: Australia. Released 19 March 2020.
- Morrison S. (2020b), *Media Statement: Update on coronavirus measures*. Canberra: Australia. Released 24 March 2020.
- Morrison S and Frydenberg J. (2020), *Joint Media Release: \$130 billion Jobkeeper payment to keep Australians in a job*. Canberra: Australia. Released 30 March 2020.
- Morrison S, Frydenberg J and Ruston A. (2020), *Media Release: JobKeeper payment and income support extended*. Canberra: Australia. Released 21 July 2020.
- New Zealand Ministry of Social Development. (2020), Who can get the COVID-19 Wage Subsidy. New Zealand. 2020.
- Organisation for Economic Cooperation and Development (OECD). (1996), The OECD Jobs Strategy: Pushing Ahead with the Strategy.
- Sanche S, Lin YT, Xu C, *et al.* (2020), High Contagiousness and Rapid Spread of Severe Acute Respiratory Syndrome Coronavirus 2. *Emerging Infectious Diseases* 26: 1470-1477.
- Senate Select Committee on COVID-19. (2020), Inquiry into the Australian Governments' response to the COVID-19 pandemic. Answers to Questions on Notice Treasury Portfolio.

Service Public France. (2020), Partial Activity: steps taken by the employer (partial or technical unemployment). France. July 2020.

Whiteford P. (2020a).

Whiteford P. (2020b), Open letter to the prime minister: extend coronavirus support to temporary workers.

World Health Organization. (2020), WHO Coronavirus Disease (COVID-19) Dashboard.: 2020.