

# The Financial Cost of Job Loss in Australia

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## Abstract

Workers who lose a job tend to experience large and persistent earnings losses. On average, real earnings are around one-third lower in the year of job loss, and it takes at least four years for an individual's annual earnings to recover. Earnings losses are particularly persistent following the loss of a long-term job. Workers who find new employment tend to work fewer hours at lower hourly rates of pay.

## Introduction

Many workers will face periods of unemployment over the course of their working lives. For those workers who lose their jobs, some will soon find work elsewhere; for others, job loss will be costly and entail significant financial hardship. Government income support typically provides only a partial replacement for lost wages. Some people who find new employment will accept work with reduced wages or hours. Beyond these financial costs, it is well documented that unemployment – particularly long-term unemployment – can have adverse effects on mental and physical health (Mathers and Schofield 1998).

Information about the experience of those who lose a job can enhance our understanding about how household incomes, and therefore spending patterns, are affected by outcomes in the labour

market (Penrose and La Cava 2021). This is relevant for policymakers tasked with managing aggregate demand, such as the Reserve Bank of Australia. It also informs policymakers who are tasked with designing policies to support workers who lose a job, including because of technological disruption, an economic downturn or a global pandemic.

This article explores the effect of job loss on workers' earnings by examining people's experience in the 18 years prior to the outbreak of COVID-19.

## Measuring the financial cost of job loss

We can estimate the financial cost of job loss by following people's earnings around a transition from employment to unemployment and comparing their earnings with those of workers who did not lose a job. Statistical models can be used to control for other factors that may influence the comparison

of outcomes. This enables us to estimate the average loss of earnings as a direct result of job loss, as well as any forgone growth in earnings.

For this study, I used a model similar to that made popular by Jacobson, LaLonde and Sullivan (1993) (for details, see Appendix A). The key feature of this model is that the annual real earnings (i.e. after adjusting for inflation) of individuals are partly explained by whether they recently lost a job or will in the near future. The model includes controls for characteristics of individuals that vary over time and that we can observe (such as age and education) and fixed characteristics that are unique to each individual and that we cannot observe (such as ability). The model also controls for changes in general labour market conditions over time.

I used data from the Household, Income and Labour Dynamics in Australia (HILDA) survey – a dataset that enabled me to follow the characteristics, earnings and work history of 5,600–8,600 individuals each year from 2000/01 to 2018/19 (DSS and Melbourne Institute 2020). I defined job loss as a transition from employment to unemployment.<sup>[1]</sup> The rate of job loss in the HILDA data lines up well with movements in the official unemployment rate from the Australian Bureau of Statistics (ABS) (Graph 1). Periods of falling unemployment coincide with declining rates of job loss in the HILDA data, while periods of increasing unemployment are associated with rising rates of job loss. A comparison of the characteristics of those who lose a job with the broader workforce can be found in Table B1.

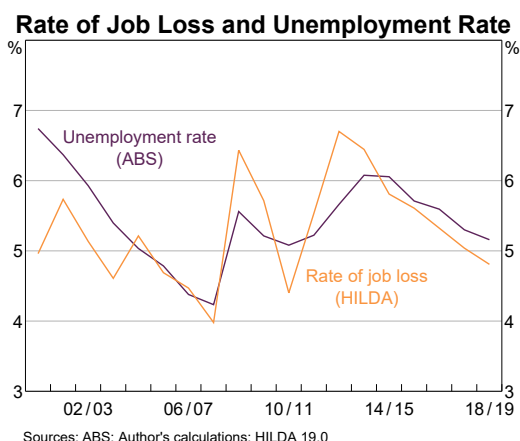
### Job loss tends to result in significant and persistent earnings losses

Graph 2 shows estimates of the effect of job loss on real earnings, relative to what would have been expected in the absence of job loss (see also Table A1). The results indicate that Australian workers who lose a job tend to experience large and persistent losses of real earnings. Real earnings are around one-third lower in the year of job loss, on average.<sup>[2]</sup> Earnings recovery slowly; it takes at least four years for those who lost a job to be earning as much as if they had not lost a job. Overall, cumulative losses of real earnings are equivalent to around 50 per cent of a workers' real earnings in one year, or a little under \$40,000 for the average income earner in 2018/19. These estimates can be interpreted as the average effect of job loss on earnings; in practice, workers' experiences differ significantly and include better and worse outcomes.

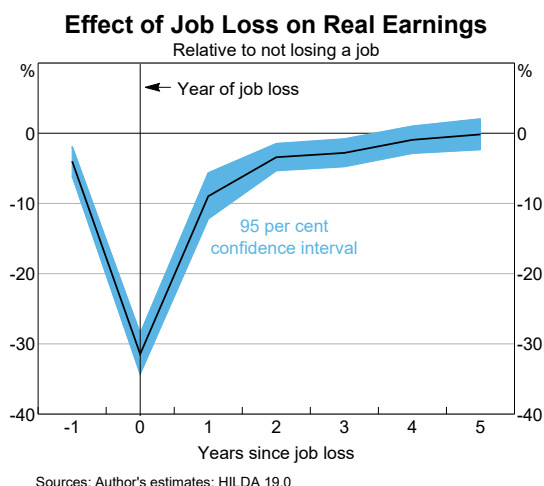
Earnings for Australian workers typically begin to decline in the year prior to job loss, consistent with findings in the United States (Jacobson, LaLonde and Sullivan 1993). As shown below, this partly reflects that workers tend to work fewer hours in the year prior to job loss.

The loss of a long-term job appears to be more costly than the loss of a shorter-term job. Graph 3 shows estimates of earnings losses based on the length of time with their employer. The experience of those who lose their jobs with at least two years of tenure is similar to the short-term

**Graph 1**



**Graph 2**



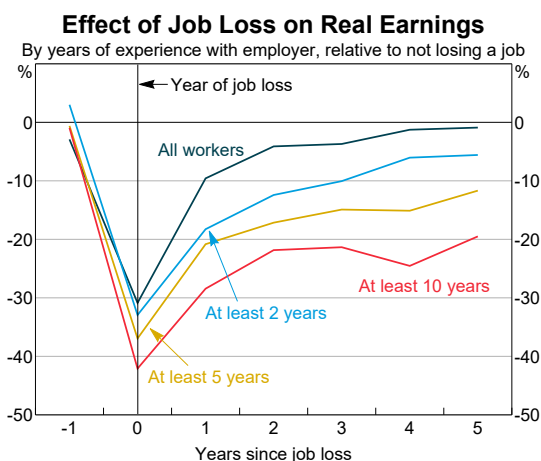
estimates reported by the OECD (2016). When we define job loss as the ending of an employment relationship of at least 10 years, real earnings are around 40 per cent lower in the year of job loss, compared with around 30 per cent for a sample of all workers who lost a job. Of note, the recovery in annual earnings is slow and incomplete even after five years; earnings remain around 20 per cent below the level that would be expected if the worker had not lost a job. That said, the sample of workers who lost a long-term job is relatively small (around 420 cases), so some caution in interpreting these results is warranted.

The finding that the loss of a long-term job is particularly costly is consistent with workers accumulating skills and networks that are not transferable to other workplaces. Long tenure is also suggestive of a good match between workers and their employers that could result in higher worker productivity and wages (Jovanovic 1979). When a worker loses such a job, they may find it difficult to find a new job with comparable wages and/or hours. The result could also be a symptom that those who lose a long-term job tend to have specialised skills for which there is less demand generally – for example, due to structural change in the economy. Studies in the United States have found particularly poor outcomes for workers who lose a job as part of mass layoff because of the closure of a large manufacturing plant (Jacobson, LaLonde and Sullivan 1993).

Workers who report quitting their job voluntarily appear to experience similar costs of job loss to workers who lose a job because they were retrenched or fired (Graph 4). Earnings tend to be 20–30 per cent lower in the year of job loss and recover over a few years. The similar outcomes across these workers could be partly the result of stigma for unemployed people. For example, a prospective employer may assume that an unemployed worker has lower ability because the employer cannot confirm whether the employee left voluntarily (Lawrence and Gibbons 1991). In addition, leaving a job because of dissatisfaction with pay or hours could indicate a poor match between the skills of the employee and the business, which results in reduced pay or hours and eventually leads to the employer or employee ending the job (Jovanovic 1979). This complicates the interpretation of survey information on the reason for job loss.

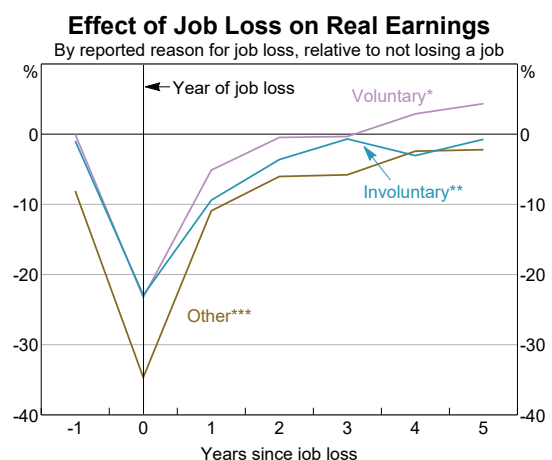
The experience that job loss is costly has been fairly consistent across various groups of workers. Earnings losses are similar for males and females, and across levels of education and income; differences are statistically insignificant (Graph 5). Age is one exception, with older workers tending to experience a greater cost of job loss, on average, than younger and middle-aged individuals. This is consistent with previous studies, which have shown that the average duration of unemployment for

**Graph 3**



Sources: Author's estimates; HILDA 19.0

**Graph 4**



\* Dissatisfaction with job (e.g. hours, pay, colleagues), desire for a change, obtain a better job, start a new business  
 \*\* Laid off, made redundant, dismissed, employer went out of business, own business closed for economic reasons  
 \*\*\* Includes individuals who did not report a reason for job loss  
 Sources: Author's estimates; HILDA 19.0

older workers tends to be significantly longer (Cassidy *et al* 2020). Older workers are also more likely to have longer tenure in the job that they lost.

While the cost of job loss is similar across workers, the *incidence* of job loss is not. Male workers have tended to experience higher rates of job loss than female workers, particularly since the late 2000s (Graph 6). Females are more likely to work in industries that have lower rates of job loss, such as healthcare & social assistance (see Table B2). By contrast, male workers are more likely to be employed in occupations requiring routine manual operations, including in construction and manufacturing; these occupations have been declining as a share of employment over recent decades (Heath 2016). Younger workers, those with lower levels of education and those from lower-income groups have also tended to experience higher rates of job loss in this sample. The rate of job loss of those in the bottom one-third of income earners is around twice as high as those in the top one-third of income earners.

Overall, the earnings losses of those who lose a job in Australia are similar to those reported in US studies. The US Panel Study of Income Dynamics (PSID) is comparable to HILDA and has also been used to estimate earnings losses from job loss in the United States. Estimates of earnings losses using the PSID range from 15 per cent to 30 per cent in the year of job loss, similar to the results reported for

Australia (Krolkowski 2017; Ruhm 1991; Stevens 1997). Studies in the United States using administrative data have also found persistent losses for workers who lose a long-term job. For example, Jacobson, LaLonde and Sullivan (1993) reported earnings that were 25 per cent lower even after six years, using a sample of workers who had at least six years of experience with their employer.

### Many who find new employment work fewer hours at lower hourly rates of pay

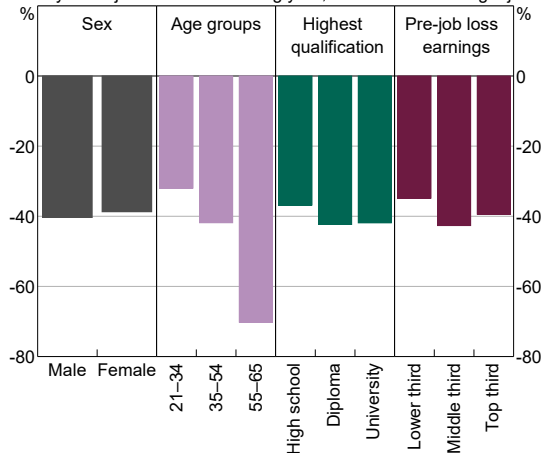
When workers lose a job, they experience financial losses because they do not earn a wage during the stint of unemployment. They might also be offered fewer hours of work or lower hourly rates of pay in a new job (Lachowska, Mas and Woodbury 2020). I decomposed the cost of job loss into these components by focusing on workers who lose a job but subsequently find new employment.

Workers who find new employment tend to have weekly earnings that are around 8 per cent lower than if they had not lost a job (Graph 7). This is a smaller decline than earlier estimates based on financial year data, suggesting that time spent in unemployment is the main source of financial loss. However, even workers who find new employment tend to work fewer hours. In the first HILDA survey after experiencing job loss, workers who had found new employment tended to be working 6 per cent fewer hours than similar workers who did not lose a job. Accordingly, those who lost a job were also more likely to report wanting to work more hours than they currently work. It generally takes two

**Graph 5**

#### Real Earnings Losses by Worker Characteristics

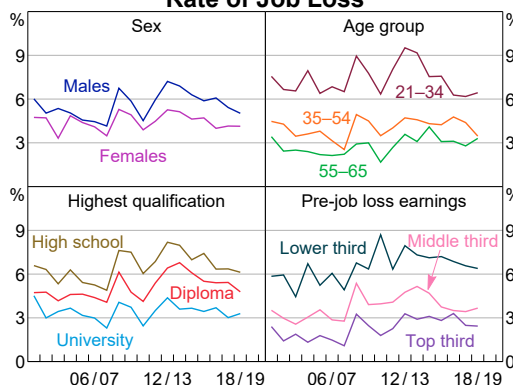
Over year of job loss and following year, relative to not losing a job\*



\* Expressed as a percentage of one year's earnings  
Sources: Author's calculations; HILDA 19.0

**Graph 6**

#### Rate of Job Loss



Sources: Author's calculations; HILDA 19.0

years for the number of hours worked to recover to pre-job loss levels.

There is also evidence that workers who find new employment tend to earn lower hourly rates of pay in their new job. In addition, hourly wages barely recover from the initial fall and remain 2 per cent lower even after four years, on average. This suggests that lower hourly earnings are the more persistent consequence of job loss for workers. Workers might receive lower hourly rates of pay because they were paid a premium in their previous job for firm-specific skills and networks. New employers might also offer lower wages or hours because they have imperfect information about the true reason for job loss so cannot determine whether the worker will be a good fit (Lawrence and Gibbons 1991). Lachowska, Mas and Woodbury (2020) found that persistently lower hourly wages after job loss in the United States could largely be attributed to workers moving from employers that pay wage premiums to employers that do not – for example, moving from unionised to non-unionised workplaces.

### Government income support and the tax system reduce the cost of unemployment

A range of policies are in place that support workers who lose their job. Many become eligible for government income support, such as JobSeeker (previously Newstart Allowance), while they search for a new job. Their lower level of income may also qualify them for other government support, such as

family tax benefits. Further, in Australia’s progressive tax system, after-tax income will usually decline by less than gross income following job loss; the average rate of income tax declines with income.

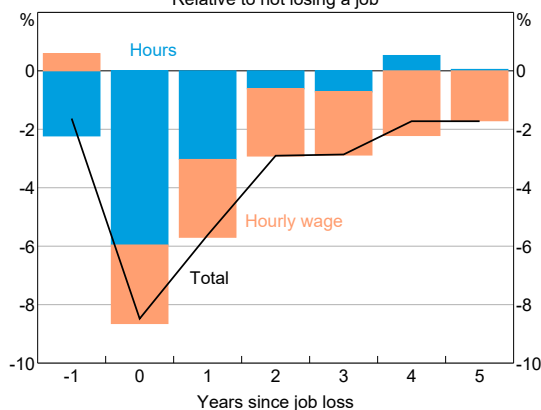
Graph 8 presents results where the measure of income includes government taxes and benefits. Comparing this graph to the above version using gross earnings (Graph 2) shows that the effect of government benefits and taxes is to reduce the cost of job loss to around 20 per cent in the year of job loss. The effect of job loss on real income (including taxes and benefits) after about three years is similar to the effect on real gross earnings.

Graph 9 decomposes the decline and recovery in income into the contributions from gross earnings, taxes and government benefits. Government benefits provide most of the offset to the decline in real gross earnings in the year of job loss and the following year. This highlights that income support for those who lose a job tends to focus on the period of unemployment. Lower taxes provide a relatively modest offset to the decline in earnings.

### The COVID-19 pandemic

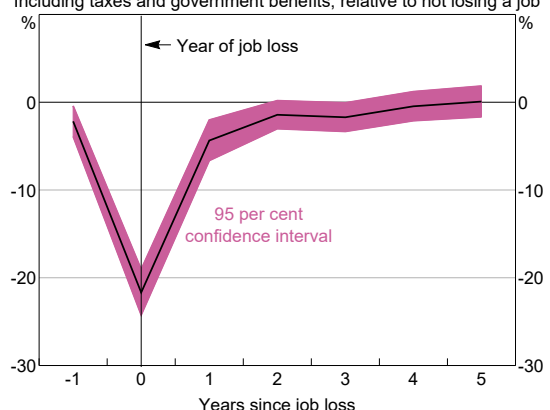
The outbreak of COVID-19 has had significant effects on Australia’s labour market. Activity restrictions to contain the virus and precautionary behaviour by households and businesses have caused many businesses to close or operate at reduced capacity at times. As a result, demand for labour has fallen in certain industries.

**Graph 7**  
Weekly Real Earnings of Re-employed Workers  
Relative to not losing a job



Sources: Author's estimates; HILDA 19.0

**Graph 8**  
Effect of Job Loss on Real Earnings  
Including taxes and government benefits, relative to not losing a job



Sources: Author's estimates; HILDA 19.0

The sample of the HILDA survey does not yet cover the period since the outbreak of COVID-19. Distinct features of this downturn suggest that the experience of workers might differ from the experience of job loss estimated in this study. Such features include:

- The economic contraction during the pandemic was much larger than downturns in the HILDA survey’s sample, including the global financial crisis.
- The incidence of job loss was reduced by the policy response to the pandemic, including the JobKeeper wage subsidy. JobKeeper was targeted towards keeping Australians in jobs, even at zero hours, to maintain the relationships between employers and their employees. Bishop and Day (2020) estimated that JobKeeper reduced total employment losses by at least 700,000 between April and July 2020.
- For many workers who did lose a job, expanded unemployment (JobSeeker) benefits during the pandemic would have resulted in a smaller decline in real income, compared with individuals who lost a job in this study’s sample.
- Underpinned by significant policy support, labour market conditions rebounded strongly once activity restrictions were eased. Employment and total hours worked had recovered to pre-pandemic levels in early 2021 (Graph 10). This suggests that workers who lost a job were able to find new employment relatively quickly,

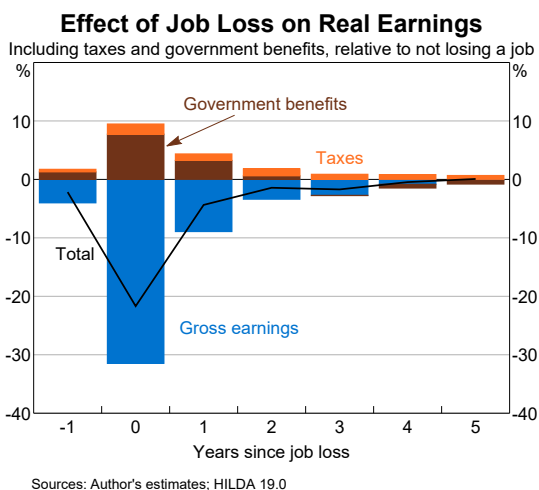
which was not true for many workers who lost a job in this study’s sample. That said, recent outbreaks of the virus have introduced a high degree of uncertainty about labour market conditions in the second half of this year.

Despite the distinct features of the current episode, the results based on pre-pandemic data still offer insights. By underpinning the retention of employees, it is clear that policy support, particularly the JobKeeper wage subsidy, avoided significant financial costs and hardship for many workers. In many cases, job losses would have likely caused persistent earnings losses, especially taken with international evidence that job loss in downturns is particularly costly for workers (Davis and von Wachter 2011). By avoiding this, policy measures also contributed to the relatively quick recovery in household spending that occurred after previous lockdowns.

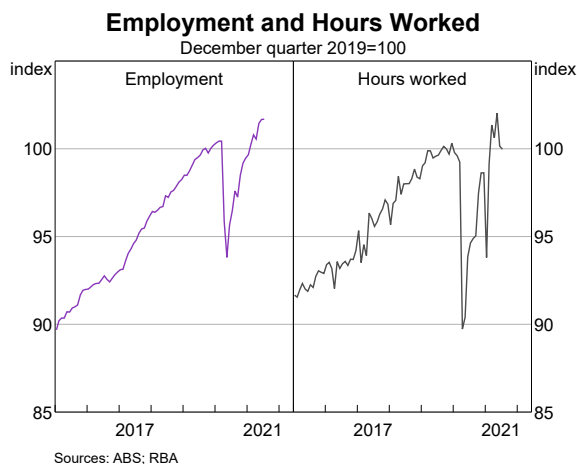
### Conclusion

Job loss can be financially costly for workers, particularly when a long-term job is lost. Real earnings begin to decline in the year prior to job loss and fall sharply in the year of job loss. Earnings recover slowly. Most of the cost of job loss stems from time spent in unemployment, but even re-employed workers tend to work fewer hours at lower hourly rates of pay. Government benefits have tended to reduce the cost of job loss by around one-third.

**Graph 9**



**Graph 10**





Distinct features of the pandemic period and policy response make it difficult to generalise the results presented in this article to describe the experience of workers who lost a job during the pandemic. That said, the results underscore that policies designed to support the retention of employees would have averted significant financial hardship for many workers and quickened the recovery. The experience of workers over the sample examined in this article highlights that job loss can have persistent effects on household incomes, often well beyond the initial stint of unemployment.

## Appendix A

I estimated real earnings losses using the approach of Jacobson, LaLonde and Sullivan (1993). The model is as follows:

$$y_{it} = x_{it}\beta + \alpha_i + \gamma_t + \sum_{k=-1}^5 D_{it}^k \delta_k + \varepsilon_{it}$$

where  $y$  is real income,  $x$  is a vector of observed, time-varying worker characteristics – in this case, interactions of education with age and age squared. These interactions capture the positive relationship between education and earnings, and the positive and concave relationship between experience (age) and earnings (Mincer 1974). The coefficient  $\alpha$  is an individual fixed effect, which captures fixed,

unobservable differences between workers, such as ability. The coefficient  $\gamma$  is a financial year fixed effect, which captures labour market conditions that are common to all workers in each year. Finally,  $\varepsilon$  is the error term,  $i$  and  $t$  the subscripts and index individuals and financial years, respectively.

The main variables of interest are the dummy variables for job loss,  $D_{it}^k$ , which are equal to one if the individual moved from employment to unemployment  $k$  years since the current year. The estimated coefficients  $\delta$  represent the difference between the earnings of workers who lost a job and those of workers who did not. Because I use annual data (financial years), the timing of job loss within the year will influence estimated losses. For example, a worker who lost a job near the end of the financial year will exhibit small earnings losses in the year of job loss but larger earnings losses in the subsequent year. Therefore, I augmented my model to include quarter dummies in the year of job loss and year after job loss; beyond this, the quarter dummies are not statistically different.

I transformed income variables using the inverse hyperbolic sine (IHS) function (Burbidge, Magee and Robb 1988). Like log transformations, estimated coefficients with an IHS transformation can be interpreted as elasticities, but the transformation did not require me to drop observations that report zero taxes paid or government benefits received.

**Table A1: Estimation Results<sup>(a)</sup>**

2001/02–2018/19

Years since job loss	Real gross earnings	Real income (including taxes and benefits)
	Per cent	Per cent
One before	-4.0***	-2.2***
Year of job loss		
– First quarter	-31.5***	-21.7***
– Second quarter	-29.3***	-20.8***
– Third quarter	-25.5***	-16.1***
– Fourth quarter	-12.9***	-8.7***
One after		
– First quarter	-9.0***	-4.4***
– Second quarter	-13.2***	-8.2***
– Third quarter	-12.6***	-9.4***
– Fourth quarter	-20.5***	-13.4***
Two after	-3.4***	-1.4**
Three after	-2.8***	-1.7**
Four after	-0.9	-0.5
Five after	-0.2	0.1
Observations	135,225	135,186
R <sup>2</sup>	0.11	0.05

(a) Coefficients are presented in per cent differences using the approach of Bellemare and Wichman (2020). \*\*\*, \*\* and \* denote statistical significance at the 1, 5 and 10 per cent levels using robust standard errors. The models are estimated via ordinary least squares with unrestricted individual and time fixed effects, and controls for time-varying characteristics of individuals (interactions of education with age and age squared)

Sources: Author's estimates; HILDA 19.0



## Appendix B

The sample in this study includes individuals aged 21–65 years. In each year, workers who report zero or negative earnings, or report a period out of the

labour force are excluded. Individuals who report that a job loss was caused by sickness or injury, retirement or pregnancy/having children are also excluded. ✎

**Table B1: Descriptive Statistics of Workers and Workers Who Lost a Job**

2002–2019 pooled sample

	All workers	Workers who lost a job
Male (%)	52	58
Age groups (%)		
– 21–34	36	52
– 35–54	49	40
– 55–64	15	8
Education – highest qualification (%)		
– High school or lower	33	42
– Diploma	35	36
– University	32	22
Selected industries (%)		
– Manufacturing	9	11
– Construction	7	11
– Healthcare & social assistance	15	10
– Retail trade	8	10
– Accommodation & food services	4	8
Occupation <sup>(a)</sup> (%)		
– Non-routine cognitive	40	23
– Routine cognitive	22	24
– Non-routine manual	11	12
– Routine manual	27	41
Real gross earnings <sup>(b)</sup> (\$'000)		
– Mean	70	55
– Median	60	46

(a) See Heath (2016) for discussion of the classification of occupations

(b) For those who lose a job, this is real earnings in the year prior to job loss

Sources: Author's estimates; HILDA 19.0

## Footnotes

[\*] The author is from Economic Analysis Department and would like to thank Ivailo Arsov, Mark Chambers, Darren Flood, Brad Jones and Tom Rosewall for their thoughtful advice and suggestions in preparing this article. This document uses unit record data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey. The unit record data from the HILDA Survey was obtained from the Australian Data Archive, which is hosted by the Australian National University. The HILDA Survey was initiated and is funded by the Australian Government Department of Social Services (DSS) and is managed by the Melbourne Institute of Applied Economic and Social Research (Melbourne Institute). The findings and views based on the data, however, are those of the author and should not be attributed to the Australian Government, DSS, the Melbourne Institute, the Australian Data Archive

or the Australian National University and none of those entities bear any responsibility for the analysis or interpretation of the unit record data from the HILDA Survey provided by the author.

- [1] Because job loss is defined as a transition from employment to unemployment, it excludes cases in which workers lose one of multiple jobs. To meet this study's definition, workers must have moved from having at least one job to having zero jobs and actively looking for work.
- [2] Earnings in the year of job loss are not zero because most workers were employed for part of the financial year – either they were employed for a period before losing their job or they found new employment within the financial year.

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