

Transitions from Casual Employment in Australia

Project 09/05

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Executive Summary

- Strong claims are often made about the harmful effects that casual employment can have on future employment prospects, yet serious research on this issue in Australia has been relatively scant. This report seeks to help redress this deficiency. Specifically, it uses longitudinal data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey to address the following questions:
 - What is the rate of mobility in and out of casual employment, and where do casual employees go when they exit casual employment?
 - What personal characteristics are associated with mobility in and out of casual employment, and in particular with the rates of transition from casual employment into non-casual employment and joblessness?
 - To what extent is casual employment, and transitions out of casual employment, the result of employee preferences for different types of employment?
 - To what extent are casual employees precluded from accessing non-casual employment opportunities?
 - Does casual employment help facilitate the transition towards retirement?
- Casual employment appears to be a relatively fluid state, at least compared with other labour market destinations.
 - Over the course of one year, between 28 and 32 per cent of all casual job holders (depending on the definition of casual employment used) will move into some form of non-casual employment.
 - Casual employees are also at greater risk of moving into unemployment (4%) and out of the labour force (11 to 12%) in any one year than other types of workers. These rates compare with 1.2% and 4% for non-casual employees, respectively. These differences reflect the weaker attachment to the labour force that many groups of casual employees have (and most notably, working students and married mothers).
 - Average transition rates into non-casual employee jobs are higher from casual employment (23 per cent) than from unemployment (16 to 17 per cent).

- As would be expected, rates of labour market transitions when measured over a three-year window (2001 to 2004) are even higher. Between 46 and 49 per cent of casual job holders in 2001 were working in some form of non-casual employment by 2004.
 - Rates of transition from casual employment into some form of non-casual employment decline with age, and at all ages are higher among men than women. The rate of transition between 2001 and 2004 from casual employment into some form of non-casual employment was 52.9 to 56.0 per cent for all men which compared with 40.9 to 44.2 per cent for all women.
 - About 40 per cent of casual employees who make the transition to non-casual employment do so with their current employer.
- Econometric modelling revealed that by far the strongest predictor of the current labour market state is previous labour market states. The more recent the previous experience, the stronger is its effect.
 - In predicting the current labour market state for men it is shown that, compared to having been unemployed in all three previous waves, substituting a single spell of unemployment with a single spell of casual employment in any of the previous three waves increases the probability of being an employee in a non-casual job in wave 4 by between 2.5 and 6.5 percentage points. Replacing all three unemployment spells with spells of casual employment increases the probability to be non-casually employed in wave 4 by between 10.4 and 11.8 percentage points. For men, casual employment strongly enhances the probability of being non-casually employed in the future.
 - In contrast, substituting a single spell of unemployment with a single spell of casual employment in any of the previous three waves does not increase the probability of a woman being non-casually employed in wave 4. Indeed, replacing all three unemployment spells with spells of casual employment actually reduces the probability of being non-casually employed in wave 4 by two percentage points. For women persistent casual employment reduces the probability of finding non-casual employment in the future, but greatly enhances the probability to be in-work (through an increased probability of remaining casually employed)
 - When predicting labour market transitions from period t to $t+1$ we find for men that being in casual employment in period t always increases the probability of being

employed non-casually in period $t+1$, compared to being unemployed in period t . Ignoring unobserved factors such as ability, skills, personalities, motivation, preferences and any other unobserved factor that is deemed to influence labour market outcomes, we estimate that casual employment increases the probability to be employed non-casually one year later by between 3.6 and 8.1 percentage points, compared to being unemployed. Controlling for these unobserved factors reduces these estimates to between 0.4 and 4.8 percentage points.

- We do not identify such an effect for women. Ignoring unobserved factors, casual employment is estimated to reduce the probability of being a non-casual employee one year later by about 1.5 percentage points, compared with being unemployed. Controlling for unobserved factors only strengthens this finding – to four percentage points. For women, the most salient effect of casual employment on subsequent labour market outcome, relative to unemployment, is the increase in the probability of being employed. Casual employment enhances the probability of future employment by 17.1 percentage points when ignoring unobserved factors and by 6.5 percentage points when we account for such factors.
- The gender differences found here are consistent with other research investigating how job satisfaction differs between casual and non-casual employees. Specifically, unlike male employees, female employees in casual jobs (and especially those in part-time jobs) have been found to be no less satisfied with their jobs than their counterparts in non-casual jobs. It thus should not be surprising that women have lower transitional probabilities out of casual jobs than men.
- The analyses of labour market transitions do not directly address the question of whether casual employees are ‘trapped’ in their casual jobs. To get at this we cross-tabulated data on job satisfaction with data on subjective quit probabilities, defining a ‘trapped worker’ as a worker who is dissatisfied but also indicates that they have a low probability of voluntarily quitting their job within the next 12 months. According to this definition very few Australian workers are trapped in their jobs (less than 2 per cent) and there is no evidence that casual workers are any more trapped than non-casual workers.
- Finally, we investigated the nexus between casual employment and retirement. One in five employed persons in the age group 45 years and over described their current job as a transition job, and of those, over one third indicated that the transition was characterised

by a change to casual or contract work. Furthermore, the majority of this age group who are intend to gradually retire from the workforce, and over half of this group expect that this gradual retirement will involve a switch to casual employment. This contrast sharply with the experience of the retired and non-working population, over 80 per cent of whom did not retire gradually but instead followed the traditional retirement path.

1. Introduction

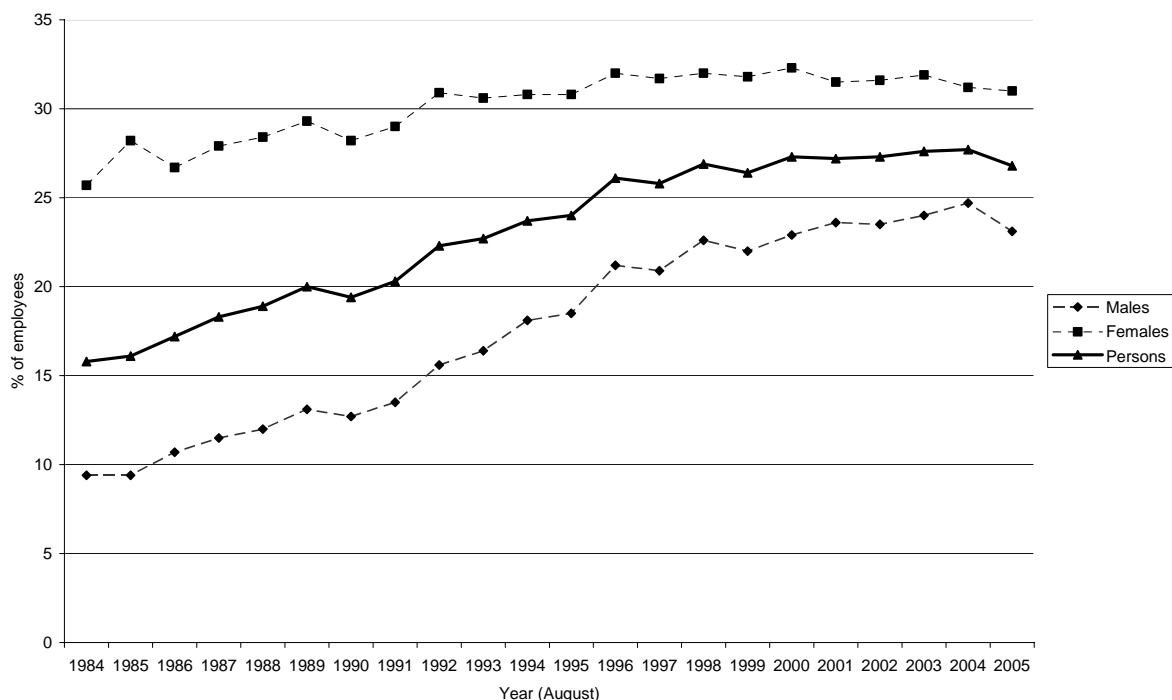
As is widely recognized (e.g., Campbell and Burgess 2001a, Watson et al. 2003, Wooden and Warren 2004), one of the most distinctive features of the contemporary Australian labour market is the high incidence of casual employment. Data collected by the Australian Bureau of Statistics (ABS) on the number of employees without entitlement to either paid annual leave or paid sick leave has been commonly used to measure the incidence of casual employment, with the most recent figures (for August 2005) suggesting that almost 27 per cent of employees are employed (in their main job) on a casual basis using this definition. That said, if owner managers, who on any common sense interpretation cannot be reasonably described as casual employees, are omitted from the data, this proportion falls to 24 per cent.

These same data also suggest marked growth over the last two decades (see Figure 1), with the rate of casual employment in 1984 estimated at just under 16 per cent. Nevertheless, the rate of growth in the casual employment share has clearly slowed in recent years. Indeed, among women the casual share of employment reached a plateau in the late-1990s and may now be slowly declining. In contrast, for male employees the trend had, until 2004, been upwards (before falling sharply in 2005). Furthermore, the rising trend in rates of small business incorporation has also resulted in an increase in the number of owner managers counted by the ABS as employees, which, in turn, has had the effect of artificially inflating the growth in the casual employment share since the mid-1980s.¹

For many commentators the growth in the casual employment share is seen as symptomatic of the gradual erosion in labour standards and the growth in inferior or sub-standard jobs, though such claims are the subject of recent debate (cf. Wooden and Warren 2004, Watson 2005). Nevertheless, even if we accept the claim that casual jobs are inferior in some way to non-casual jobs, they might still serve useful entry points into the labour market for the unemployed and for labour force entrants and re-entrants. This would be especially so if employment in casual jobs could be demonstrated to enhance the prospects of obtaining more secure, non-casual (or ‘permanent’) employment.

¹ The Commonwealth Government in its submission to the Casual Employment Test Case heard before the Australian Industrial Relations Commission in 2000 provides a more extended discussion of the impact of owner managers on the measurement of casual employment.

Figure 1
Casual Employment by Sex, 1984 to 2005 (% of employees)



- Notes:
1. The published data for the years 1984 to 1988 do not enable the calculation of separate estimates for males and females. The figures reported for these years here are ‘guesstimates’ reported by Dawkins and Norris (1990).
 2. The 1990 survey excluded persons aged 70 years and hence estimates for this year are not strictly comparable with those for other years.
 3. The 1991 data were collected in July.

Sources:

1984-1988: Dawkins and Norris (1990).
 1988-1992: ABS, *Employment Benefits, Australia* (ABS cat. no. 6334.0).
 1993, 1994 and 1997: ABS, *Weekly Earnings of Employees (Distribution), Australia* (ABS cat. no. 6310.0).
 1995: ABS, *The Labour Force, Australia, December 1995* (Abs cat. no. 6203.0).
 1996: ABS, *Trade Union Members, Australia, August 1995* (ABS cat. no. 6325.0).
 1998-2005: ABS, *Employee Earnings, Benefits and Trade Union Membership, Australia* (ABS cat. no. 6310.0).

The most often heard argument, however, is quite the reverse. For example, the NSW Labor Council in its Contentions to the Secure Employment Test Case (heard in the NSW Industrial Relations Commission in 2004) claimed that casual employees “have little or no opportunity to follow a career path” (paragraph 11.6). Slightly differently, others (e.g., Burgess and Campbell 1998, ACIRRT 1999, Pocock et al. 2004a) associate casual work with labour market churning, wherein casual work becomes part of a cycle of low earnings and irregular and intermittent employment. The evidence usually furnished in support of such claims, however, is weak and unconvincing. The main aim of this study is to redress this deficiency.

More specifically, this project uses longitudinal data from the first four waves of the Household, Income and Labour Dynamics in Australia (HILDA) Survey to address three main questions:

- (i) What is the rate of mobility in and out of casual employment, and where do casual employees go when they exit casual employment?
- (ii) What personal characteristics are associated with both mobility in and out of casual employment, and in particular with the rates of transition from casual employment into non-casual employment on the one hand, and into joblessness on the other?
- (iii) To what extent is casual employment, and transitions out of casual employment, the result of employee preferences for different types of employment?

The last question however is especially difficult. We employ sophisticated econometric modelling that in theory can help us control for individual preferences. The problem with this approach, however, is that it also controls for other unobservable person-specific characteristics, such as ability, personality, motivation and the like, and the influence of these different unobservable influences cannot be disentangled from each other. For this reason, we also undertake a quite separate analysis which focuses specifically on the extent to which casual employees can be described as ‘trapped’ in their current work situation. This is an issue that is much debated in the literature and at its core is the role of individual preferences.

Finally, we also consider one further research issue that has been the subject of public debate; the relationship between casual employment and retirement.

The report begins, in Section 2, by reviewing previous research that has examined mobility into and out of casual employment, in the case of Australian studies, or into and out of temporary employment, in the case of overseas studies. The HILDA Survey data which are at the centre of the analyses reported here are then introduced in Section 3. A discussion of the issues surrounding the identification of casual employees in survey data is also provided. The results from our analyses of the data then follow. We begin, in Section 4, by presenting simple matrix tables which summarise the rate of transition between different labour market states, and in particular, in and out of casual employment. We then report, in Section 5, results from modelling the process of transition between different labour market states using two different approaches. The first approach uses individual labour market histories that are as distant as possible. The second approach incorporates driving factors that are not directly

observed (i.e., ‘unobserved heterogeneity’). Section 6 limits the sample to those employed as casuals in wave 1 and investigates their outcomes in wave 4. This is followed by an analysis of pooling the sample of individuals employed as casuals in wave t and investigating their outcome in wave $t+1$. In contrast to describing all labour market transitions for all individuals, the analysis in this section is more sharply focussed on what happens to individuals employed as casuals. A separate, but much more limited, analysis is then undertaken on the relationship between casual employment and job satisfaction and the share of casual employees that are trapped (Section 7). The penultimate section of the report (Section 8) provides a brief examination of the relationship between casual employment and retirement, focusing on the extent to which current workers aged 45 years or over are using, or are planning to use, casual employment as a mechanism for easing the transition into full retirement from paid work.

2. Previous Research

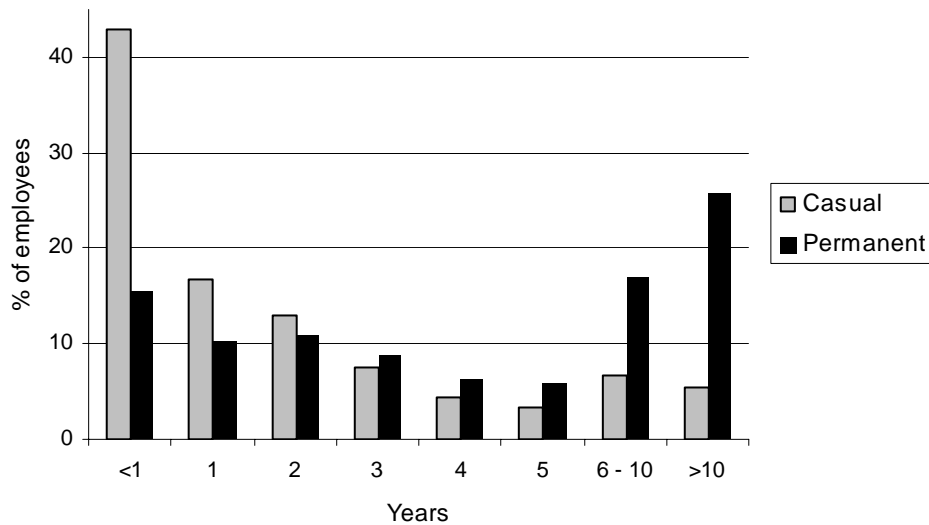
2.1 Australian Studies

2.1.1 The Stylised View

The conventional wisdom in Australia appears to be that many casual jobs are ‘dead-end jobs’ which marginalise workers, effectively impeding their ability to move into permanent full-time positions where internal labour markets and career ladders are more prevalent. The evidence presented in support of such conclusions, however, is often very flimsy. Indeed, some of the commentators quoted in support of this argument provide little more than an untested hypothesis (e.g., Beasley 1981, Carter 1990, Romeyn 1992, Campbell and Burgess 1993), while others refer to secondary data sources which they assert support this hypothesis when in fact the evidence reported is largely irrelevant. Burgess (1996), for example, supports his claim that casual workers are denied access to firms’ internal labour markets by referring to ABS data from the Labour Force Survey which show large monthly flows into and out of part-time employment. Burgess is clearly trying to argue that casual employees, who account for the majority of part-time employment, typically cycle from one short-term casual job to another interspersed by periods of joblessness. Aggregate monthly flows data, however, tell us very little given they only track changes over a one-month period.

Very differently, Pocock et al. (2004a) refer to cross-section data from the first wave of the HILDA Survey that show that many casual workers, rather than cycling between unemployment and short-term jobs, have actually been in the same job for quite long periods of time – more than one year – as evidence that many casual workers are at least trapped in the same casual jobs. Such data are persuasive, though Pocock et al. overstate the case. As shown in Figure 2, data from wave 1 of the HILDA Survey reveal that the large majority of casual employees (close to three in every four) have been in their current job for two years or less. Further, the distribution of (incomplete) job tenure differs markedly between casual and permanent employees. Nevertheless, and as Pocock et al. (2004a) observe, such data indicate the presence of a significant minority of long-term or ‘permanent casuals’. This gives rise to the question of just how different are the jobs held by these long-term casuals compared with those held by permanent workers doing similar work. For Pocock et al. it is axiomatic that casual jobs are inferior “by virtue of their inferior rights and entitlements” (p. 19), but it may be that many of the long-term casuals are no more trapped in their jobs than are their non-casual counterparts.

Figure 2
Job Tenure by Employee Status, 2001 (% of employees)



Notes: Employment status determined by self identification.
 The definition of employee used here differs from the standard ABS definition by excluding owner managers of incorporated businesses.

Source: HILDA Survey confidentialised unit record file (release 4.1).

Some researchers find supporting evidence in qualitative interview data (e.g., Sloan et al. 1992, Pocock et al. 2004b). Typically such studies employ small samples of non-randomly selected casual employees. Pocock et al. (2004b), for example, generated a list of 136 potential interviewees from two sources: newspaper advertisements and leaflets inviting participation from people currently employed as casual workers; and randomly selected members of the South Australian branch of the Shop Distributive and Allied Employees Union. A total of 55 people were interviewed. Who this group represents is not at all clear. All of the respondents were effectively self-selected, coming forward presumably because of their desire to communicate to the researchers their experience of casual work. It thus cannot be assumed, as the authors do, that casual jobs are inherently undesirable and typically offer limited opportunities for progression into non-casual employees just because the majority of their interviewees were negative about their jobs. Rather, such findings could simply reflect the obvious bias in the way casual employees were recruited into the study. Nevertheless, the authors plough on to draw the strong conclusion that “casual work is a dead-end ghetto for many, especially older and more experienced or expensive workers, who are under-priced or ‘out-gunned’ by energetic newcomers from the reservoir of casuals that exists” (Pocock et al. 2004b, p. 8).

Neither is a serious attempt made to consider the counterfactual; that is, what would be the situation for casual workers had they been unemployed instead? Surely in all economies there are groups of workers who, perhaps because of their relative lack of skills and other endowments, find it difficult to secure employment offering significant prospects for skills development and career progression?

Such considerations are better acknowledged in the earlier study of Sloan et al. (1992). While they too draw the conclusion that insecure jobs (by which they mean part-time, casual and temporary jobs) “do not offer a stepping stone to more secure jobs but rather a dead-end” (p. 67), they also explicitly acknowledge the qualifications that their methodology imposed on this conclusion. Most obviously, they acknowledged the fact that their sample was comprised entirely of disadvantaged job seekers who faced serious hurdles obtaining any employment at all. Additionally, they also recognized that the extremely small size of their interview sample – a total of 89 people were interviewed spread over ten focus group discussions, and only two of the ten groups comprised casual employees – ensured that their findings could not be generalized to the wider population.

Very differently, others (e.g., Campbell 2001, Watson et al. 2003) have pointed to the relatively low levels of job-related training received by casual employees, arguing that it is the low rates of skill formation among casual employees which ensure they are denied access to the better paying jobs which offer the prospect of career development and progression. The argument that casual employees are, compared to non-casuals, far less likely to participate in employer-provided training programs, has been consistently and strongly supported by empirical analyses of individual-level cross-section survey data (e.g., Baker and Wooden 1992, Miller 1994, Wooden 1996, VandenHeuvel and Wooden 1999). Nevertheless, it cannot be concluded from this body of evidence that simply proscribing casual employment would make any difference to average training rates. In all economies there is a mix of jobs with different skill requirements and training needs, and there will always be jobs which do not require much training. Further, these low training jobs tend to also be the short-tenure jobs, and in Australia’s case that means an over-representation of casual employees.

Perhaps the most compelling evidence in support of the stylised view comes from survey evidence on career and promotion opportunities. For example, a 1991 ABS survey involving a very large representative sample of employees in the state of New South Wales, found that close to 80 per cent of casual employees reported that access to a career structure or promotion opportunities was not a benefit of their current employment (ABS 1992). A similar

conclusion emerged from the survey-based research of Curtain (1996), though his data found substantially more casual employees – 42 per cent – responding positively about their career opportunities.² Nevertheless, such data still do not address the issue of the counterfactual. Further, cross-section data such as these only describe the current job. They tell us very little about the likelihood of securing different jobs in the near future which may offer very different career prospects.

2.1.2 Longitudinal Evidence

Demonstrating that casual jobs are ‘dead end jobs’ is unlikely to be possible without a longitudinal data set that traces the employment histories of workers over time. Unfortunately, Australia has, at least historically, not been well served by high quality longitudinal data collections. The most notable exceptions here are the various longitudinal youth cohort panels that have tracked relatively large samples of young people since the mid-1980s, and have been used by both Sloan et al. (1992) and Gaston and Timcke (1999) to examine future labour market outcomes for casual employees.³ Sloan et al. (1992), for example, used data from the first two waves of the first of these panels – the Australian Longitudinal Survey (ALS) – to identify labour market destinations in 1986 of young people who, one year earlier, were employed on a part-time basis but preferred full-time hours.⁴ About three-quarters of this group were also casual workers, and of these almost half were employed in non-casual jobs one year later, which seems suggestive of quite a high rate of progression out of casual jobs into permanent (or self) employment. Nevertheless, the authors actually placed much greater weight on the high proportions that one year later were jobless – 26 per cent of the male casuals and 20 per cent of the female casuals. The presumption appears to be that the risk of joblessness is enhanced by casual employment rather than by other characteristics, such as the relative lack of job-related skills, that may be correlated with casual employment.

Gaston and Timcke (1999) examined the same issue but using data from the Australian Youth Survey, the successor to the ALS.⁵ Their analysis covered data collected at five different time points (1990 to 1994) rather than just the two examined by Sloan et al. (1992). The

² Curtain (1996) drew on survey evidence collected from two separate samples of casual employees, both of which were relatively small – one involved 297 workers and the other just 100.

³ For details about these surveys, including sample sizes and response rates, see Miller (1995) and Marks and Rothman (2003).

⁴ The restriction to those employees who prefer more hours thus removes from the analysis the many students who were only seeking part-time work to complement their study.

⁵ The AYS commenced in 1989 with a sample of 16 to 19 year olds. Interviews every year were sought with each of these sample members until 1996 (or until age 25).

unconditional transition probabilities again suggested a good deal of progression from casual to non-casual jobs. More specifically, after excluding students, of those young persons in part-time casual jobs in 1990, 45 per cent were in full-time ‘permanent’ jobs in 1994 and 27 per cent were in part-time ‘permanent’ jobs. Of the full-time casuals, the comparable proportions were 48 and 2 per cent. Transitions into unemployment and joblessness were also less prevalent than when measured over a single year, with 11 per cent of the part-time casuals and 15 per cent of the full-time casuals being out of work four years later. Unlike Sloan et al. (1992), they also attempted to model the process of transition from casual to full-time ‘permanent’ employment and found few worker characteristics of much significance in explaining the four-year transitions. They were thus drawn to the conclusion that “adult labour market outcomes may, for the most part, be unrelated to early labour market experiences” and that “longer term labour market outcomes are ... driven by personal preferences, unobserved heterogeneity, as well as the steady accumulation of labour market experience and acquisition of educational qualifications” (p. 345).

A similar conclusion was drawn by Miller (1989) in his earlier analysis of panel data from the ALS, though his focus was on low-wage employment, rather than casual employment. Nevertheless, his findings are of relevance given casual employment and low wages tend to be correlated. Specifically, he concluded that low-wage employment (defined as jobs where earnings are less than 75 per cent of the median) when young is more often than not a transitory state.

This body of work, however, has one obvious weakness – the samples used are comprised entirely of young people. The findings from these studies may thus be specific to this group.

The other major longitudinal data source that has been used to analyse the question of labour market transitions among casual employees in Australia is the Survey of Employment and Unemployment Patterns (SEUP). Described in more detail by Le and Miller (1998), the SEUP followed samples of individuals aged 15 to 59 years at May 1995 for three years, with retrospective information collected at the first interview providing a fourth data point. The survey thus spanned the period 1994 to 1997. The survey had a particular focus on job search experiences and the effectiveness of labour market programs, and as a consequence the unemployed and other jobseekers were deliberately over-sampled.⁶

⁶ The total sample in wave 1 numbered 8591 persons and comprised three sub-samples: jobseekers (5488 persons); Labour Market Program participants (1019); and a general population reference group (2311). The sub-samples do not sum to the total sample due to overlap between the three sub-samples.

In contrast to the findings reported above based on the youth panels, the first published paper to draw on these data concluded “that very few progress from casual into permanent employment” (Burgess and Campbell 1988, p. 49). This conclusion, however, was based on one simple cross-tabulation showing the labour market destinations in September 1996 for job seekers who found part-time jobs commencing after May 1995. This table showed that just 13 per cent had progressed to a full-time job which Burgess and Campbell (1988) argued represented evidence of a high degree of immobility between part-time and full-time jobs (and by inference between casual and non-casual jobs). Simple data like these, however, tell us very little. First, there is again the question of the counterfactual. That is, what would have happened to these job seekers if they had not taken up part-time casual jobs and instead remained unemployed? This is especially relevant to this study given the sample used was comprised entirely of persons who were unemployed when the study commenced. Second, the length of the observation period is so short that the degree of stability in labour market destinations is overstated. Burgess and Campbell (1988) emphasised that just over half the sample were in the same part-time job in September 1995, and while this proportion seems high it is hardly unexpected given that the observation period is at most 18 months, and in most instances will be far shorter given the sample comprised persons who found a part-time job that started after May 1995.⁷ Third, they did not subject the data to any type of controlled analysis. The low rates of transitions out of part-time casual jobs may be exactly what would be expected if the people involved have few skills and low levels of education.

A more sophisticated analysis of labour market transitions using the SEUP data was undertaken by Dunlop (2001). Her analysis had a particular focus on the low-paid (defined as earning less than \$10 per hour in 1994 prices), but also distinguished between casual and non-casual jobs. Her analysis differed markedly from that of Burgess and Campbell (1998) in a number of important respects. First, it was not restricted to the jobseeker sub-sample. Second, a longer transition period – two years – was considered. Third, and most importantly, she interrogated the original unit-record data rather than rely on secondary data reported by the ABS. At first glance her results appear to support the conclusions of Burgess and Campbell (1998). In particular, she reported that the majority of workers in low-paid casual jobs in September 1995 were, two years on, either still stuck in low-paid jobs or were jobless. The proportion of cases making the transition to high-paid jobs, however, was not

⁷ Thus some of the sample members may have had their part-time job for as short as one week, which is obviously too soon to expect progression to a full-time ‘permanent’ job.

insubstantial – 42 per cent. Further, it was not that much lower than the transition rate for low-paid workers in full-time permanent jobs – about 55 per cent. And again the analysis provides no clues as to whether this differential is more or less than might be expected given the skills and endowments of casual workers relative to non-casual workers.

The third and final analysis of the SEUP data that is relevant is that of Chalmers and Kalb (2001). Their analysis made use of the full three-year period available in the data. More importantly, they explicitly addressed the issue of the counterfactual. The authors were particularly interested in the effectiveness of casual employment in helping unemployed persons enter the permanent job market and thus their data were restricted to persons who became unemployed in the first year of the survey. They estimated hazard functions of the probability of different labour market transitions taking place and then simulated the effect of casual employment on the duration of time taken to find ‘permanent’ employment while holding constant a range of individual characteristics. They found that, for this sub-population (job seekers), it is quicker, on average, to get to ‘permanent’ employment via casual employment. That is, unemployed persons who find casual jobs may indeed spend long periods without ‘permanent’ jobs, but the alternative – continued periods without employment – is worse. These findings are thus very positive, suggesting that casual work enhances ‘permanent’ job prospects while at the same time providing an earned income.

2.2 Overseas Studies

2.2.1 The Overseas Experience with Casual Employment

According to Campbell (2004), with the exception of New Zealand and the UK, the term casual employment is not in common use in any other Western country. In fact, in the European Community Household Panel (ECHP), a longitudinal survey using a mostly standardized questionnaire that was administered in every member country of the European Union from 1994 until 2001,⁸ the concept of casual employment is explicitly used and measured, suggesting the term is in widespread use (see Golsch 2004).

Nevertheless, it is very clear that what is meant by casual employment in European countries is very different from what is meant in Australia. The UK Labour Force Survey, for example, regularly distinguishes between permanent and non-permanent jobs, and among the latter distinguishes between seasonal work, work done under contract for a fixed-period or for a

⁸ Though not every EU member country participated in the ECHP for the full seven-year period. Further, the German and British components of the ECHP were provided by the GSOEP and BHPS, respectively.

fixed task, agency ‘temping’ and casual types of work. Clearly what is meant by casual jobs is work that conforms to the dictionary definition of ‘casual’ – both non-permanent and irregular. However, and as observed earlier, casual jobs in Australia are often of long duration and in many instances the working hours arrangements are far from irregular. Indeed, in special surveys conducted by the ABS in New South Wales (ABS 1992, 1997), regular casuals were distinguished from irregular casuals on the basis of whether or not a steady income is earned. A similar distinction can be made in data collected by the ABS in its 1998 and 2001 Forms of Employment Survey. The 2001 data, for example, revealed that among casual employees (who also self-identified as being casual),⁹ 43 per cent had earnings that did not vary.¹⁰

Thus the fact that the casual employment share in the UK is very small (just 1.2 per cent in June 2000¹¹) should not be interpreted as meaning that casual employment is far more widespread in Australia than in the UK. Casual employment simply means different things in the two countries and thus cannot be sensibly compared. Given this, it follows that, with the possible exception of New Zealand, parallel overseas research on casual employment transitions is both unlikely to exist and unlikely to be directly comparable (and we are unaware of any New Zealand literature on casual employment transitions). There are, however, numerous European studies which have examined temporary employment and the extent to which temporary jobs facilitate transition into more permanent positions. While not bearing directly on the Australian experience,¹² this literature can at least provide guidance as to how to best analyse and model the transitions out of casual employment.¹³

⁹ While widely used overseas to determine employment status, self-identification has generally not been the way casual employment has been measured in Australia. We return to this measurement issue below.

¹⁰ Murtough and Waite (2000) have used these data to derive a measure of what they label true ‘casuals’. Using 1998 data, this measure gives a casual employment share less than half that of the conventional ABS measure. Campbell and Burgess (2001b) have questioned the value of this measure.

¹¹ These data are sourced from the UK Office for National Statistics website.

¹² Some commentators have equated casual employment with the European concept of temporary employment (most notably Campbell and Burgess 2001a). As observed by Wooden (2001), however, in most European data collections, temporary employment is mostly defined by the existence of some objective condition determining termination, such as reaching a certain date, completing a specific assignment or the return of another employee. This better describes what in Australia is known as fixed-term contract employment.

¹³ The same might also be true of overseas research on the transitions between part-time work and full-time work, and between low-paid jobs and higher-paid jobs (bearing in mind that the majority of casual jobs in Australia involve part-time hours and casual jobs are concentrated towards the lower end of the hourly wage distribution). Time and space constraints, however, restrict us to focusing on studies directly concerned with temporary employment.

2.2.2 Transitions Out of Temporary Employment

Like the concern with casual employment which is at the centre of this study, in recent years there has been much concern in other industrialized nations with the career dynamics of people who find themselves working in jobs with temporary contracts of employment. Our reading of this body of work is that the weight of evidence suggests that temporary jobs often appear to serve as entry ports into more permanent positions (Segal and Sullivan 1997, Contini et al. 1999, Farber 1999, Dekker 2001, Booth et al. 2002, Holmlund and Storrie 2002, OECD 2002, Debels 2005, Ichino et al. forthcoming). Nevertheless, there is considerable difference across the different studies in the estimated transition rates, and there are studies which suggest more pessimistic conclusions (e.g., Guell and Petronglo 2000, D'Addio and Rosholm 2005, Kvasnicka 2005).

Segal and Sullivan (1997), for example, looked at the temporary services industry in the US, which admittedly is quite small, accounting for less than two per cent of total US employment in 1995. Using the panel element provided by the rotation pattern of the Current Population Survey, they showed that the average (for data covering the period 1983 to 1993) rate of transition from temporary employment to permanent employment over a one-year period was almost 57 per cent. This very high rate of transition led the authors to conclude that any “permanent underclass of temporary workers must be small” (p. 123).

Similar conclusions emanate from the study of the Swedish experience with temporary employment by Holmlund and Storrie (2002). In contrast to the US, temporary, or fixed-term contract, employment is both more common and rising in importance in Sweden – growing from 10 per cent of wage and salary employment in 1990 to 15 per cent in 2000. Like Segal and Sullivan (1997), Holmlund and Storrie (2002) made use of the rotation pattern built into the Swedish labour force survey to calculate employment transition rates. They reported rates of transition from temporary to permanent employment averaging about 10 per cent each quarter over the period 1987 to 2000, with temporary employment spells lasting for only three quarters on average.

Very differently, Dekker (2001) looked at mobility between ‘nonregular’ and ‘regular’ jobs using data from three separate national household panels – the British Household Panel Survey (BHPS), the German Socio-Economic Panel (GSOEP) and the Dutch Socio-Economic Panel – covering the period 1991 to 1998. In this study, nonregular employment was defined as any work that was either: temporary; involved fewer than 12 hours per week;

or flexible, in the sense that the number of hours worked varied from week to week. The average annual transition rates between nonregular and regular employment that can be derived from the figures reported in this paper vary between 21 and 26 per cent.¹⁴ These rates are lower than those obtained in the US and Swedish studies reported above, but nevertheless still suggest considerable rates of conversion from temporary to permanence. Transitions from unemployment to regular employment can also be derived, and in all countries the rate of transition from unemployment was less than the rate of transition from nonregular employment into regular employment, though in Britain this differential was very small. The author is thus drawn to the conclusion that in Netherlands and Germany at least, nonregular employment can often act as a stepping stone to more regular employment.¹⁵

Booth et al. (2002), on the other hand, also analysed data for Britain from the BHPS, but drew the somewhat guarded conclusion that temporary employment is not inherently an obstacle to career progression. An interesting feature of their analysis is that among temporary job holders they distinguished between those on fixed-term contracts and those in other forms of temporary work, such as seasonal and casual jobs (bearing in mind again that the definition of 'casual' work in the UK is much more akin to the dictionary meaning). Simple descriptive data revealed that somewhere around one in every three workers in temporary jobs were employed in permanent jobs six years later, with the median temporary job duration before exit into permanency being anywhere between 18 months and three and a half years (depending on sex and contract type). They further analysed the wage outcomes of workers with different employment histories and found that while there are wage penalties associated with temporary jobs, there is some evidence of catch-up over time. This was especially so for women.

A potentially very useful source of data for examining labour market transitions in Europe is the ECHP Survey referred to earlier. This data source, for example, formed the basis of the cross-country analysis of temporary worker mobility reported by the OECD (2002), though that study only made use of data from waves 3 to 5. The OECD study reported relatively high rates of mobility between temporary and permanent employment of between 21 and 56 per cent over a one-year period, and between 34 and 71 per cent over a two-year period. Compared with permanent workers, however, there were also generally higher rates of

¹⁴ The derivation of simple transition rates is complicated by the presence of a separate category for multiple job holding. The figures reported here exclude transitions into multiple job holding.

¹⁵ Comparisons of transitions out of unemployment into regular employment with transitions out of nonregular employment still do not adequately deal with the counterfactual. This requires controlling for differences in individual endowments.

movement into unemployment – ranging from a low of 7 per cent in Portugal up to 24 per cent in Germany when measured over a two-year period. As would be expected, the highest rates of transition into unemployment were experienced in countries where the aggregate level of unemployment was highest (France, Germany and Spain).

The ECHP was also the source of data used by Debels (2005). She was able to make use of seven years of data, though restricted her analysis to just four countries – Denmark, France, Spain and Britain. Using a competing risks framework, she estimated models of the probability of individuals making different types of labour market transitions, which conditioned on the employment contract type at time t . Her results revealed that permanent workers are far less likely to exhibit labour market mobility during the subsequent seven years. More interesting, however, are the results of examining how contract type at time t was correlated with transitions five years in the future. Specifically, for three of the four countries (Denmark being the outlier), a temporary worker was found to be no more likely to exit employment five years hence than a permanent job holder. On the other hand, in three of the four countries (Britain being the exception) temporary workers who are no longer in employment five years later were, relative to persons who held permanent jobs, more likely to remain out of work.

The Spanish experience with temporary employment contract, which, by the early 1990s, covered around one-third of all employees in Spain, suggests far more negative conclusions. Guell and Petrongolo (2000, forthcoming), for example, used micro data from the Spanish Labour Force Survey and found evidence of strong persistence in temporary employment, with annual transition rates between temporary and permanent employment contracts of just over 10 per cent (see also Alba-Ramirez 1998). Nevertheless, Spain is clearly a special case. The co-existence of strict employment protection legislation together with legislative provision for fixed-term employment contracts has effectively ensured that many new jobs involve temporary contracts. Indeed, according to Guell and Petrongolo (forthcoming), “most accessions to permanent employment in Spain happen through TCs [temporary contracts]”.

D’Addio and Rosholm (2005) also reached negative conclusions. Like Debels (1995) they used data from the ECHP, though their analysis covered all countries. However, they restricted the sample to focus only on persons in temporary employment in the first wave and estimated a competing risks model of the probability of temporary workers exiting into permanent employment or joblessness. Their models conditioned on a large range of observables and also allowed for unobserved heterogeneity (essentially a random effects

specification). They found, especially among men, that short contracts increased significantly the probability that a spell of temporary employment would be succeeded by a spell of unemployment. This risk was especially exacerbated where the individual had previously experienced a spell of unemployment. Such results are suggestive of persistent but unstable employment patterns among many temporary job holders.

Very differently, Gagliarducci (2005) used retrospective panel data collected from a sample of Italians to test whether it is temporary employment per se or the intermittence of employment often associated with temporary jobs that is most important for future employment prospects. After applying multiple-spell duration techniques, multiple short jobs were found to be most detrimental for the prospects of securing a stable permanent job.

A major problem with interpreting results from the studies discussed above is that most provide no clue to the counterfactual situation. That is, what would have been the outcome for the temporary worker had they been unemployed instead? Thus even seemingly pessimistic findings indicating that most temporary workers will not obtain permanent jobs is not necessarily evidence of an adverse outcome if the alternative is unemployment. One way around this problem is to focus on the experiences of the unemployed and the role temporary work can play in facilitating re-entry into the mainstream labour force, as Chalmers and Kalb (2001) did in their seminal study on casual work in Australia. Zijl et al. (2004) adopted such an approach. More specifically they used longitudinal data collected from a random sample of Dutch households to estimate the probability of unemployed workers moving to regular work (defined as either a permanent job or a fixed-term contract with the expectation of conversion to permanence at the end of the contract) directly or via temporary work and the time taken to achieve that transition. They found that the transition rate from unemployment into regular employment is enhanced by an episode of temporary employment, and this result holds for all durations of unemployment. For example, the probability of moving into regular employment within 5 years was only 55 per cent in the absence of temporary work compared with 83 per cent if a temporary job was obtained.

Alternatively, a small number of studies have attempted to deal with the counterfactual problem by identifying quasi-control groups with which the experiences of temporary workers could be compared. The US study by Heinrich et al. (2005) could be described as falling into this category in that they compare welfare recipients without jobs with those who found jobs through temporary help services firms. Their analysis led them to conclude “that those in temporary help jobs have appreciably better prospects than those who are not holding

jobs” (p. 169) even after controlling for all of the characteristics that can be observed and selection effects.

Less robust conclusions emerged from the Swedish study of Korpi and Levin (2001). They used longitudinal survey data from a sample of unemployed matched to administrative data and found during a one-year follow-up period that the likelihood of recurrent unemployment was no greater for workers who found jobs with temporary contracts than those who found so-called permanent jobs.

A different approach involves using propensity score matching techniques to compare the labour force experiences of a group of temporary employment agency workers with those of a matched control group drawn from active job seekers. Ichino et al. (forthcoming), for example, tested the impact of temporary agency work on the likelihood of finding a permanent job 18 months later using Italian data, and found that temporary work raises the probability of finding permanent work by anywhere between 11 and 19 percentage points. These are very large effects. In contrast, Kvasnicka (2005) attempted a similar exercise using administrative data for Germany, and could find no discernable effect of temporary agency work on the subsequent probability of being either in regular employment or registered unemployment.

2.3 Summary

Strong claims are often made about the harmful effects that casual employment can have on future employment prospects. Serious research on this issue in Australia, however, has been relatively scant, largely because of the lack of suitable data sources. In particular, meaningful conclusions cannot be reached without longitudinal data. A mere handful of studies using longitudinal data have been conducted and our reading of this body of research is that, on balance, it cannot be used to support the conclusion that workers would be better off if employers were unable to hire anyone on a casual basis. Most obviously, these studies have generally found quite high rates of progression out of casual jobs into non-casual jobs. This body of research, however, is still very underdeveloped. It has tended to focus on population sub-groups (e.g., youth or the unemployed); the question of the counterfactual has, with the notable exception of the work of Chalmers and Kalb (2001), not been considered; and the possibility that results are influenced by unobserved heterogeneity has been ignored or downplayed.

Arguably parallel research conducted overseas on transitions in and out of temporary employment might provide insights that are relevant to the casual employment. This is a view that we do not share. While studies on this topic provide an excellent guide to the different types of methods that could be brought to bear to analyse casual employment transitions in Australia, the fact is that temporary employment in Europe and North America is a very different beast to casual employment in Australia. The results from overseas studies are thus not directly applicable to the Australian experience with casual employment.

3. Data and Definitions

3.1 *The HILDA Survey*

The data used in this analysis come from the first four waves of the Household, Income and Labour Dynamics in Australia (or HILDA) Survey.¹⁶ Described in more detail in Watson and Wooden (2004) and Goode and Watson (2006), the HILDA Survey is a longitudinal household panel survey with a focus on work, income and household formation. Funded by the Australian Government, it began in 2001 with a large national probability sample of Australian households, and involved personal interviews with all household members aged 15 years and over. All members of those responding households in wave 1 form the basis of the panel to be pursued in each subsequent wave, with each wave of interviewing being approximately one year apart. In addition, any new persons living with the wave 1 sample members are added to the sample.¹⁷

In wave 1, interviews were obtained at 7682 households, which represented 66 per cent of all households identified as in-scope. This, in turn, generated a sample of 15,127 persons eligible for interview, 13,969 of whom were successfully interviewed. By wave 4, just over three-quarters of these respondents were successfully re-interviewed. In addition, there were over 1800 new sample members interviewed as a result of children turning 15 years and changes in household composition. Further details about the evolution of the responding sample over the first four waves are provided in Table 1.

Table 1
Individual Response (N) by Wave, HILDA Survey

<i>Wave first interviewed</i>	<i>Wave 1</i>	<i>Wave 2</i>	<i>Wave 3</i>	<i>Wave 4</i>
Wave 1	13969	11993	11190	10565
Wave 2	-	1048	705	594
Wave 3	-	-	833	543
Wave 4	-	-	-	706
TOTAL	13969	13041	12728	12408

¹⁶ More specifically, the data used are from the HILDA Survey confidentialised unit-record file, Wave 1–Wave 4, release 4.1, issued on CD-Rom in August 2006.

¹⁷ Though they only remain in the sample on a permanent basis if they are a child of an original sample member or have a child with an original sample member

The HILDA Survey provides an almost ideal data set for examining employment transitions. The focus on work means that extensive information about the job held at the date of interview, including the nature of the employment contract, is collected. Most importantly, the panel nature of the survey means that we can track changes over time in the employment status of, and types of jobs held by, individual sample members. The HILDA Survey, however, has one obvious weakness for the this type of analysis – detailed information about all jobs held between interview dates is not collected (though we are still able to ascertain how many different jobs each respondent held during the intervening and the total amount of time spent in paid employment).

3.2 Classifying Employment and Labour Force Status

Central to all of the statistical analyses undertaken in this report is the distinction of different labour market states. Our approach begins with the standard ABS labour force framework, which, in turn, is based on International Labour Organisation conventions. We thus begin by dividing the population into three mutually exclusive categories: the ‘employed’; the ‘unemployed’; and those ‘not in the labour force’. Fortunately the HILDA Survey was designed such that this classification is based on rules which are almost identical to that used by the ABS in its labour force survey. Since our focus here, however, is on the employed, we will often combine the unemployed and not in the labour force group to form a single ‘not employed’ category.

The ABS also classifies job holders into four groups based on respondents’ perceptions ‘of the relationship between themselves and the enterprise for which they work, together with the legal status of the enterprise’ (ABS 2006). These groups are employees, employers, own account workers and contributing family workers. In this analysis we only distinguish between employees and self-employed persons, and since the latter group is dominated by employers and own account workers we refer to them collectively as the self-employed.¹⁸ Further, we depart from the conventional ABS definition by treating owner-managers of incorporated enterprises as self-employed, which after all is what they are. In contrast, the ABS classifies such persons as employees.

¹⁸ The group, however, includes contributing family workers who strictly speaking should not be considered self-employed. This group, however, is extremely small, accounting for less than 0.5 per cent of employed persons in Australia, and so their inclusion or exclusion has little or no impact on any analyses.

3.3 Identifying and Measuring Casual Employment

Most critical for this study is the identification of casual employees from other employees. If we adopt a strict legal interpretation of what casual employment means, then this is no simple task. As Owens (2001, p. 119) has observed: “the term casual is one that has no precise or fixed meaning in law”. Common law definitions thus impose very few constraints on the form casual employment can take. While it is generally accepted that under common law “each engagement of casual workers constitutes a separate contract of employment” (Brooks 1985, p. 166), this still does not mean casual employment is necessarily restricted to short-term, intermittent employment. That is, a casual employee could be employed on a series of contracts and, from the perspective of employment continuity at least, may be observationally indistinguishable from a non-casual employee.

For many employment matters, however, common law is largely irrelevant; far more important have been the conditions set down in awards and agreements. Yet in the case of casual employment we again find that award definitions are not very helpful. The definitions of casual employment that can be found in awards are highly varied and in many cases provide little guidance as to the employment conditions that define casualness. Indeed, as has long been recognised, in many awards a casual employee is defined simply as “one engaged and paid as such” (Campbell 1996a, p. 48).

Estimates of the incidence of casual employment have thus not been based on legal or awards-based definitions. Instead, for the most part they have been based on a proxy measure – the presence or absence of entitlements to paid annual leave or paid sick leave. Adopted by the ABS for the first time in 1988, this approach can be justified on the grounds that most casual employees receive a pay loading in lieu of paid annual leave and sick leave (and indeed other benefits, such as paid public holidays). Nevertheless, as Owens (2001, fn 54) again points out, there is no necessary correlation between employment contract type and qualification for these entitlements and hence this measure will be less than perfect. Indeed, the ABS now appears to have recognised the proxy nature of this measure, explaining why it has, since 2000, abandoned the use of the casual label, and now distinguishes between employees with paid leave entitlements and those without such entitlements.

The standard ABS measure also suffers from other weaknesses. First, like any survey-based measure it will be subject to reporting errors. Most obviously, some respondents may confuse use of entitlements with access to entitlements, reporting that they do not have leave

entitlements when what they are actually reporting is that they have not used such entitlements. Reporting errors are not necessarily a problem if they are random, but in this case there are good reasons to expect some systematic under-reporting of entitlements, especially in the case of paid sick leave.

Second, some respondents are unable to provide an answer to the questions about access to leave entitlements and in these instances the ABS codes the answers as equivalent to a no response. This seems problematic, especially given the survey method used by the ABS allows for household members to answer on behalf of others, and again the effect can be expected to be towards overstating the incidence of casual employees.

Third, as is now well recognised (Campbell 1996b, Wooden and Hawke 1998, Murtough and Waite 2000, Campbell and Burgess 2001b), and referred to briefly in Section 1, included in the standard ABS definition of an employee are owner-managers of incorporated businesses who are treated as employees of their own business. Many of these persons (almost 55 per cent in August 2005¹⁹) respond that they do not give themselves paid sick leave or paid annual leave and thus have historically been classified by the ABS as a casual employee.

Finally, the ABS approach assumes that all employees can be classified into two groups – casual employees and the somewhat misleadingly labelled permanent employees. This may not work well for workers on fixed-term employment contracts. Such employees tend to have entitlements to paid sick leave and paid annual leave, and hence will mostly be assigned to the permanent employee group, yet on any objective criteria permanent employment status is exactly what this type of worker does not have. Indeed, in most European data collections, employees on fixed-term employment contracts would fit perfectly into their definition of temporary employment, whereas most casual employees would not.²⁰ Nevertheless, it has been well documented (e.g., Wooden 1998, Waite and Will 2002) that Australians employed on fixed-term contracts have characteristics which make them appear much more similar to permanent employees than casual employees.

In recent years, as part of a new survey module attached to the monthly population survey (the Forms of Employment Survey [FOES]), the ABS has adopted a different approach to identifying casual employment. Instead of relying solely on responses to questions about

¹⁹ Derived from ABS, *Employee Earnings, Benefits and Trade Union Membership, Australia, August 2005* (ABS cat. No. 6310.0), Table 13.

²⁰ Indeed, the OECD has recently assembled cross-country data on temporary employment that explicitly rejects equating casual employment in Australia with temporary employment elsewhere (OECD 2002; see also Wooden 2001).

access to leave entitlements, in this survey the ABS also asks workers without leave entitlements whether they would classify themselves as a casual worker. Campbell and Burgess (2001b), however, have been highly critical of this type of method for classifying employees. They argued that:

“Self-identification is not a sound basis for an employment category, since – in the absence of a detailed investigation of why respondents answered ‘yes’ or ‘no’ to the self-identification question – it lacks any clear meaning and inevitably leads to problems in interpretation” (p. 93).

Such criticisms are difficult to understand given that in many of the European labour force survey collections, which Campbell and Burgess (2001a) are so keen to compare Australian data with, temporary employment is based on respondent self-assessments. In any case, subjective data are used extensively in survey research, especially in the fields of psychology and sociology. Campbell and Burgess are obviously attracted to the less ambiguous nature of questions about leave entitlements, but would a question about the type of employment contract be any more problematic than say a question about how happy respondents were? The latter has literally been the subject of many hundreds of empirical studies, and it is now well accepted that even simple global self-report measures about overall happiness and life satisfaction generally possess adequate statistical properties (Diener et al. 1999, pp. 277-278). Indeed, the popularity of self-report measures lies, in large part, in the ease with which they can be employed to both directly measure, and to assist in drawing inferences about, human behaviour. For example, if what we are mostly interested in is how casual employment status impacts on the behaviour of workers, then surely what matters most are self-perceptions. After all, if someone believes that they are employed on a permanent basis, surely we would expect that they would behave as if they were permanently employed? Of course, Burgess and Campbell (2001b) are correct in thinking that responses will be subject to measurement error, but this will only affect the estimated level of casual employment if that error is non-random.

A feature of the HILDA Survey data is that it permits construction of estimates of the casual employment using both the conventional ABS measure and self-reported perceptions about the employment contract type. Note with respect to the latter that the relevant question used in the HILDA Survey is superior to that used in the FOES in at least two notable ways. First, all employees (but not owner-managers) are asked to indicate which category of employment they fall into; not just those who indicated they did not receive either paid annual leave or sick leave. Second, in line with the recommendations of Campbell and Burgess (2001b), the

question in the HILDA Survey asks respondents to classify themselves into one of three categories: (i) permanent or ongoing; (ii) casual; and (iii) fixed-term.²¹ A respondent can thus not have a fixed-term employment contract and be automatically classified as a permanent employee, as happens when the standard ABS measure is used.

We are thus able to report estimates using both methods, and for the descriptive analysis of employment transitions that is exactly what we do. The results turn out to be fairly robust to the definition adopted and hence for most of the more complicated analyses that follow we rely on data using the conventional ABS definition. This decision was made solely for pragmatic reasons – using the ABS definition removes one potential outcome state (fixed-term employment) and thus increases the degrees of freedom in our analyses.

Finally, it should be noted that the questions in the HILDA Survey about employment contract status only apply to the ‘main job’, which in the case of multiple job holders is defined as that job from which the most earned income is derived. The HILDA Survey will thus understate the total volume of casual employment, given many second jobs are likely to involve casual employment conditions.

²¹ A fourth ‘other’ category to catch less common arrangements was also provided. Most of these responses, however, were back-coded to the other three categories. Nevertheless, a small proportion (0.3%) could not be back-coded. These cases included some apprentices, persons working on probation and some employees working on a commission basis.

4. Labour Market Transition Matrices

In this section we present simple matrix tables describing the extent to which individuals move between different labour market states over the first four waves of the HILDA Survey (i.e., 2001 to 2004). Results are presented using both the ABS definition of casual employment and the self-reported definition of employment status. When using the ABS definition we distinguish between five labour market states – casual employee, non-casual employee, self-employed, unemployed and not in the labour force. The self-reported alternative identifies an additional category of employee – fixed-term contract employees. These employees hold non-casual jobs but nevertheless are very different from workers employed on an ongoing (or permanent) basis.

Two broad types of matrix tables are presented. First, we present average annual transition rates, computed by comparing the distribution of individuals across labour market states at year $t+1$ conditional on their status at year t . That is, we take the average of the transition rates across the three transition periods available (wave 1 to wave 2, wave 2 to wave 3, and wave 3 to wave 4). We also present three-year transition rates, which show labour market states at wave 4 (2004) conditional on labour market states at wave 1 (2001).

All data are weighted by applying the person longitudinal population weight before calculating the transition rates. Note that use of the longitudinal weights effectively means our analyses only make use of data from persons who respond in every wave.²² We thus cannot say that our analyses are representative of the Australian population; rather they are representative of the sub-sample of the population that were living in private households in Australia in 2001.

Finally, it should be noted that the Productivity Commission has recently released a report which covers similar ground to that covered here. Specifically, that report (Productivity Commission 2006) uses data from the first three waves of the HILDA Survey to, among other things, map the flows into and out of different labour market states and, in particular, into and out of different forms of employment. However, while the objectives of that Report are similar to those of this study, quite different approaches are adopted. This should be particularly obvious with respect to the multivariate modelling reported on in Section 5.

²² This is not strictly correct. When calculating average annual transition rates we are able to make use of data from persons who drop out of the sample after wave 2. We still, however, assign a weight of zero to anyone who joins the sample after wave 1.

4.1 All Persons

We begin by reporting, in Table 2 and Table 3, the average year-to-year transition rates in labour market status for all persons (aged 15 years or older). Table 2 provides figures using the ABS definition of casual employment while Table 3 provides figures when casual employment is determined by self-assessment. Focusing first on Table 2, and in particular on the figures reported in the main diagonal (starting in the top left cell and finishing in the bottom right cell), it can be seen that there is a relatively high degree of persistence in labour market status from one year to the next for non-casual employees, the self-employed and persons not in the labour force.²³ That is, between 80 and 90 per cent of persons in these groups at any point in time will still be in the same labour market state one year later. At the other end of the spectrum, the most fluid labour market state is unemployment – only a little over one-quarter of all unemployed persons will still be unemployed one year later. That said, just over half will still be out of work, with close to another one quarter of job seekers having ceased looking for work and exiting the labour force.

Table 2
Averaged Year-to-year Labour Market Transitions (%): All Persons (ABS definition)

<i>Labour market status, wave t</i>	<i>Labour market status, wave t+1</i>				
	<i>Casual employee</i>	<i>Non-casual employee</i>	<i>Self-employed</i>	<i>Unemployed</i>	<i>Not in labour force</i>
Casual employee	57.0	22.9	5.2	4.0	10.9
Non-casual employee	4.9	88.3	1.9	1.2	3.7
Self-employed	6.3	5.5	81.0	1.1	6.1
Unemployed	27.1	17.4	3.4	27.6	24.5
Not in labour force	5.3	3.1	1.5	3.1	86.9

Note: All rows sum to 100%.

Turning now to the group of central interest to this study, Table 2 shows that the majority of casual employees – 57 per cent – will still be in casual employment one year later. Nevertheless, a sizeable fraction (almost 23%) will be working as non-casual employees, while a further five per cent will be self-employed. Interestingly, the annual rates of transition between casual employee status and non-casual employee status are very similar to the

²³ These figures, however, will tend to overstate labour market stability given they do not fully take into account changes in labour market status between interview dates.

annual rates of transition between irregular and regular employment reported by Dekker (2001) for Britain, Germany and The Netherlands during the 1990s (21, 26 and 21 per cent respectively).

Table 2 also provides some interesting insights into the relationship between casual employment and unemployment. While casual employees are clearly at much greater risk of unemployment than non-casual employees, the proportion of casual employees who are in unemployment one year later is still quite small – just four per cent. A much larger fraction (11%), however, moves into other jobless states, possibly reflecting the weaker attachment of many types of casual workers (e.g., working students, married mothers) to the labour force.

The figures reported in Table 2 are also consistent with the view that casual employment is a commonly used port of entry into the labour market. If a person is unemployed and gains employment in the subsequent period they are more likely to be employed in casual work as opposed to non-casual employment. The same is also true of persons who enter employment from outside of the labour force, though the proportions involved here are relatively small.

Switching our attention now to Table 3, which uses the alternative definition of casual employment, it should be obvious that the transition patterns for casual employees are little changed.²⁴ Thus the annual transition rate from casual to non-casual employee jobs using the self-reported definition is 23.2 per cent, almost exactly the same as the 22.9 per cent found when using the ABS definition. The proportion of casual employees who remain in casual jobs is less (53%), but this is largely a function of the additional labour market outcome state (fixed-term contract employment). Just under five per cent of casual employees are in fixed-term contract jobs one year later.

Of interest in its own right, the figures reported in Table 3 suggest that fixed-term contract employment is a relatively fluid state, with just 35 per cent of fixed-term contract workers still in fixed-term contract jobs a year later. There is, however, relatively little movement between fixed-term contract employment and casual employment. Instead, the most common destination for fixed-term contract workers is a permanent employee job. Indeed, mobility out of fixed-term employment into permanent employee jobs is much higher than the rate of mobility out of casual jobs into permanent jobs – the annual transition rate is just over 46 per

²⁴ In theory the transition rates between the self-employed, unemployed and not in the labour force categories should be identical in the two tables. Nevertheless, there are small differences. This results because of the exclusion of a handful of cases from the data used in Table 3 where employment status was indeterminate.

Table 3
Averaged Year-to-year Labour Market Transitions (%): All Persons
(Self-reported definition)

<i>Labour market status, wave t</i>	<i>Labour market status, wave t+1</i>					
	<i>Casual employee</i>	<i>Permanent employee</i>	<i>Fixed-term contract</i>	<i>Self-employed</i>	<i>Unemployed</i>	<i>Not in labour force</i>
Casual employee	53.0	23.2	4.9	3.9	4.3	10.8
Permanent employee	5.0	82.6	5.3	2.2	1.1	3.9
Fixed-term contract	6.9	46.5	35.2	4.2	2.3	5.0
Self-employed	4.6	5.5	1.6	81.2	1.1	6.1
Unemployed	24.7	15.6	4.0	3.4	27.8	24.5
Not in labour force	4.8	2.9	0.7	1.6	3.1	87.1

Note: All rows sum to 100%.

cent, twice as great as the rate of mobility out of casual employment. It thus seems safe to conclude that, in general, fixed-term contract workers are very different from casual employees, and that ideally fixed-term contract employees should be distinguished from other types of employment.

We now turn to the three-year transition rates. These are reported in Table 4 and Table 5. Comparisons with the annual transition rates reported in Table 2 and Table 3 reveal that the three-year transition rates out of casual employment are, as we would expect, noticeably higher. Using the ABS definition of casual employment (Table 4), we find that after three years almost 40 per cent of casual employees in wave 1 had moved into non-casual employment, and this rises to 46 per cent if we include transitions into self-employment. Casual employees are still at greater risk of becoming unemployed or jobless three years on than other employees, but the bigger risk factor is unemployment; compared with persons without a job, casual employees are far less likely to be at risk of either unemployment or joblessness three years on. While such uncontrolled comparisons are crude, they nevertheless are consistent with arguments that a casual job is superior to no job at all when it comes to long-term employment prospects.

Again, these conclusions are robust to the definition of casual employment that is used. If the self-reported definition is used (Table 5), the three-year rate of mobility from casual employment to permanent employment is 37 per cent (compared with 39 per cent using the

alternative definition), while the rate of mobility into all other types of non-casual employment is 49 per cent (compared with 46 per cent). Table 5 thus provides few additional insights into the mobility of casual employees. Instead, the key insight provided by Table 5 is the high rate of mobility out of fixed-term employment. Compared with all other employment states, fixed-term contract employment is clearly the least stable. Further, we again see that the most common destination for fixed-term contract employees is a permanent employee job. Close to 58 per cent of all fixed-term contract workers in 2001 were in permanent employee jobs three years later.

Table 4
Labour Market Transitions, 2001 to 2004 (%): All Persons (ABS definition)

<i>Labour market status 2001</i>	<i>Labour market status 2004</i>				
	<i>Casual employee</i>	<i>Non-casual employee</i>	<i>Self-employed</i>	<i>Unemployed</i>	<i>Not in labour force</i>
Casual employee	37.9	39.4	6.9	3.8	12.1
Non-casual employee	6.8	80.5	4.1	1.2	7.4
Self-employed	7.2	10.7	70.9	0.9	10.3
Unemployed	26.4	30.4	4.2	11.8	27.2
Not in labour force	8.2	6.8	2.2	3.5	79.3

Note: All rows sum to 100%.

Table 5
Labour Market Transitions, 2001 to 2004 (%): All Persons (Self-reported definition)

<i>Labour market status 2001</i>	<i>Labour market status 2004</i>					
	<i>Casual employee</i>	<i>Permanent employee</i>	<i>Fixed-term contract</i>	<i>Self-employed</i>	<i>Unemployed</i>	<i>Not in labour force</i>
Casual employee	34.2	37.1	6.5	5.7	4.0	12.5
Permanent employee	6.4	76.0	4.6	4.5	1.1	7.4
Fixed-term contract	5.8	57.8	21.5	5.4	2.1	7.4
Self-employed	5.2	11.2	1.4	71.1	0.9	10.3
Unemployed	24.4	28.9	3.3*	4.3	11.7	27.5
Not in labour force	6.9	6.4	1.4	2.2	3.5	79.6

Notes: All rows sum to 100%.

* denotes estimate based on a very small cell size (n<20) and so should be treated with caution.

4.2 *Males by Age Group*

Patterns of mobility between different labour market states might be expected to vary with personal characteristics such as sex and age. Certainly it is well established that the incidence of casual employment varies markedly with both sex and age, and indeed many other personal characteristics (e.g., Wooden and Hawke 1998). In the next four tables, therefore, we report labour market transition rates for men and women separately disaggregated into three broad age-group groups based on the age of the respondents in 2001; 15 to 24 year-olds (youth), 25 to 54 year-olds (prime-age), and 55 to 64 year-olds (the mature age). We again report results using both definitions of casual employment, but to conserve on space we only report the three-year transition matrices.

Turning then to the results using the ABS definition of casual employment in Table 6, the key finding is the sensitivity of the rate of transition into non-casual employment to age. Just over half of all young men in casual jobs will be in non-casual jobs three years later, which is well above the population average (of 39%). The same is also true of prime-age men, with almost 46 per cent working as employees in non-casual positions three years later and a further 13.5 per cent in self-employment. Casually employed 55 to 64 year old males display markedly different transition behaviour compared with their younger counterparts. Most obviously the rate of transition into non-casual employment is much lower – just 10 per cent moved into non-casual employment. The rate of persistence of casual employment, however, is not that much higher than among prime-age males and slightly less than among young males. Instead, the main difference is that a great many older casual workers are exiting the workforce. This, of course, is entirely expected given this group is comprised of men who are approaching the traditional retirement age. Nevertheless, the patterns displayed here may also reflect a tendency for workers in this age group to use casual employment as a step in the retirement transition process (an issue which we return to in Section 8).

Table 7 replicates Table 6 but using the self-reported definition of employment status. Again the pattern of results is not greatly affected by using the alternative definition. Nevertheless, the figures presented in Table 7 suggest that the relationship between casual employment and fixed-term contract employment may be quite different for workers from different age groups.²⁵ Just over half of all young male casual employees move into either permanent or

²⁵ The small sample sizes involved suggest that we should treat any conclusions with respect to fixed-term contract workers with a high degree of caution.

Table 6
Labour Market Transitions, 2001 to 2004 (%): Males by Age Group (ABS definition)

<i>Labour market status 2001</i>	<i>Labour market status 2004</i>				
	<i>Casual employee</i>	<i>Non-casual employee</i>	<i>Self-employed</i>	<i>Unemployed</i>	<i>Not in labour force</i>
<i>15-64 years</i>					
Casual employee	34.5	43.7	9.2	4.5	8.2
Non-casual employee	5.2	82.8	5.1	1.2*	5.7
Self-employed	5.3	11.9	74.4	0.8*	7.7
Unemployed	27.3	30.7	5.6*	13.8	22.7
Not in labour force	7.7	7.2	2.0	3.4	79.7
<i>15-24 years</i>					
Casual employee	38.0	50.3	2.9*	5.6*	3.3*
Non-casual employee	11.5	81.3	4.2*	0.4*	2.6*
Self-employed	0.0*	32.6*	53.4*	0.0*	14.0*
Unemployed	39.8	37.0	1.4*	12.8*	9.0*
Not in labour force	31.4	29.7	2.2*	13.5	23.2
<i>25-54 years</i>					
Casual employee	30.3	45.9	13.5	3.0*	7.3
Non-casual employee	4.1	85.4	5.5	1.3*	3.8
Self employed	5.5	13.1	76.6	1.0*	3.9
Unemployed	19.8	28.5	8.7*	16.0*	27.2
Not in labour force	6.9*	10.0	5.0*	4.7*	73.4
<i>55-64 years</i>					
Casual employee	35.0	10.0*	20.7*	7.8*	26.5*
Non-casual employee	7.5*	57.8	2.8*	1.3*	30.4
Self-employed	5.6*	5.5*	73.5	0.0*	15.4
Unemployed	13.4*	15.9*	7.7*	7.3*	55.8*
Not in labour force	3.0*	0.7*	2.5*	0.9*	93.0

Notes: All rows sum to 100%.

* denotes estimate based on a very small cell size (n<20) and so should be treated with caution.

fixed-term contract positions, which is only slightly higher than the proportion moving into non-casual jobs when using the ABS definition. This suggests that among young male workers, fixed-term contract jobs are more like permanent jobs than they are casual jobs. In contrast, among prime-age workers the casual workers who move into fixed-term contract positions would generally have been classified by the ABS as casual employees. For the mature-age group the story is different again. Among this group there is negligible movement from casual employment into fixed-term contract jobs. Instead, the apparent large differences between the figures reported in Table 6 and Table 7 reflect greater measured mobility out of casual employment when using a self-assessed definition.

Table 7
Labour Market Transitions, 2001 to 2004 (%): Males by Age Group
(Self-reported definition)

<i>Labour market status 2001</i>	<i>Labour market status 2004</i>					
	<i>Casual employee</i>	<i>Permanent employee</i>	<i>Fixed-term contract</i>	<i>Self-employed</i>	<i>Unemployed</i>	<i>Not in labour force</i>
<i>15-64 years</i>						
Casual employee	30.4	40.6	7.0	8.4	4.8	8.9
Permanent employee	5.2	78.1	4.9	5.3	1.1*	5.6
Fixed-term contract	2.8*	63.3	18.2	7.8*	2.5*	5.4*
Self-employed	3.6	12.4	1.1*	74.5	0.8*	7.6
Unemployed	23.9	29.9	4.1*	5.6*	13.5	22.9
Not in labour force	6.4	6.4	1.9*	2.0	3.4	80.0
<i>15-24 years</i>						
Casual employee	36.1	42.5	8.5*	3.0*	5.1*	4.9*
Permanent employee	11.8*	73.7	9.9*	3.8*	0.8*	0.0*
Fixed-term contract	9.0*	67.5	9.3*	5.9*	2.0*	6.3*
Self-employed	0.0*	25.6*	7.0*	53.4*	0.0*	14.0*
Unemployed	36.2	35.3	5.9*	1.4*	12.1*	9.2*
Not in labour force	26.5	26.9	7.2*	2.2*	13.7	23.5
<i>25-54 years</i>						
Casual employee	24.3	44.4	6.6*	12.5*	3.9*	8.2*
Permanent employee	3.9	81.3	4.2	5.8	1.1*	3.8
Fixed-term contract	1.2*	64.6	21.6	7.0*	2.9*	2.8*
Self-employed	3.8	13.6	1.1*	76.7	1.0*	3.9
Unemployed	18.9	26.8	2.6*	8.7*	16.0*	27.2
Not in labour force	4.9*	8.3*	3.3*	5.0*	4.8*	73.8
<i>55-64 years</i>						
Casual employee	26.8*	22.5*	1.6*	19.2*	8.5*	21.5
Permanent employee	7.9*	51.7	4.4*	2.6*	1.4*	32.0
Fixed-term contract	0.0*	37.6*	6.8*	25.4*	0.0*	30.1
Self-employed	3.2*	7.3*	0.7*	73.9	0.0*	14.9
Unemployed	0.0*	25.0*	4.3*	7.7*	7.3*	55.8
Not in labour force	2.7*	0.9*	0.0*	2.5*	0.9*	93.0

Notes: All rows sum to 100%.

* denotes estimate based on a very small cell size (n<20) and so should be treated with caution.

4.3 Females by Age Group

Table 8 provides the three-year transition rates for women by age using the ABS definition of casual employment. The table is thus analogous to Table 6 for men, and the results presented demonstrate a similar pattern to that found for men. That is, rates of mobility out of casual

employment into non-casual employment are highest for young people and decline with age. There is, however, an obvious gender difference – prime-age women are more likely than their male counterparts to remain in casual employment, and when they do leave it is much more likely to be into a not employed state. However, this result appears to be confined to women between the ages of 25 and 54. Among either younger or older women the rates of persistence in casual employment are similar to those of men of the comparable age.

Table 8
Labour Market Transitions, 2001 to 2004 (%): Females by Age Group (ABS definition)

<i>Labour market status 2001</i>	<i>Labour market status 2004</i>				
	<i>Casual employee</i>	<i>Non-casual employee</i>	<i>Self-employed</i>	<i>Unemployed</i>	<i>Not in labour force</i>
<i>15-64 years</i>					
Casual employee	40.7	35.9	5.0	3.2	15.2
Non-casual employee	8.7	77.6	2.9	1.2*	9.6
Self-employed	11.6	8.0	63.2	1.2*	16.2
Unemployed	25.3	29.7	2.4*	9.0*	33.6
Not in labour force	8.4	6.6	2.4	3.6	79.1
<i>15-24 years</i>					
Casual employee	36.5	45.3	2.4*	4.8*	11.0
Non-casual employee	15.1	75.0	0.9*	2.1*	6.9*
Self-employed	30.3*	12.1*	19.2*	14.0*	24.4*
Unemployed	33.3	27.1*	2.2*	9.8*	27.6*
Not in labour force	32.3	17.0	0.6*	17.4	32.7
<i>25-54 years</i>					
Casual employee	44.0	33.1	5.9	2.6*	14.5
Non-casual employee	7.5	79.1	3.3	1.1*	9.0
Self-employed	12.8	8.8	65.4	0.9*	12.1
Unemployed	18.0*	34.6	2.8*	8.5*	36.1
Not in labour force	11.4	12.2	5.4	3.9	67.1
<i>55-64 years</i>					
Casual employee	38.5	15.3*	12.6*	0.9*	32.7
Non-casual employee	11.4*	66.7	1.6*	0.8*	19.6
Self-employed	4.2*	4.5*	66.9	0.0*	24.5*
Unemployed	28.7*	0.0*	0.0*	6.5*	64.8*
Not in labour force	2.3*	0.4*	1.0*	0.4*	96.0

Notes: All rows sum to 100%.

* denotes estimate based on a very small cell size (n<20) and so should be treated with caution.

Finally, for completeness we report, in Table 9, the comparable transition rates for women using the self-assessed definition of casual employment. Again the general pattern of results is little changed and so we make no further comment on them.

Table 9
Labour Market Transitions, 2001 to 2004 (%): Females by Age Group
(Self-reported definition)

<i>Labour market status 2001</i>	<i>Labour market status 2004</i>					
	<i>Casual employee</i>	<i>Permanent employee</i>	<i>Fixed-term contract</i>	<i>Self-employed</i>	<i>Unemployed</i>	<i>Not in labour force</i>
<i>15-64 years</i>						
Casual employee	37.1	34.4	6.1	3.7	3.4	15.3
Permanent employee	8.0	73.2	4.3	3.4	1.2*	9.9
Fixed-term contract	8.8	52.3	24.9	3.1*	1.6*	9.3
Self-employed	8.9	8.4	2.0*	63.4	1.2*	16.2
Unemployed	25.0	27.1	2.2*	2.4*	9.1*	34.1
Not in labour force	7.3	6.3	1.2	2.4	3.5	79.4
<i>15-24 years</i>						
Casual employee	32.0	41.9	6.6*	2.5*	5.3*	11.7
Permanent employee	13.3*	69.1	8.7*	1.1*	1.6*	6.2*
Fixed-term contract	15.2*	64.9	11.9*	0.0*	1.7*	6.3*
Self-employed	30.3*	12.1*	0.0*	19.2*	14.0*	24.4*
Unemployed	34.6	23.5*	1.5*	2.2*	10.0*	28.2*
Not in labour force	28.9	16.8	2.8*	0.6*	17.8	33.1
<i>25-54 years</i>						
Casual employee	40.3	31.5	6.5	4.6	2.5*	14.7
Permanent employee	7.3	74.9	3.8	3.6	1.2*	9.2
Fixed-term contract	6.8*	48.7	30.4	3.7*	1.7*	8.8*
Self-employed	9.4	9.4	2.5*	65.7	0.9*	12.1
Unemployed	16.3*	32.7	3.1*	2.9*	8.6*	36.5
Not in labour force	9.6	11.7	2.1	5.4	3.8	67.5
<i>55-64 years</i>						
Casual employee	38.2*	19.2*	0.0*	3*	1.1*	38.6
Permanent employee	7.5*	64.6	2.9*	5.3*	0.8*	18.9
Fixed-term contract	12.4*	58.9*	0.0*	11.0*	0.0*	17.6*
Self-employed	3.9*	4.8*	0.0*	66.9	0.0*	24.5*
Unemployed	28.7*	0.0*	0.0*	0.0*	6.5*	64.8*
Not in labour force	2.3*	0.2*	0.1*	1.0*	0.4*	96.0

Notes: All rows sum to 100%.

* denotes estimate based on a very small cell size (n<20) and so should be treated with caution.

4.4 Summary

There is clearly a good deal of persistence in labour force states. That is, an important (if not the most important) predictor of future labour market status is current labour market status. Nevertheless, the longitudinal data from the first four waves of the HILDA Survey also reveal that casual employment is a relatively fluid state, with about 23 per cent moving into non-casual employee jobs, and a further 5 per cent moving into self-employment, each year.

Perhaps coincidentally, these annual rates of transition from casual to non-casual employment lie within the range of rates of transitions from ‘non-regular’ to ‘regular’ employment found in data for Britain, Germany and The Netherlands. Furthermore, over longer periods the rate of transition from casual employment into other types of employment is much higher – close to 40 per cent will move into non-casual employee jobs over a three-year window while a further 7 per cent will become self-employed. Casual employees are, however, at greater risk of joblessness, but this principally reflects flows out of the labour force rather than into unemployment.

Rates of transition from casual employment into non-casual employment were also found to be highest for the youngest workers and lowest for the oldest, and at all ages were higher among men than women. Such findings are consistent with stylised views about how preferences for casual employment are likely to vary over the life cycle and with family circumstances.

5. Modelling Labour Market Outcomes

5.1 Introduction

The purpose of this section is to provide more insight into what underpins the matrix tables presented and discussed in the previous section. This requires a model that will, for each individual, mimic the chosen path of labour market states over time. Once we have estimated such a model we can, for instance, investigate what would have been the outcome for the unemployed had they instead been in casual employment, and vice versa. We can then perform ‘scenario analyses’ by choosing any possible labour market history and compare the transition rates into any labour market state. Such a model is thus able to address the issue of the counterfactual. That said, we are unable to say anything about what would happen if there were no casual employment at all. The model estimates are obtained from a world in which casual employment does exist and hence it is not possible to predict in what way parameter estimates might vary if the world were different. To investigate what would happen if casual employment were proscribed would require an ex-post evaluation study exploiting a natural experiment (e.g., a ban on the use of casual employment in one State or jurisdiction but not in another). Unfortunately, we are unaware of any natural experiment that could help us analyse the impact that casual employment has had on subsequent labour market outcomes.

When modelling labour market outcomes the dependent variable is both qualitative in nature and involves a set of discrete outcomes. Estimation in this context thus requires use of a discrete choice model, the two most popular of which are the logit and probit models. We chose a (multinomial) logit specification over a (multinomial) probit based on current reported experiences in the applied literature that the former is both faster and easier to estimate. Note that the class of models with the capacity for scenario analysis as described above is the class of discrete choice models that use data on all individuals, and not just a sub-sample of individuals restricted to a particular labour market state.²⁶

We utilise two types of estimation strategies. The first involves the estimation of a standard dynamic multinomial logit (MNL) model where we take all individuals in wave 4 and predict their labour market state using their labour market history in waves 1, 2, and 3 as regressors (e.g., Blank 1998). This is essentially a cross-sectional model using historical data. The

²⁶ An example of the latter approach is D’Addio and Rosholm (2005). They restricted their sample to persons employed in a temporary job at time t . As a result, they are unable to address the counterfactual of what would have been the outcome for these individuals at time $t+1$ had they been in a different labour market state at time t .

second approach involves the estimation of a dynamic mixed multinomial logit model (MMNL) that makes use of the panel nature of the data. Here we take all the individuals in waves 2, 3, and 4 and predict their labour market state using their labour market state in the previous wave as regressors.²⁷ To incorporate unobserved heterogeneity we include random effects that we allow to be correlated. By allowing the random effects to be correlated we relax the assumption of independence between the errors in the standard multinomial logit. The first approach maximises the explanatory power of labour market history by using as much distant information as possible, thereby restricting the model to predict labour market outcomes in wave 4 only, but using information from waves 1 to 3. The second approach only looks back one period, hence predicting labour market outcomes in waves 2 to 4, but accounts for unobserved heterogeneity.

In both approaches we determine casual employment status using the ABS method based on leave entitlements. There is both a technical and a practical reason for doing so. The technical reason is that in the second approach we can have at most four different possible outcomes, which would mean reclassifying the fixed-term employees when using the self reported definition of employment status.²⁸ The practical argument stems from the descriptive analysis which revealed that the distinction between the ABS definition and the self-reported definition was of no great significance when considering labour market transitions.

We expect the experiences of men and women to be very different, so estimate all of our models separately for men and women.

5.2 Approach 1

5.2.1 Methodology

We distinguish four outcomes (or labour market states): casual employment, non-casual employment, self-employment, and not employed. Note that while we combine the unemployed and those who are not in work into a single outcome category,²⁹ when we use past realisations of the dependent variable as explanatory variables we separate out the unemployed from other non-employed. This enables us to create the proper comparison groups for our scenario analysis.

²⁷ Since we do not have detailed information about labour market state in the year preceding wave 1, we cannot model labour market outcomes in wave 1.

²⁸ In theory you can have more than four states, but current computing power limits practical analysis to four states or less.

²⁹ While there is no technical restriction on the number of parameters that can be estimated with this approach, since we desire to maintain comparability we use the same dependent variable in both approaches (which means an outcome variable with no more than four discrete outcomes).

To formalise the model, let Y_{it} represent the choice by individual i in wave t and let J be the discrete choice set. In our particular application, J consists of four choices. Assuming the random individual specific terms in the logit's underlying random utility specification to be independently extreme value distributed – as in the standard multinomial logit – the probability that an individual i chooses a particular state j in wave 4 is

$$\text{Prob}(Y_{i4} = j) = \frac{\exp \left(\begin{array}{l} \beta_{j1}^C C_{i1} + \beta_{j2}^C C_{i2} + \beta_{j3}^C C_{i3} + \beta_{j1}^P NC_{i1} + \beta_{j2}^P NC_{i2} + \beta_{j3}^P NC_{i3} + \\ \beta_{j1}^{NE} SE_{i1} + \beta_{j2}^{NE} SE_{i2} + \beta_{j3}^{NE} SE_{i3} + \beta_{j1}^{UE} UE_{i1} + \beta_{j2}^{UE} UE_{i2} + \beta_{j3}^{UE} UE_{i3} + \\ \beta_j^x X_{i4} \end{array} \right)}{\sum_{m=1}^4 \exp \left(\begin{array}{l} \beta_{m1}^C C_{i1} + \beta_{m2}^C C_{i2} + \beta_{m3}^C C_{i3} + \beta_{m1}^P NC_{i1} + \beta_{m2}^P NC_{i2} + \beta_{m3}^P NC_{i3} + \\ \beta_{m1}^{NE} SE_{i1} + \beta_{m2}^{NE} SE_{i2} + \beta_{m3}^{NE} SE_{i3} + \beta_{m1}^{UE} UE_{i1} + \beta_{m2}^{UE} UE_{i2} + \beta_{m3}^{UE} UE_{i3} + \\ \beta_j^x X_{i4} \end{array} \right)}$$

where C_{it} , NC_{it} , SE_{it} , and UE_{it} are dummy indicators for individual i being in casual employment, in non-casual employment, self-employed or unemployed in wave t , respectively, and X_{i4} is a vector of control variables expected to influence observed labour market status in wave 4.

The list of control variables are intended to capture the effects of geographic location, age, education and where educated, marital status (or more strictly, partnership status), the presence and age of dependent children, and work experience. With the exception of work experience, all of the variables are binary (or dummy) variables. The effect of location, for example, is captured by a set of dummies variables which divides Australia into eight regions: Sydney (the base group), Melbourne, Adelaide, Perth, Brisbane, other major cities³⁰, inner-regional Australia, and outer-regional and remote parts of Australia.³¹ Similarly, we capture the effects of age through three dummy variables which divide the population into four age groups: 15 to 24 year-olds, 25 to 34 year-olds, 35 to 54 year-olds and 55 to 64 year-olds. Linear and quadratic specifications were experimented with but were found to be inferior to the dummy variable specification. The educational dummies classify individuals into four groups based on their highest level of education attainment. More interesting, we also include a dummy variable that identifies whether the last year of school was completed

³⁰ Other major cities comprise Canberra, Newcastle, Wollongong, the Gold Coast (Qld), the Central Coast (NSW), and Geelong.

³¹ The distinction between major cities, inner regional Australia, outer regional Australia and other parts of Australia is based on a classification system used by the ABS to group small areas which share common characteristics of remoteness into broad geographical regions called Remoteness Areas (RAs). The classification system is based on data from the 2001 Census. For more information about this remoteness structure, see ABS (2001).

overseas, but not in the UK or New Zealand. This variable is used in place of a country of birth dummy, since a migrant who completed his last year of school in Australia can be regarded to be no different than an Australian born individual in terms of their schooling. It is also usual to control for both marital status and the presence of children. In this analysis we include a simple dummy variable that identifies whether someone is married or is living with someone in a long-term relationship (a de facto marriage), and three dummy variables identifying the presence of dependent children from three separate age groups. Further, for the female equations, we also include a dummy variable identifying lone parents. Finally, we include the number of cumulative years in paid employment as a measure of work experience.

The model is estimated by maximum likelihood with the log-likelihood function to be maximised defined as:

$$LL = \sum_i \sum_{j=1}^4 \text{Ln}[\text{Prob}(Y_{i4} = j) * I(Y_{i4} = j)]$$

where $I(\cdot)$ denotes the indicator function, and is equal to 1 if the expression between parentheses is true.

5.2.2 Results: Females

The estimation results for females are presented in Table 10. Reported are the coefficient estimates, with p-values in square brackets, as well as the mean marginal effects. The model is only identified by choosing one of the possible outcomes as the omitted choice, or base outcome, and setting the corresponding coefficients to zero. Hence, only three sets of coefficients are reported: for casual employment, non-casual employment, and self-employment. The base outcome is not-employed.

The marginal effects are computed for each individual in the sample and then averaged. These so-called mean marginal effects represent the change in probability of being in a particular state when the corresponding explanatory variable is increased from 0 to 1. The only noticeable exception is work experience, a continuous variable, where the marginal effect is computed by increasing work experience by one unit (in this case 10 years). The last column in Table 10 provides the mean values for each of the explanatory variables.

What then do the coefficient estimates in Table 10 reveal? Focusing first on the control variables, we can see that there is little in the way of significant geographic differences within Australia in the employment status of females. Compared with women in Sydney, women living in Adelaide have a significantly lower probability of being in non-casual employment

relative to the base state (not employed), but in general geography appears not to matter much. Not surprisingly, more work experience is associated with a higher probability of being in work, holding all else constant. Work experience and age are closely correlated, although less so than for men (for whom ‘age minus 20’ is a good proxy for years of work experience). As noted above, alternative specifications of the model that included both age and age squared (as is common in the literature) showed that for the age range of interest, the implied age profile was close to linear. Hence we opted for banded age categories to capture age effects and a simple linear term for work experience. And we do find strong age effects. Those aged below 25 years are 8.9 per cent more likely to be employed as casuals than are women in the reference group (i.e., between 35 and 54 years of age), but no more likely to be employed in a non-casual job. A similar pattern is true of women aged between 25 and 34 years, though for this group the greater probability of holding a casual job is much smaller – only 4.6 per cent. Older women (55 years and over), on the other hand, are much less likely to be employed, be it in casual or non-casual employment. We do not find an impact of being partnered per se, but being a lone mother or having a young child (under four years of age) present in the household makes women more likely to not be in work, which has been confirmed in numerous studies related to the labour supply of women. Children between the age of five and nine years, on the other hand, are associated with an increased probability of being in work, compared to not having children.

The strongest explanatory power, however, derives from the past realisations of the dependent variables. Even the labour market status occupied in wave 1 contains significant information that helps us explain the state occupied three years later (i.e., in wave 4). This is revealed by the changes in the magnitude of the coefficients on the history variables that apply to years 2003, 2002, and 2001, respectively. Consider, for example, the impact of past casual employment on the probability of being in casual employment in 2004. Easily the most important predictor is casual employment one year earlier. The experience of casual employment in 2002 (two years earlier) and in 2001 (three years earlier), however, is also significant, but the size of the effect weakens as the duration of time elapsed grows. The same pattern holds for the other two employment states.

Table 10
Dynamic MNL with Full 3-year History: Females

<i>Explanatory variable</i>	<i>Coefficients</i>			<i>Mean marginal effects</i>				<i>Mean of X</i>
	<i>Casual</i>	<i>Non-casual</i>	<i>Self-employed</i>	<i>Casual</i>	<i>Non-casual</i>	<i>Self-employed</i>	<i>Not-employed</i>	
Melbourne	0.222 [0.298]	0.284 [0.170]	0.459 [0.134]	0.004	0.011	0.010	-0.026	0.175
Brisbane	-0.213 [0.410]	0.08 [0.738]	-0.122 [0.744]	-0.020	0.016	-0.003	0.007	0.093
Adelaide	-0.145 [0.604]	-0.563** [0.048]	-0.51 [0.300]	0.013	-0.039	-0.010	0.035	0.065
Perth	0.032 [0.906]	-0.15 [0.577]	0.139 [0.724]	0.007	-0.015	0.006	0.003	0.073
Other major city	0.396 [0.133]	0.194 [0.471]	0.175 [0.666]	0.027	-0.001	0.000	-0.026	0.080
Inner-regional	0.217 [0.253]	-0.11 [0.558]	-0.154 [0.593]	0.025	-0.017	-0.006	-0.003	0.247
Outer-region and beyond	0.216 [0.331]	-0.237 [0.292]	0.097 [0.777]	0.028	-0.030	0.003	-0.001	0.135
Actual years work experience / 10	0.389*** [0.000]	0.273*** [0.006]	0.216 [0.113]	0.022	0.007	0.001	-0.029	1.691
Did last year of school not in AU, UK, or NZ	-0.504** [0.047]	-0.104 [0.653]	-0.661* [0.069]	-0.033	0.015	-0.014	0.032	0.083
Aged below 25	0.895*** [0.000]	0.383 [0.160]	-1.363** [0.027]	0.089	0.003	-0.048	-0.043	0.115
Aged between 25 and 35	0.670*** [0.001]	0.348* [0.084]	0.154 [0.590]	0.046	0.002	-0.005	-0.043	0.194
Aged 55 or above	-1.582*** [0.000]	-1.581*** [0.000]	-0.921*** [0.003]	-0.072	-0.084	-0.002	0.158	0.176
Partnered	-0.263 [0.115]	-0.246 [0.141]	0.239 [0.395]	-0.017	-0.013	0.012	0.017	0.671
Lone parent	-0.586** [0.021]	-0.498* [0.065]	-1.322** [0.017]	-0.021	-0.013	-0.028	0.062	0.078
Has a university degree	0.182 [0.262]	0.437*** [0.007]	0.864*** [0.000]	-0.010	0.023	0.023	-0.036	0.338
Has other post-school diploma	-0.089 [0.626]	0.314* [0.096]	0.186 [0.532]	-0.021	0.029	0.004	-0.011	0.154
Completed Year 12 only	-0.067 [0.709]	0.165 [0.381]	0.191 [0.536]	-0.014	0.015	0.005	-0.006	0.160
Children 0 to 4 present	-0.527*** [0.003]	-0.508*** [0.004]	0.063 [0.805]	-0.028	-0.026	0.013	0.042	0.174
Children 5 to 9 present	0.429*** [0.009]	0.349** [0.042]	0.089 [0.719]	0.024	0.012	-0.005	-0.031	0.198
Children 10 to 14 present	0.046 [0.783]	0.07 [0.683]	-0.049 [0.846]	0.002	0.005	-0.003	-0.004	0.217
Casual in 2001	0.731*** [0.000]	0.496** [0.017]	0.554* [0.090]	0.044	0.008	0.006	-0.058	0.181
Non-casual in 2001	0.538** [0.014]	1.064*** [0.000]	0.659** [0.048]	-0.003	0.077	0.006	-0.080	0.392
Self-employed in 2001	0.451 [0.170]	0.539 [0.152]	1.330*** [0.000]	0.002	0.012	0.046	-0.060	0.080
Unemployed in 2001	0.335 [0.225]	0.519* [0.089]	-0.251 [0.697]	0.012	0.033	-0.015	-0.030	0.038
Casual in 2002	0.910*** [0.000]	1.217*** [0.000]	0.282 [0.411]	0.037	0.066	-0.012	-0.091	0.178
Non-casual in 2002	0.269 [0.262]	1.291*** [0.000]	0.524 [0.147]	-0.041	0.126	0.001	-0.085	0.403
Self-employed in 2002	0.635* [0.056]	0.311 [0.441]	1.594*** [0.000]	0.024	-0.021	0.065	-0.068	0.083
Unemployed in 2002	0.133 [0.631]	0.527* [0.083]	0.727 [0.139]	-0.016	0.032	0.019	-0.035	0.037
Casual in 2003	2.628*** [0.000]	1.859*** [0.000]	1.987*** [0.000]	0.205	0.023	0.019	-0.246	0.175
Non-casual in 2003	1.030*** [0.000]	3.697*** [0.000]	0.874** [0.013]	-0.130	0.544	-0.042	-0.372	0.415
Self-employed in 2003	1.088*** [0.001]	1.385*** [0.000]	3.814*** [0.000]	-0.039	-0.017	0.263	-0.207	0.078
Unemployed in 2003	0.717** [0.010]	0.827** [0.010]	0.772 [0.182]	0.024	0.034	0.010	-0.067	0.029
Constant	-2.820*** [0.000]	-3.414*** [0.000]	-4.412*** [0.000]					

N = 4206; LL = -2491.3846; LR chi-squared = 5436.79 (96 d.f.); Prob > chi-squared = 0.000
P-values in brackets. * significant at 10%, ** at 5%, and *** at 1%

The treatment of past unemployment is slightly different. While it is almost certainly true that past unemployment will be a strong predictor of current unemployment, we do not actually model this, since our dependent variable does not distinguish between the unemployed and those out of work who are not seeking work. What we do model though is the effect of unemployment on the probability of working and not working, and find that job search in $t-1$ does indeed enhance the probability of securing employment at year t . Further, and again entirely expected, this positive effect of past unemployment is relatively short-lived. While the coefficients for unemployment in 2001 and 2002 on employment probabilities in 2004 are positive, they are relatively small and of marginal significance.

Once the model has been estimated, the coefficient estimates in Table 10 can be used to predict the labour force state for each individual in the sample. We then average over all individuals to get the averaged predicted probabilities (Table 11). This is different from the predicted probabilities for the average person (Table A1, Appendix).³² We restrict our analysis here to the results obtained from averaging over all females (Table 11). The first line in the table denotes the average predicted probabilities for the four different outcomes. The next line in italics provides the actual population distribution. As can be clearly seen, the predictions from our model almost exactly predict the actual proportions in the population. To evaluate the counterfactual we perform scenario analysis whereby we change individuals' labour market histories and repeat the same exercise; that is, we predict the outcome for each individual and then average over all females. This allows us to compare different scenarios.

We first compute average predicted probabilities if all women were to have occupied only one labour market state throughout waves 1 to 3. Non-casual employment is the most persistent state with close to 90 per cent of all persons who were in non-casual jobs in waves 1, 2 and 3 predicted to be in non-casual employment in wave 4. Rates of persistence are also very high for the self-employed and persons not in the labour force (i.e., neither employed nor unemployed), with both having a predicted probability of about 84 per cent to occupy the same state as in the previous 3 waves. The two remaining states, unemployment and casual employment, are associated with much less persistence. Even if a female has been unemployed in each of the previous three waves, she still has a more than 40 per cent chance of being in work by wave 4, with an almost 50/50 split between it being a casual or a non-casual job. If, on the other hand, the state occupied in waves 1, 2, and 3 had been casual

³² The results from applying these two different methods, however, do not differ much, with the only substantive difference being in the proportion of females who are predicted to be self-employed.

employment, the probability she is in work in wave 4 is close to 90 per cent, though in this case she is much more likely to be in casual employment (69.0 per cent) than in non-casual employment (15.2 per cent). When comparing a continuous history of unemployment with a continuous history of casual employment, arguably the most interesting comparison, the point estimate of being in non-casual employment in wave 4 is *higher* for women with a history of unemployment than for women with a history of casual employment (17.2 and 15.2 per cent, respectively). In other words, if the only purpose of casual employment were to assist workers to secure non-casual jobs, women workers would be better off continuing to look for a non-casual job than accept a non-casual position. If this, however, is not the sole purpose of casual employment, then we cannot conclude that casual jobs are necessarily inferior to unemployment. Most obviously, a female with a history of casual employment is much more likely to be in any work than a female with a history of unemployment, and the difference in probabilities is huge – 88.4 per cent compared with 42.5 per cent.

Table 11
Average Predicted Probabilities (%) Based on Dynamic MNLs: Females

	<i>Casual employee</i>	<i>Non-casual employee</i>	<i>Self- employed</i>	<i>Not- employed</i>
Average predicted probabilities for all females	16.7	42.1	8.5	32.6
<i>Actual proportion in wave 4</i>	<i>16.6</i>	<i>42.1</i>	<i>8.5</i>	<i>32.9</i>
Occupying states in wave 1 / wave 2 / wave 3:				
Always in non-casual employment	3.2	89.6	1.0	6.2
Always self-employed	6.2	2.7	84.3	6.8
Always in casual employment	69.0	15.2	4.2	11.6
Always unemployed	20.2	17.2	5.0	57.5
Always not in the labour force	9.8	4.2	2.3	83.8
Not-employed / Not-Employed / Casual	48.2	9.8	6.2	35.8
Not-employed / Casual / Not-employed	18.7	11.0	2.3	68.0
Casual / Not-employed / Not-employed	17.2	5.9	3.4	73.5
Unemployed / Unemployed / Casual	50.4	18.2	6.6	24.8
Unemployed / Casual / Unemployed	30.7	24.1	2.3	42.9
Casual / Unemployed / Unemployed	25.7	14.5	9.5	50.4

The last three rows of Table 11 show what happens if we were to alter the labour market history of all females by exchanging one year of unemployment for a spell of casual work. The results indicate that each year of casual employment raises the probability of being in work in wave 4 and that this effect is stronger the more recent the episode of casual employment was. This is driven by an increased probability of being employed as a casual. When focussing on the effect of being employed in non-casual employment in wave 4, we find that being employed as a casual in wave 2 or 3 increases the probability of being employed on a non-casual basis in wave 4 compared with a continuous history of unemployment, though the magnitude of the effect is arguably not large – 18.2 and 24.1 per cent, compared to 17.2 per cent. We do not find such an effect for being employed as a casual in wave 1. Indeed, a woman who exited a casual job after wave 1 for unemployment and has remained there has a lower probability of securing a non-casual job than a woman with a continuous history of unemployment.

5.2.3 Results: Males

We initially estimate a model for males that, with one exception, is identical to that for females. The one difference is that we no longer identify lone parents, because the number of lone fathers in the sample is too small to reliably estimate the corresponding coefficient. The estimation results are provided in Table 12 which again displays the coefficient estimates, the p-values and the mean marginal effects. Similar to females, we find almost no statistically significant geographic differences in male labour market status. Contrary to females, we do not find that family composition (i.e., having children or being partnered) matters much for labour market outcome for males. The only difference of any significance is that partnered men are much more likely to be self-employed than are single men. This absence of any significant effect of children on father's labour supply is consistent with what has previously been found in the labour supply literature. With respect to education we find that having a university degree significantly increases the probability of being in any of the three in-work states, keeping all else constant. Variations in educational attainment at levels below the university degree level appear not to matter, at least not once we include controls for labour market histories.

Turning then to the results on the lagged labour market status variables, the pattern on the signs and relative magnitudes of the different coefficients are similar to those obtained for women. Thus once again we see that the most recent labour market history has

Table 12
Dynamic MNL with Full 3-year History: Males

<i>Explanatory variable</i>	<i>Coefficients</i>			<i>Mean marginal effects</i>				<i>Mean of X</i>
	<i>Casual</i>	<i>Non-casual</i>	<i>Self-employed</i>	<i>Casual</i>	<i>Non-casual</i>	<i>Self-employed</i>	<i>Not-employed</i>	
Melbourne	-0.558** [0.045]	-0.206 [0.426]	0.078 [0.811]	-0.030	0.000	0.014	0.016	0.179
Brisbane	-0.262 [0.434]	-0.123 [0.692]	-0.171 [0.663]	-0.012	0.003	-0.002	0.011	0.090
Adelaide	-0.365 [0.322]	0 [0.999]	-0.024 [0.958]	-0.024	0.014	0.002	0.008	0.067
Perth	-0.042 [0.906]	-0.203 [0.560]	-0.406 [0.354]	0.009	-0.007	-0.013	0.011	0.071
Other major city	-0.237 [0.483]	-0.434 [0.179]	-0.551 [0.185]	0.006	-0.017	-0.012	0.023	0.086
Inner-regional	-0.36 [0.157]	-0.205 [0.394]	-0.004 [0.989]	-0.017	-0.004	0.008	0.013	0.247
Outer-region and beyond	-0.152 [0.608]	-0.197 [0.496]	0.049 [0.889]	-0.004	-0.013	0.009	0.008	0.137
Actual years work experience / 10	0.450*** [0.003]	0.394*** [0.006]	0.229 [0.198]	0.014	0.012	-0.004	-0.022	2.227
Did last year of school not in AU, UK, or NZ	-0.193 [0.558]	-0.053 [0.861]	-0.032 [0.930]	-0.011	0.003	0.002	0.006	0.076
Aged below 25	1.848*** [0.000]	1.348*** [0.000]	0.727 [0.174]	0.083	0.019	-0.023	-0.079	0.126
Aged between 25 and 35	0.832*** [0.010]	0.731** [0.014]	0.272 [0.466]	0.029	0.024	-0.015	-0.038	0.183
Aged 55 or above	-1.316*** [0.000]	-2.069*** [0.000]	-1.206*** [0.001]	-0.007	-0.126	0.006	0.128	0.184
Partnered	-0.159 [0.445]	0.147 [0.460]	0.696*** [0.006]	-0.025	0.004	0.029	-0.008	0.677
Lone parent								
Has a university degree	0.673*** [0.003]	0.583*** [0.007]	0.650** [0.016]	0.018	0.009	0.008	-0.035	0.310
Has other post-school diploma	-0.008 [0.969]	0.015 [0.942]	-0.001 [0.997]	-0.001	0.002	0.000	0.000	0.298
Completed Year 12 only	0.236 [0.343]	0.082 [0.744]	-0.124 [0.714]	0.015	0.001	-0.010	-0.006	0.134
Children 0 to 4 present	0.01 [0.974]	0.093 [0.724]	0.405 [0.187]	-0.007	-0.002	0.016	-0.007	0.161
Children 5 to 9 present	0.144 [0.613]	0.084 [0.747]	0.36 [0.232]	0.003	-0.007	0.013	-0.009	0.172
Children 10 to 14 present	0.271 [0.278]	0.119 [0.611]	-0.128 [0.642]	0.016	0.002	-0.011	-0.008	0.193
Casual in 2001	0.756*** [0.006]	0.808*** [0.006]	0.906** [0.036]	0.014	0.018	0.013	-0.044	0.128
Non-casual in 2001	0.215 [0.504]	0.985*** [0.002]	0.616 [0.156]	-0.035	0.076	0.000	-0.041	0.506
Self-employed in 2001	0.964** [0.015]	0.975** [0.014]	2.050*** [0.000]	0.004	-0.019	0.088	-0.073	0.176
Unemployed in 2001	0.366 [0.214]	0.372 [0.252]	0.63 [0.203]	0.005	0.002	0.016	-0.022	0.053
Casual in 2002	0.970*** [0.000]	1.523*** [0.000]	1.237*** [0.007]	0.000	0.062	0.006	-0.068	0.133
Non-casual in 2002	0.608* [0.071]	1.933*** [0.000]	1.756*** [0.000]	-0.067	0.149	0.023	-0.106	0.514
Self-employed in 2002	-0.563 [0.189]	0.434 [0.301]	1.344*** [0.004]	-0.070	0.011	0.081	-0.022	0.174
Unemployed in 2002	0.277 [0.372]	0.900** [0.010]	1.234** [0.017]	-0.026	0.033	0.030	-0.037	0.045
Casual in 2003	2.632*** [0.000]	1.894*** [0.000]	1.623*** [0.000]	0.128	0.011	-0.006	-0.134	0.121
Non-casual in 2003	1.947*** [0.000]	3.905*** [0.000]	1.771*** [0.000]	-0.067	0.455	-0.073	-0.315	0.532
Self-employed in 2003	1.991*** [0.000]	2.107*** [0.000]	4.445*** [0.000]	-0.019	-0.097	0.316	-0.200	0.178
Unemployed in 2003	1.133*** [0.000]	0.605* [0.084]	0.262 [0.635]	0.061	-0.004	-0.016	-0.041	0.034
Constant	-3.454*** [0.000]	-4.074*** [0.000]	-5.301*** [0.000]					

P-values in brackets. * significant at 10, ** at 5, and *** at 1
N = 3753; LL = -2010.5455; LR chi-squared 4915.21 (93 d.f.); Prob > chi-squared = 0.000

the strongest predictive power, but even labour market states occupied in wave 1 (that is, three years earlier) are statistically significant when it comes to predicting labour market outcomes in wave 4.

For males, we are also able to specify a richer model that takes timing effects into account. The specification presented in both Table 12 for men and Table 10 for women only include dummies for labour market states in waves 1, 2, and 3. A richer specification would also include dummies that indicate occupying each possible labour force state 2 out of 3 or 3 out of 3 waves.³³ We do not report these results in full here. We do, however, report the estimated averaged predicted probabilities for this richer specification, together with the estimated probabilities from the simpler specification (see Table 13)³⁴, and it is to these implied probabilities that we now turn.

As for females, we find that non-casual employment, self-employment and being out of the labour force are highly persistent states, while casual employment and unemployment are less so, though both are still characterised by a relatively high degree of persistence. Compared with women, however, non-casual employment and self-employment are slightly more persistent states for men, while casual employment and unemployment are less so. Again the most interesting comparison is arguably between those with a continuous history of unemployment and those with a continuous history of casual employment. Table 13 reveals that the biggest difference between these two groups lies in the probability of being out of paid work. For men with a continuous history of casual employment this probability, in the ‘simple history’ specification, is only 9.5 per cent, compared to almost 50 per cent for those with a continuous history of unemployment. These probabilities only change slightly when based on the richer specification – to 11.3 and 46.7 per cent, respectively. Compared with women, men with a continuous history of casual employment are also much more likely to transit to non-casual jobs – 25.9 per cent in the simpler specification. More importantly, this is much higher than the probability of a continuously unemployed male exiting unemployment to commence a non-casual job. In other words, unlike the situation for women, among men casual employment does indeed appear to enhance the prospects of

³³ We are not able to estimate this richer model for females because we have very few women in the sample that are unemployed in waves 1, 2, and 3 and in wave 4 these women do not occupy all 4 possible outcomes, causing the estimation to break down.

³⁴ The corresponding table with the predictions for a male with average characteristics is Table A2, provided in the Appendix.

Table 13
Average Predicted Probabilities (%) Based on Dynamic MNLs: Males

<i>Simple history specification</i>	<i>Casual employee</i>	<i>Non-casual employee</i>	<i>Self- employed</i>	<i>Not- employed</i>
Average predicted probabilities for all males	11.5	53.7	18.2	16.6
<i>Actual proportion in wave 4</i>	11.3	53.7	18.3	16.7
Occupying states in wave 1 / wave 2 / wave 3:				
Always in non-casual employment	3.5	91.2	2.4	3.0
Always self-employed	2.9	4.0	90.2	2.9
Always in casual employment	58.4	25.9	6.2	9.5
Always unemployed	27.5	15.5	7.0	49.9
Always not in the labour force	8.9	4.5	1.6	85.0
Not-Employed / Not-Employed / Casual	46.9	11.6	3.2	38.2
Not-Employed / Casual / Not-Employed	16.7	14.8	3.9	64.6
Casual / Not-Employed / Not-Employed	15.6	8.4	3.2	72.8
Unemployed / Unemployed / Casual	46.8	21.3	10.7	21.2
Unemployed / Casual / Unemployed	38.2	20.2	5.0	36.6
Casual / Unemployed / Unemployed	32.4	19.1	7.5	41.1
<i>Complicated history specification</i>	<i>Casual employee</i>	<i>Non-casual employee</i>	<i>Self- employed</i>	<i>Not- employed</i>
Average predicted probabilities for all males	11.5	53.7	18.2	16.6
<i>Actual proportion in wave 4</i>	11.3	53.7	18.3	16.7
Occupying states in wave 1 / wave 2 / wave 3:				
Always in non-casual employment	3.1	91.5	2.4	3.0
Always self-employed	3.0	4.0	90.2	2.8
Always in casual employment	57.1	27.5	4.1	11.3
Always unemployed	28.0	15.7	9.6	46.7
Always not in the labour force	8.9	4.7	1.9	84.5
Not-Employed / Not-employed / Casual	48.0	9.8	2.3	39.9
Not-Employed / Casual / Not-employed	19.0	12.1	2.8	66.1
Casual / Not-Employed / Not-employed	17.1	7.1	2.2	73.7
Unemployed / Unemployed / Casual	46.1	22.2	5.0	26.7
Unemployed / Casual / Unemployed	36.5	18.7	1.8	43.0
Casual / Unemployed / Unemployed	31.4	18.2	2.8	47.6

securing more ongoing, stable employment. Casual employment appears to be more transient for men with larger fractions flowing on to non-casual employment.

When exchanging one year of unemployment for casual employment in each of the previous 3 waves we can investigate the effect on obtaining non-casual employment in wave 4 and compare this to the counterfactual of a history of continuous unemployment. Based on the simpler specification, a male who has been unemployed in waves 1, 2, and 3 has a 15.5 per cent change of being employed in a non-casual job in wave 4. When we alter the labour market state to casual employment in wave 3, 2 or 1, we increase this probability to 21.3, 20.2 and 19.1 per cent, respectively, an increase of approximately four to six percentage points. When we repeat the analysis based on the model with the richer history specification we increase the base probability of 15.7 per cent to 22.2, 18.7, and 18.2 per cent, respectively. What the richer specification in effect does is to make the impact of the spell of casual employment in wave 1 slightly smaller and the impact from a spell of casual employment in wave 3 slightly stronger.

5.3 Approach 2

The approach used in the preceding section is very intuitive, but does not address three longstanding econometric issues: true state dependence, unobserved heterogeneity and initial conditions.

State dependence says that being in a particular state at time t influences your probability of being in that state in the future. Heckman and Willis (1977) have defined two sources of dependence: a) unobserved heterogeneity generated by different preferences resulting in spurious dependence; and b) true state dependence. There are multiple sources of true state dependence. Human capital theory predicts that skills accumulated through experience raise the probability of working in the future. Fixed costs of entering the labour force (search costs, for example) make future participation more likely for individuals already working. Job matching models where employers and employees learn about the quality of the match induce state dependence even if investment in firm-specific human capital does not take place. Spurious dependence, on the other hand, results from individual unobserved heterogeneity that is correlated over time. That is, there is something else, unobservable to the econometrician, that drives people towards occupying particular labour market states.

The policy implication of observed state dependence being largely driven by such unobserved heterogeneity on labour supply cannot be understated. If unobserved heterogeneity reflects

unobserved ability and different preferences over family and career, time spent in alternative labour market states will have no lasting effect on subsequent labour market states. To put it in the context of this report, if state dependence was largely due to unobserved heterogeneity, a policy that would bring people into employment would only have a temporary effect. However, if there is true state dependence in employment status then a policy that moves people into work will have a lasting effect and will permanently increase the number of people in work. It is, therefore, important to be able to decompose observed state dependence into its true state dependence and spurious state dependence components. The approach taken in this section does this.

5.3.1 Methodology

The model estimated using this second approach is a dynamic mixed multinomial logit model (MMNL) with correlated random effects. To identify true state dependence we include lagged dependent variables, just like we did in approach 1. To address unobserved heterogeneity we include random effects. Finally, to address the initial conditions problem we follow Wooldridge (2005) and model unobserved heterogeneity *conditional* on the observed outcome in the first wave.³⁵

To formalise the model, we can again let Y_{it} represent the choice by individual i in wave t and let J be the discrete choice set, where J again consists of four choices. Assuming the random individual specific terms in the logit's underlying random utility specification to be independent extreme value distributed –as in the standard multinomial logit – the probability that an individual i chooses a particular state j in period t , conditional on the unobserved random effect μ_i , is

$$\text{Prob}(Y_{it} = j | \mu_i) = \frac{\exp \left(\begin{array}{l} \beta_j^C C_{i1} + \beta_j^P NC_{i1} + \beta_j^{NE} SE_{i1} + \beta_j^{UE} UE_{i1} + \\ \gamma_j^C C_{it-1} + \gamma_j^P NC_{it-1} + \gamma_j^{NE} SE_{it-1} + \gamma_j^{UE} UE_{it-1} + \\ \beta_j^x X_{it-1} + \mu_i \end{array} \right)}{\sum_{m=1}^4 \exp \left(\begin{array}{l} \beta_m^C C_{i1} + \beta_m^P NC_{i1} + \beta_m^{NE} SE_{i1} + \beta_m^{UE} UE_{i1} + \\ \gamma_m^C C_{it-1} + \gamma_m^P NC_{it-1} + \gamma_m^{NE} SE_{it-1} + \gamma_m^{UE} UE_{it-1} + \\ \beta_m^x X_{it-1} + \mu_i \end{array} \right)}$$

³⁵ The initial condition arises because we do not observe labour market choices from the start of a person's working age life. The first observed labour market state thus reflects the choices made and paths chosen prior to that point.

where C_{it} , NC_{it} , SE_{it} , UE_{it} and X_{it} are as previously defined. Note that the composition of X_{it} is identical to that used in approach 1.

To overcome the assumption of independence of the errors imposed by the standard multinomial logit, we let the random effects, μ_i , be correlated across the different choices (i.e., μ is quadrivariate normally distributed with a fully flexible variance covariance matrix).

The probability that we observe an individual's labour market history to be $Y_i = \{Y_{i1}, Y_{i2}, Y_{i3}, Y_{i4}\}$, given unobserved heterogeneity μ_i is

$$\text{Prob}(Y_i | \mu_i) = \prod_{t=2}^4 \prod_{j=1}^4 \text{Prob}(Y_{it} = j | \mu_i) * I(Y_{it} = j)$$

where $I(\cdot)$ denotes the indicator function. In a final step, the unobserved heterogeneity μ_i needs to be integrated out of the above equation to get the unconditional probability $\text{Prob}(Y_i)$. We do so numerically by taking random draws from the quadrivariate normal distribution, evaluate $\text{Prob}(Y_i | \mu_i)$ for each of these draws, and then average over those to get $\text{Pr}\hat{\text{ob}}(Y_i)$.³⁶

The model is thus estimated by simulated maximum likelihood with the pseudo log-likelihood to be maximised defined as

$$\text{Pseudo LL} = \sum_i \text{Pr}\hat{\text{ob}}(Y_i)$$

5.3.2 Results: Females

The estimation results for females are presented in Table 14. Reported are the coefficient estimates, with standard errors in square brackets, for two separate specifications. The first three columns contain the results for the model without random effects (Model I). This model is thus akin to that estimated using approach 1 with the obvious difference that observations on the dependent variable are drawn from three waves (and not just wave 4) and it only uses labour market history information from the previous wave and the first wave. The next three columns show the results for the specification that includes the correlated random effects (Model II). The final four columns display the mean marginal effects for the most general model (i.e., Model II). The models are only identified by choosing one of the possible outcomes as the omitted choice, or base outcome, and setting the corresponding coefficients to zero. Hence, only three sets of coefficients are reported: for casual employment (C); for

³⁶ We do not actually employ standard random draws but instead a method developed by Halton (1960) which is more efficient. In all cases, we took 250 draws.

non-casual employment (NC); and for self-employment (SE). The base outcome is the not-employed state.

The coefficients on the one-period lagged labour market states capture the true state dependence. Clearly, in the case of women, labour market choices entail a large amount of true state dependence (Table 14). This implies that any policy that will increase the number of women in non-casual employment will have a lasting impact with more women employed on an ongoing basis. This is not restricted to non-casual employment but applies to any of the labour market states as they all exhibit strong true state dependence. However, the model that accounts for unobserved heterogeneity outperforms the simpler model in terms of model fit. This implies that the observed state dependence is not only due to true state dependence, but clearly also depends on unobserved heterogeneity. As a final note on the correlations between the random effects, suffice to say that they are all positive, indicating that preferences for any of the three in-work outcomes – casual employment, non-casual employment, and self-employment – implies a preference for the other two states as well.

Similar to the scenario analysis reported on in Table 11 and Table 13, we take the estimated coefficients and simulate, for each female in the sample, what their predicted labour market state would be under different labour market history assumptions. In this case we distinguish between unemployment, casual employment, non-casual employment, self-employment and not in the labour force in the previous period. Because we also condition on the initial labour market state, we compare the alternative one-period lagged labour market states conditional on being unemployed, in a casual job, in a non-casual job, self-employed or not in the labour force in the first wave. The results of this exercise are presented in Table 15. The first line displays the average predicted probabilities for all females in the sample, with the second line in italics the corresponding actual proportions in the data. We do this for both the specification without random effects (Model I) and the specification with random effects (Model II). Comparing the probabilities of being in non-casual employment at time t conditional on being unemployed or working in a casual job in the previous period shows that this distinction does not matter. Both are approximately equal, with the probability of being non-casually employed conditional on being unemployed in the previous period only marginally higher. Model II slightly under predicts the number of self-employed and over predicts the number of women not in employment. However, the model overall fits the averages extremely well. Limiting our comparisons to being unemployed in the previous

Table 14
Dynamic MNL without (I) and with (II) Unobserved Heterogeneity
(coefficients and mean marginal effects): Females

<i>Explanatory variable</i>	<i>Dynamic MNL (I)</i>			<i>Dynamic MNL w Random Effects (II)</i>			<i>Mean Marginal Effects (of II)</i>			
	<i>C</i>	<i>NC</i>	<i>SE</i>	<i>C</i>	<i>NC</i>	<i>SE</i>	<i>C</i>	<i>NC</i>	<i>SE</i>	<i>NE</i>
Melbourne	-0.035 [0.118]	-0.019 [0.115]	0.270 [0.179]	-0.039 [0.165]	-0.004 [0.182]	0.328 [0.264]	-0.006	-0.001	0.009	-0.002
Brisbane	-0.074 [0.141]	0.149 [0.137]	0.289 [0.213]	-0.115 [0.196]	0.135 [0.214]	0.402 [0.309]	-0.018	0.013	0.011	-0.005
Adelaide	-0.120 [0.155]	-0.400** [0.162]	-0.540* [0.281]	-0.200 [0.228]	-0.606** [0.274]	-0.862 [0.543]	0.013	-0.036	-0.016	0.039
Perth	-0.183 [0.149]	-0.366** [0.150]	-0.092 [0.235]	-0.285 [0.228]	-0.553** [0.249]	-0.051 [0.341]	-0.003	-0.032	0.004	0.031
Other major city	0.040 [0.146]	-0.242 [0.149]	0.116 [0.229]	-0.027 [0.208]	-0.427* [0.226]	0.137 [0.331]	0.014	-0.034	0.006	0.013
Inner-regional	0.097 [0.106]	-0.173 [0.106]	0.149 [0.162]	0.137 [0.142]	-0.236 [0.165]	0.183 [0.230]	0.020	-0.026	0.005	0.000
Outer-region and beyond	-0.004 [0.124]	-0.219* [0.127]	0.166 [0.192]	-0.019 [0.169]	-0.292 [0.191]	0.263 [0.287]	0.008	-0.024	0.009	0.007
Actual years work experience / 10	0.374*** [0.053]	0.484*** [0.055]	0.384*** [0.074]	0.523*** [0.078]	0.741*** [0.093]	0.515*** [0.116]	0.001	0.003	0.000	-0.005
Did last year of school not in AU, UK, or NZ	-0.449*** [0.135]	-0.282** [0.129]	-0.412** [0.194]	-0.642*** [0.201]	-0.493** [0.228]	-0.590** [0.297]	-0.031	-0.012	-0.007	0.050
Aged below 25	1.058*** [0.139]	0.892*** [0.152]	-0.481 [0.307]	1.443*** [0.208]	1.383*** [0.243]	-0.556 [0.468]	0.081	0.049	-0.031	-0.099
Aged between 25 and 35	0.430*** [0.111]	0.400*** [0.111]	0.162 [0.163]	0.544*** [0.157]	0.574*** [0.169]	0.220 [0.242]	0.023	0.022	-0.002	-0.043
Aged 55 or above	-1.386*** [0.129]	-1.670*** [0.126]	-1.229*** [0.173]	-1.987*** [0.195]	-2.614*** [0.225]	-1.691*** [0.280]	-0.063	-0.134	-0.016	0.213
Partnered	-0.247*** [0.094]	-0.185** [0.093]	0.252 [0.158]	-0.373*** [0.132]	-0.269* [0.148]	0.253 [0.240]	-0.024	-0.008	0.011	0.021
Lone parent	-0.350** [0.140]	-0.490*** [0.153]	-0.893*** [0.294]	-0.514*** [0.191]	-0.706*** [0.223]	-1.275*** [0.446]	-0.009	-0.030	-0.022	0.061
Has a university degree	0.381*** [0.091]	0.847*** [0.089]	0.878*** [0.132]	0.645*** [0.135]	1.451*** [0.155]	1.225*** [0.210]	-0.015	0.087	0.018	-0.091
Has other post-school diploma	0.091 [0.104]	0.553*** [0.107]	0.305* [0.162]	0.265* [0.150]	1.006*** [0.179]	0.490** [0.242]	-0.022	0.067	0.004	-0.049
Completed year 12 only	0.310*** [0.098]	0.473*** [0.105]	0.283* [0.170]	0.539*** [0.139]	0.822*** [0.166]	0.390 [0.261]	0.010	0.041	0.001	-0.052
Children 0 to 4 present	-0.673*** [0.099]	-0.850*** [0.100]	-0.275* [0.148]	-1.082*** [0.139]	-1.523*** [0.151]	-0.374* [0.226]	-0.033	-0.080	0.007	0.106
Children 5 to 9 present	0.262*** [0.091]	0.256*** [0.095]	0.094 [0.138]	0.338*** [0.126]	0.363*** [0.136]	0.133 [0.189]	0.014	0.014	-0.001	-0.027
Children 10 to 14 present	0.197** [0.092]	0.224** [0.096]	0.109 [0.141]	0.280** [0.126]	0.312** [0.146]	0.227 [0.202]	0.010	0.012	0.002	-0.024
Casual in 2001	0.977*** [0.107]	1.079*** [0.126]	0.290 [0.199]	2.534*** [0.245]	2.771*** [0.275]	0.881** [0.384]	0.129	0.104	-0.020	-0.213
Non-casual in 2001	0.529*** [0.130]	1.472*** [0.121]	0.573*** [0.199]	1.944*** [0.292]	4.464*** [0.370]	0.878** [0.431]	-0.061	0.426	-0.038	-0.327
Self-employed in 2001	0.259 [0.197]	0.398* [0.221]	1.598*** [0.191]	0.958** [0.375]	0.540 [0.458]	4.422*** [0.623]	-0.010	-0.079	0.261	-0.172
Unemployed in 2001	0.261 [0.163]	0.548*** [0.182]	-0.132 [0.368]	0.678*** [0.246]	1.246*** [0.302]	-0.026 [0.520]	0.006	0.072	-0.013	-0.065
Casual in t-1	2.617*** [0.105]	1.977*** [0.128]	1.698*** [0.192]	1.674*** [0.167]	1.231*** [0.191]	1.311*** [0.296]	0.102	0.015	0.013	-0.130
Non-casual in t-1	1.237*** [0.136]	3.807*** [0.120]	0.856*** [0.221]	0.474** [0.184]	2.458*** [0.194]	0.442 [0.330]	-0.088	0.241	-0.013	-0.139
Self-employed in t-1	1.539*** [0.199]	1.396*** [0.228]	3.863*** [0.187]	1.139*** [0.279]	1.292*** [0.355]	2.527*** [0.336]	0.021	0.030	0.075	-0.126
Unemployed in t-1	0.767*** [0.160]	0.998*** [0.183]	0.487 [0.356]	0.831*** [0.183]	1.048*** [0.236]	0.624 [0.425]	0.024	0.044	0.003	-0.071
Constant	-2.580*** [0.161]	-3.476*** [0.177]	-4.294*** [0.267]	-3.093*** [0.245]	-4.764*** [0.327]	-5.707*** [0.494]				
Standard deviation of μ_i				1.515*** [0.131]	2.043*** [0.200]	1.877*** [0.318]				
Rho (C and NC)				0.689						
Rho (C and NE)				0.401						
Rho (NC and NE)				0.460						
N (Individuals x years)	12486			12486						
Log likelihood	-7870.374			-7775.699						
LR chi-squared (Prob > chi-squared)	15213.426 (0.000)			19067.15 (0.000)						

Table 15
Average Predicted Probabilities (%) Based on Dynamic MMNLs: Females

	<i>Model I</i>				<i>Model II</i>			
	<i>Casual employee</i>	<i>Non-casual employee</i>	<i>Self-employed</i>	<i>Not-employed</i>	<i>Casual employee</i>	<i>Non-casual employee</i>	<i>Self-employed</i>	<i>Not-employed</i>
Average predicted probability for all females	17.1	41.3	8.2	33.3	17.2	41.2	7.5	34.0
<i>Actual proportion in Waves 2 to 4</i>	<i>17.1</i>	<i>41.3</i>	<i>8.3</i>	<i>33.3</i>	<i>17.1</i>	<i>41.3</i>	<i>8.3</i>	<i>33.3</i>
<i>Initial State (i.e., in wave 1) / State at t-1</i>								
Unemployed / Unemployed	21.1	19.6	3.3	56.0	23.8	23.5	3.2	49.5
Unemployed / Casual	51.3	19.7	4.4	24.6	35.4	20.2	4.3	40.0
Unemployed / Non-casual	8.3	73.5	1.1	17.0	12.2	45.1	1.9	40.8
Unemployed / Self-employed	21.0	12.7	39.1	27.3	24.6	22.4	11.4	41.6
Unemployed / Not in LF	13.7	10.3	2.8	73.2	17.8	16.2	2.7	63.2
Casual / Unemployed	30.7	23.5	3.6	42.2	42.6	29.1	2.8	25.4
Casual / Casual	61.3	19.5	3.9	15.2	55.8	22.8	3.5	18.0
Casual / Non-casual	10.5	77.2	1.1	11.1	22.7	55.0	1.7	20.7
Casual / Self-employed	27.9	14.0	39.4	18.7	42.6	27.2	10.0	20.2
Casual / Not in LF	22.2	13.7	3.4	60.7	37.0	22.7	2.8	37.5
Non-casual / Unemployed	19.5	34.0	4.6	41.9	17.2	61.3	1.8	19.7
Non-casual / Casual	44.7	32.3	5.8	17.2	26.4	55.6	2.5	15.5
Non-casual / Non-casual	5.1	85.2	1.1	8.6	5.9	81.5	0.7	11.9
Non-casual / Self-employed	16.8	19.0	46.8	17.4	17.7	59.4	6.8	16.1
Non-casual / Not in LF	14.3	20.3	4.5	61.0	15.7	51.8	1.9	30.6
Self-employed / Unemployed	18.9	14.9	15.8	50.3	18.3	7.7	44.4	29.6
Self-employed / casual	44.3	14.4	20.2	21.1	24.1	5.7	49.5	20.8
Self-employed / Non-casual	8.7	66.9	6.7	17.7	12.1	21.0	37.8	29.1
Self-employed / Self-employed	8.8	4.3	75.7	11.2	11.2	4.1	70.2	14.5
Self-employed / Not in LF	12.3	7.8	13.6	66.3	13.9	5.2	40.7	40.2
Not-employed not UE / Unemployed	19.0	13.4	4.3	63.3	19.9	13.6	4.6	61.9
Not-employed not UE / Casual	49.6	14.4	6.2	29.9	30.4	11.8	6.3	51.6
Not-employed not UE / Non-casual	9.5	64.4	2.0	24.2	11.4	30.3	3.1	55.2
Not-employed not UE / Self-employed	17.4	7.8	46.2	28.6	20.3	12.6	15.4	51.7
Not-employed not UE / Not in LF	11.6	6.5	3.4	78.5	13.7	8.5	3.6	74.2
<i>State at t-1 (unconditional on initial state)</i>								
Unemployed	21.0	24.6	5.3	49.1	21.9	36.0	6.3	35.7
Casual	48.2	23.1	6.8	22.0	31.4	31.8	7.6	29.2
Non-casual	7.8	74.1	1.8	16.3	10.9	53.9	4.8	30.4
Self-employed	18.4	13.5	46.6	21.5	21.8	34.3	14.6	29.3
Not in LF	14.8	14.5	4.8	65.9	18.3	29.8	5.8	46.1

wave with being casually employed in the previous wave we find that, irrespective of their initial state in wave 1, women who were unemployed in the previous period are 2 to 6 per cent more likely to be permanently employed in the subsequent period compared to women who were casually employed in the previous period. We had also observed this in Table 11 using a very different approach. However, when focussing on being employed per se we find that these same women are 5 to 10 per cent less likely to be in work when they were unemployed in the previous period compared to those employed as casuals. The implication from comparing Model I and II scenario analyses is that for women, spells of casual employment make you more likely to be in work in the future, but that this increase in the probability to be in work is driven by a higher probability of being employed as a casual. Compared to experiencing an unemployment spell, the probability to be permanently employed in the future is lower, all else being equal.

5.3.3 Results: Males

The estimation results for males are presented in Table 16. The fit of the more general model (Model II) is better than that of Model I, but not as much as an improvement as was the case for women. However, unobserved heterogeneity is still an important driver. From the significant coefficients on the one period lagged labour market states it follows that for men too, observed state dependence is the result of both true state dependence and spurious state dependence. The only qualitative difference between men and women is presented in the correlation between the random effects. For women we found the correlations between all three in-work states to be positive. For men we find that the correlation between casual and non-casual employment is positive too and even larger, but the correlations between non-casual employment and self-employment and between casual employment and self-employment are negative, which implies that the type of men who choose self-employment is very different from the type of men who find work as employees, be it in non-casual or casual employment.

The results of the scenario analysis based on the estimation results of Model I and II in Table 16 are displayed in Table 17. When first analysing the predictions from Model I and comparing probabilities of non-casual employment, we find that, in contrast to women, spells of casual employment noticeably increase the probability of being permanently employed in the future. The increase in probability is in the order of 4 to 8 percentage points. In terms of overall employment, the size of the differential is much larger again, lying in the range of 20 to 30 percentage points.

In Model II we slightly over estimate the probability of being self-employed and under estimate the probability of being not employed, but on the whole the model does very well on average (first line in Table 17) when compared to the observed fractions in the data (second row in Table 17). The predictions from Model II, however, point to a smaller advantage from casual employment. The enhanced probability of total employment now varies from just 2 per cent (when we condition on self-employment in the initial state) up to 15 per cent (when conditioned on being not in the labour force). Similarly, the enhanced probabilities of non-casual employment are also much reduced. Indeed, in the case where we condition on self-employment in the initial state the differential is negligible (just 0.4 per cent). For all other cases, however, a sizeable differential, ranging from a low of about two percentage points up to a high of almost five percentage points, remains.

Overall, it is very clear that as for women, casual employment enhances the probability of men being employed in the future. But unlike women, casual employment appears to also enhance the likelihood of securing non-casual jobs, and while this effect is diminished once unobserved heterogeneity is allowed for, it does not disappear entirely. In other words, for men at least, there is something innate about employment in a casual job that enhances the probability of being permanently employed in the future.

5.4 Summary

The modelling was undertaken to enhance the insights from the matrix tables in the preceding section. We employed two different approaches. In the first approach we predicted the long-run effects of spells of casual employment on the probability of obtaining non-casual employment in the future. This essentially is a cross-sectional method using historical data. In the second approach we predicted labour market outcomes in each wave using only the labour market outcome in the previous wave. This method makes better use of the panel nature of the data. Moreover, we are also able to take into account unobserved factors such as preferences, motivation, or attitudes. We limit our discussion of our findings to the results from the second approach.

Beginning first with the results for women, we find that, ignoring unobserved heterogeneity, being in casual employment in the previous wave does not increase the probability of being in non-casual employment today, compared to being unemployed in the previous wave. In fact, we find evidence of the reverse. An unemployed female has an estimated probability of

Table 16
Dynamic MNL without (I) and with (II) Unobserved Heterogeneity
(coefficients and mean marginal effects): Males

	<i>Dynamic MNL (I)</i>			<i>Dynamic MNL w/ Random Effects (II)</i>			<i>Mean Marginal Effects (of II)</i>			
	<i>C</i>	<i>N</i>	<i>SE</i>	<i>C</i>	<i>NC</i>	<i>SE</i>	<i>C</i>	<i>NC</i>	<i>SE</i>	<i>NE</i>
Melbourne	-0.348** [0.154]	-0.152 [0.145]	-0.106 [0.186]	-0.407** [0.192]	-0.191 [0.177]	-0.211 [0.256]	-0.019	0.003	-0.001	0.017
Brisbane	-0.311 [0.190]	0.024 [0.176]	0.118 [0.222]	-0.375* [0.226]	0.023 [0.215]	0.144 [0.296]	-0.027	0.012	0.009	0.006
Adelaide	-0.141 [0.195]	-0.073 [0.192]	-0.001 [0.249]	-0.181 [0.238]	-0.099 [0.237]	-0.060 [0.357]	-0.008	0.000	0.001	0.007
Perth	0.139 [0.201]	-0.032 [0.197]	-0.143 [0.244]	0.148 [0.256]	-0.009 [0.246]	-0.201 [0.351]	0.013	-0.002	-0.010	-0.001
Other major city	-0.160 [0.192]	-0.183 [0.185]	-0.313 [0.237]	-0.194 [0.234]	-0.227 [0.224]	-0.505 [0.325]	0.000	-0.001	-0.014	0.016
Inner-regional	-0.198 [0.141]	-0.245* [0.135]	-0.046 [0.169]	-0.279 [0.173]	-0.352** [0.166]	-0.105 [0.237]	-0.005	-0.018	0.006	0.017
Outer-region and beyond	-0.062 [0.165]	-0.060 [0.161]	0.075 [0.199]	-0.077 [0.212]	-0.088 [0.208]	0.083 [0.283]	-0.003	-0.007	0.006	0.003
Actual years work experience / 10	0.240*** [0.084]	0.367*** [0.080]	0.427*** [0.099]	0.250** [0.104]	0.420*** [0.096]	0.466*** [0.134]	0.000	0.002	0.001	-0.002
Did last year of school not in AU, UK, or NZ	-0.371** [0.182]	-0.168 [0.166]	-0.306 [0.206]	-0.433* [0.240]	-0.241 [0.217]	-0.501* [0.299]	-0.016	0.006	-0.012	0.022
Aged below 25	1.366*** [0.210]	1.344*** [0.209]	0.345 [0.311]	1.556*** [0.262]	1.571*** [0.255]	0.105 [0.405]	0.053	0.067	-0.046	-0.074
Aged between 25 and 35	0.890*** [0.177]	0.799*** [0.168]	0.637*** [0.210]	0.990*** [0.213]	0.933*** [0.204]	0.612** [0.273]	0.029	0.027	-0.006	-0.051
Aged 55 or above	-1.003*** [0.188]	-2.077*** [0.176]	-1.553*** [0.207]	-1.223*** [0.247]	-2.466*** [0.238]	-1.713*** [0.293]	0.016	-0.152	-0.013	0.150
Partnered	0.184 [0.115]	0.446*** [0.111]	0.614*** [0.141]	0.231 [0.141]	0.514*** [0.137]	0.750*** [0.199]	-0.011	0.020	0.019	-0.028
Lone parent										
Has a university degree	0.418*** [0.128]	0.756*** [0.121]	0.701*** [0.152]	0.485*** [0.157]	0.920*** [0.152]	0.895*** [0.214]	-0.011	0.041	0.013	-0.043
Has other post-school diploma	0.127 [0.118]	0.290** [0.113]	0.330** [0.140]	0.168 [0.142]	0.367** [0.143]	0.480** [0.205]	-0.007	0.014	0.011	-0.018
Completed Year 12 only	0.326** [0.136]	0.459*** [0.138]	0.389** [0.188]	0.380** [0.162]	0.549*** [0.165]	0.469* [0.269]	0.001	0.022	0.004	-0.027
Children 0 to 4 present	0.141 [0.155]	0.066 [0.145]	0.368** [0.172]	0.131 [0.192]	0.083 [0.182]	0.403* [0.226]	0.002	-0.007	0.015	-0.009
Children 5 to 9 present	-0.230 [0.151]	-0.064 [0.139]	0.032 [0.166]	-0.261 [0.170]	-0.054 [0.169]	0.107 [0.210]	-0.017	0.002	0.008	0.006
Children 10 to 14 present	0.354*** [0.130]	0.163 [0.127]	0.232 [0.153]	0.363** [0.154]	0.148 [0.156]	0.259 [0.208]	0.018	-0.007	0.004	-0.015
Casual in 2001	1.100*** [0.156]	1.037*** [0.172]	0.890*** [0.250]	1.932*** [0.296]	1.807*** [0.323]	1.224*** [0.469]	0.066	0.049	-0.010	-0.104
Non-casual in 2001	0.640*** [0.184]	1.790*** [0.172]	0.985*** [0.246]	1.442*** [0.354]	3.161*** [0.446]	1.329** [0.520]	-0.059	0.295	-0.043	-0.193
Self-employed in 2001	0.823*** [0.228]	1.064*** [0.231]	2.192*** [0.244]	0.827* [0.460]	1.289** [0.509]	4.819*** [0.782]	-0.070	-0.132	0.355	-0.152
Unemployed in 2001	0.311* [0.174]	0.351* [0.194]	0.001 [0.313]	0.527** [0.227]	0.617** [0.260]	0.201 [0.469]	0.012	0.028	-0.011	-0.028
Casual in t-1	2.633*** [0.153]	2.259*** [0.173]	1.802*** [0.246]	2.126*** [0.211]	1.902*** [0.238]	1.807*** [0.389]	0.071	0.034	0.011	-0.116
Non-casual in t-1	1.725*** [0.186]	4.229*** [0.170]	1.956*** [0.248]	1.362*** [0.230]	3.633*** [0.241]	1.727*** [0.370]	-0.099	0.370	-0.035	-0.236
Self-employed in t-1	1.829*** [0.238]	2.011*** [0.238]	4.355*** [0.243]	1.854*** [0.348]	1.879*** [0.369]	3.257*** [0.417]	0.019	-0.006	0.122	-0.136
Unemployed in t-1	1.096*** [0.178]	0.987*** [0.202]	0.809** [0.316]	1.159*** [0.204]	1.021*** [0.230]	0.724* [0.393]	0.037	0.023	-0.005	-0.054
Constant	-3.020*** [0.244]	-3.836*** [0.251]	-4.804*** [0.335]	-3.289*** [0.318]	-4.295*** [0.326]	-6.002*** [0.558]				
Standard deviation of μ_i				1.051*** [0.168]	1.214*** [0.220]	1.657*** [0.354]				
Rho (C and NC)				0.709						
Rho (C and NE)				-0.092						
Rho (NC and NE)				-0.189						
N (Individuals x years)	11145			11145						
Log likelihood	-6222.433			-6191.118						
LR chi-squared (Prob > chi-squared)	14372.27 (0.000)			18518.27 (0.000)						

Table 17
Average Predicted Probabilities (%) Based on Dynamic MMNLs: Males

	<i>Model I</i>				<i>Model II</i>			
	<i>Casual</i>	<i>Non-casual</i>	<i>Self-employed</i>	<i>Not-employed</i>	<i>Casual</i>	<i>Non-casual</i>	<i>Self-employed</i>	<i>Not-employed</i>
Average predicted probability for all males	12.1	52.8	17.9	17.2	11.9	52.9	18.1	17.0
<i>Actual proportion in Waves 2 to 4</i>	<i>12.1</i>	<i>52.8</i>	<i>17.9</i>	<i>17.2</i>	<i>12.1</i>	<i>52.8</i>	<i>17.9</i>	<i>17.2</i>
<i>Initial State (i.e., in wave 1) / State at t-1</i>								
Unemployed / Unemployed	25.5	17.8	5.6	51.1	26.5	20.3	6.2	47.0
Unemployed / Casual	46.9	24.8	6.0	22.3	36.1	24.9	9.5	29.5
Unemployed / Non-casual	8.9	76.6	3.1	11.4	10.5	63.2	6.3	20.1
Unemployed / Self-employed	16.7	14.3	52.0	17.0	27.1	23.5	23.0	26.4
Unemployed / Not in LF	13.0	10.2	3.8	73.0	14.9	13.4	4.8	66.9
Casual / Unemployed	35.4	22.1	8.6	34.0	42.2	25.7	7.7	24.3
Casual / Casual	54.4	25.7	7.8	12.2	49.6	27.6	10.1	12.7
Casual / Non-casual	10.3	79.5	4.0	6.2	14.9	69.8	6.6	8.6
Casual / Self-employed	17.9	13.6	60.1	8.4	38.0	26.4	24.2	11.4
Casual / Not in LF	21.3	15.0	6.8	56.9	29.4	20.8	7.2	42.6
Non-casual / Unemployed	20.0	40.8	8.2	30.9	18.9	56.1	6.5	18.5
Non-casual / Casual	31.9	48.9	7.6	11.6	22.4	59.6	8.4	9.6
Non-casual / Non-casual	3.6	90.5	2.4	3.5	3.6	89.0	3.6	3.8
Non-casual / Self-employed	9.9	25.0	57.5	7.5	16.3	55.2	20.2	8.3
Non-casual / Not in LF	12.3	28.5	6.7	52.5	13.3	47.1	6.2	33.4
Self-employed / Unemployed	24.0	19.6	26.3	30.1	14.0	14.8	54.4	16.8
Self-employed / casual	39.0	24.2	25.4	11.4	15.7	15.2	61.1	8.0
Self-employed / Non-casual	7.2	74.2	13.0	5.6	4.6	41.4	48.3	5.7
Self-employed / Self-employed	6.0	5.8	84.6	3.5	7.1	8.8	80.2	4.0
Self-employed / Not in LF	14.5	13.5	21.3	50.8	8.9	11.1	51.3	28.7
Not-employed not UE / Unemployed	21.5	14.5	6.4	57.6	21.4	15.4	6.3	57.0
Not-employed not UE / Casual	43.1	22.0	7.5	27.4	31.3	20.2	10.1	38.4
Not-employed not UE / Non-casual	8.6	72.4	4.1	14.8	9.6	55.5	7.1	27.7
Not-employed not UE / Self-employed	13.7	11.2	56.6	18.6	23.0	18.7	24.2	34.0
Not-employed not UE / Not in LF	10.3	7.8	4.0	77.9	11.0	9.3	4.5	75.2
<i>State at t-1 (unconditional on initial state)</i>								
Unemployed	22.8	30.4	11.5	35.4	21.5	37.5	15.4	25.6
Casual	37.6	36.8	11.0	14.6	26.2	40.6	17.8	15.4
Non-casual	6.2	81.9	4.9	7.0	6.7	70.6	12.7	10.0
Self-employed	11.6	17.6	61.2	9.7	18.6	37.0	30.8	13.6
Not in LF	13.5	21.1	9.2	56.3	14.3	31.0	14.6	40.2

24.6 per cent of being in a non-casual job next year, compared with 23.1 per cent for a female employed in a casual job. When accounting for unobserved heterogeneity we find that this effect is still present. Indeed, the edge unemployment has over casual employment when it comes to being in non-casual employment in the future increases (36.0% versus 31.8%). However, compared to being unemployed, casual employment in the previous period still greatly enhances the probability of being in work in the current period.

For men we find that, ignoring unobserved heterogeneity, being in casual employment in the previous wave substantially increases the probability of being in non-casual employment today, compared to being unemployed in the previous wave (36.8% versus 30.4% for casual or unemployed in the previous wave, respectively). Furthermore, after accounting for unobserved heterogeneity, more men are predicted to transition into non-casual employment. The difference between previously unemployed and casual employees, however, is much reduced (40.6% for casuals in the previous wave versus 37.5% for the unemployed).

Controlling for unobserved heterogeneity thus has the following effect:

- It lifts the proportion of persons transiting into non-casual employment from both casual employment and unemployment.
- It lifts this proportion more strongly for unemployment than for casual employment.

The first finding implies that if we do not account for unobserved heterogeneity we will be too pessimistic about individuals' transition probabilities into non-casual employment. At first glance the second finding may seem surprising, but is consistent with the idea that every unemployed person is by definition searching for employment. Although on-the-job-search is a reality, one would expect search intensity to be less if one were casually employed than if one were unemployed. It, therefore, should not be surprising to find that the probability of being in non-casual employment is higher conditional on being unemployed versus casually employed. The question then is why we only observe this for women. One possible explanation is that men are much more likely to suffer from being discriminated against by employers who prefer someone in work over an individual who is unemployed. In other words, women suffer less of a stigma effect from unemployment than do men. This would then give rise to the enhancing effect of casual employment, relative to unemployment, in securing non-casual employment that we observe for men.

6. Following Casual Employees

While the preceding analysis provides a very detailed examination of the extent of mobility in and out of different labour market states for the population as a whole, the only variables that we could include in our models were those that were observable for all sample members. This thus precluded the inclusion of variables describing jobs and employers given these are only observed for those individuals who are currently employed. In this section, therefore, we revisit the issue of what determines labour market states, but after limiting the sample to individuals employed (in their main job) on a casual basis.

6.1 *Where Do Casuals Go?*

We begin by displaying, in Table 18 below, the labour market outcomes in 2004 (wave 4) for those individuals who were casual employees in wave 1. These figures are analogous to the numbers reported in the first row of Table 4, but distinguish men and women separately. As can be clearly seen, the main difference between men and women is that women are more likely to remain in casual employment or choose to leave the labour force.

Table 18
Labour Market Transitions, 2001 to 2004 (%): Casual Employees in Wave 1

<i>Outcome in 2004</i>	<i>Males</i>	<i>Females</i>
Casual employee	35.5	41.7
Non-casual employee	43.6	34.7
Self-employed	8.6	4.6
Unemployed	4.0*	2.9
Not in the labour force	8.4	16.0
Total	100.0	100.0

* denotes estimate based on a very small cell size ($n < 20$) and so should be treated with caution.

There is the risk that remaining in casual employment is interpreted as meaning remaining in the same casual job. Similarly, there is a natural tendency to also assume that a transition from casual to non-casual employment will necessarily involve a change in employer. The extent to which changes in employment status are associated with changes in employer is something we can examine when using the year-to-year transition data available from the HILDA Survey. Thus in Table 19 we report annual labour market transitions for casual employees cross-classified by whether the respondent was still working for the same

employer. This table reveals that switching from casual to non-casual employee status more often than not does involve a change of employer. Thus 14.3 per cent of male casual employees in wave t were working in non-casual jobs with a different employer one year later, compared with 11.6 per cent who made the transition without changing employers. For women, the comparable figures are 12.9 and 8.0 per cent, respectively. Nevertheless, it is also clear from these figures that it is not true that employers who use casual employment will not offer the non-casual alternative; around 40 per cent of all casual to non-casual transitions occur with the same employer. This finding is consistent with the view that employers use casual employment as a screening tool, as well as with the possibility that workers who want flexibility at the start of their career may prefer casual employment prior to fully ‘committing’ to an employer. The data are unable to distinguish between these two hypotheses, and of course both can co-exist.

Table 19 also confirms that while the majority of casual employees who do not change employment status continue to work for the same employer, there is a sizeable minority (30% of male casual employees and just under 20% of female casuals) who are working casually with a different employer one year later.

Table 19
Average Year-to-year Labour Market Transitions (%): Casual Employees

<i>Outcome in wave $t+1$</i>	<i>Males</i>	<i>Females</i>
Works for same employer		
Casual employee	35.8	47.6
Non-casual employee	11.6	8.0
Self-employed	2.1	1.4
Works for different employer		
Casual employee	15.0	10.7
Non-casual employee	14.3	12.9
Self-employed	3.6	2.8
Employed, but unable to determine whether still working for the same employer	4.7	1.9
Not employed		
Unemployed	5.2	2.5
Not in labour force	7.8	12.2
Total	100.0	100.0

We now move to an examination of the personal and job characteristics that affect the transitions of casual employees. For this analysis we selected all persons working as casual employees in wave t and modelled their labour market outcome in wave $t+1$. Our findings here thus apply to casual employees only and are no longer population estimates. Like the analyses reported on in Section 5, we again employ multinomial logit models.³⁷ but instead of specifying the outcomes casual, non-casual, self-employed, and not-employed, we now distinguish seven outcomes for the labour market state in wave $t+1$. These are: casual with the same employer; casual with a different employer; non-casual with the same employer; non-casual with a different employer; self-employed, unemployed; and not in the labour force. In addition, we do not attempt to estimate models with random effects. This was not thought feasible given the limitations of the estimation software used.³⁸ All control variables are measured at time t .

Our findings for women (Table 20) are discussed below, followed by a short section highlighting how results for males (Table 21) differ from those found for females.

6.1.1 Age

We find that young women, under 25 years of age, are more likely to have made the transition to non-casual employment with a new or the same employer, or to have switched employers but remained casual, than women aged 35 to 45 years (the reference category). This is expected and entirely consistent with the notion of casual employment as an entry point into the labour market and its role as stepping stone. One would expect casual employment to play this role much more strongly for young women than for women of prime age, which is what we find. Whereas women under 25 were more likely to have transitioned from casual to non-casual or to remain casual but switch employers, women aged 55 or over are much more likely to have left the labour market altogether. Women aged 25 to 35, too, are more likely to have left the labour market than women aged 35 to 45, most likely due to fertility. Importantly, they are also more likely to have moved to non-casual employment. In summary then, young female casual employees are relatively more likely to move into non-casual employment, mature age female casuals are most likely to withdraw from the labour market, and casual females aged between 25 and 35 years either withdraw, most likely due to

³⁷ We repeated the analysis using only the casuals in wave 1 and modelling their outcome in wave 4. The results are reported in Table A3 and A4 in the Appendix, but we limit our discussion to the findings of the annual transition model.

³⁸ The inclusion of this many potential outcome states severely restricts the number of explanatory variables we can include in a dynamic MMNL model. The estimation software we employ only permits 100 parameters to be estimated which, with 7 outcome states, restricts us to just 15 explanatory variables (plus a constant).

fertility, or move into non-casual employment. It is the 35 to 45 year old female casuals who are most likely to remain in casual employment.

6.1.2 Household Characteristics

Partnered women are less likely to remain causally employed with the same employer. Furthermore, compared to single women, they are less likely to have made the transition to non-casual employment with the same employer, though this is outweighed by a (larger) increased probability of making the transition to non-casual employment with a different employer. Partnered women are also more likely to have left the labour force altogether, which presumably is the result of having the financial option to do so. The presence of children aged 5 to 9 years old increases the probability of remaining casually employed with the same employer and reduces the probability of become non-casually employed with a different employer. A very intuitive explanation here is that families might have a desire to combine a stable full-time job for the primary earner with a flexible (part-time) job for the secondary earner while the children are in school but not yet old enough to be self-sufficient. A transition to non-casual employment with a different employer is not a desirable option in this case given it is likely to involve a change in hours or a different commuting arrangement.

6.1.3 Job Characteristics

Those who have been in their current job longer are more likely to remain casual with the same employer and less likely to switch employer and remain casual, or become non-casual (be it with the same or a different employer). Clearly, one of the indirect indicators of being content with one's employment situation is the length of tenure in the current job, so this result is to be expected.

The summary statistics reported in Table 19 indicated that 40 per cent of casual employees that move into non-casual employment do so without switching employers. However, for those working in the public sector this does not appear to be a viable option. For them, switching employers appears to be the only option.

A desire to work more or fewer hours is a signal that the current employer does not allow enough flexibility for the employee to reach her desired level of hours, and it appears that for women wanting to reduce their hours becoming self-employed is an important mechanism for resolving this problem. In contrast, women who want more hours tend not to use the self-employment option and instead are much more likely to switch employers, be it to a non-casual job or a casual job. It thus seems that women wanting to increase their hours have

many more options to do so within the realm of regular casual or non-casual work and do not need (or want) to use self-employment.

Controlling for the desire to work more hours, we find that women working part-time hours are more likely to remain in a casual job with the same employer and less likely to have transitioned to non-casual employment, be it with the same employer or a different employer. This is consistent with the knowledge that casual jobs are often part-time jobs and that a preference for part-time work (expressed by actually working part-time) often implies working as a casual.

A particularly interesting variable is perceptions about the likelihood of quitting. Given the lesser attachment between employee and employer implicit in most casual employment arrangements, we would expect casual employees that express a high probability of quitting over the course of the next year to do just that, and that is what we find. They are less likely to be working casually with the same employer and more likely to have exited the labour force. However, we also find that female casual employees who express high quit probabilities (bearing in mind job satisfaction is held constant) are also more likely to change employment status within their current employer. In other words, females with high quit probabilities will often be offered non-casual employment conditions as an inducement to not leave the firm. Further, the women who express the highest quit probabilities are actually less likely than other women to find non-casual work with another employer. Our findings also suggest that it would be wrong to conclude that being a casual employee and expressing a high likelihood of quitting necessarily means the respondent is dissatisfied with casual employment per se. If that were the case, we would have expected a strong negative effect on the probability of working on a casual basis with a different employer (whereas we find a small, insignificant, positive effect).

Turning specifically to job satisfaction at time t , we find that women who express either medium or high levels of satisfied with their current job to be much more likely to remain casually employed with the same employer and less likely to become unemployed or leave the labour force. In other words, job satisfaction is associated with employment stability. Far more surprising is that this effect is not more gradual. There is little difference between the highly satisfied and the moderately satisfied (though it is true that the former are far less likely to change employers to take another casual jobs), and the size of the dissatisfied group is very small. Such findings are consistent with arguments that most female casual employees are very content with their employment arrangements.

Table 20
MNL of Wave $t+1$ Status for Casual Employees at Wave t (Mean Marginal Effects):
Females

<i>Labour market outcome in $t+1$ / Employer at $t+1$</i>	<i>C same</i>	<i>C new</i>	<i>NC same</i>	<i>NC new</i>	<i>SE either</i>	<i>UE n.a.</i>	<i>NILF n.a.</i>
Actual years work experience / 10	0.012	0.021	0.000	0.003	-0.010	0.000	-0.027*
Last year of school not in AU, UK, or NZ	0.012	-0.014	-0.036	-0.041	-0.004	0.013	0.071
Aged below 25	-0.072	0.100**	0.004	0.036	-0.028*	0.005	-0.044
Aged between 25 and 35	-0.069*	0.020	0.013	0.001	-0.011	0.010	0.035
Aged 55 or above	-0.050	-0.010	-0.049**	-0.032	0.038	-0.011	0.114**
Partnered	-0.067**	0.001	-0.031*	0.051**	0.009	-0.003	0.039*
Lone parent	-0.033	-0.026	-0.016	0.015	0.007	0.018	0.035
Has a university degree	-0.008	-0.011	0.032	0.029	0.029	-0.009	-0.062***
Has other post-school diploma	-0.054	-0.006	-0.011	0.062	0.012	0.001	-0.005
Completed Year 12 only	-0.048	0.009	0.046**	0.035	-0.004	-0.013	-0.026
Children 0 to 4 present	-0.034	-0.013	0.021	-0.005	0.030*	-0.005	0.006
Children 5 to 9 present	0.103***	0.007	-0.007	-0.049***	-0.024**	0.001	-0.030
Children 10 to 14 present	0.012	0.011	0.023	0.010	-0.020**	-0.003	-0.033*
Disadvantaged neighbourhood	0.023	-0.019	-0.014	0.008	-0.002	0.002	0.001
Years in current job	0.017***	-0.007**	-0.008**	-0.005*	0.003**	0.000	-0.001
Years in current occupation	0.003	-0.001	0.001	0.001	0.000	-0.004***	0.000
Works in public sector	-0.054	-0.032	-0.003	0.103***	-0.006	0.035	-0.042*
Would like to work fewer hours	-0.060	0.041	-0.033**	0.028	0.059***	-0.013	-0.021
Would like to work more hours	-0.079***	0.033**	0.007	0.079***	-0.010	-0.001	-0.028
Works part-time	0.143***	-0.015	-0.087***	-0.104***	0.009	0.000	0.054***
Prob. of voluntary quit 34-67%	-0.063*	-0.002	0.023	-0.028	-0.004	0.013	0.062**
Prob. of voluntary quit >67 %	-0.164***	0.019	0.085***	-0.044**	0.021	0.012	0.071***
Medium job satisfaction	0.146***	-0.014	-0.030	-0.008	-0.004	-0.035***	-0.056**
High job satisfaction	0.183***	-0.096***	-0.041*	0.039	0.012	-0.056***	-0.040

N = 2194 (3,148,186 weighted)

LR chi-squared = 1141.88; Prob > chi2 = 0.000; Pseudo R² = 0.15

Notes: Mean marginal effects are based on a weighted MNL using longitudinal weights from wave 4.

Casual employment is defined using the ABS entitlements definition.

The classification for job satisfaction is: 0-4 = Low; 5-7 = Medium; 8-10 = High.

The disadvantage neighbourhood variable is a binary variable that identifies whether respondent lives in a region in the bottom half of the distribution of the index of relative socio-economic disadvantage (SEIFA 96).

Other controls included are 1-digit occupation and industry identifiers, state capital identifiers, identifiers of the level of remoteness, and year effects.

Standard errors (adjusted for using repeated observations on the same individual) are omitted for clarity, but reported in the replicated Table A5 in the Appendix

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 21
MNL of Wave $t+1$ Status for Casual Employees at Wave t
(mean marginal effects): Males

<i>Labour market outcome in $t+1$ / Employer at $t+1$</i>	<i>C same</i>	<i>C new</i>	<i>NC same</i>	<i>NC new</i>	<i>SE either</i>	<i>UE n.a.</i>	<i>NILF n.a.</i>
Actual years work experience / 10	0.031	-0.018	-0.009	0.041*	0.020	-0.033**	-0.031
Did last year of school not in AU, UK, or NZ	-0.069	0.001	-0.099*	0.052	0.004	0.031	0.081
Aged below 25	-0.025	0.099	0.021	0.045	-0.008	-0.082**	-0.049
Aged between 25 and 35	-0.023	0.062	-0.019	0.023	0.014	-0.048***	-0.010
Aged 55 or above	0.003	0.046	-0.085***	-0.094***	0.016	0.014	0.101
Partnered	-0.092**	0.065**	0.004	-0.031	0.025	-0.001	0.030
Has a university degree	-0.021	-0.015	0.018	0.019	-0.032*	-0.010	0.040
Has other post-school diploma	-0.057	-0.002	0.009	-0.003	0.030*	-0.013	0.036
Completed Year 12 only	0.056	-0.016	-0.029	0.046	0.011	-0.031**	-0.038**
Children 0 to 4 present	0.107*	-0.068**	0.031	-0.024	-0.010	0.023	-0.059***
Children 5 to 9 present	-0.104**	0.031	0.046	0.015	0.052**	-0.003	-0.038
Children 10 to 14 present	0.012	0.057*	-0.036	-0.017	-0.009	-0.032**	0.025
Disadvantaged neighbourhood	0.046	-0.016	0.025	0.011	-0.029**	-0.024*	-0.014
Years in current job	0.017***	-0.006	-0.008	-0.001	0.001	-0.006	0.002
Years in current occupation	0.003	0.000	-0.003	0.000	0.001	-0.001	0.001
Works in public sector	-0.038	-0.074*	0.004	-0.017	0.031	0.092	0.000
Would like to work fewer hours	-0.079*	0.052	0.054	-0.050*	0.030	-0.016	0.009
Would like to work more hours	-0.005	0.012	0.023	0.026	-0.009	-0.025*	-0.021
Works part-time	0.055	-0.035	-0.014	-0.114***	-0.004	0.024	0.089***
Prob. of voluntary quit 34-67%	-0.035	0.064*	0.081**	-0.040	-0.020	0.002	-0.052***
Prob. of voluntary quit >67 %	-0.171***	0.096***	0.088***	-0.062***	0.032	0.004	0.013
Medium job satisfaction	0.051	-0.030	0.009	0.027	-0.033	-0.010	-0.013
High job satisfaction	0.083	-0.011	-0.011	0.020	-0.031	-0.036*	-0.014

No of observations:= 1369 (2,291,418 weighted)
LR chi-squared = 960.52; Prob > chi-squared = 0.000; Pseudo R² = 0.15

Notes: Mean marginal effects are based on a weighted MNL using longitudinal weights from wave 4.
Casual employment is defined using the ABS entitlements definition.
The classification for job satisfaction is: 0-4 = Low; 5-7 = Medium; 8-10 = High.
The disadvantage neighbourhood variable is a binary variable that identifies whether respondent lives in a region in the bottom half of the distribution of the index of relative socio-economic disadvantage (SEIFA 96).
Other controls included are 1-digit occupation and industry identifiers, state capital identifiers, identifiers of the level of remoteness, and year effects.
Standard errors (adjusted for using repeated observations on the same individual) are omitted for clarity, but reported in the replicated Table A6 in the Appendix
* significant at 10%; ** significant at 5%; *** significant at 1%

6.2 *How are Men Different?*

Compared with men aged between 35 and 44 years (the reference category), young men, under 25 years, like young women, are more likely to have made the transition to non-casual employment with a new or the same employer, or to have switched employers but remained casual (though these age differences are not statistically significant for men). Where men differ from women is at the older end of the age distribution. Men aged 55 years and over are most likely to remain in casual employment with the same employer, unlike women where we found it was the reference group (women between 35 and 45 years) that were most likely to do so. What mature aged men and women have in common is that they are, not surprisingly, the most likely to leave the labour force and least likely to have transitioned to non-casual employment.

The effect of children also differs. For men, the presence of children aged 5 to 9 years old reduces the probability of remaining casually employed with the same employer and increases the probability of becoming non-casually employed, be it with the same or a different employer. By contrast, casually employed women with children from this age group were much more likely to remain casual with the same employer. Again, this would seem consistent with the notion expressed that families typically the primary earner to have stable secure full-time employment. However, if that were the case then we would expect the effect of the presence of young children (under 5) to support that theory too. In fact, we find that men in casual jobs with children under 5 years of age are actually more likely to be still working in the same casual job one year later. An alternative explanation could therefore be that workers either do not like to change their employment when the children are very young, or that casual employment provides more flexibility to combine work and family for men too.

Turning to work hours preferences, men in casual jobs who prefer to work fewer hours tend to either switch to non-casual jobs with the same employer or change employers but remain in casual employment. In contrast, women who wanted to work fewer hours were more likely to use self-employment.

Those men working part-time tend to either remain casual with the same employer or leave the labour force altogether. The difference with part-time working women is that women are much more likely to remain casual with the same employer than are men, even though the effect is positive for both.

The results on quit probabilities for casual men are similar to those for casual women, but with one noticeable difference; men with high quit probabilities are very likely to change to another casual job with another employer. This thus provides even stronger evidence for the view that quitting mostly does not reflect an adverse reaction to casual employment per se.

Finally, the results on job satisfaction suggest a similar pattern as for women, but the effects are much weaker and never statistically significant. Variations in job satisfaction thus simply do not seem to matter much for the future labour market status of male casual employees.

6.3 Summary

In conclusion, the analysis reported on in this section has provided us with additional insights about the nature of casual employment and its impact on labour market transitions. Not surprisingly, future labour market outcomes are shown to be sensitive to such things as length of job tenure, working hours preferences, and subjective quit probabilities. Perhaps the major insight is one that in hindsight should be very obvious; if persons working in casual jobs indicate the match with the job could be better than it currently is, they are likely to do something about it.

7. Are Casual Employees Trapped in Casual Jobs?

While the preceding analyses provide a very detailed examination of the extent of mobility in and out of casual employment, it still does not provide a good guide to the more subjective question of whether or not many casual employees are ‘trapped’ in these jobs. That is, even if some workers spend many years working in casual jobs, can it be concluded that this is because such individuals are unable to find the presumably more desirable non-casual alternative? In this section we try to get at this issue, albeit crudely, by cross-tabulating, for both casual and non-casual employees, overall job satisfaction with the self-reported probability that the individual will leave their job voluntarily during the next 12 months. The intuition behind cross tabulating job satisfaction with the probability of quitting is that one can think of a ‘trapped worker’ as someone who is unhappy in their job but who has no realistic prospect of securing an alternative job.

Job satisfaction is measured using a single item scored on an 11-point scale where 0 represents total dissatisfaction and 10 represents complete satisfaction.³⁹ The probability of voluntarily leaving the current job within the next 12 months is expressed as a percentage ranging from 0 (i.e., no chance) to 100 (i.e., absolute certainty), and was only collected from employees. As a consequence, wherever this variable is used the analysis is restricted to employees (and again, all owner managers are defined as self-employed). A possible alternative variable available in the HILDA data set is the self-reported probability of finding a job at least as good as the current one should the person lose his job. This was dismissed given it only indicates that the person may be able to easily find an equally unsatisfying job.

For ease of exposition we aggregate responses on both the job satisfaction and quit probability variables into three broad groups. For job satisfaction we distinguish between low, medium and high satisfaction groups, where low job satisfaction is defined as a score below the scale mid-point (that is, 0 to 4), medium satisfaction is a score below the mean but not less than the scale mid-point (i.e., 5 to 7), and high satisfaction is any score above the mean (i.e., 8 to 10).⁴⁰ The probability of quitting is also divided into three groups representing low, medium and high probability. In this case, the division is achieved by simply dividing the scale into three equal components.⁴¹ Thus a low quit probability is

³⁹ The item is worded: “All things considered, how satisfied are you with your job”. It followed immediately after five other items concerned with different aspects of the job (such as pay, job security and hours).

⁴⁰ The population weighted mean of job satisfaction, averaged over waves 1 to 4, is 7.6.

⁴¹ This, however, is not the same as dividing the sample into three groups of equal size.

between 0 and 33 per cent, a medium probability is between 34 and 66 per cent, and a high probability is between 67 and 100 per cent.

The resultant cross-tabulation is presented in Table 22. The key feature of this table is the very low proportions of casual employees reporting both low job satisfaction scores and low probabilities of quitting. That is, if it is sensible to define a trapped employee as someone with both low job satisfaction and a low probability of quitting their job, then we can be reasonably certain that very few casual employees are trapped – less than two per cent fall into this category.⁴² A similarly low rate is also found for non-casual employees.

In large part these low figures reflect the fact that relatively few employees report a job satisfaction score below 5 on the 0 to 10 scale. It might, therefore, be argued that setting an upper limit of a score of 4 in defining low job satisfaction is too restrictive. If we alternatively define a ‘trapped employee’ as someone who scores below the population average on job satisfaction (i.e., 7 or below) as well as having a low probability of quitting, then we see the estimated proportions of ‘trapped employees’ rising to 18 per cent among male casual employees and 14 per cent among their female counterparts. These proportions, however, are noticeably lower than those for non-casual employees – just over 25 per cent of male employees in non-casual jobs and 21 per cent of female employees in non-casual jobs would be defined as ‘trapped’ using this definition. The main reason for this is that non-casual workers have much lower probabilities of quitting their job than casual workers, but appear not to be much happier with their jobs.

The inference that might be drawn therefore is that a non-casual employee is more likely to be trapped in their job than a casual worker. The reasons for this we can only speculate about. Perhaps the types of workers found working in ‘bad’ non-casual jobs are strongly averse to the risks associated with job changing, or have relatively poor alternative prospects, and thus prefer to retain their current job even though that job is not very satisfying. For many workers who accept casual employment, on the other hand, the job is often less central in their lives (e.g., married women, students), and long-term attachment to that job was never a large consideration when that job was accepted.

⁴² Though note that since the number of cases involved here are so small, we end up with population estimates that are very imprecise and unreliable.

Table 22
Job Satisfaction and the Self-reported Probability of Voluntary Quitting in the Next 12 Months (cell %): Employees

<i>Job satisfaction</i>	<i>Probability of leaving</i>			<i>Total</i>
	<i>Low</i>	<i>Medium</i>	<i>High</i>	
Casual men				
Low	1.8*	2.0*	5.1	8.9
Medium	16.1	8.8	12.8	37.6
High	37.5	7.2	8.8	53.5
Total	55.4	17.9	26.7	100.0
Non-casual men				
Low	1.9	1.2	3.0	6.1
Medium	23.4	6.4	5.7	35.4
High	51.3	3.7	3.5	58.5
Total	76.6	11.3	12.2	100.0
Casual women				
Low	1.1*	1.0*	3.6	5.7
Medium	12.8	7.4	10.9	31.1
High	44.7	7.9	10.7	63.2
Total	58.6	16.3	25.1	100.0
Non-casual women				
Low	2.1	0.8*	2.8	5.7
Medium	18.9	6.3	6.2	31.4
High	53.5	4.8	4.6	62.8
Total	74.5	12.0	13.6	100.0

Notes: Calculated for each wave separately using population weights and subsequently averaged to obtain the average over all waves. Reported are cell percentages and column and row percentages for the totals. Casual employment is defined using the ABS entitlements definition. The classification for job satisfaction is: 0-4 = Low; 5-7 = Medium; 8-10 = High. The classification for the probability for voluntarily quitting is: 0-33 = Low; 34-66 = Medium; 67-100 = High. * denotes estimate based on a very small cell size (n<20 in any of the waves) and so should be treated with caution.

It should, however, be borne in mind that according to the HILDA Survey data, most workers are reasonably happy in their jobs. If the intersection between low satisfaction and a low probability of quitting is a reasonable indicator of whether a worker is ‘trapped’ then perhaps all we should conclude is that relatively few Australian workers feel trapped in their jobs.

Table 22 makes very little use of the longitudinal nature of the HILDA Survey data. We thus also examined the persistence of job satisfaction from one wave to the next, and whether the degree of persistence varied with contract type. This was achieved by cross-tabulating job satisfaction in the previous year with current job satisfaction scores. Although it has been established that unhappy casuals have a higher probability of quitting, they need not necessarily move into other employment and could drop out of the labour market in larger proportions than unhappy non-casuals.

Table 23 reports the job satisfaction transition rates after pooling all waves, allowing for exits out of work, and conditioning on being in employment in the previous year, and shows that the proportion of exits from employment into non-employment is highest for unhappy casuals (although the cell sizes are again far too small to make robust population inferences). In general, casual employees have higher transitions into non-employment, regardless of the level of job satisfaction. However, for each labour market state, be it casual, non-casual, or self-employment, the proportion that transits into non-employment is highest for those who are unhappy. The table also shows that for those in employment in two consecutive waves, there is much more upward mobility in job satisfaction than there is downward mobility. That is, situations improve much more than they deteriorate.

Overall, the admittedly cursory analysis presented in this section provides little ammunition for those who believe casual employment is a trap. While we know that many casual employees will not move into non-casual employment, at least not any time soon, this still does not mean that they are unhappy with their current situation. As we have seen, only a small fraction of casual employees have both low job satisfaction levels and believe they could not easily leave their current job. Indeed, if we expand the definition of low job satisfaction to simply mean below average satisfaction, then it is the non-casual population where the likelihood of being ‘trapped’ is highest.

Such findings are broadly consistent with other research using the HILDA Survey data which has investigated differences in job satisfaction between casual and non-casual employees (Wooden and Warren, 2004). That research concluded that differences in job satisfaction levels are modest and restricted to those working full-time. Furthermore, even then the size of the effect is only marked among men.

Table 23
Job Satisfaction Transitions from Wave *t-1* to *t* (row %)

<i>Job satisfaction in wave t-1</i>	<i>Job satisfaction in wave t</i>				
	<i>Not-employed</i>	<i>Low</i>	<i>Medium</i>	<i>High</i>	<i>Total</i>
Casual men					
Low	18.1	21.8	35.8	24.3	100
Medium	12.7	7.7	40.2	39.4	100
High	12.4	2.1*	23.8	61.8	100
Total	13.0	6.0	31.3	49.7	
Non-casual men					
Low	6.0	24.6	44.1	25.3	100
Medium	3.8	8.3	53.2	34.7	100
High	2.9	2.3	22.2	72.5	100
Total	3.4	5.9	34.5	56.2	
Self-employed men					
Low	8.0*	26.1	44.2	21.7*	100
Medium	3.6	6.6	55.7	34.2	100
High	3.2	2.3*	19.0	75.6	100
Total	3.6	5.1	32.5	58.9	
Casual women					
Low	26.0	16.3	36.0	21.7	100
Medium	13.8	8.7	38.1	39.5	100
High	14.2	2.1	21.1	62.6	100
Total	14.7	5.0	27.2	53.0	
Non-casual women					
Low	11.3	21.8	38.3	28.7	100
Medium	6.9	7.4	48.7	37.0	100
High	5.6	2.3	19.8	72.3	100
Total	6.3	5.0	29.8	58.8	
Self-employed women					
Low	21.3 *	16.6 *	27.9 *	34.2 *	100
Medium	10.7	7.1	45.8	36.4	100
High	9.8	0.9 *	15.6	73.8	100
Total	10.5	3.3	24.0	62.2	100

Notes: Calculated for each pair of consecutive waves using the balanced panel and longitudinal person weights from wave 4. Population is employed individuals at time *t-1*.

Classification for job satisfaction is: 0-4 = Low; 5-7 = Medium; 8-10 = High.

* denotes estimate based on a very small cell size ($n < 20$ in any of the waves) and so should be treated with caution.

8. Casual Employment and Retirement

The final issue examined in this report is the relationship between casual employment and retirement. For this analysis we rely mainly on data from the special retirement module included in the third wave of the HILDA survey. This module, which was targeted at people aged 45 years or over, had a particular focus on the retirement transition process, asking questions about both plans for retirement (for those currently employed) and the experience of retirement (for those who have retired). The module included a question which identified what the respondent was doing just prior to retirement, but perhaps somewhat unfortunately for this study, did not identify whether the last job involved casual employment or not. This can be deduced from other information collected in the first wave, but only for people who retired recently; within the last six years when measured at wave 1 (meaning within the last 10 years when measured at wave 4).

In the analysis to follow the emphasis is on older workers (aged 45 years or over) and their current employment patterns and plans. We are particularly interested in whether these workers are, or intend, using casual employment as a means of gradually withdrawing from the labour force.

We begin, however, by simply documenting, in Table 24 and Table 25, the relationship between current labour market status and retirement status. As would be expected, the majority of non-workers have fully retired and the large majority of retirees are not working. There are, however, considerable numbers of persons who describe themselves as only partly retired (about 7 per cent of all persons aged 45 years or over), most of whom are still employed. Note also that while we would expect that no person can be both employed and fully retired, in the data we actually have a small number of cases classified into this category. This reflects the subjective nature of the retirement concept. Some respondents (admittedly a tiny minority) think of themselves as having fully retired (perhaps from their long-term career) even though they are currently undertaking some form of paid work.

As revealed by Table 24, among men in the 45 years or older age group, just over half have yet to retire. Of the remainder, 41 per cent have fully retired and about 7 per cent have partially retired. Among women (Table 25) the situation is a little different, with only 38 per cent yet to retire in any way. There is also a small group for whom the retirement concept simply does not apply since they have never been in paid employment.

Table 24
Current Labour Market Status by Retirement status (%):
Males aged 45 years or over, Wave 3

<i>Labour market status</i>	<i>Fully retired</i>	<i>Partly retired</i>	<i>Not retired at all</i>
Casual	1.6*	25.5	72.9
Non-casual	0.0*	2.0	98.0
Self-employed	1.1*	14.2	84.7
Not-employed	86.1	6.0	7.9
Total	40.6	7.4	52.0

Note: Population estimates using wave 3 person weights.

* denotes estimate based on a very small cell size (n<20 in any of the waves) and so should be treated with caution.

Table 25
Current Labour Market Status by Retirement status (%):
Females aged 45 years or over, Wave 3

<i>Labour market status</i>	<i>Fully retired</i>	<i>Partly retired</i>	<i>Not retired at all</i>	<i>Was never in paid employment</i>
Casual	0.9*	26.2	73.0	-
Non-casual	0.0*	3.0	97.0	-
Self-employed	0.1*	21.8	78.1	-
Not-employed	79.5	4.9	6.0	9.7
Total	48.7	7.4	37.9	5.9

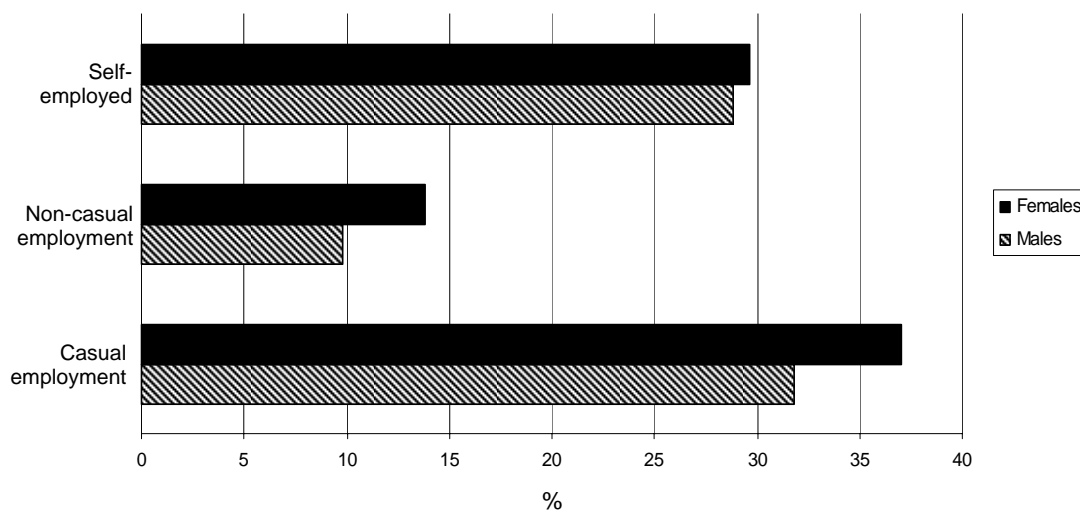
Note: Population estimates using wave 3 person weights.

* denotes estimate based on a very small cell size (n<20 in any of the waves) and so should be treated with caution.

One of the main purposes of the wave 3 retirement module was to identify so-called ‘transition jobs’. Within the survey instrument these jobs were simply defined as any job that assists the worker to retire from paid work gradually. This could include work with fewer hours, less responsibility, or just a change to a different line of work. Figure 3 reports the incidence of such jobs cross-classified by sex and employment status. Given the stereotypical view of retirement – the complete withdrawal from paid work after a long-term career – the figures reported here are slightly surprising. About one in five employed persons in this age group described their current job as a transition job. Further, and not surprisingly, transition jobs were relatively common among those employed on a casual basis, with almost 32 per cent of male casual employees and 37 per cent of female casual employees describing their job as a transition job. By comparison, less than 10 per cent of men in non-casual jobs and

less than 14 per cent of females in non-casual jobs did so. Self-employment also appears to be associated with a relatively high likelihood of transition jobs. Clearly, both casual and self-employment lend themselves much more to being used as a vehicle for transiting gradually into retirement.

Figure 3
Whether Current Job is a Transition Job Towards Full Retirement:
Persons aged 45 years or over, Wave 3



Note: Population estimates using wave 3 person weights.

Of those that respond that their current job is a so-called transition job towards (full) retirement, close to 40 per cent of men and 35 per cent of women indicated that this transition involved a change to either casual or contract work.

Figure 3 revealed that relatively few persons employed in non-casual jobs considered their current job a transition job. Many of these people, of course, will be younger and hence a long way from retirement. They may, however, still have an interest in gradual retirement. The HILDA survey asked individuals who report their current job is not a transition job if they would like such a job. About one in five workers indicated they did, and over half of those who responded in the affirmative to this question expected that such a job would require a switch to casual or contract employment.

We conclude this section by exploring the ideas and plans of the mature-age workforce about their future retirement. This is important for predicting the future development of the labour market. Table 26 reveals that the majority of currently employed persons in the 45 years and over age bracket actually intend to gradually retire from the workforce. Further, over half of this group expect that this gradual retirement will involve a switch to casual employment (Figure 4). Such patterns are also not restricted to just casual employees (many of whom already hold transition jobs), but are also held by many non-casual employees. Indeed, the group that is most distinctive are the self-employed. While they also anticipate gradual retirement (especially the men), they are less likely to expect such a transition to involve a switch to casual employment. This presumably reflects the expectation that many of the self-employed will organise their retirement while still maintaining an attachment to their own business.

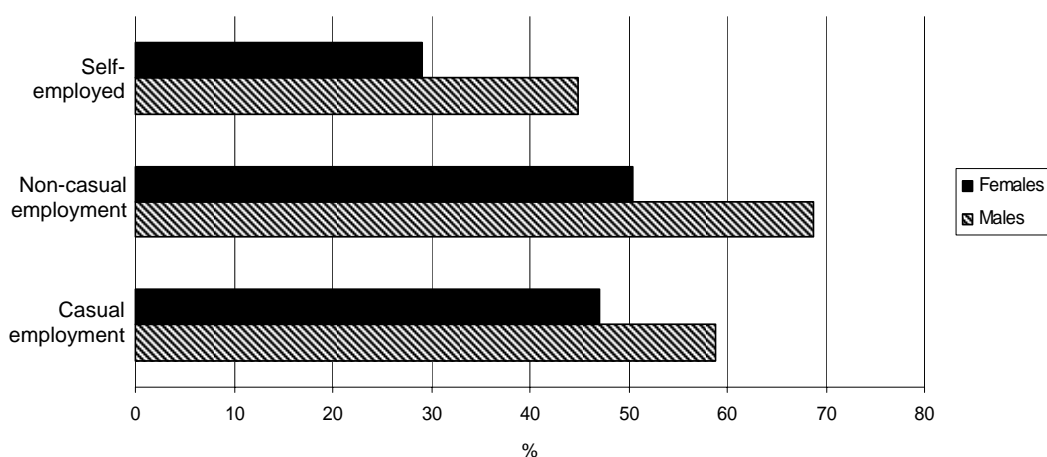
The one challenge here is to match the data on retirement intentions to actual retirement behaviour. More than 80 per cent of persons reporting that they were completely retired in wave 3 stated that their retirement did not involve a gradual withdrawal from the labour force. This contrasts sharply with the intended retirement behaviour of the current employed population aged 45 years and over. If people's perceptions change over time and although they would like to retire gradually, they end up following the traditional retirement path, there will be no significant shift in demand for casual employment. If, on the other hand, individuals follow through on their plans, the demand for casual employment will grow substantially in the future for the sub-population of mature age workers that are nearing their retirement age.

Table 26
Stated Retirement Plan by Current Labour Force State (%):
Employed persons 45 years or over, Wave 3

	<i>Intends to retire:</i>	
	<i>Fully at once</i>	<i>Gradually</i>
<i>Males</i>		
Casual	46.1	53.9
Non-casual	49.1	50.9
Self-employed	22.2	77.8
Total	41.6	58.4
<i>Females</i>		
Casual	42.6	57.4
Non-casual	40.3	59.7
Self-employed	37.2	62.8
Total	40.2	59.8

Note: Population estimates using wave 3 person weights.
All rows sum to 100 per cent.

Figure 4
Share of Gradually Retiring that Anticipate Using Casual Employment
(% of employed persons in wave 3, 45 years or over, indicating they plan to retire gradually)



Note: Population estimates using wave 3 person weights.

9. Summary and Discussion

9.1 Summary

This project used longitudinal data from the first four waves of the Household, Income and Labour Dynamics in Australia (HILDA) Survey to address three main questions:

- (i) What is the rate of mobility in and out of casual employment, and where do casual employees go when they exit casual employment?
- (ii) What personal characteristics are associated with both mobility in and out of casual employment, and in particular with the rates of transition from casual employment into non-casual employment on the one hand, and joblessness on the other?
- (iii) To what extent is casual employment, and transitions out of casual employment, the result of employee preferences for different types of employment?

To answer question (i), a series of matrix tables were constructed that displayed transitions between labour market states from one year to the next and from 2001 to 2004. Our major findings are as follows:

- About 23 per cent of casual employees transit to non-casual employee employment the following year.
- When measured over a three-year window this fraction rises to 40 per cent.
- About 15 per cent of casual employees will be in non-working states one year later, which is noticeably higher than the rate of entry into non-employment states for people in other in-work states.

Predicting labour force state in wave 4 with labour market history variables from waves 1 to 3, as a precursor to answering (ii), we found the following:

- Replacing a spell of unemployment in wave 1, 2, or 3 with a spell of casual employment increases the probability of being non-casually employed in wave 4 by between 2.5 and 6.5 percentage points for men, and between -2.8 and 6.9 percentage points for women.

- Replacing all three unemployment spells with spells of casual employment increases the probability of being non-casually employed in wave 4 by between 10.4 and 11.8 percentage points for men, and reduces it by two percentage points for women.
- A spell of casual employment instead of unemployment, as far back as three years, enhances future labour force participation.

We estimated a panel data model, as opposed to the cross-sectional model using history variables, that predicts labour market transitions from period t to $t+1$ to get at question (ii). This model also allowed us to control for unobserved heterogeneity, which can help us address question (iii), albeit imperfectly. When estimating the same specification both with and without unobserved heterogeneity we found the following:

- For men, being in casual employment in period t always increases the probability of being employed non-casually in period $t+1$, compared with being unemployed in period t . This finding is robust to the inclusion of unobserved heterogeneity, although the effect is much reduced (by about half).
- For women, being in casual employment in period t always slightly reduces the probability of being employed non-casually in period $t+1$, compared with being unemployed in period t . This finding is exacerbated by the inclusion of unobserved heterogeneity.
- A spell of casual employment in period t , instead of unemployment, always enhances labour force participation in period $t+1$.

We then revisited question (ii) with the following major difference: we no longer investigate casual employment as a state, but study individuals who are casually employed. In other words, we obtain conditional estimates for casuals as opposed to population estimates. Restricting the sample to exclusively casually employed individuals at period t and predicting their labour market outcome in period $t+1$ using not only personal but also job characteristics, and splitting the previous destination states casual and non-casual into casual and non-casual with the same or a different employer, we found that:

- Shifting down in hours, for women, leads to a path of self-employment, whereas women wanting to work more hours find other casual or non-casual employment.
- Satisfied people stay put; dissatisfied people change their employment situation.

- Age is the biggest driver of destination states of casual employees. Young casuals move into non-casual employment and mature-age casuals drop out or remain in their current job.
- About 40 per cent of casuals who make the transition to non-casual employment do so with their current employer.

We further exploited the relationship between casual employment and job satisfaction. When defining a ‘trapped worker’ as a worker who is dissatisfied but indicates that they have a low probability of voluntarily quitting their job within the next 12 months, we find that:

- Very few Australian workers are trapped in their jobs (less than two per cent) making robust detailed inference impossible.
- Non-casual workers are more trapped than casual workers.
- Dissatisfied workers of any contract type are more likely to be in a non-work state than satisfied workers.

Finally, when investigating the nexus between casual employment and retirement we found that:

- One in five employed persons in the age group 45 and over described their current job as a transition job
- Of those individuals that respond that their current job is a transition job towards (full) retirement, over one-third indicated that this transition involved a change to either casual or contract work.
- The majority of currently employed persons in the 45 years and over age bracket intend to gradually retire from the workforce and over half of this group expect that this gradual retirement will involve a switch to casual employment.
- There thus exists a major discrepancy between actual retirement behaviour of individuals who have retired thus far (more than 80 per cent did so completely at a single point in time) with the stated retirement intentions of the current cohort of workers 45 and over.

9.2 Discussion

There are two shortcomings of the analysis in this report that are beyond our control. The first is that all our results are obtained in a world where casual employment does exist. We are unable to predict what would happen if casual employment were proscribed. Will all casuals become permanent, or will they end up in the queue at Centrelink? Because this question cannot be answered we doubt the discussion about the consequences of casual employment will ever end. The second shortcoming is that the observation window of our data coincides with a period of sustained and strong economic growth. Would our findings be any different if the economy entered a severe and prolonged recession? We can only speculate about the answer, though we would expect the broad pattern of our results not to change.

This discussion is not to restate our findings, but inject our own interpretation of the report as a whole and to dismiss or confirm some of the many perceptions of casual employment that are prevalent in the public arena. Perhaps first and foremost, we are hard-pressed to find any suggestion that casual employees are either trapped in casual jobs or do everything in their power to exit casual employment for non-casual employment. We firmly reject any demonisation of casual employment in general. Although casual employment is a fluid state, characterised by relatively high levels of mobility in and out, the group of individuals who are most likely to leave their current state are the unemployed. This seems like a trivial statement but it has important implications if one thinks it through; it implies that casual employment is a more ‘sticky’ state than unemployment. For a given individual then, making them casually employed will mean that some of them will remain in casual employment in the next period. In contrast, making them unemployed will mean that some, but far fewer, remain unemployed. This notion *ex ante* predicts that casual employment is ‘bad’ when the narrow focus is on non-casual employment because some will remain in casual employment. Why we do not observe this empirically in the labour market is because firms typically prefer candidates that are already in work over candidates who are unemployed; the so-called stigma effect of unemployment. For men, casual employment provides a very significant means of circumventing the stigma effect. Men who want non-casual employment have a higher probability of doing so if they take up casual employment. This notion has been shown to be true time and again under various estimation techniques and model specifications, including specifications that control for preferences, ability, motivation, and any other unobserved factors. We argue that the reason why casual employment does not display this same ‘positive’ effect for women is that women are much less affected by the stigma effect of

unemployment. For them, the ex-ante expected result that casual employment is 'bad' when the narrow focus is on non-casual employment prevails. If one is concerned about the 'low' transition rate from casual to non-casual employment then a sensible policy would be to offer the same job search facilities and assistance to casually employed individuals as are offered to the unemployed.

Although the implied existence of a stigma effect of unemployment may shine unfavourable light on the role of employers, it should be noted that employers as a group offer many opportunities to transition from casual employment into non-casual employment within the same firm. Movements in the other direction within firms are relatively uncommon. Arguably this is of some significance for older workers nearing retirement age. The reality to date is that most individuals do not retire gradually, let alone switch to casual employment. Yet, the current generation of employees aged 45 years and over indicate that they plan to retire gradually and expect to transition into casual employment to make that happen. Casual employment can, therefore, only be expected to become more prominent and important to maintain mature aged workers in the workforce, but further research is needed to assess to what extent individuals carry out their stated retirement intentions.

10. Appendix

Table A1
Predicted Probabilities (%) for the Average Female Based on Dynamic MNLS

	<i>Casual employee</i>	<i>Non-casual employee</i>	<i>Self- employed</i>	<i>Not- employed</i>
Average predicted probabilities for all females	19.0	41.9	4.6	34.5
<i>Actual proportion in wave 4</i>	<i>16.6</i>	<i>42.1</i>	<i>8.5</i>	<i>32.9</i>
Occupying states in wave 1 / wave 2 / wave 3:				
Always in non-casual employment	3.1	91.1	0.8	5.0
Always self-employed	4.6	2.1	87.9	5.3
Always in casual employment	71.4	15.3	3.3	10.0
Always unemployed	19.5	16.7	4.1	59.7
Always not in the labour force	8.6	3.7	1.7	86.0
Not-employed / Not-Employed / Casual	49.3	9.8	5.1	35.7
Not-employed / Casual / Not-employed	17.5	10.2	1.8	70.5
Casual / Not-employed / Not-employed	15.8	5.4	2.6	76.2
Unemployed / Unemployed / Casual	52.3	18.6	5.5	23.7
Unemployed / Casual / Unemployed	30.7	24.1	1.9	43.3
Casual / Unemployed / Unemployed	25.4	14.3	8.0	52.3

Table A2
Predicted Probabilities (%) for the Average Male Based on Dynamic MNLs

<i>Simple history specification</i>	<i>Casual employee</i>	<i>Non-casual employee</i>	<i>Self-employed</i>	<i>Not-employed</i>
Average predicted probabilities for all males	13.0	64.4	10.9	11.7
<i>Actual proportion in wave 4</i>	<i>11.3</i>	<i>53.7</i>	<i>18.3</i>	<i>16.7</i>
Occupying states in wave 1 / wave 2 / wave 3:				
Always in non-casual employment	3.3	92.3	2.1	2.2
Always self-employed	2.4	3.6	91.6	2.4
Always in casual employment	60.1	25.9	5.5	8.5
Always unemployed	27.5	14.9	6.5	51.1
Always not in the labour force	7.9	3.9	1.3	86.9
Not-Employed / Not-Employed / Casual	48.0	11.3	2.9	37.9
Not-Employed / Casual / Not-Employed	16.0	13.7	3.5	66.8
Casual / Not-Employed / Not-Employed	14.6	7.5	2.8	75.1
Unemployed / Unemployed / Casual	48.5	21.4	10.0	20.1
Unemployed / Casual / Unemployed	39.1	19.9	4.6	36.4
Casual / Unemployed / Unemployed	32.9	18.7	6.9	41.4
<i>Complicated history specification</i>	<i>Casual employee</i>	<i>Non-casual employee</i>	<i>Self-employed</i>	<i>Not-employed</i>
Average predicted probabilities for all males	12.6	64.9	10.9	11.6
<i>Actual proportion in wave 4</i>	<i>11.3</i>	<i>53.7</i>	<i>18.3</i>	<i>16.7</i>
Occupying states in wave 1 / wave 2 / wave 3:				
Always in non-casual employment	2.9	92.7	2.2	2.3
Always self-employed	2.4	3.6	91.6	2.3
Always in casual employment	58.9	27.4	3.6	10.2
Always unemployed	28.2	15.2	8.9	47.7
Always not in the labour force	8.0	4.1	1.6	86.3
Not-Employed / Not-employed / Casual	48.9	9.4	2.1	39.6
Not-Employed / Casual / Not-employed	18.2	11.2	2.4	68.2
Casual / Not-Employed / Not-employed	16.0	6.3	1.9	75.8
Unemployed / Unemployed / Casual	47.7	22.0	4.6	25.7
Unemployed / Casual / Unemployed	37.1	18.1	1.6	43.2
Casual / Unemployed / Unemployed	31.7	17.5	2.5	48.3

Table A3
MNL of Wave 4 Status for Individuals Employed Casually in Wave 1 (MME): Females

	<i>C</i>	<i>NC</i>	<i>SE</i>	<i>UE</i>	<i>NILF</i>
Inner-regional	0.052 [0.044]	-0.017 [0.044]	-0.039** [0.016]	-0.009 [0.014]	0.012 [0.031]
Outer-region and beyond	0.025 [0.064]	-0.030 [0.062]	-0.015 [0.024]	-0.014 [0.016]	0.034 [0.044]
Actual years work experience / 10	-0.013 [0.037]	-0.005 [0.037]	-0.006 [0.013]	0.005 [0.015]	0.019 [0.023]
Aged below 25	-0.069 [0.090]	0.103 [0.106]	-0.056** [0.024]	0.019 [0.039]	0.003 [0.065]
Aged between 25 and 35	-0.020 [0.069]	-0.065 [0.070]	-0.045*** [0.016]	0.044 [0.045]	0.085 [0.059]
Aged 55 or above	-0.151* [0.079]	-0.143* [0.082]	0.042 [0.052]	-0.010 [0.029]	0.262*** [0.098]
Partnered	-0.054 [0.053]	0.046 [0.062]	0.013 [0.016]	-0.027 [0.025]	0.023 [0.037]
Has a university degree	-0.071 [0.052]	0.104* [0.057]	0.026 [0.023]	-0.025** [0.012]	-0.034 [0.037]
Has other post-school diploma	-0.009 [0.064]	-0.010 [0.065]	-0.029 [0.021]	0.011 [0.024]	0.037 [0.053]
Completed Year 12 only	-0.091* [0.054]	0.101* [0.059]	-0.007 [0.022]	0.005 [0.015]	-0.008 [0.035]
Children 0 to 4 present	-0.092* [0.055]	0.014 [0.060]	0.015 [0.024]	-0.005 [0.019]	0.067 [0.051]
Children 5 to 9 present	0.109** [0.054]	-0.025 [0.050]	-0.039*** [0.015]	0.005 [0.017]	-0.050* [0.030]
Children 10 to 14 present	-0.018 [0.047]	0.019 [0.046]	-0.022 [0.019]	-0.018 [0.012]	0.038 [0.038]
Disadvantaged neighbourhood	-0.025 [0.041]	-0.001 [0.040]	-0.024 [0.021]	0.013 [0.018]	0.036 [0.029]
Years in current job	0.010** [0.005]	-0.009 [0.006]	0.001 [0.002]	-0.002 [0.003]	0.000 [0.004]
Years in current occupation	0.005 [0.003]	0.000 [0.004]	0.000 [0.001]	-0.001 [0.002]	-0.004 [0.002]
Works in public sector	-0.148*** [0.048]	0.165*** [0.053]	-0.026 [0.020]	0.039 [0.028]	-0.031 [0.034]
Would like to work more hours	-0.108** [0.043]	0.094** [0.046]	-0.008 [0.022]	0.010 [0.016]	0.011 [0.029]
Works part-time	0.103* [0.055]	-0.106* [0.060]	-0.003 [0.023]	-0.022 [0.034]	0.028 [0.037]
Prob. of voluntary quit 34-67%	0.047 [0.060]	0.001 [0.060]	-0.037** [0.017]	0.023 [0.019]	-0.034 [0.038]
Prob. of voluntary quit >67 %	-0.089* [0.052]	0.017 [0.053]	0.067** [0.027]	-0.013 [0.013]	0.018 [0.039]
Medium job satisfaction	-0.005 [0.081]	-0.011 [0.074]	0.030 [0.051]	0.062 [0.065]	-0.077 [0.048]
High job satisfaction	-0.012 [0.073]	0.007 [0.070]	0.048 [0.032]	0.034 [0.035]	-0.077 [0.060]

No of observations = 757

LR chi-squared = 169.71; Prob > chi-squared = 0.000; Pseudo R² = 0.09

Notes: Mean marginal effects based on a weighted MNL using longitudinal weights from wave 4.

Casual employment is defined using the ABS entitlements definition.

The classification for job satisfaction is: 0-4 = Low; 5-7 = Medium; 8-10 = High.

The disadvantage neighbourhood variable is a binary variable that identifies whether respondent lives in a region in the bottom half of the distribution of the index of relative socio-economic disadvantage (SEIFA 96).

Standard errors reported in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table A4
MNL of Wave 4 Status for Individuals Employed Casually in Wave 1 (MME): Males

	<i>C</i>	<i>NC</i>	<i>SE</i>	<i>UE</i>	<i>NILF</i>
Inner-regional	-0.022 [0.056]	-0.052 [0.058]	-0.011 [0.035]	-0.006 [0.019]	0.091*** [0.034]
Outer-region and beyond	-0.107 [0.067]	0.003 [0.075]	0.038 [0.048]	0.006 [0.033]	0.059 [0.047]
Actual years work experience / 10	0.007 [0.059]	0.082 [0.064]	-0.020 [0.023]	-0.015 [0.023]	-0.054* [0.028]
Aged below 25	-0.005 [0.114]	0.304*** [0.100]	-0.153** [0.074]	0.049 [0.043]	-0.196** [0.088]
Aged between 25 and 35	-0.107 [0.083]	0.166* [0.100]	-0.074 [0.047]	0.062 [0.066]	-0.046 [0.038]
Aged 55 or above	-0.040 [0.148]	-0.358*** [0.092]	0.047 [0.081]	0.230 [0.248]	0.121 [0.129]
Partnered	-0.094 [0.063]	0.013 [0.070]	0.010 [0.038]	-0.005 [0.030]	0.076** [0.039]
Has a university degree	-0.131** [0.064]	0.216*** [0.073]	-0.024 [0.041]	-0.005 [0.021]	-0.057** [0.022]
Has other post-school diploma	-0.037 [0.070]	0.037 [0.075]	0.003 [0.036]	-0.005 [0.028]	0.003 [0.028]
Completed Year 12 only	0.008 [0.064]	0.002 [0.066]	0.036 [0.064]	-0.042** [0.018]	-0.005 [0.031]
Children 0 to 4 present	-0.009 [0.070]	-0.066 [0.073]	0.009 [0.035]	0.105* [0.054]	-0.039 [0.029]
Children 5 to 14 present	-0.040 [0.043]	0.067 [0.043]	0.006 [0.025]	-0.014 [0.020]	-0.018 [0.022]
Disadvantaged neighbourhood	-0.003 [0.049]	0.008 [0.051]	-0.005 [0.035]	0.008 [0.017]	-0.008 [0.024]
Years in current job	0.011* [0.006]	0.008 [0.008]	-0.008 [0.006]	-0.011* [0.006]	0.000 [0.003]
Years in current occupation	0.002 [0.004]	-0.004 [0.005]	0.003 [0.002]	0.000 [0.002]	-0.001 [0.002]
Would like to work fewer hours	0.041 [0.085]	-0.064 [0.080]	-0.004 [0.049]	0.052 [0.055]	-0.025 [0.030]
Would like to work more hours	0.039 [0.053]	-0.015 [0.056]	0.020 [0.042]	0.005 [0.021]	-0.050** [0.024]
Works part-time	0.018 [0.055]	-0.157*** [0.058]	0.014 [0.032]	0.022 [0.020]	0.102*** [0.029]
Prob. of voluntary quit 34-67%	0.102 [0.063]	-0.073 [0.062]	-0.046 [0.034]	-0.012 [0.019]	0.029 [0.030]
Prob. of voluntary quit >67 %	0.121** [0.049]	-0.067 [0.052]	-0.041 [0.030]	-0.033 [0.021]	0.020 [0.022]

No of observations: 479 (851,505 weighted)

LR chi-squared= 206.92; Prob > chi-squared = 0.000; Pseudo R² = 0.14

Notes: Mean marginal effects based on a weighted MNL using longitudinal weights from wave 4.

Casual employment is defined using the ABS entitlements definition.

Job satisfaction variables and public sector dummy could not be identified due to insufficient variation in the sample. Specifically, no casual employed person in the public sector in wave 1 was unemployed in wave 4, resulting in a perfect predictor for that outcome and a (statistical) breakdown of the estimation.

The disadvantage neighbourhood variable is a binary variable that identifies whether respondent lives in a region in the bottom half of the distribution of the index of relative socio-economic disadvantage (SEIFA 96).

Standard errors reported in brackets.

* significant at 10%; ** significant at 5%; *** significant at 1%.

Table A5
MNL of Wave $t+1$ Status for Individuals Employed Casually in Wave t
(mean marginal effects): Females

<i>Labour market outcome in $t+1$ / Employer at $t+1$</i>	<i>C same</i>	<i>C new</i>	<i>NC same</i>	<i>NC new</i>	<i>SE either</i>	<i>UE n.a.</i>	<i>NILF n.a.</i>
Melbourne	0.036 [0.041]	-0.021 [0.022]	0.023 [0.022]	-0.018 [0.031]	-0.017 [0.013]	0.026 [0.019]	-0.029 [0.025]
Brisbane	0.063 [0.047]	-0.041* [0.021]	0.039 [0.027]	-0.006 [0.034]	-0.010 [0.017]	0.002 [0.015]	-0.047* [0.028]
Adelaide	0.086* [0.052]	0.011 [0.028]	-0.010 [0.026]	-0.072*** [0.026]	-0.026** [0.012]	0.030 [0.025]	-0.019 [0.035]
Perth	-0.032 [0.052]	0.015 [0.031]	-0.007 [0.026]	-0.024 [0.033]	0.023 [0.024]	0.002 [0.018]	0.022 [0.038]
Other major city	0.010 [0.050]	0.001 [0.029]	0.001 [0.028]	-0.009 [0.036]	-0.022* [0.013]	-0.001 [0.017]	0.021 [0.040]
Inner-regional	0.025 [0.037]	0.005 [0.020]	0.027 [0.020]	-0.041 [0.026]	-0.022 [0.014]	0.010 [0.013]	-0.005 [0.025]
Outer-region and beyond	-0.041 [0.049]	0.011 [0.030]	0.050 [0.031]	-0.040 [0.029]	-0.016 [0.015]	0.000 [0.015]	0.036 [0.034]
Actual years work experience / 10	0.012 [0.022]	0.021 [0.016]	0.000 [0.012]	0.003 [0.015]	-0.010 [0.007]	0.000 [0.007]	-0.027* [0.014]
Did last year of school not in AU, UK, or NZ	0.012 [0.073]	-0.014 [0.032]	-0.036 [0.037]	-0.041 [0.044]	-0.004 [0.019]	0.013 [0.021]	0.071 [0.049]
Aged below 25	-0.072 [0.055]	0.100** [0.048]	0.004 [0.029]	0.036 [0.050]	-0.028* [0.014]	0.005 [0.016]	-0.044 [0.031]
Aged between 25 and 35	-0.069* [0.041]	0.020 [0.034]	0.013 [0.023]	0.001 [0.030]	-0.011 [0.013]	0.010 [0.016]	0.035 [0.031]
Aged 55 or above	-0.050 [0.055]	-0.010 [0.034]	-0.049** [0.020]	-0.032 [0.032]	0.038 [0.030]	-0.011 [0.015]	0.114** [0.050]
Partnered	-0.067** [0.033]	0.001 [0.020]	-0.031* [0.017]	0.051** [0.025]	0.009 [0.013]	-0.003 [0.011]	0.039* [0.021]
Lone parent	-0.033 [0.047]	-0.026 [0.027]	-0.016 [0.022]	0.015 [0.037]	0.007 [0.027]	0.018 [0.020]	0.035 [0.036]
Has a university degree	-0.008 [0.039]	-0.011 [0.024]	0.032 [0.023]	0.029 [0.028]	0.029 [0.018]	-0.009 [0.009]	-0.062** [0.024]
Has other post-school diploma	-0.054 [0.038]	-0.006 [0.024]	-0.011 [0.019]	0.062 [0.041]	0.012 [0.019]	0.001 [0.012]	-0.005 [0.025]
Completed Year 12 only	-0.048 [0.032]	0.009 [0.019]	0.046** [0.019]	0.035 [0.028]	-0.004 [0.014]	-0.013 [0.008]	-0.026 [0.020]
Children 0 to 4 present	-0.034 [0.036]	-0.013 [0.023]	0.021 [0.023]	-0.005 [0.026]	0.030* [0.018]	-0.005 [0.012]	0.006 [0.026]
Children 5 to 9 present	0.103*** [0.031]	0.007 [0.021]	-0.007 [0.015]	-0.049*** [0.019]	-0.024** [0.010]	0.001 [0.009]	-0.030 [0.022]
Children 10 to 14 present	0.012 [0.030]	0.011 [0.023]	0.023 [0.017]	0.010 [0.021]	-0.020** [0.010]	-0.003 [0.009]	-0.033* [0.020]
Disadvantaged neighbourhood	0.023 [0.026]	-0.019 [0.015]	-0.014 [0.013]	0.008 [0.020]	-0.002 [0.010]	0.002 [0.007]	0.001 [0.018]
Years in current job	0.017*** [0.004]	-0.007** [0.003]	-0.008** [0.003]	-0.005* [0.002]	0.003** [0.001]	0.000 [0.002]	-0.001 [0.003]
Years in current occupation	0.003 [0.002]	-0.001 [0.001]	0.001 [0.001]	0.001 [0.001]	0.000 [0.001]	-0.004** [0.001]	0.000 [0.002]
Works in public sector	-0.054 [0.045]	-0.032 [0.032]	-0.003 [0.026]	0.103*** [0.030]	-0.006 [0.013]	0.035 [0.023]	-0.042* [0.024]

Table A5 (cont'd)

<i>Labour market outcome in t+1 / Employer at t+1</i>	<i>C same</i>	<i>C new</i>	<i>NC same</i>	<i>NC new</i>	<i>SE either</i>	<i>UE n.a.</i>	<i>NILF n.a.</i>
Would like to work fewer hours	-0.060 [0.040]	0.041 [0.030]	-0.033** [0.015]	0.028 [0.030]	0.059*** [0.022]	-0.013 [0.009]	-0.021 [0.026]
Would like to work more hours	-0.079*** [0.026]	0.033** [0.015]	0.007 [0.015]	0.079*** [0.020]	-0.010 [0.011]	-0.001 [0.008]	-0.028 [0.017]
Works part-time	0.143*** [0.034]	-0.015 [0.022]	-0.087*** [0.027]	-0.104*** [0.033]	0.009 [0.012]	0.000 [0.012]	0.054*** [0.021]
Prob. of voluntary quit 34-67%	-0.063* [0.035]	-0.002 [0.021]	0.023 [0.024]	-0.028 [0.026]	-0.004 [0.013]	0.013 [0.013]	0.062** [0.030]
Prob. of voluntary quit >67 %	-0.164*** [0.032]	0.019 [0.017]	0.085*** [0.021]	-0.044** [0.018]	0.021 [0.014]	0.012 [0.011]	0.071*** [0.025]
Medium job satisfaction	0.146*** [0.051]	-0.014 [0.025]	-0.030 [0.019]	-0.008 [0.039]	-0.004 [0.020]	-0.035** [0.012]	-0.056** [0.027]
High job satisfaction	0.183*** [0.051]	-0.096*** [0.034]	-0.041* [0.024]	0.039 [0.034]	0.012 [0.020]	-0.056** [0.021]	-0.040 [0.034]
Manager/Administrator/Professional	0.030 [0.057]	-0.028 [0.029]	-0.001 [0.028]	0.011 [0.042]	0.003 [0.027]	-0.004 [0.014]	-0.010 [0.036]
Assoc. professional	0.019 [0.059]	-0.022 [0.027]	0.012 [0.032]	0.045 [0.053]	-0.029** [0.014]	-0.013 [0.011]	-0.012 [0.037]
Trades and related	-0.086 [0.078]	-0.003 [0.039]	0.017 [0.052]	0.007 [0.066]	0.053 [0.049]	-0.007 [0.022]	0.018 [0.052]
Intermediate/Advanced clerical	0.067 [0.043]	-0.036* [0.021]	-0.003 [0.021]	0.013 [0.033]	0.011 [0.022]	-0.013 [0.011]	-0.039 [0.024]
Intermediate Production/Transport	0.236*** [0.060]	-0.066*** [0.024]	-0.059*** [0.018]	-0.070* [0.037]	0.004 [0.029]	-0.020** [0.009]	-0.025 [0.042]
Elementary clerical sales/service	0.121** [0.047]	-0.036* [0.021]	-0.041** [0.021]	0.043 [0.040]	-0.034*** [0.013]	-0.019 [0.012]	-0.033 [0.028]
Wave 2002	-0.026 [0.072]	0.021 [0.036]	-0.047 [0.036]	-0.028 [0.046]	-0.002 [0.021]	0.011 [0.022]	0.070 [0.051]
Wave 2003	-0.008 [0.076]	0.014 [0.041]	-0.041 [0.036]	-0.062 [0.043]	0.021 [0.023]	0.003 [0.020]	0.074 [0.053]

No of observations: 2194 (3,148,186 weighted)

LR chi-squared = 1141.88; Prob > chi-squared = 0.000; Pseudo R² = 0.15

Notes: Mean marginal effects based on a weighted MNL using longitudinal weights from wave 4.

Casual employment is defined using the ABS entitlements definition.

The classification for job satisfaction is: 0-4 = Low; 5-7 = Medium; 8-10 = High.

The disadvantage neighbourhood variable is a binary variable that identifies whether respondent lives in a region in the bottom half of the distribution of the index of relative socio-economic disadvantage (SEIFA 96).

Estimation also controls for 1-digit industry dummies (not reported)

Reference occupation is Labourer.

Standard errors in brackets (adjusted for using repeated observations on the same individual).

* significant at 10%; ** significant at 5%; *** significant at 1%

Table A6
MNL of Wave $t+1$ Status for Individuals Employed Casually in Wave t
(mean marginal effects): Males

<i>Labour market outcome in $t+1$ / Employer at $t+1$</i>	<i>C same</i>	<i>C new</i>	<i>NC same</i>	<i>NC new</i>	<i>SE either</i>	<i>UE n.a.</i>	<i>NILF n.a.</i>
Melbourne	0.008 [0.049]	-0.040 [0.034]	-0.059** [0.025]	0.024 [0.039]	-0.003 [0.023]	0.010 [0.023]	0.061 [0.047]
Brisbane	0.006 [0.063]	-0.050 [0.037]	-0.017 [0.041]	0.101 [0.061]	-0.003 [0.023]	0.011 [0.033]	-0.048* [0.026]
Adelaide	0.074 [0.064]	-0.011 [0.041]	-0.036 [0.033]	-0.052 [0.036]	-0.018 [0.026]	0.010 [0.035]	0.033 [0.048]
Perth	0.172** [0.073]	-0.074** [0.030]	-0.021 [0.037]	-0.022 [0.050]	-0.041** [0.018]	0.017 [0.034]	-0.030 [0.039]
Other major city	0.030 [0.069]	-0.016 [0.043]	-0.076*** [0.024]	0.086 [0.058]	-0.003 [0.031]	-0.014 [0.025]	-0.006 [0.038]
Inner-regional	0.008 [0.046]	-0.018 [0.034]	-0.069*** [0.026]	-0.009 [0.036]	-0.007 [0.021]	0.032 [0.025]	0.062* [0.034]
Outer-region and beyond	-0.062 [0.053]	-0.030 [0.038]	-0.020 [0.036]	-0.005 [0.038]	-0.009 [0.022]	0.015 [0.029]	0.112** [0.057]
Actual years work experience / 10	0.031 [0.033]	-0.018 [0.029]	-0.009 [0.022]	0.041* [0.021]	0.020 [0.012]	-0.033** [0.013]	-0.031 [0.020]
Did last year of school not in AU, UK, or NZ	-0.069 [0.070]	0.001 [0.048]	-0.099* [0.053]	0.052 [0.046]	0.004 [0.041]	0.031 [0.032]	0.081 [0.051]
Aged below 25	-0.025 [0.075]	0.099 [0.074]	0.021 [0.047]	0.045 [0.059]	-0.008 [0.034]	-0.082** [0.040]	-0.049 [0.042]
Aged between 25 and 35	-0.023 [0.058]	0.062 [0.057]	-0.019 [0.035]	0.023 [0.045]	0.014 [0.027]	-0.048** [0.016]	-0.010 [0.035]
Aged 55 or above	0.003 [0.076]	0.046 [0.073]	-0.085*** [0.030]	-0.094*** [0.030]	0.016 [0.033]	0.014 [0.047]	0.101 [0.072]
Partnered	-0.092** [0.036]	0.065** [0.031]	0.004 [0.029]	-0.031 [0.025]	0.025 [0.017]	-0.001 [0.020]	0.030 [0.023]
Has a university degree	-0.021 [0.054]	-0.015 [0.032]	0.018 [0.039]	0.019 [0.037]	-0.032* [0.016]	-0.010 [0.020]	0.040 [0.034]
Has other post-school diploma	-0.057 [0.042]	-0.002 [0.030]	0.009 [0.032]	-0.003 [0.031]	0.030* [0.018]	-0.013 [0.016]	0.036 [0.027]
Completed Year 12 only	0.056 [0.043]	-0.016 [0.030]	-0.029 [0.023]	0.046 [0.032]	0.011 [0.026]	-0.031** [0.015]	-0.038** [0.019]
Children 0 to 4 present	0.107* [0.057]	-0.068** [0.029]	0.031 [0.037]	-0.024 [0.027]	-0.010 [0.020]	0.023 [0.025]	-0.059** [0.018]
Children 5 to 9 present	-0.104** [0.051]	0.031 [0.049]	0.046 [0.034]	0.015 [0.035]	0.052** [0.027]	-0.003 [0.024]	-0.038 [0.026]
Children 10 to 14 present	0.012 [0.037]	0.057* [0.030]	-0.036 [0.024]	-0.017 [0.026]	-0.009 [0.017]	-0.032** [0.013]	0.025 [0.023]
Disadvantaged neighbourhood	0.046 [0.030]	-0.016 [0.024]	0.025 [0.023]	0.011 [0.023]	-0.029** [0.014]	-0.024* [0.014]	-0.014 [0.017]
Years in current job	0.017*** [0.005]	-0.006 [0.006]	-0.008 [0.005]	-0.001 [0.003]	0.001 [0.001]	-0.006 [0.005]	0.002 [0.002]
Years in current occupation	0.003 [0.002]	0.000 [0.002]	-0.003 [0.002]	0.000 [0.002]	0.001 [0.001]	-0.001 [0.002]	0.001 [0.001]
Works in public sector	-0.038 [0.062]	-0.074* [0.043]	0.004 [0.067]	-0.017 [0.043]	0.031 [0.046]	0.092 [0.072]	0.000 [0.063]
Would like to work fewer hours	-0.079* [0.042]	0.052 [0.038]	0.054 [0.042]	-0.050* [0.026]	0.030 [0.022]	-0.016 [0.017]	0.009 [0.030]
Would like to work more hours	-0.005 [0.032]	0.012 [0.024]	0.023 [0.023]	0.026 [0.024]	-0.009 [0.017]	-0.025* [0.014]	-0.021 [0.018]
Works part-time	0.055 [0.039]	-0.035 [0.026]	-0.014 [0.026]	-0.114*** [0.025]	-0.004 [0.017]	0.024 [0.017]	0.089** [0.026]

Table A6 (cont'd)

<i>Labour market outcome in t+1 / Employer at t+1</i>	<i>C same</i>	<i>C new</i>	<i>NC same</i>	<i>NC new</i>	<i>SE either</i>	<i>UE n.a.</i>	<i>NILF n.a.</i>
Prob. of voluntary quit 34-67%	-0.035 [0.038]	0.064* [0.036]	0.081** [0.036]	-0.040 [0.026]	-0.020 [0.018]	0.002 [0.017]	-0.052** [0.017]
Prob. of voluntary quit >67 %	-0.171*** [0.036]	0.096*** [0.033]	0.088*** [0.030]	-0.062*** [0.023]	0.032 [0.023]	0.004 [0.015]	0.013 [0.022]
Medium job satisfaction	0.051 [0.057]	-0.030 [0.035]	0.009 [0.032]	0.027 [0.039]	-0.033 [0.021]	-0.010 [0.019]	-0.013 [0.033]
High job satisfaction	0.083 [0.056]	-0.011 [0.038]	-0.011 [0.033]	0.020 [0.037]	-0.031 [0.028]	-0.036* [0.022]	-0.014 [0.033]
Manager/Administrator	0.049 [0.114]	-0.079 [0.066]	-0.037 [0.083]	0.192** [0.095]	-0.054*** [0.014]	-0.022 [0.044]	-0.049 [0.040]
Professional	-0.003 [0.074]	-0.095*** [0.028]	0.030 [0.048]	0.116 [0.076]	0.015 [0.028]	-0.013 [0.026]	-0.050* [0.029]
Assoc. professional	-0.044 [0.070]	0.016 [0.049]	0.068 [0.064]	0.057 [0.064]	-0.011 [0.033]	-0.037** [0.016]	-0.049* [0.027]
Trades and related	-0.089* [0.048]	0.077* [0.042]	-0.030 [0.033]	0.088* [0.052]	-0.018 [0.018]	0.017 [0.025]	-0.045** [0.021]
Intermediate/Advanced clerical	-0.015 [0.056]	0.030 [0.045]	0.020 [0.042]	0.069 [0.060]	-0.034 [0.021]	-0.033** [0.015]	-0.037 [0.025]
Intermediate Production/Transport	0.031 [0.046]	-0.001 [0.035]	0.006 [0.032]	0.064 [0.040]	-0.020 [0.020]	-0.014 [0.018]	-0.066** [0.018]
Elementary clerical sales/service	0.037 [0.051]	0.000 [0.034]	0.006 [0.037]	0.034 [0.048]	-0.040** [0.017]	-0.024 [0.016]	-0.013 [0.027]
Wave 2002	-0.104 [0.069]	-0.005 [0.050]	-0.073 [0.054]	0.078 [0.051]	-0.018 [0.041]	0.015 [0.030]	0.107** [0.053]
Wave 2003	-0.131* [0.070]	0.005 [0.051]	-0.069 [0.055]	0.056 [0.051]	-0.006 [0.040]	0.035 [0.036]	0.110* [0.064]

No of observations = 1369 (2,291,418 weighted)

LR chi-squared = 960.52; Prob > chi-squared = 0.000; Pseudo R² = 0.15

Notes: Mean marginal effects based on a weighted MNL using longitudinal weights from wave 4.

Casual employment is defined using the ABS entitlements definition.

The classification for job satisfaction is: 0-4 = Low; 5-7 = Medium; 8-10 = High.

The disadvantage neighbourhood variable is a binary variable that identifies whether respondent lives in a region in the bottom half of the distribution of the index of relative socio-economic disadvantage (SEIFA 96).

Estimation controls for 1-digit industry dummies (not reported)

Reference occupation is Labourer.

Standard errors in brackets (adjusted for using repeated observations on the same individual)

* significant at 10%; ** significant at 5%; *** significant at 1%

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