

Transitions from Casual Employment in Australia *

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Abstract

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 paper 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 role of personal characteristics 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. We find that casual employment appears to be a relatively fluid state, at least compared with other labour market destinations. 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 . 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.

1. Introduction

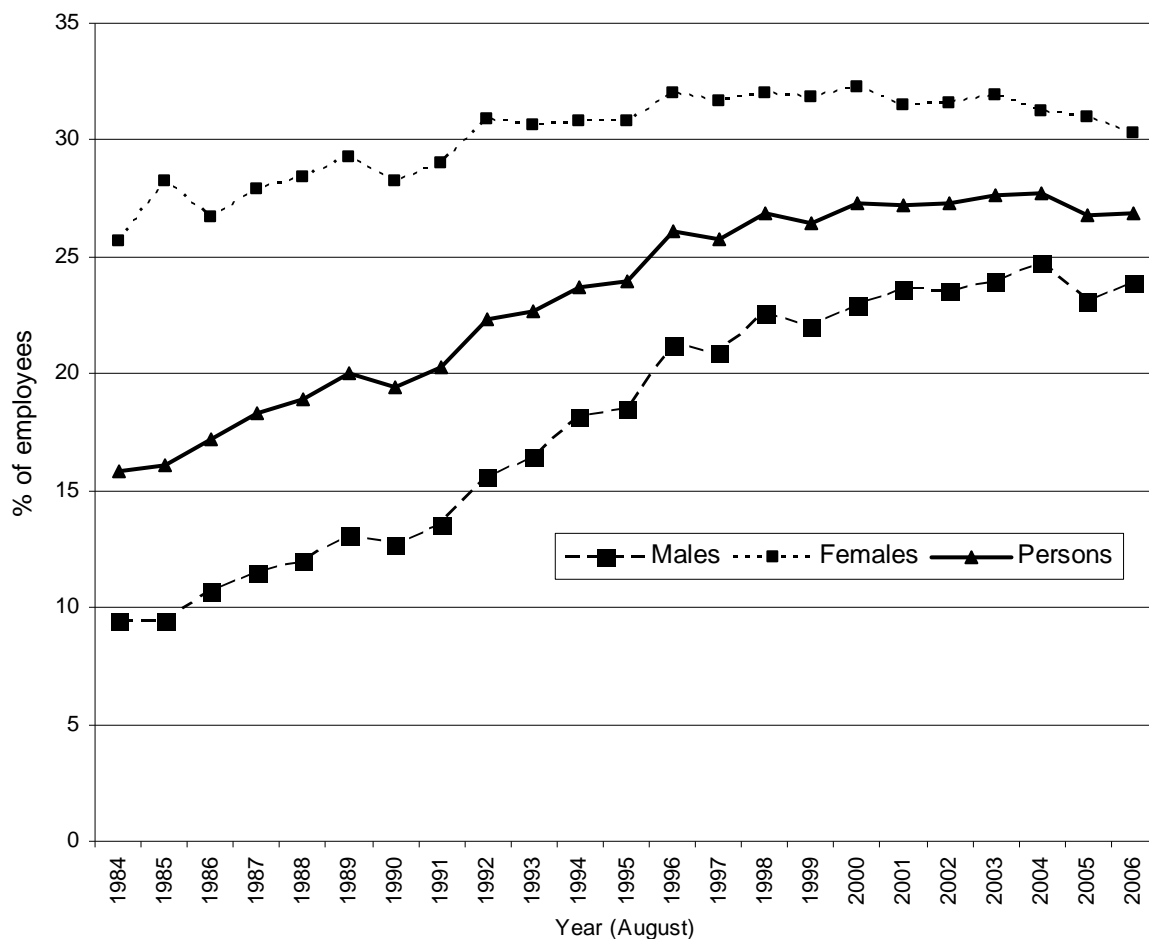
As is widely recognized (e.g., Campbell and Burgess 2001a, Watson et al. 2003, Wooden and Warren 2004), one of the most distinctive features of the contemporary Australian labour market is the high incidence of casual employment. Data collected by the Australian Bureau of Statistics (ABS) on the number 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 2006) suggesting that almost 27 per cent of employees are employed (in their main job) on a casual basis using this definition. If owner managers 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 2006 (% 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).
 1998-2006: 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 paper is to redress this deficiency.

More specifically, this paper uses longitudinal data from the first four waves of the Household, Income and Labour Dynamics in Australia (HILDA) Survey to address the role of personal characteristics 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. We employ a dynamic multinomial logit model with random effects to control for individual preferences which besides preferences also controls for other unobservable person-specific characteristics, such as ability, personality, motivation and the like.

The remainder of this paper is as follows. In Section 2 we briefly review previous Australian research that has examined mobility into and out of casual employment in Australia. The HILDA Survey data which are at the centre of the analyses reported here are then introduced in Section 3. Some simple matrix tables are provided 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 4, results from modelling the process of transition between different labour market states using a dynamic multinomial logit with random effects. Section 5 concludes.

2. Previous research

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. 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. 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).

Sloan et al. (1992) used data from the first two waves of 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.² 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. They 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). 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.³ Their analysis covered data collected at five different time points (1990 to 1994). They found that 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. 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 concluded 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).

² 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.

³ 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).

Using data from the Survey of Employment and Unemployment Patterns (SEUP) Dunlop (2001) 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 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.

However, none of these studies addresses the question of the counterfactual. That is, what would be the situation for casual workers had they been unemployed instead? The study by Chalmers and Kalb (2001) made use of the full three-year period available in the SEUP data and 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 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.

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 very different to casual employment in Australia. The results from overseas studies are thus not directly applicable to the Australian experience with casual employment.

3. Data, definitions and descriptives

The data used in this paper comes from the first four waves of the Household, Income and Labour Dynamics in Australia (or HILDA) Survey⁴. This longitudinal household panel survey with a focus on work, income and household formation collects annual data from over 7,000 households comprising about 14,000 individuals and is described in more detail in Watson and Wooden (2004) and Goode and Watson (2006).

Central to all of the statistical analyses undertaken in this paper is the distinction of different labour market states. Our approach begins with the standard ABS labour force framework and divides the population into three mutually exclusive categories: the ‘employed’; the ‘unemployed’; and those ‘not in the labour force’. We distinguish between employees and self-employed persons, with the latter group dominated by employers and own account workers.⁵ Further, we depart from the conventional ABS definition by treating owner-managers of incorporated enterprises as self-employed and not as employees.

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. 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

⁴ 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.

⁵ 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.

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, as adopted by the ABS for the first time in 1988. This is also the definition used in this paper.

Table 1 displays the average year-to-year transition rates in labour market status for all persons aged 15 years or older. Focusing 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.⁶ 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 1

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 paper, Table 1 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,

⁶ 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.

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 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 1 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 1 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.

We now turn to the three-year transition rates. These are reported in Table 2. A comparison with the annual transition rates reported in Table 1 reveals that the three-year transition rates out of casual employment are, as we would expect, noticeably higher. 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.⁷

⁷ These conclusions are robust to the definition of casual employment that is used. Using a self-reported definition, the three-year rate of mobility from casual employment to permanent employment is 37 per cent, while the rate of mobility into all other types of non-casual employment is 49 per cent. The key insight provided by using a self-reported definition of employment status is the high rate of mobility out of fixed-term

Table 2
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%.

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 two 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). For brevity we only report the three-year transition matrices.

Turning then to the results for men in Table 3, 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

employment. Compared with all other employment states, fixed-term contract employment is the least stable. Further, close to 58 per cent of all fixed-term contract workers in 2001 were in permanent employee jobs three years later.

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.

Table 4 provides the three-year transition rates for women by age. The table is thus analogous to Table 3 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 3
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.

Table 4**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.

4. Modelling labour market transitions

To provide more insight into what underpins the matrix tables presented and discussed in the previous section a model is required that will, for each individual, mimic the chosen path of labour market states over time. We chose a dynamic mixed multinomial logit model that makes use of the panel nature of the data. This model is able to 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. For instance, human capital theory predicts that skills accumulated through experience raise the probability of working in the future. Alternatively, fixed costs of entering the labour force (search costs, for example) make future participation more likely for individuals already working. 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. 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. In summary, to identify true state dependence we include lagged dependent variables. To address unobserved heterogeneity we include correlated 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.⁸

⁸ The initial condition arises because we do not observe labour market choices from the start of a person's working age life.

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, 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.

To formalise the model, let Y_{it} represent the choice by individual i in wave t and let J be the discrete choice set, where J 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

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

where C_{it} , NC_{it} , SE_{it} , UE_{it} and X_{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_{it} is a vector of control variables. 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.

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 $\text{Prôb}(Y_i)$.⁹

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

$$\text{Pseudo LL} = \sum_i \text{Prôb}(Y_i)$$

Results: Females

The estimation results for females are presented in Table 5. 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). 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 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 5). 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.

⁹ 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.

To address the counterfactual we undertake scenario analyses by taking 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 6. 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. 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. 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. Based on model II and limiting our comparisons to being unemployed in the previous 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 percentage points more likely to be permanently employed in the subsequent period compared to women who were casually employed in the previous period. However, when focussing on being employed per se we find that these same women are 4 to 10 percentage points 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.

**Table 5 Dynamic MNL without (I) and with (II) Unobserved Heterogeneity
(coefficients and mean marginal effects): Females**

	Dynamic MNL (I)			Dynamic MNL w Random Effects (II)			Mean Marginal Effects (of II)			
	C	NC	SE	C	NC	SE	C	NC	SE	NE
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 σ_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 6 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

5.3.3 Results: Males

The estimation results for males are presented in Table 7. 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. 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.

The results of the scenario analysis based on the estimation results of Model I and II in Table 7 are displayed in Table 8. 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. The predictions from Model II, however, point to a smaller advantage from casual employment. The enhanced probability of total employment now varies from 10 percentage points (when we condition on self-employment in the initial state) up to 19 percentage points (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 percentage points). 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.

**Table 7 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
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 σ_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 8 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

5. Concluding remarks

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. We found that for women, 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 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: 1) it lifts the proportion of persons transiting into non-casual employment from both casual employment and unemployment and 2) 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.

There are two shortcomings of the analysis in this paper 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.

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