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Transitions from Casual Employment in Australia

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Abstract

A distinctive feature of the Australian labour market is a high incidence of casual employment. Almost 27 percent of Australian employees in 2006 were classified as employed on a casual basis, an alarmingly high proportion given the strong claims often made about the harmful effects that casual employment can have on future employment prospects. But are such claims justified? This paper uses longitudinal data from the HILDA Survey to examine the extent to which casual employees are able to access non-casual jobs in the future and to contrast the experiences of casual employees with that of other labour market participants. A dynamic MNL model of labour market states is estimated which reveals high annual rates of mobility from casual employment into non-casual employment. Further, among men, casual employees are found to be far more likely to make the transition into non-casual employment than otherwise comparable unemployed job seekers. For women, however, this is not the case.

JEL classification: J29; J69; C33; C35

Keywords: Casual employment; HILDA Survey; Labour market transitions; Australia; Dynamic mixed multinomial logit

1. Introduction

Recent decades have seen increased concern in many Western economies about the rising incidence of various forms of non-standard employment, usually assumed to be associated with less stable and more precarious working arrangements (e.g., temporary employment contracts). This has resulted in a flurry of research activity concerned with identifying whether or not exposure to such forms of employment hinders or enhances future labour market prospects (e.g., Dekker, 2001; Korpi and Levin, 2001; Booth et al., 2002; Holmlund and Storrie, 2002; D'Addio and Rosholm, 2005; Gagliarducci, 2005; Ichino et al., 2005). Findings, however, might be expected to vary widely across countries depending on both the types of non-standard employment arrangements that prevail and their incidence. The Spanish experience with temporary employment contracts, for example, has received considerable attention (e.g., Alba-Ramirez, 1998; Amuedo-Dorantes, 2000, 2001; Dolado et al., 2002; Guell and Petrongolo, 2007), in large part because the incidence of such contracts in that country is so great; by the early 1990s around 35% of all employees in Spain were covered by temporary employment contracts (Guell and Petrongolo, 2007, p. 154).

One country which has not received much attention, but where the incidence of non-standard employment approaches that of Spain, is Australia. Most notably, the Australian labour market is characterised by a very high level of casual employment, and in August 2006 stood at almost 27%. 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 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 as 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 employment. Examining the relationship between casual employment and future labour market outcomes is the principal objective of this paper.

More specifically, this paper uses longitudinal data from the first five waves of the Household, Income and Labour Dynamics in Australia (HILDA) Survey to: (i) quantify the rate of mobility between different labour market states in Australia; and (ii) estimate a model of labour market outcomes in which both casual and fixed-term contract employment are separately identified. Our approach to modelling labour market states differs from (and improves upon) the majority of previous research undertaken overseas by using the full sample to model all labour market state permutations, rather than restricting the sample to individuals in a particular labour market state at origin. The advantage of this approach is that any individual labour market history can be simulated, using conditional probabilities, for the full sample allowing the question of the counterfactual to be addressed, a question which has received very little attention in the literature on progression from non-permanent or non-standard employment thus far.

The remainder of this paper is structured as follows. In Section 2 we briefly review previous 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. This section also summarises 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. Section 5 concludes.

2. Previous research

Ultimately, an understanding of how casual employment impacts on future employment prospects requires longitudinal data that trace the employment histories of workers over time,

and unfortunately Australia has, at least historically, not been well served by high quality longitudinal data collections. The most notable exceptions are the various longitudinal youth cohort panels that have tracked relatively large samples of young people since the mid-1980s (see Marks and Rothman, 2003), and the Survey of Employment and Unemployment Patterns (SEUP), which followed a sample of persons aged 15 to 59 years (as at May 1995) over a relatively short period – three interviews conducted one year apart, with retrospective information collected at the first interview (see Le and Miller, 1998).

Gaston and Timcke (1999), for example, used data from one of the youth cohorts to track the labour market destinations of young people (all between 17 and 20 years of age in 1990) over a four-year period (1990 to 1994). 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" (Gaston and Timcke, 1999, p. 345). Of course, this research is subject to one major criticism; the findings relate specifically to the experiences of young adults and so may not be generalisable to a broader population.

The SEUP data is not subject to this particular criticism, and was initially argued to provide strong evidence of little progression from casual to permanent employment (Burgess and Campbell, 1998). Subsequent research using these same data suggests less negative conclusions. Dunlop (2001) used these data to examine mobility among low-paid workers over a two-year period, and concluded 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% (in the general population sub-sample). Further, it was not that much lower than the transition rate for low-paid workers in full-time permanent jobs – about 55%.

More compelling is the work of Chalmers and Kalb (2001). They made use of the full three-year period available in the SEUP data and unlike previous research, explicitly addressed the issue of the counterfactual. They found that, for persons who became unemployed in the first year of the survey, it was 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.

Overall, the current body of research is still relatively 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.

3. Data

3.1 The HILDA Survey

This paper uses data from the first five waves of the Household, Income and Labour Dynamics in Australia (or HILDA) Survey, a longitudinal household panel survey covering about 14,000 individuals comprising about 8,000 households.[1] Central to all of the analyses reported on in this paper is the distinction between different labour market states. Our approach begins with the standard ABS labour force framework, which, in turn, is based on International Labour Organisation conventions, and divides the population into three mutually exclusive categories: the employed; the unemployed; and those not in the labour force. Since our focus here, however, is on the employed, in the multivariate analysis we

[1] See Wooden and Watson (2007) for a detailed description of HILDA.

combine the unemployed and not in the labour force groups to form a single jobless category. We also distinguish between employees and self-employed persons. Note that we depart from the conventional ABS definition by treating owner-managers of incorporated enterprises as self-employed and not as employees.

3.2 Identifying and measuring casual (and fixed-term contract) employment

Critical for this study is the identification of casual employees. Previous estimates of the incidence of casual employment have mostly been based on a proxy measure – the presence or absence of entitlements to paid annual leave and paid sick leave. A feature of the HILDA Survey data is that it permits construction of estimates of casual employment using both the proxy measure based on entitlements and on self-reported perceptions about the employment contract type. With respect to the latter, 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 contract. A respondent can thus not have a fixed-term employment contract and also be classified as a permanent employee, as typically happens when the proxy measure is used, since those on fixed-term employment contract usually have access to paid annual leave and paid sick leave.

While the relative merits of the self-reported measure have been the subject of debate (cf. Campbell and Burgess, 2001; Murtough and Waite, 2001), the ability to separately distinguish fixed-term contract workers is very attractive. As a result, we opt for the self-reported classification of contractual employment status in this paper. The choice of measure, however, is not expected to have large consequences; on average, in any one year, 84% of employees that report not having paid leave entitlements also report being employed on a casual basis.

3.4 Labour Market Transitions

There is a relatively high degree of persistence in labour market status from one year to the next for permanent employees, the self-employed, and persons not in the labour force. That is, between 80% and 90% of persons in these groups at any point in time will still be in the same labour market state one year later.[2] 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.

For the group of central interest to this paper -casual employees- it is observed that, on average, 55% will still be in casual employment one year later. Nevertheless, a sizeable fraction (about 22%) will be working as permanent employees, while about 5% will be working on a fixed-term contract and a further 3% will be self-employed. Interestingly, the annual rates of transition between casual employee status and permanent 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% respectively). When taking a longer four-year perspective transition rates out of casual employment are, as we would expect, noticeably higher. We find that after four years almost 41% of casual employees in wave 1 had moved into permanent employment, and this rises to 53% if we include transitions into fixed-term employment and self-employment. Casual employees are still at greater risk of becoming unemployed or jobless four 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 are consistent with arguments that a casual job is superior to no job at all when it comes to long-term employment prospects.

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

4. Modelling labour market transitions

4.1 The estimation framework

Most studies into labour market dynamics report transition tables to describe transitions between all labour market states, yet typically the empirical specification used to model progression from non-standard employment restricts the data to the sub-group of interest. This approach is suitable for answering questions such as how long people remain in non-standard jobs, who progresses to a permanent job, and who exits into unemployment, but is unable to answer the counterfactual question of what would have happened to persons working in non-standard jobs had they been unemployed instead? This counterfactual question has received scant attention in the literature, yet is at the core of recent welfare reforms in the UK, US and Australia that, in a broad sense, emphasise a 'work first' approach.

To address the counterfactual we need a different approach that is able to describe labour market transitions for the population as a whole. Furthermore, the approach needs to be able to address the longstanding econometric issue regarding the nature of state dependence, i.e. the persistence in labour market status from one year to the next. Heckman and Willis (1977) have defined two sources of dependence: a) unobserved heterogeneity, which gives rise to spurious dependence; and b) true state dependence[3]. The implications of observed state dependence being largely the result of spurious dependence 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, a policy that moves people into work will have a lasting effect and will permanently

[3] Earlier examples of the concept of unobserved heterogeneity and state dependence are found in the medical and statistical literature on disease and accidents, e.g. Greenwood and Yule (1920).

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.

A model that can address both the counterfactual and distinguish between spurious and true state dependence is a random effects multinomial logit specification with lagged labour market outcomes as explanatory variables. This approach is similar to that used by Gong et al. (2004) who analysed labour market mobility in urban Mexico using two separate five-wave panels. Where our approach differs from Gong et al. (2004) is in the treatment of the initial condition problem that arises from the inclusion of lagged outcomes (in combination with the inability to observe all individuals from the start of their working life). Rather than following Heckman (1981) and separately estimating outcomes in the initial period, we instead follow Wooldridge (2005) and specify unobserved heterogeneity conditional on the first period outcome. The same approach has been applied by Bjørner and Leth-Petersen (2007) in a study on household car ownership in Denmark and by Erdem and Sun (2001) in a study on brand loyalty using supermarket scanner data.

We distinguish five outcomes (or labour market states) for the dependent variable: casual employment, permanent employment, fixed-term employment, self-employment, and joblessness. Note that while we combine the unemployed and those who are not in work into a single jobless category for our dependent variable, when we use past labour market states as explanatory variables we distinguish the unemployed from other jobless persons. 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 five 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

$$\text{Prob}(Y_{it} = j \mid \mu_i) = \frac{\exp\left(\begin{array}{l}\beta_j^C C_{i1} + \beta_j^P P_{i1} + \beta_j^F F_{i1} + \beta_j^{SE} SE_{i1} + \beta_j^{UE} UE_{i1} + \\ \gamma_j^C C_{it-1} + \gamma_j^P P_{it-1} + \gamma_j^F F_{it-1} + \gamma_j^{SE} SE_{it-1} + \gamma_j^{UE} UE_{it-1} + \\ \beta_j^x X_{it-1} + \mu_i\end{array}\right)}{\sum_{m=1}^{5} \exp\left(\begin{array}{l}\beta_m^C C_{i1} + \beta_m^P P_{i1} + \beta_m^F F_{i1} + \beta_m^{SE} SE_{i1} + \beta_m^{UE} UE_{i1} + \\ \gamma_m^C C_{it-1} + \gamma_m^P P_{it-1} + \gamma_m^F F_{it-1} + \gamma_m^{SE} SE_{it-1} + \gamma_m^{UE} UE_{it-1} + \\ \beta_m^x X_{it-1} + \mu_i\end{array}\right)} \quad [1]$$

where C_{it}, P_{it}, F_{it}, SE_{it}, and UE_{it} are dummy indicators for individual i being in casual employment, in permanent employment, in fixed-term employment, self-employed, or unemployed in wave t, respectively, and X_{it} is a vector of control variables. The parameter vector for one of the outcome choices needs to be normalised to zero, as in any MNL. In this analysis we use joblessness (NE) as the normalised outcome. 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.

We follow Bjørner and Leth-Petersen (2007) and relax the IIA assumption of independence of the errors imposed by the standard multinomial logit by letting the random effects, μ_i, be correlated across the different choices (i.e., μ is multivariate normally distributed with a fully flexible variance covariance matrix).

The probability that we observe an individual's labour market history to be $Y_i = \{Y_{i1}, Y_{i2}, Y_{i3}, Y_{i4}, Y_{i5}\}$, given unobserved heterogeneity μ_i, is

$$\text{Prob}(Y_i \mid \mu_i) = \prod_{t=2}^{5} \prod_{j=1}^{5} \text{Prob}(Y_{it} = j \mid \mu_i) * I(Y_{it} = j) \quad [2]$$

where I(·) 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 Prob(Y_i).

We do so numerically by taking random draws from the multivariate normal distribution, evaluate Prob($Y_i \mid \mu_i$) for each of these draws, and than average over those to get Prôb(Y_i).[4]

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

$$\text{Pseudo LL} = \sum_i \ln\left(\text{Prôb}(Y_i)\right) \qquad [3]$$

4.2 Results: Females

The estimation results from our dynamic mixed multinomial logit (MMNL) models for females are presented in Table 3. Reported are the coefficient estimates, with standard errors in square brackets, for two separate specifications. To enable us to identify the importance of unobserved heterogeneity, and hence the extent of spurious state dependence, we estimate models with and without random effects. The first four columns report the results for the model without random effects (Model I). The next four columns report the results for the specification that includes the correlated random effects (Model II). The final five columns display the mean marginal effects for the most general model (i.e., Model II).

Most of the control variables are only of passing interest so are ignored here. Instead we focus our attention on the coefficients on the one-period lagged labour market states. These capture the extent of state dependence. As is clearly evident these coefficients are positively signed and large in magnitude, indicating that, in the case of women, labour market choices entail a large amount of state dependence. It can also be seen that the coefficients on these lagged outcome terms are mostly larger in Model I, where unobserved heterogeneity is ignored, than in Model II. Moreover, Model II clearly outperforms the simpler model in terms of model fit (as measured by the pseudo log likelihood). Together these facts imply that

[4] We use a method developed by Halton (1960). In all cases, we took 250 (Halton) draws.

the observed state dependence is not only due to true state dependence, but also depends on unobserved heterogeneity.

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. We then average over all females. Because we also condition on the initial labour market state in our model specification, we compare the alternative one-period lagged labour market states conditional on employment and labour market status in the first wave. The results of this exercise are presented in Table 4.

Comparing the probabilities of being in permanent employment at time t conditional on being unemployed or working in a casual job in the previous period shows that this distinction (between previous unemployment and previous casual employment) does not matter much in either specification. Both are close to equal in terms of their association with the probability of being permanently employed. In fact, in Model II, unemployment in the previous period is associated with marginally higher permanent employment probabilities than casual employment in the previous period (by up to 3 percentage points). However, and not surprisingly, these same women are 3 to 12 percentage points less likely to be in work if unemployed in the previous period compared to when working in a casual job in the previous period.

The implication from our preferred specification (Model II) is that spells of casual employment raise the likelihood that a woman will be in work in the future, but this increased probability of employment is driven by a higher probability of casual employment. Compared to experiencing an unemployment spell, the probability of being permanently employed in the future is actually marginally lower, all else being equal.

Table 3 Dynamic MMNL without (I) and with (II) unobserved heterogeneity (females)

	Coefficients (Model I -without RE)				*Coefficients (Model II -with RE)*				*Mean Marginal Effects (of model II)*				
	C	*P*	*F*	*SE*	*C*	*P*	*F*	*SE*	*C*	*P*	*F*	*SE*	*NE*
Melbourne	0.056	-0.031	0.214	0.332*	0.055	-0.053	0.262	0.461*	0.002	-0.017	0.010	0.013	-0.007
	[0.108]	[0.101]	[0.148]	[0.157]	[0.151]	[0.161]	[0.224]	[0.258]					
Brisbane	0.016	0.115	0.149	0.245	-0.003	0.119	0.145	0.427	-0.008	0.004	0.002	0.011	-0.009
	[0.126]	[0.118]	[0.178]	[0.185]	[0.181]	[0.192]	[0.259]	[0.295]					
Adelaide	-0.068	-0.319*	-0.003	-0.374	-0.118	-0.527*	-0.083	-0.636	0.012	-0.038	0.011	-0.012	0.027
	[0.143]	[0.141]	[0.200]	[0.245]	[0.205]	[0.233]	[0.293]	[0.477]					
Perth	-0.271*	-0.432*	-0.410*	-0.187	-0.338	-0.633*	-0.567*	-0.140	-0.004	-0.034	-0.004	0.005	0.037
	[0.139]	[0.133]	[0.205]	[0.210]	[0.222]	[0.215]	[0.307]	[0.330]					
Other major city	0.146	-0.159	-0.176	0.321	0.110	-0.272	-0.339	0.480	0.018	-0.026	-0.008	0.017	-0.001
	[0.132]	[0.129]	[0.197]	[0.199]	[0.180]	[0.195]	[0.285]	[0.335]					
Inner-regional	0.139	-0.168*	0.055	0.284*	0.140	-0.292*	0.027	0.400*	0.019	-0.036	0.006	0.013	-0.002
	[0.095]	[0.092]	[0.139]	[0.141]	[0.130]	[0.141]	[0.198]	[0.225]					
Outer-region and beyond	0.069	-0.329*	-0.078	0.367*	0.027	-0.560*	-0.162	0.587*	0.018	-0.055	0.005	0.024	0.008
	[0.115]	[0.114]	[0.173]	[0.169]	[0.161]	[0.177]	[0.239]	[0.274]					
Actual years work experience / 10	0.371*	0.525*	0.489*	0.411*	0.501*	0.790*	0.647*	0.605*	0.001	0.004	0.000	0.001	-0.005
	[0.049]	[0.049]	[0.075]	[0.067]	[0.071]	[0.082]	[0.116]	[0.114]					
Last yr of school not AU, UK, or NZ	-0.521*	-0.347*	-0.555*	-0.253	-0.700*	-0.589*	-0.774*	-0.481*	-0.032	-0.012	-0.009	-0.003	0.055
	[0.128]	[0.115]	[0.180]	[0.170]	[0.190]	[0.204]	[0.291]	[0.287]					
Aged below 25	1.061*	1.110*	0.888*	-0.170	1.384*	1.570*	1.226*	-0.081	0.060	0.070	-0.001	-0.026	-0.104
	[0.128]	[0.136]	[0.205]	[0.268]	[0.190]	[0.216]	[0.304]	[0.398]					
Aged between 25 and 35	0.310*	0.409*	0.409*	0.202	0.373*	0.561*	0.476*	0.231	0.008	0.027	0.002	-0.002	-0.035
	[0.102]	[0.099]	[0.147]	[0.146]	[0.143]	[0.153]	[0.214]	[0.227]					
Aged 55 or above	-1.399*	-1.644*	-2.050*	-1.224*	-1.964*	-2.505*	-2.776*	-1.777*	-0.069	-0.106	-0.026	-0.013	0.215
	[0.118]	[0.111]	[0.198]	[0.155]	[0.167]	[0.182]	[0.293]	[0.254]					
Partnered	-0.267*	-0.096	-0.196*	0.293*	-0.413*	-0.138	-0.331*	0.404*	-0.032	0.006	-0.007	0.015	0.018
	[0.086]	[0.083]	[0.117]	[0.140]	[0.120]	[0.130]	[0.169]	[0.229]					
Lone parent	-0.300*	-0.351*	-0.453*	-0.778*	-0.435*	-0.459*	-0.716*	-1.032*	-0.012	-0.005	-0.010	-0.019	0.046
	[0.128]	[0.135]	[0.201]	[0.261]	[0.170]	[0.203]	[0.301]	[0.421]					
Has a university degree	0.397*	0.818*	1.394*	0.888*	0.629*	1.382*	1.998*	1.319*	-0.017	0.052	0.039	0.017	-0.091
	[0.084]	[0.080]	[0.125]	[0.118]	[0.123]	[0.139]	[0.194]	[0.210]					
Has other post-school diploma	0.088	0.411*	0.867*	0.293*	0.284*	0.810*	1.330*	0.452*	-0.016	0.029	0.032	0.000	-0.046
	[0.094]	[0.093]	[0.146]	[0.143]	[0.131]	[0.154]	[0.214]	[0.239]					
Completed year 12 only	0.401*	0.439*	0.705*	0.302*	0.654*	0.797*	1.016*	0.440*	0.019	0.024	0.015	-0.002	-0.057
	[0.091]	[0.095]	[0.154]	[0.153]	[0.127]	[0.146]	[0.218]	[0.257]					
Children 0 to 4 present	-0.611*	-0.798*	-0.962*	-0.318*	-0.967*	-1.380*	-1.564*	-0.502*	-0.027	-0.061	-0.018	0.007	0.099
	[0.090]	[0.088]	[0.143]	[0.131]	[0.123]	[0.130]	[0.192]	[0.208]					
Children 5 to 9 present	0.290*	0.295*	0.268*	0.140	0.373*	0.353*	0.380*	0.179	0.016	0.010	0.003	-0.001	-0.028
	[0.084]	[0.085]	[0.125]	[0.123]	[0.115]	[0.123]	[0.171]	[0.177]					
Children 10 to 14 present	0.150*	0.139	0.271*	0.067	0.234*	0.202	0.352*	0.154	0.010	0.001	0.007	0.000	-0.018
	[0.084]	[0.085]	[0.122]	[0.125]	[0.112]	[0.128]	[0.171]	[0.192]					
Casual in 2001	0.956*	0.978*	0.874*	0.334*	2.327*	2.459*	2.151*	0.820*	0.112	0.095	0.006	-0.022	-0.191
	[0.095]	[0.106]	[0.170]	[0.170]	[0.194]	[0.209]	[0.293]	[0.335]					
Permanent in 2001	0.539*	1.498*	0.901*	0.466*	1.847*	4.099*	2.797*	1.187*	-0.012	0.328	-0.006	-0.034	-0.276
	[0.112]	[0.102]	[0.170]	[0.163]	[0.224]	[0.257]	[0.324]	[0.356]					
Fixed-term in 2001	0.985*	1.563*	2.084*	0.239	2.217*	3.637*	4.699*	0.348	0.000	0.127	0.124	-0.047	-0.204
	[0.205]	[0.183]	[0.222]	[0.332]	[0.324]	[0.337]	[0.431]	[0.614]					
Self-employed in 2001	0.363*	0.465*	0.623*	1.555*	0.953*	1.218*	1.108*	4.801*	-0.032	-0.046	-0.013	0.262	-0.171
	[0.174]	[0.181]	[0.261]	[0.163]	[0.313]	[0.356]	[0.471]	[0.468]					
Unemployed in 2001	0.262*	0.369*	0.274	0.027	0.686*	0.997*	0.712*	0.205	0.018	0.052	-0.002	-0.009	-0.059
	[0.147]	[0.160]	[0.260]	[0.299]	[0.237]	[0.285]	[0.377]	[0.494]					
Casual in t-1	2.700*	2.123*	2.137*	1.558*	1.768*	1.415*	1.514*	1.232*	0.097	0.023	0.009	0.006	-0.135
	[0.093]	[0.111]	[0.193]	[0.170]	[0.138]	[0.148]	[0.240]	[0.252]					
Permanent in t-1	1.383*	3.839*	2.718*	1.203*	0.599*	2.426*	1.733*	0.613*	-0.053	0.197	0.004	-0.017	-0.130
	[0.115]	[0.101]	[0.184]	[0.179]	[0.151]	[0.141]	[0.230]	[0.259]					
Fixed-term in t-1	1.511*	3.118*	4.105*	1.565*	0.921*	2.342*	2.506*	1.378*	-0.035	0.119	0.036	0.003	-0.123
	[0.204]	[0.175]	[0.223]	[0.294]	[0.255]	[0.237]	[0.303]	[0.460]					
Self-employed in t-1	1.272*	1.432*	1.942*	3.982*	0.875*	0.930*	1.744*	2.310*	0.010	-0.016	0.039	0.067	-0.100
	[0.181]	[0.190]	[0.280]	[0.155]	[0.247]	[0.268]	[0.347]	[0.253]					
Unemployed in t-1	0.806*	1.053*	1.415*	0.307	0.847*	1.112*	1.521*	0.386	0.020	0.033	0.028	-0.008	-0.074
	[0.145]	[0.163]	[0.265]	[0.323]	[0.169]	[0.201]	[0.312]	[0.391]					
Constant	-2.705*	-3.640*	-5.247*	-4.475*	-3.096*	-4.681*	-6.486*	-6.311*					
	[0.148]	[0.159]	[0.263]	[0.239]	[0.216]	[0.273]	[0.444]	[0.474]					
Standard deviation of μ_i					1.440*	1.956*	1.904*	2.155*					
					[0.102]	[0.146]	[0.176]	[0.195]					
Correlations (rho)													
(C&P) / (C&F) / (C&SE)					-0.71	-0.58	-0.32						
(P&F) / (P&SE)					0.67	0.32							
(F&SE)					0.34								
N (Individuals x years) / LL	15564	-12138.8			15564	-11917.6							
LR chi-squared / Pr > chi-squared	18998.29	0.00			26263.47	0.00							

Table 4

Average predicted probabilities (%) based on dynamic MMNLs: Females

	Model I (no RE)					*Model II (with RE)*				
	C	*P*	*F*	*SE*	*NE*	*C*	*P*	*F*	*SE*	*NE*
Average predicted probability (all females)	15.5	38.2	5.6	8.4	32.3	21.1	37.6	5.2	7.7	28.5
Actual proportion in waves 2 to 5	15.5	38.2	5.6	8.4	32.3	15.5	38.2	5.6	8.4	32.3
Initial state (i.e., in wave 1) / State at t-1										
Unemployed / Unemployed	19.6	16.2	6.0	3.3	55.0	27.7	24.0	6.5	3.8	38.0
Unemployed / Casual	49.2	17.7	4.5	4.5	24.1	38.4	23.7	4.9	5.5	27.6
Unemployed / Permanent	9.3	65.4	5.2	2.1	18.0	20.6	40.8	4.7	3.2	30.6
Unemployed Fixed-term	12.6	38.0	24.6	3.6	21.2	23.4	35.6	8.2	5.3	27.6
Unemployed / Self-employed	13.5	9.6	4.0	48.0	25.0	26.3	19.0	7.1	13.2	34.4
Unemployed / Not in LF	12.6	8.3	2.2	3.4	73.5	20.8	16.9	3.2	4.3	54.9
Casual / Unemployed	27.5	20.7	7.5	3.2	41.1	41.4	30.9	8.2	2.7	16.7
Casual / Casual	57.7	19.0	4.7	3.6	14.9	51.3	28.6	5.8	3.7	10.7
Casual / Permanent	11.0	70.5	5.5	1.7	11.2	30.3	49.0	5.6	2.2	12.8
Casual / Fixed-term	15.2	41.7	26.5	3.0	13.6	33.2	42.4	9.7	3.6	11.2
Casual / Self-employed	18.6	12.2	5.0	46.1	18.1	39.8	25.3	9.2	10.2	15.4
Casual / Not in LF	20.0	12.0	3.1	3.7	61.1	37.0	25.4	4.8	3.6	29.2
Permanent / Unemployed	17.3	32.7	7.1	3.4	39.5	25.4	53.4	6.9	2.2	12.1
Permanent / Casual	40.8	33.7	5.1	4.3	16.0	33.1	50.9	4.9	3.1	8.0
Permanent / Permanent	5.0	81.6	3.9	1.4	8.1	15.8	71.2	3.8	1.4	7.7
Permanent / Fixed-term	8.1	56.2	21.7	2.7	11.2	18.1	65.2	7.2	2.5	7.1
Permanent / Self-employed	11.4	18.9	4.7	48.1	16.9	25.0	46.6	8.2	8.8	11.5
Permanent / Not in LF	13.0	19.6	3.1	4.1	60.2	23.5	46.9	4.2	3.1	22.4
Fixed-term / Unemployed	21.0	26.9	17.7	2.1	32.3	27.9	33.9	26.8	0.9	10.5
Fixed-term / Casual	46.8	26.3	12.1	2.6	12.2	36.8	33.8	20.9	1.4	7.1
Fixed-term / Permanent	6.7	74.5	10.7	0.9	7.1	19.2	53.4	19.1	0.7	7.5
Fixed-term / Fixed-term	8.2	38.4	44.1	1.4	7.8	20.3	43.3	29.0	1.1	6.3
Fixed-term / Self-employed	16.0	18.2	13.6	36.2	15.9	27.3	28.4	30.2	4.1	10.0
Fixed-term / Not in LF	17.4	17.9	8.4	2.8	53.5	27.3	31.9	18.7	1.5	20.7
Self-employed / Unemployed	18.3	14.9	7.0	12.4	47.4	20.9	14.5	4.3	39.8	20.5
Self-employed / Casual	43.8	15.5	5.0	16.1	19.5	26.2	12.4	2.7	45.8	12.8
Self-employed / Permanent	8.8	61.3	6.3	8.2	15.5	15.6	27.0	3.3	37.3	16.8
Self-employed / Fixed-term	10.9	32.5	26.9	12.7	16.9	15.7	20.2	5.0	46.2	12.9
Self-employed / Self-employed	6.0	4.1	2.1	77.7	10.1	13.5	6.8	2.7	65.6	11.4
Self-employed / Not in LF	12.0	7.8	2.6	13.2	64.5	15.9	9.7	2.0	42.3	30.1
Not-employed not UE / Unemployed	17.2	12.9	5.2	3.6	61.1	22.0	16.6	5.6	4.5	51.2
Not-employed not UE / Casual	46.6	15.1	4.3	5.3	28.7	32.5	17.0	4.4	6.7	39.4
Not-employed not UE / Permanent	9.4	59.9	5.3	2.7	22.8	17.0	30.9	4.4	4.1	43.6
Not-employed not UE / Fixed-term	12.2	33.5	24.0	4.4	25.9	19.5	26.7	7.7	6.6	39.6
Not-employed not UE / Self-employed	11.5	7.3	3.3	50.8	27.0	20.7	12.6	5.9	14.9	45.8
Not-employed not UE / Not in LF	10.5	6.2	1.8	3.6	77.9	15.0	10.5	2.4	4.6	67.5
State at t-1 (unconditional on initial state)										
Unemployed	19.0	22.9	7.3	4.1	46.6	25.8	33.1	7.6	6.0	27.6
Casual	45.2	23.5	5.2	5.4	20.7	34.3	31.6	5.6	7.6	21.0
Permanent	7.9	69.3	5.1	2.4	15.3	18.1	48.5	5.0	5.3	23.1
Fixed-term	10.8	42.7	24.5	4.1	18.0	20.2	42.9	8.6	7.4	21.0
Self-employed	12.6	12.9	4.7	49.2	20.5	24.5	27.6	8.4	14.7	24.8
Not in LF	13.6	13.7	3.1	4.6	65.0	22.2	28.0	4.5	6.7	38.5

4.3 Results: Males

The estimation results for males are presented in Table 5. From the significance of the one-period lagged labour market states and the random effects it follows that the observed state dependence for men is also the result of both true state dependence and spurious state dependence. The results of the scenario analysis based on the estimation results of Models I and II in Table 5 are displayed in Table 6.

When first analysing the predictions from Model I and comparing probabilities of permanent employment, we find that, in contrast to women, spells of casual employment noticeably increase the probability of being permanently employed in the future compared to spells of unemployment. The increase in probability is in the order of 6 to 10 percentage points depending on the labour market state in the first wave. In terms of overall employment, the size of the differential is much larger again, lying in the range of 17 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 about 3 percentage points up to about 15 percentage points depending the initial period labour market state. In contrast, the enhanced probabilities of permanent employment are reduced only modestly, now ranging from a low of about 4 percentage points up to a high of almost 8 percentage points.

Overall, it is very clear that as for women, casual employment enhances the probability that male employees will still be employed in the future. But unlike women, casual employment appears to also enhance the likelihood of securing permanent jobs, and while this effect is somewhat reduced 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 5

Dynamic MMNL without (I) and with (II) unobserved heterogeneity (males)

	Coefficients (Model I -without RE)				*Coefficients (Model II -with RE)*				*Mean Marginal Effects (of model II)*				
	C	*P*	*F*	*SE*	*C*	*P*	*F*	*SE*	*C*	*P*	*F*	*SE*	*NE*
Melbourne	-0.428*	-0.200	-0.080	-0.230	-0.572*	-0.295	-0.141	-0.415	-0.024	0.000	0.009	-0.005	0.021
	[0.148]	[0.133]	[0.171]	[0.172]	[0.204]	[0.180]	[0.240]	[0.282]					
Brisbane	-0.227	-0.009	-0.108	0.001	-0.294	-0.037	-0.183	-0.038	-0.017	0.012	-0.006	0.003	0.008
	[0.175]	[0.158]	[0.212]	[0.201]	[0.227]	[0.214]	[0.286]	[0.306]					
Adelaide	-0.118	-0.237	-0.037	-0.026	-0.192	-0.345	-0.087	-0.173	0.000	-0.023	0.009	0.002	0.012
	[0.182]	[0.174]	[0.223]	[0.224]	[0.247]	[0.237]	[0.316]	[0.373]					
Perth	-0.177	0.020	0.175	-0.077	-0.219	0.002	0.236	-0.181	-0.015	0.002	0.015	-0.006	0.004
	[0.205]	[0.184]	[0.237]	[0.230]	[0.287]	[0.260]	[0.347]	[0.381]					
Other major city	-0.210	-0.154	-0.388*	-0.353	-0.314	-0.273	-0.587*	-0.494	-0.004	0.009	-0.015	-0.009	0.019
	[0.185]	[0.169]	[0.229]	[0.218]	[0.257]	[0.230]	[0.306]	[0.343]					
Inner-regional	-0.345*	-0.394*	-0.281*	-0.271*	-0.528*	-0.615*	-0.478*	-0.437*	-0.009	-0.023	0.002	0.001	0.029
	[0.134]	[0.122]	[0.163]	[0.155]	[0.179]	[0.166]	[0.225]	[0.250]					
Outer-region and beyond	-0.007	-0.318*	0.052	-0.109	-0.009	-0.441*	0.023	-0.230	0.016	-0.043	0.017	-0.001	0.010
	[0.154]	[0.147]	[0.190]	[0.182]	[0.215]	[0.207]	[0.266]	[0.309]					
Actual years work experience / 10	0.264*	0.367*	0.459*	0.458*	0.283*	0.424*	0.568*	0.561*	0.000	0.001	0.001	0.001	-0.002
	[0.080]	[0.072]	[0.098]	[0.090]	[0.106]	[0.096]	[0.131]	[0.144]					
Last yr of school not AU, UK, or NZ	-0.220	-0.343*	-0.663*	-0.360*	-0.353	-0.476*	-0.880*	-0.675*	0.003	0.001	-0.021	-0.010	0.027
	[0.178]	[0.156]	[0.221]	[0.196]	[0.250]	[0.223]	[0.308]	[0.345]					
Aged below 25	1.530*	1.230*	1.618*	0.249	1.822*	1.461*	2.060*	0.174	0.064	0.009	0.047	-0.046	-0.074
	[0.200]	[0.189]	[0.261]	[0.298]	[0.270]	[0.256]	[0.365]	[0.450]					
Aged between 25 and 35	0.942*	0.878*	1.076*	0.775*	1.083*	1.076*	1.406*	0.928*	0.020	0.010	0.024	-0.001	-0.053
	[0.170]	[0.154]	[0.201]	[0.194]	[0.221]	[0.203]	[0.265]	[0.283]					
Aged 55 or above	-0.949*	-1.930*	-2.252*	-1.727*	-1.227*	-2.394*	-2.845*	-2.079*	0.025	-0.099	-0.044	-0.017	0.136
	[0.178]	[0.157]	[0.227]	[0.189]	[0.249]	[0.227]	[0.323]	[0.312]					
Partnered	0.280*	0.424*	0.396*	0.634*	0.355*	0.522*	0.458*	0.895*	-0.004	0.012	-0.001	0.020	-0.027
	[0.109]	[0.100]	[0.132]	[0.130]	[0.145]	[0.136]	[0.180]	[0.199]					
Has a university degree	0.253*	0.665*	1.210*	0.692*	0.379*	0.891*	1.501*	0.982*	-0.024	0.011	0.042	0.011	-0.039
	[0.122]	[0.111]	[0.150]	[0.141]	[0.164]	[0.153]	[0.216]	[0.234]					
Has other post-school diploma	0.025	0.262*	0.298*	0.232*	0.096	0.369*	0.403*	0.331	-0.012	0.016	0.006	0.003	-0.013
	[0.113]	[0.104]	[0.151]	[0.131]	[0.153]	[0.145]	[0.217]	[0.222]					
Completed year 12 only	0.272*	0.447*	0.704*	0.473*	0.387*	0.603*	0.936*	0.651*	-0.006	0.005	0.023	0.006	-0.028
	[0.129]	[0.127]	[0.175]	[0.177]	[0.167]	[0.169]	[0.232]	[0.300]					
Children 0 to 4 present	0.183	0.045	0.016	0.318*	0.211	0.070	0.043	0.420*	0.008	-0.009	-0.004	0.013	-0.009
	[0.147]	[0.133]	[0.168]	[0.159]	[0.198]	[0.178]	[0.224]	[0.224]					
Children 5 to 9 present	-0.154	-0.026	-0.181	0.081	-0.144	-0.017	-0.138	0.215	-0.010	0.003	-0.006	0.011	0.002
	[0.142]	[0.126]	[0.164]	[0.152]	[0.171]	[0.164]	[0.219]	[0.204]					
Children 10 to 14 present	0.314*	0.144	0.044	0.140	0.374*	0.146	0.028	0.227	0.019	-0.003	-0.007	0.003	-0.012
	[0.124]	[0.115]	[0.151]	[0.142]	[0.157]	[0.150]	[0.199]	[0.205]					
Casual in 2001	0.865*	0.671*	0.605*	0.533*	1.948*	1.620*	1.759*	1.295*	0.062	0.016	0.015	-0.008	-0.086
	[0.144]	[0.152]	[0.219]	[0.234]	[0.255]	[0.278]	[0.354]	[0.452]					
Permanent in 2001	0.735*	1.607*	1.092*	1.031*	1.645*	3.354*	2.631*	1.873*	-0.041	0.226	0.006	-0.025	-0.166
	[0.161]	[0.148]	[0.216]	[0.207]	[0.305]	[0.355]	[0.404]	[0.451]					
Fixed-term in 2001	0.470	1.545*	2.012*	1.214*	1.444*	3.142*	4.413*	2.548*	-0.065	0.046	0.134	-0.007	-0.109
	[0.305]	[0.240]	[0.284]	[0.318]	[0.445]	[0.438]	[0.531]	[0.595]					
Self-employed in 2001	0.615*	0.808*	0.851*	2.268*	1.294*	1.439*	1.971*	6.332*	-0.068	-0.211	-0.018	0.448	-0.151
	[0.214]	[0.199]	[0.285]	[0.211]	[0.419]	[0.421]	[0.559]	[0.640]					
Unemployed in 2001	0.231	0.077	-0.163	-0.134	0.573*	0.440*	0.182	0.383	0.021	0.012	-0.011	0.001	-0.023
	[0.158]	[0.170]	[0.275]	[0.277]	[0.232]	[0.254]	[0.386]	[0.492]					
Casual in t-1	2.983*	2.606*	2.386*	1.466*	2.265*	2.227*	1.845*	0.930*	0.067	0.071	-0.001	-0.035	-0.101
	[0.144]	[0.160]	[0.251]	[0.225]	[0.178]	[0.207]	[0.310]	[0.317]					
Permanent in t-1	1.935*	4.546*	3.099*	1.849*	1.478*	3.714*	2.407*	1.213*	-0.061	0.311	-0.012	-0.065	-0.173
	[0.165]	[0.150]	[0.240]	[0.203]	[0.200]	[0.200]	[0.311]	[0.306]					
Fixed-term in t-1	1.628*	3.345*	4.059*	1.655*	0.889*	2.564*	2.391*	0.688	-0.049	0.140	0.028	-0.043	-0.077
	[0.259]	[0.214]	[0.277]	[0.294]	[0.347]	[0.289]	[0.397]	[0.444]					
Self-employed in t-1	1.872*	2.411*	2.196*	4.364*	1.568*	2.109*	1.627*	2.498*	-0.001	0.059	-0.012	0.047	-0.094
	[0.226]	[0.210]	[0.318]	[0.203]	[0.311]	[0.303]	[0.438]	[0.338]					
Unemployed in t-1	1.392*	1.226*	1.304*	0.707*	1.464*	1.250*	1.429*	0.425	0.046	0.019	0.019	-0.027	-0.057
	[0.164]	[0.187]	[0.301]	[0.284]	[0.194]	[0.216]	[0.371]	[0.358]					
Constant	-3.258*	-3.778*	-5.352*	-4.576*	-3.597*	-4.232*	-6.504*	-6.265*					
	[0.237]	[0.231]	[0.342]	[0.306]	[0.329]	[0.322]	[0.501]	[0.541]					
Standard deviation of μ_i					1.269*	1.424*	1.823*	2.184*					
					[0.131]	[0.147]	[0.189]	[0.203]					
Correlations (rho)													
(C&P) / (C&F) / (C&SE)					-0.62	-0.66	-0.28						
(P&F) / (P&SE)					0.14	0.14							
(F&SE)					0.04								
N (Individuals x years) / LL	13764	-9526.26			13764	-9401.39							
LR chi-squared / Pr > chi-squared	18100.45	0.00			25501.82	0.00							

Table 6

Average predicted probabilities (%) based on dynamic MMNLs: Males

	Model I (no RE)					*Model II (with RE)*				
	C	*P*	*F*	*SE*	*NE*	*C*	*P*	*F*	*SE*	*NE*
Average predicted probability (all males)	10.1	49.8	5.9	18.1	16.1	13.9	46.7	8.4	17.2	13.8
Actual proportion in waves 2 to5	10.1	49.8	5.9	18.1	16.1	10.1	49.8	5.9	18.1	16.1
Initial state (i.e., in wave 1) / State at t-1										
Unemployed / Unemployed	24.9	15.5	4.7	5.1	49.8	30.3	20.6	8.0	6.3	34.9
Unemployed / Casual	46.6	23.2	5.1	4.2	21.0	36.8	28.1	7.2	6.1	21.8
Unemployed / Permanent	8.1	73.3	4.7	2.8	11.1	17.9	53.3	7.2	5.2	16.5
Unemployed Fixed-term	11.0	41.9	22.9	4.3	19.8	17.4	38.3	11.3	5.6	27.4
Unemployed / Self-employed	12.8	14.6	3.3	52.5	16.9	25.3	26.7	6.4	17.2	24.4
Unemployed / Not in LF	10.2	7.6	2.2	4.1	76.0	15.8	12.8	4.3	7.2	59.9
Casual / Unemployed	32.0	18.9	6.7	6.7	35.6	41.6	24.5	12.5	6.2	15.3
Casual / Casual	51.7	24.5	6.4	4.8	12.7	45.4	30.4	10.5	5.5	8.3
Casual / Permanent	8.8	75.8	5.7	3.1	6.6	22.8	56.3	10.2	4.6	6.2
Casual / Fixed-term	12.1	43.3	27.8	4.8	12.0	23.9	42.7	16.5	5.3	11.5
Casual / Self-employed	13.8	14.9	3.9	57.5	9.9	33.5	30.3	9.7	16.4	10.1
Casual / Not in LF	15.5	11.0	3.7	6.4	63.4	28.5	19.3	8.7	8.6	34.8
Permanent / Unemployed	21.2	35.2	7.9	8.0	27.6	24.4	47.7	13.2	5.5	9.3
Permanent / Casual	33.4	44.2	7.3	5.5	9.6	25.7	54.7	10.4	4.6	4.7
Permanent / Permanent	3.6	86.9	4.2	2.3	3.1	9.3	77.4	7.9	2.9	2.5
Permanent / Fixed-term	5.8	58.9	24.2	4.3	6.8	10.9	65.6	14.4	3.8	5.4
Permanent / Self-employed	7.7	23.6	4.0	58.4	6.4	17.8	53.6	9.4	13.8	5.4
Permanent / Not in LF	11.1	22.4	4.8	8.4	53.3	17.3	41.5	10.0	8.3	22.9
Fixed-term / Unemployed	15.4	30.9	18.3	9.0	26.4	18.6	33.6	33.1	7.2	7.6
Fixed-term / Casual	25.5	40.7	17.7	6.5	9.6	20.4	41.0	28.2	6.4	4.0
Fixed-term / Permanent	2.7	81.1	10.3	2.8	3.1	7.4	62.3	23.6	4.4	2.3
Fixed-term / Fixed-term	3.4	42.1	45.1	3.9	5.4	8.0	47.1	35.7	5.0	4.3
Fixed-term / Self-employed	5.2	19.4	8.7	61.1	5.7	13.5	38.8	25.4	17.8	4.5
Fixed-term / Not in LF	8.2	19.9	11.2	9.6	51.2	13.3	29.7	26.9	11.0	19.2
Self-employed / Unemployed	20.0	16.7	6.6	28.2	28.6	16.4	10.1	7.4	58.2	7.9
Self-employed / Casual	35.5	24.0	6.9	22.4	11.2	19.1	13.7	6.5	56.2	4.6
Self-employed / Permanent	5.6	69.4	5.9	13.8	5.3	8.9	28.6	6.7	52.4	3.4
Self-employed / Fixed-term	7.2	37.0	26.6	20.0	9.2	8.9	19.7	10.5	54.9	6.0
Self-employed / Self-employed	3.4	5.1	1.5	87.0	3.0	8.0	7.5	3.4	78.1	2.9
Self-employed / Not in LF	9.5	9.5	3.6	26.7	50.7	9.3	6.5	4.3	64.7	15.2
Not-employed not UE / Unemployed	20.9	15.1	5.8	6.1	52.2	24.2	18.0	8.3	5.8	43.8
Not-employed not UE / Casual	41.2	23.8	6.6	5.3	23.2	31.1	25.9	8.0	5.8	29.2
Not-employed not UE / Permanent	6.8	72.2	5.8	3.4	11.8	14.9	50.0	8.0	5.0	22.1
Not-employed not UE / Fixed-term	8.9	39.1	27.0	5.0	20.1	13.7	34.3	12.1	5.2	34.7
Not-employed not UE / Self-employed	9.9	13.0	3.7	57.1	16.3	20.7	24.2	6.9	16.4	31.9
Not-employed not UE / Not in LF	8.3	7.1	2.6	4.8	77.3	11.2	10.1	4.1	6.2	68.4
State at t-1 (unconditional on initial state)										
Unemployed	21.6	26.5	7.7	11.6	32.6	24.2	32.2	12.2	15.6	16.0
Casual	36.4	34.5	7.5	8.8	12.9	27.0	38.3	10.1	14.7	10.0
Permanent	5.3	78.6	5.2	4.9	6.1	11.6	59.5	8.6	12.9	7.5
Fixed-term	7.4	48.2	26.1	7.5	10.9	12.2	47.5	14.4	13.8	12.1
Self-employed	8.5	17.0	3.7	62.0	8.8	18.0	36.3	8.7	26.1	10.8
Not in LF	10.6	16.4	4.5	11.4	57.1	15.8	26.9	8.9	18.6	29.9

5. Concluding remarks

Does casual employment provide a bridge to permanent employment? That is, given permanent employment is preferable to casual employment (at least in the long-run), are workers better off accepting casual work rather than remaining unemployed and continuing to search for alternative employment? The research presented here suggests that the answer to this question is yes, but only for men. Indeed, among women, and once we account for preferences (and other sources of unobserved heterogeneity) we find that unemployment has the edge over casual employment when it comes to enhancing the probability of permanent employment in the next period (33.1% versus 31.6%). Among men the situation is very different. Ignoring unobserved heterogeneity, being in casual employment in the previous wave substantially increases the probability of a man being in permanent employment today, compared to being unemployed in the previous wave (34.5% versus 26.5%, respectively). After accounting for unobserved heterogeneity, even more men are predicted to transition into permanent employment. However, it is the difference between previously unemployed and casual employees that is much reduced. Still, it remains the case that an episode of casual employment is superior to an episode of unemployment in terms of the probability of subsequent permanent employment (38.3% versus 32.2%, respectively).

Of interest, controlling for unobserved heterogeneity has two effects: it lifts the proportion of persons transiting into permanent employment from both casual employment and unemployment, and it lifts this proportion more strongly among the unemployed than among casual employees. The first finding implies that if we do not account for unobserved heterogeneity we will be too pessimistic about individuals' transition probabilities into permanent employment. The second finding, at least at first glance, may seem surprising, but is consistent with the idea that every unemployed person is by definition searching for employment. That is, we would expect search intensity to be less among employees

(including casual employees) than among the 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 there is a stigma effect from unemployment which, on average, is worse for men than women. This would give rise to the enhancing effect of casual employment, relative to unemployment, in securing non-casual employment that we observe for men.

Finally, there are two shortcomings of the analysis in this paper that are beyond our control. The first is that all of our results are obtained in a world where casual employment exists. We are unable to predict what would happen if casual employment were proscribed. Will all casual employees immediately become permanent employees, or will they end up on the unemployment queue? 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 in Australia. Would our findings be any different if the economy entered a severe and prolonged recession? We can only speculate about the answer.

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