

Is Casual Employment a 'Bridge' or a 'Trap'?

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Prepared for presentation at the HILDA Survey Research Conference held July 19-20, 2007 at the University of Melbourne.

Abstract

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Many advanced industrialized nations are experiencing an increase in nonstandard, precarious employment, which, in Australia, consists of all forms of work other than full-time and part-time permanent waged employment. The most important form of non-standard employment in Australia is casual employment, accounting for about 26.9 percent of the work-force in 2006. This study uses data from the first four waves of the Household Income and Labour Dynamics in Australia (HILDA) to estimate survival-time regressions. The results suggest that tenure with employer and working part-time increase the duration of casual employment, while household characteristics such as marriage and children reduce the duration of casual spells. The results also indicate an inverted U-shaped hazard, which suggests that the conditional probability of exit from casual employment diminishes over time. We cannot definitively conclude that casual employment acts as either a 'bridge' to permanent work or a 'trap' in substandard employment.

Introduction

The growth of nonstandard employment, such as part-time, contingent, and casual relationships between workers and their employers, has been regarded as an important element of flexible and dynamic economies. Australia, like France, Italy, and Spain, among other advanced industrialized economies (Booth, Francesconi, and Frank 2002), has experienced a significant rise in flexible employment relationships most notably through the increased incidence of casual employment from 16 per cent of the work-force in 1985 to 26.9 per cent in 2006 (Watson, Buchanan, Campbell and Briggs, 2003; ABS Cat 6310). Juxtaposed with the potential benefits associated with flexibility, however, are potential costs associated with creating a large number of second-class industrial citizens, who are marginalized into low-paying jobs without protections against arbitrary dismissal and standard entitlements to holiday pay and sick leave.

The question addressed in this paper is whether casual employment acts essentially as a 'bridge' to permanent employment, by providing on-the-job training, work discipline, and networks that facilitate the transition to permanent jobs. Or whether casual employment functions essentially as a 'trap' in which workers are involuntarily employed in substandard jobs, and face an increasingly lower probability of finding ongoing employment the more time they spend there. To the extent that casual employment takes on the trappings of a 'bridge', the costs of having a large number of casual workers in the economy can be thought of as low relative to the benefits. On the other hand, if casual employment acts as a 'trap', then the costs associated with casual employment are relatively large, and policy measures to regulate casual employment, therefore, become more defensible.

Arguments characterizing casual employment as a 'trap' are reminiscent of early segmented labour market literature that emerged during the 1970s in the United States. For example, Vietorisz and Harrison (1973) suggested the possibility that secondary segment (read casual) employment produces a scarring effect on productivity, which manifests itself as a self-reinforcing cycle of stagnation in wages and low levels of employer funded and on-the-job human capital investments. As a consequence the longer that workers remain in secondary (again, read casual) employment, the less compatible they become with primary (read permanent) employment. According to this logic, the longer a worker remains employed in secondary employment relationships, the less likely she or he is to exit into more stable permanent employment. In so doing, casual employment may inflict long-term scars on a worker's career.

Even if the careers of workers are not scarred in this way, employers may be suspicious that job seekers that have spent long periods of time in casual employment could be less productive than similar job-seekers that have accrued the same tenure in permanent employment. By acting on their suspicions employers could reduce mobility from casual to permanent employment, and by so doing scar the careers of casual workers for years time.

One methodological difficulty in mediating between the arguments about the nature of casual employment being a bridge or a trap is that many of the characteristics that affect mobility from casual to standard employment are unobserved. On the supply side the decision to work in casual employment is multi-faceted. For example, a worker may be located in a casual job not because of any scarring effect, but because of unobserved productivity-related characteristics that render him relatively less suitable for

permanent work. Such workers, being incompatible with standard employment, are employed in casual employment, because that is all the employment they can get. Under such circumstances, casual employment does not necessarily constitute a 'trap' or a 'bridge'.

In addition, a worker may be in casual employment because of relatively transitory circumstances, such as family obligations or education, making shorter hours and reduced commitment generally indicative of casual employment relationships particularly attractive. Some of these circumstances are observed in standard data sets, others are not. As circumstances change, if casual workers who desire permanent work can seek and readily find it, then again, casual employment cannot be usefully thought of as a 'trap'.

Because of heterogeneity among employers and workers and the lack of complete information, we cannot definitively render a verdict on casual employment as solely a 'bridge' or solely a 'trap' – undoubtedly there are elements of both. However, with the rich source of longitudinal data from the Household Income and Labour Dynamics in Australia (HILDA) survey, we are now able to more precisely identify factors associated with shortening durations of casual employment spells, thus making it appear more like a 'bridge', and factors associated with lengthening such spells, thus making it look more like a 'trap'. In addition, using survival analysis, we also estimate conditional probabilities of exit from casual employment, as the length of the casual spell increases. An increasing probability of exit over time suggests that casual employment looks more like a 'bridge', while a decreasing probability of exit suggests that casual employment looks more like a 'trap'.

Understanding the nature and determinants of mobility from casual to standard employment has the potential to increase our ability to assess the relative costs and benefits of casual employment. After briefly reviewing relevant literature, the HILDA data will be discussed. Then the incidence and nature of mobility from casual to permanent employment will be examined using survival analysis. Finally, we will discuss implications for future research and policy.

Previous Literature on Casual Employment as a 'Bridge' or 'Trap'

Recent research on labour markets in the U.S. and U.K. has focused on the potential costs of employment relationships reminiscent of casual employment in Australia. For example Farber (1999) suggests that displaced workers in the U.S. tend to use nonstandard employment as part of their transition to full time work, which suggests that casual-like employment in the U.S. may not have particularly long term scarring effects on workers. Waddoups and Assane (1997) found a decreasing conditional probability of exit from secondary employment among secondary segment workers after approximate 3 years, which suggests that secondary segment employment acts as a 'bridge' with low amounts of tenure, but takes on characteristics of a trap with greater amounts of job tenure.

In similar work Booth, Francesconi and Frank (2002) examine career paths and wage growth of temporary workers in the U.K., finding that temporary workers report lower levels of job satisfaction, receive less training, and earn lower wages than their counterparts in full-time employment. The evidence suggests that male workers who started their work careers in temporary-fixed term work experience lasting negative wage

effects, while female workers do not. Looking at temporary work in Finland and Sweden, Natti (1998) suggests that temporary work takes on more characteristics of a 'bridge' rather than a 'trap', because such employment tends to be voluntary rather than involuntary.

Similar research has been conducted on whether precarious employment in Australia is a bridge to permanent employment or a trap that limits prospects for more secure permanent employment. Burgess and Campbell (1998) suggest that answering the question of whether casual employment is a 'bridge' or 'trap' is complicated by heterogeneity among casual jobs and job-holders. For example, casual job-holders participating in education tend to experience casual employment as a 'bridge'. Other casual jobs, however, appear to take on more of the characteristics of a 'trap' in which casual jobs are part of cycle of employment instability, which includes spells of unemployment, nonparticipation, along with precarious, low-paying casual work. They suggest that another complicating factor emerges while addressing the 'bridge'-or-'trap' question is the lack of good longitudinal data, a problem which has been partly remedied with the HILDA data.

More recently data from HILDA has been used to assess the notion of casual employment as a 'bridge' or 'trap' (Productivity Commission Report 2006). The authors constructed a multivariate regression model of transitions out of casual jobs into other labour market states, including permanent employment. They found that factors such as full-time work and employment in utilities and health care industries contributed to successful transitions, while being between the ages of 40 and 44, residence in South Australia, having a poor command of English, and employment as a casual manager,

professional, or advanced clerical and service workers, and long tenure in unemployment before the casual spell reduce the likelihood of transition to a permanent position. The report reinforces the notion that casual employment can take on the characteristics of a 'bridge' to permanent employment in some cases and a 'trap' in other cases.

Other researchers have also assessed the role of casual employment as a 'bridge' to a permanent job for the unemployed. Chalmers and Kalb (2001) found that disadvantaged unemployed job seekers are most likely to benefit from casual employment as a stop on the destination to permanent employment. For such workers, at least in the short (term 1.5 years), the exit rate from casual to permanent employment is relatively high, suggesting that employment as a casual is not accompanied by scarring. It must be emphasized however, that disadvantaged job seekers are still less likely to exit unemployment and remain as casuals longer than their more-advantaged counterparts. Gaston and Timke (1999), looking at the experience of Australian youths in the early 1990s, also found that experience in low-wage casual work does not exert a long-term scarring effect. Thus casual employment itself does not reduce the likelihood of transitions into permanent full-time work, rather, over the longer term individual preferences for full-time ongoing work and the steady accumulation of work experience affects labor market transitions into permanent work.

The present study adds to the current literature along two dimensions. First, we estimate multivariate survival-time models to assess the covariates that affect transitions from casual to permanent employment. Second, we use the models to directly test whether tenure as a casual worker increases, decreases, or has no effect on the conditional probability of exit into permanent employment. A finding that the conditional probability

of exit from casual increases along with duration as a casual worker is consistent with, although it does not definitively prove, the 'bridge' argument. Similarly, a finding that the conditional probability of exit from casual decreases along with the duration as a casual worker is consistent with, but does not necessarily prove, the 'trap' hypothesis.

Description of the Data

We used data gathered from the HILDA survey to estimate transitions from casual to permanent employment. HILDA is a longitudinal survey, the first wave of which was conducted in 2001. Households included in the survey were selected at random. The surveyors conducted personal interviews with each member of households who were 15 years or older as of 30 June, 2001. Extensive questions concerning respondents' labour market behaviour and experience, among other items of interest, were asked.¹ Included among the questions were queries regarding access to holiday and sick leave entitlements. Workers who reported not having access to *both* entitlements are defined as casual workers according to the Australian Bureau of Statistics (ABS).²

The same questions regarding casual employment were asked in subsequent waves of HILDA, which have been conducted annually since Wave 1 (conducted in 2001). Data from Wave 4 (conducted in 2004) is the most recent year used in our study. We use two samples of respondents for our analysis. Because we focus particularly on transitions between casual and permanent employment, we confine the first sample to employees (excluding owner/managers) who reported casual employment in 2001. We then followed those casuals' employment histories into Waves 2, 3 and 4, excluding

¹ Wooden and Watson (2002) provide a thorough description of the HILDA survey.

² Wooden and Warren (2004) discuss issues related to the definition of casual employment.

respondents that had not provided the relevant information for all four waves and those who reported either unemployment or non-participation during the study period. A transition from casual to permanent employment was recorded as soon as the worker reported his or her employment to be permanent. For example, a worker that reported casual employment in 2001 followed by permanent employment in 2002 was considered to have made a transition to into a permanent job after one period of casual work. Similarly a worker that reported casual employment in 2001 and 2002, followed by permanent employment in 2003, made the transition after two periods of casual employment.

Table 1 contains statistics on spell durations for respondents who were in employment in all four waves. A majority of male and female workers (83.2 and 73.9 percent, respectively) who reported employment in all four years were not casuals in 2001. Approximately 67 percent of males who reported casual employment in 2001 made a transition to permanent employment by 2004. Females were less likely to have made such a transition, with approximately 54 percent not reporting a transition to permanent work.

Table 1 about here

The methodology for defining spells in casual presents a problem of left-truncation. That is, we do not observe when the casual spell observed in 2001 began. Although we have information on job tenure, it is subject to substantial measurement error, and using job tenure would not account for multiple jobs as a casual. Thus to clean up our measure of length of a casual spell, we created a second sample of respondents, which includes only those who had commenced a casual spell in 2002. Table 2 refers to

all respondents in employment for all four waves, except those in casual employment in wave 1, plus respondents not in employment in wave 1. The summary statistics reported in Table 2 indicates that roughly 87 percent of males and females were in either a permanent job or not employed in 2001, and thus were at risk of a transition to a casual job. Of those at risk, 4.7 percent of males and 4.1 percent of females made a transition to casual and stayed one year. Approximately 6.7 percent of males and 7.2 percent of females at risk transited to casual work in 2002 and still reported being there in 2004. The results also show that a large majority of new casual spells originate from permanent employment (87.4 percent for males and 85.3 percent for females).

Table 2 about here

Summary Statistics of Samples used for Analysis

Tables 3 and 4 contain summary statistics describing other characteristics of casual workers. Table 3 compares the characteristics of those employed on a permanent basis in 2001 with those employed on a casual basis. Table 4 describes selected characteristics of workers who were working on a casual basis in 2002, but were either not working or working on a permanent basis in 2001. Referring to Table 3, younger workers aged from 15 to 24, are substantially more likely to report causal employment than prime age workers (ages 25-55). This reflects the propensity for full-time students to work on a part-time and often casual basis plus the increasing tendency for the first job Australian school and tertiary education leavers to be casual. Older workers over the age of 55 are also slightly over-represented in the casual category.³

³ Workers over the age of 64 in 2001 were excluded from the sample.

Table 3 about here

Also as expected casuals report significantly lower job tenure than their counterparts in permanent employment. The results in Table 3 show that 45.0 percent of males and 33.8 percent of females have less than a year of tenure in their casual job. Notice that females are much more likely than males to report long term casual employment, with 9.5 percent of female casuals and 2.5 percent of male casuals reporting being with their current employer for more than 10 years. Males, however, are more likely to report full-time casual employment (48.3 percent) than females (16.5 percent). Also not surprisingly, the incidence of casual employment varies with employer size. For both males and females, employers with less than 50 employees are substantially more likely to maintain casual employment relationships with their workers than are larger employers.

One would also expect some relationship between the incidence of casual employment and family circumstances, such as marriage and children. The results in Table 3 suggest that unmarried males are more likely to be casuals than unmarried females (74.7 percent compared to 56.1 percent). There are also significant differences by sex and child status. Female workers with children are significantly more likely to work in casual jobs than their male counterparts. This pattern, along with the substantially larger proportions of female casuals who work part time reflects the traditional division of labour in the household.

Table 4 contains results on respondents who commenced their casual spell in Wave 2 in 2002. The sample size is limited. Only 163 males and 208 females fit such criteria, and the estimates of proportions will naturally be somewhat imprecise. Still they

track patterns reported in Table 3 fairly closely. That is younger workers are more likely to have commenced a casual spell; females are more likely to be part-time casuals than males; casuals are more likely to work for smaller employers; and a substantial majority of casual workers are unmarried and childless.

Table 4 about here

Econometric Model

The question of whether casual work helps individuals find permanent employment is addressed through analysis of the time spent in continuous casual work prior to moving into permanent work, controlling for individual observed characteristics.⁴ This analysis is undertaken in a hazard function framework. The hazard rate embedded in the hazard function reflects the proportion of the group of continuous casual workers that moves into permanent work from one time period to the next, in this case from year to year. A hazard that increases with time, for example, would suggest that longer spells in casual increase the probability of exit to permanent, which would be consistent with the 'bridge' argument. A decreasing hazard on the other hand would suggest that the conditional probability of exit from casual is decreasing, which is consistent with casual employment as a 'trap'.

We fully parameterize the hazard function so as to provide a precise guide to the relationship between the time spent in casual work and the probability of transitioning to permanent work. We use the accelerated time model as a basis for parameterising the

⁴ For our purposes the spell of casual employment is considered continuous if the respondent is in casual employment at subsequent interview dates, even though the respondent may have spent time not working or even in a permanent job in the intervening period.

hazard function. This specifies the regression equation to be estimated in terms of the natural logarithm of the duration of the casual spell

$$\ln(t_i) = X_i\beta + \varepsilon_i$$

where ε_i is an error. If the regression parameter is positive an increase in the regressor is associated with an increase in the duration, or a decrease in the hazard rate. Different distributions of the error term lead to different parametric models, placing different restrictions on the shape of the hazard function. We try two models, which we presume will cover the gamut of possibilities for the relationship between time in casual work and probability of moving to permanent work: the log-logistic duration model; and the Weibull duration model. Under the Weibull duration model the distribution of the error term is an extreme-value density allowing for constant hazards over time, monotonic increasing hazards or monotonic decreasing hazards. In the log-logistic duration model the distribution of the error term is logistic which means that hazard rates initially increase and then decrease.

We use the STATA statistical package to estimate the models by maximum likelihood, controlling for the fact that some of the spells of casual work are incomplete or censored (ie do not end in permanent employment).

Estimation Results

Initially we estimated two accelerated failure time models with Weibull and log-logistic parameterizations using the first sample of respondents, those in casual employment in 2001. This data is left-truncated. The results are presented in Table 5. Rather than split the samples by sex, we controlled for sex using a dummy variable. The

estimated coefficient on the sex dummy was insignificant in both models.⁵ To detect if there were any more subtle differences in how female workers experienced transitions to permanent employment, we also estimated models controlling for interactions between sex and other selected characteristics. The estimation results are summarized in footnote 8. For continuous variables, the estimated coefficient predicts the relationship between a one-unit increase in the independent variable and the natural log of time to failure. Thus a casual worker that has spent 2 years in casual work should find that every additional year of casual work increases the time he spends in casual employment by ten percent.⁶ The results are similar under the two parameterizations.

Table 5 about here

Other notable results are found for the estimate on the 'Part-Time' variable. The results show that for casuals employed as part-timers, the predicted time to transition into a permanent job increases by between 20 and 23 percent.⁷ The estimated relationship between education and time to transition is largely insignificant, with the exception that the coefficient on 'Graduate Diploma' shows weak statistical significance in the Weibull model. The marriage dummy variable receives negative and statistically significant estimates, suggesting that time to transition from casual to permanent is approximately 25 percent lower for married casuals compared to their unmarried counterparts. Whether marriage itself encourages transition, or whether marriage is correlated with an unobserved variable that is also correlated with transition is an open question. The estimates on children in the household are also negative, although not statistically

⁵ We combined males and females in the same data because of small sample sizes.

⁶ The predicted median duration in a casual spell is 3.4 years. The predicted mean duration is 5.1 years.

⁷ The figures are obtained by computing $\exp(.1894)-1$ and $\exp(.2100)-1$.

significant.⁸ If casual employment were to offer flexibility we would anticipate that primary carers (predominantly women) that moved from permanent employment to casual employment following the birth of a child would be more likely to transit from casual to permanent work the older was their youngest child. Our findings suggest that this is not the case. At this relatively early stage in our analysis our findings are not supportive of the claim that casual employment offers flexibility for workers trying to balance household and labour market duties.

The estimates on employer size variables are negligible for smaller employers, but grow notably as employer size increases, reaching statistical significance in the Weibull model and nearing statistical significance in the log-logistic model for employers of 500 or more. Such results suggest that larger employers may first employ workers on a casual basis and move them into permanent employment after a probationary period as a casual. Casual employment with larger firms, thus, looks more like a bridge to permanent employment than does casual employment in smaller firms.

As discussed above, our results may be influenced by left-truncation, which introduces error into our measurement of the duration in casual employment. Because we do not observe casual workers before 2001, we treated spells of causal employment that started before 2001 as if they had commenced in 2001. In order to determine if patterns altered dramatically because of measurement error associated with left-truncation, we

⁸We estimated additional models where a dummy variable controlling for sex was interacted with tenure with employer, part-time work, married, and children in the household. Using the first sample of respondents (who were in casual employment in 2001) the results on individual estimates were statistically insignificant except for the variable interacting children aged 0-4 and female. The coefficient was negative and statistically significant, suggesting that females with children ages 0-4 in the household appear to have substantially shorter casual spells than males living under the same circumstances. When we used data on spells commencing in 2002 to estimate the models, none of the interaction terms were statistically significant.

estimated AFT models using the second sample of casual workers, those who had commenced their spells as of 2002. The results are displayed in Table 6.

Table 6 about here

The estimates on a variable that controls for whether a person originated from permanent employment rather than a non-employment indicate that workers from permanent employment have 30 percent shorter durations in casual work than their counterparts originating from a non-employment state.⁹ Similar to results reported previously, tenure with employer increases duration in casual employment, as does employment in part-time work. In the Weibull model, females spend significantly more time in casual work. The sign on the 'Female' estimate is the same in the log-logistic model, but does not reach statistical significance. Although the estimate on 'Married' is not statistically significant in models estimated with these data (as was the case in the previous estimations), the estimate on children under 4 years of age is negative and statistically significant, suggesting that young children reduce the time to failure by about 36 percent (in the Weibull model) or 32 percent (in the log-logistic model).¹⁰

Besides the impact of the covariates on time to failure, an important question to address is the shape of the hazard function. The shape of the hazard provides additional information on the "bridge" or "trap" question. The Weibull allows for monotonically increasing or decreasing hazards. The parameter, p, is 1.54 in the Table 5 and 1.78 in Table 6. An estimate greater than one indicates a monotonically increasing hazard, which

⁹ Roughly 85 percent of casuals who commenced their spells in 2002 originated from permanent employment.

¹⁰ The predicted median duration in casual employment using this data is 2.9 years. The predicted mean duration in casual is 4.0 years.

suggests that the conditional probability of exit increases with spell length, thus supporting the 'bridge' argument.

Results are slightly different for the log-logistic model, which allows for a hazard whose slope changes with duration. In particular, when the gamma parameter approximates 0.5, the hazard takes on an inverted U shaped, which suggests an increasing conditional probability of exit, then a decreasing probability. Thus casual employment first takes on the trappings of a 'bridge', but then takes on the trappings of a 'trap'.

Given the contradictory conclusions based on whether the model is estimated as a Weibull or log-logistic, choosing the model that better fits the data takes on added importance. Generally the model with the lower value of the Akaike Information Criterion (AIC) is preferred. The AIC is given by

$$AIC = -2(\text{Log-likelihood}) + 2(k+c),$$

where k is the number of covariates, and c is the number of model specific parameters.

Table 7 contains values of the AIC for the Weibull and log-logistic for the two data sets. In both cases the preferred model is the log-logistic, pointing to an inverted U-shaped hazard. Such a shape is consistent with the notion that longer spells of casual employment reduce the conditional probability of exit to permanent employment.

Table 7 about here

We can get a better idea concerning the shape of the hazard and therefore, its implication for whether time spent in casual employment acts as a 'bridge' or a 'trap', by plotting the hazard functions implied by our Weibull and log-logistic models. Graphs of

the hazard functions for the Weibull and log-logistic estimated from data originating with Wave 1 (2001) are found in Figure 1. Notice that the log-logistic hazard approaches an inverted U shape. It appears that a decreasing hazard indicative of declining probability of exit from casual employment occurs after approximately 3 years. Negative duration dependence indicative of trapping does occur, but not until after three years and the effect is quite mild.

Figure 1 about here

For the data originating in 2002, the hazard is monotonically increasing, which suggests that if there is a downward sloping portion of the hazard function, it will occur after three years of time spent in casual employment. For this hazard, the notion of negative duration dependence, or casual employment as a 'trap', is not supported by the data. The flattening slope of the hazard suggests that negative duration dependence indicative of trapping may well occur if spells are observed for a longer period, but there isn't enough evidence at this point to draw such a conclusion.

Figure 2 about here

Conclusion

Our research has generated some interesting insights about the nature and determinants of mobility from casual to permanent work. Perhaps the most consistent factors in explaining duration in casual jobs were those related to present employment. Those with longer tenure with their current employer and those who work part-time consistently experience longer casual spells. The direct light this sheds on the 'bridge' –

or-'trap' question is limited, however, because we do not observe the extent to which longer job tenure and/or part-time employment may be a sign of relative comfort with current circumstances or involuntary immobility.

We were also keen to explore the issue of whether casual work provided flexibility for carers. We found that household obligations related to marriage and children have ambiguous impacts on the duration of casual spells. The existence of very young children in the household tended to decrease durations, which does not support the notion that parents systematically use casual work to gain flexibility in attending to household duties. One would expect that primary carers would be more likely to return to permanent work as their children grow older. When this group of findings is combined with the finding that part-time work is associated with longer periods of casual work one cannot help but think of the possibility that part-time casual employment might be trapping mothers in jobs they cannot escape when, and if, they want to return to more career-enhancing work as their children gain independence.

So is casual employment a 'bridge' or a 'trap'. Given that roughly 40 percent of those who find themselves in casual employment in 2001 have not made a successful transition to permanent employment, one could conclude that there are definitely elements of a 'trap' involved with casual employment. On the other hand, more than half of those who start a casual spell in 2002 eventually move to permanent employment. Does that mean that casual employment is a 'bridge'? Again it depends on whether such workers could have made the transition to ongoing work without having to endure a spell in casual work. One could envision that for at least some that could have been the case. For these workers, the casual spell may have just delayed their eventual transition to

permanent employment, confining them to a longer period of substandard, low-productivity jobs than would be necessary. Although casual employment looks like a 'bridge' in this case, one may still be justified in asking, was it necessary for the stream to be so wide that a 'bridge' was necessary to cross it?

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Table 1

Percent of Respondents by Length of Casual Employment Spells (2001 - 2004)

Time in Casual	Male	Female
Not in Casual in 2001	83.2	73.9
One Year	4.8	7.1
Two Years	4.0	4.6
Three Years	2.3	2.4
Four Years	5.6	12.1
Number in Sample	1,926	1,814

Source: Household, Income, and Labour Dynamics in Australia. Casual employment is defined according the the ABS definition associated with access to leave entitlements. Only those who were between the ages 15 and 64 during 2001, who were employees, and who report employment in all four waves are included in the sample.

Table 2

Percent of Respondents by Length of Casual Employment Spells (2002 - 2004)

Time in Casual	Male	Female
Permanent or Nonemployed in 2001 and 2002	87.0	86.6
One Year	4.7	4.4
Two Years	1.6	1.8
Three Years	6.7	7.2
Total	100.0	100.0
Percent of New Casuals Originating from Permanent	87.4	85.3
Number in Sample	1,843	1,556

Source: Household, Income, and Labour Dynamics in Australia. Casual employment is defined according the the ABS definition associated with access to leave entitlements. Only those who commenced spells in casual employment as of 2002, were between the ages of 15 and 64 in 2001, and reported employment in subsequent waves are included.

Table 3

Percent in Casual and Permanent Employment by Sex and Other Characteristics in 2001

Characteristics	Male		Female	
	Casual	Permanent	Casual	Permanent
Age				
15-24	45.8	8.8	32.2	9.3
25-40	32.0	47.3	27.5	41.1
41-55	16.4	38.3	33.7	43.9
Over 55	5.8	5.6	6.7	5.7
Tenure With Employer				
Less than 1 Year	45.0	14.3	33.8	15.3
1 to 2 Years	18.0	9.4	17.0	9.5
3 to 5 Years	25.8	23.5	26.8	25.2
6 to 10 Years	8.7	20.7	12.9	20.5
Over 10 Years	2.5	32.2	9.5	29.6
Part Time/ Full Time				
Full Time	48.3	96.0	16.5	69.1
Part Time	51.7	4.0	83.5	30.9
Employer Size				
Less than Five Employees	13.3	8.5	15.2	7.9
Five to Nine	16.5	9.6	14.8	9.7
10 to 19	14.6	12.9	20.5	12.6
20 to 49	21.6	18.1	18.8	20.8
50 to 99	11.7	12.9	8.6	14.0
100 to 199	7.1	12.5	8.7	11.0
200 - 499	5.8	11.9	5.7	9.6
Over 500	7.1	12.7	4.9	13.2
Don't Know	2.3	0.9	2.8	1.3
Marital Status				
Not Married	74.7	38.8	56.1	47.0
Married	25.3	61.3	44.0	53.0
Children in Household				
No Children	79.2	53.0	51.9	54.0
Children Ages 0-4	6.1	11.4	4.7	4.6
Children Ages 5 - 14	6.7	20.5	22.7	20.0
Children Ages 15-24	8.1	15.0	20.7	21.3
Number in Sample	309	1,617	494	1,320

Source: Household, Income, and Labour Dynamics in Australia. Observations that provided data for Waves I - IV, who were between the ages of 15 and 64 during 2001, who reported employment in each of the four waves, and who were classified as employees.

Table 4

Characteristics of Respondents Commencing Casual Spells in
2002

Characteristics	Male	Female
Origin of Transition to Casual		
Permanent	87.4	85.3
Nonemployment	12.6	14.7
Age		
15-24	40.9	43.6
25-40	38.1	33.6
41-55	15.2	20.2
Over 55	5.8	2.7
Part Time/ Full Time		
Full Time	49.4	20.6
Part Time	50.6	79.4
Employer Size		
Less than 20 Employees	49.3	48.4
20 to 99	29.4	27.4
100 to 500	11.5	11.3
Over 500	5.2	7.5
Don't Know	4.6	5.3
Marital Status		
Not Married	71.7	67.2
Married	28.3	32.8
Children in Household		
No Children	77.1	64.9
Children Ages 0-4	8.2	7.2
Children Ages 5 -14	9.7	15.9
Children Ages 15-24	5.0	12.1
Number in Sample	163	208

Source: Household, Income, and Labour Dynamics in Australia. Observations that provided data for Waves I - IV, who were between the ages of 15 and 64 during 2001, and who were classified as employees, who were employed during the years 2002 and 2003, and who made a transition to casual employment in 2002 were included in the sample.

Table 5

Determinants of Hazard for Exit from Casual to Ongoing Employment, 2001-04
 (Standard Errors in Parentheses)¹

	Weibull Coeffs.	Log-Logistic Coeffs.
Age	0.0022 (0.022)	0.0034 (0.021)
Age Squared	0.0002 (0.000)	0.0002 (0.000)
Tenure with Employer	0.1266 ** (0.022)	0.1328 ** (0.022)
Tenure Squared	-0.0038 ** (0.001)	-0.0041 ** (0.001)
Part Time	0.1894 ** (0.088)	0.2100 ** (0.083)
Female	0.1054 (0.083)	0.0815 (0.082)
Indigenous	-0.4059 (0.258)	-0.3143 (0.290)
English is Second Language	-0.2231 ** (0.109)	-0.1507 (0.106)
Full Time Student	0.0152 (0.112)	0.0968 (0.109)
Post-Graduate	0.0703 (0.208)	0.2218 (0.202)
Graduate Diploma	-0.3707 * (0.202)	-0.2872 (0.209)
Bachelors	0.1806 (0.138)	0.1948 (0.144)
Advanced Diploma	0.0712 (0.169)	0.0728 (0.161)
Certificate 1 or 2	0.0950 (0.123)	0.0633 (0.119)
Certificate 3 or 4	-0.0128 (0.295)	0.0473 (0.264)
Year 12	0.0416 (0.095)	0.0422 (0.089)
Married	-0.2724 ** (0.105)	-0.2910 ** (0.103)
Children Ages 4 or Under	-0.1338 (0.113)	-0.1141 (0.116)
Children Ages 5 - 14	0.1388 (0.109)	0.1294 (0.107)
Employer Size: 5 - 9	-0.0373 (0.138)	-0.0695 (0.141)
Employer Size: 10 - 19	0.0312 (0.131)	-0.0209 (0.130)
Employer Size: 20-49	-0.1397 (0.125)	-0.1376 (0.122)

Table 5 cont.

Determinants of Hazard for Exit from Casual to Ongoing Employment
(Estimates are Hazard Ratios, Standard Errors in Parentheses)

Employer Size: 50-99	0.0209	0.0134
	(0.146)	(0.136)
Employer Size: 100-199	-0.0285	-0.0492
	(0.155)	(0.150)
Employer Size: 200-499	-0.2490	-0.2392
	(0.157)	(0.146)
Employer Size: 500 or More	-0.2837 *	-0.2569
	(0.167)	(0.162)
Employer Size: Do Not Know	-0.3786	-0.5210 **
	(0.247)	(0.199)
Queensland	-0.2845 **	-0.2360 **
	(0.099)	(0.094)
South Australia	0.0139	0.0354
	(0.124)	(0.124)
Western Australia	-0.0307	-0.0485
	(0.156)	(0.157)
Tasmania	-0.3667 *	-0.3504 **
	(0.194)	(0.162)
Northern Territory	0.2793	-0.0522
	(0.565)	(0.666)
Victoria	-0.0477	-0.0490
	(0.096)	(0.098)
In(p) ³	0.4329 **	---
	(0.026)	---
p	1.5417	---
	---	---
Gamma ⁴	---	0.4711 **
	---	(0.016)
Log-likelihood	-838.99	-805.79

*Statistically significant at 10 percent level.

**Statistically significant at 5 percent level.

¹The models were estimated using data from the Household Income and Labour Dynamics of Australia (HILDA) for years between 2001 and 2004. Includes observations participated in the survey and that were classified as employee for all four years. The models were estimated controlling for a series of industry and occupation dummies.

²The models are accelerated failure time models.

³A positive value suggests a monotonically increasing hazard.

⁴This value of gamma suggests an inverted U-shaped hazard function (see Cleves, Gould, and Gutierrez 2002: 223).

Table 6

Determinants of Hazard for Exit from Casual to Permanent Employment, 2002-04
 (Accelerated Failure Time Models, Standard Errors in Parentheses)¹

	Weibull	Log-Logistic
From Permanent Empl. To Casual ²	-0.4033 ** (0.110)	-0.3428 ** (0.110)
Age	-0.0101 (0.031)	-0.0060 (0.031)
Age Squared	0.0001 (0.000)	0.0001 (0.000)
Tenure with Employer	0.2362 ** (0.058)	0.2064 ** (0.062)
Tenure Squared	-0.0100 ** (0.003)	-0.0094 ** (0.005)
Part-Time	0.3426 ** (0.127)	0.3152 ** (0.128)
Female	0.2042 * (0.110)	0.1633 (0.111)
Indigenous	-0.3282 (0.220)	-0.1361 (0.218)
English is Second Language	-0.2398 (0.187)	-0.2304 (0.221)
Full Time Student	-0.1832 (0.158)	-0.1583 (0.149)
Bachelors or More	0.0834 (0.166)	0.0122 (0.198)
Advanced Diploma	0.6134 * (0.321)	0.5046 * (0.301)
Educational Certificate	0.1588 (0.156)	0.1037 (0.141)
Year 12	-0.0095 (0.125)	0.0171 (0.132)
Married	0.1251 (0.135)	0.0918 (0.145)
Children Ages 4 or Under	-0.4491 ** (0.150)	-0.3869 ** (0.161)
Children Ages 5 - 14	0.0725 (0.146)	0.0478 (0.151)
Employer Size: 5 - 9	0.0574 (0.166)	0.0637 (0.177)
Employer Size: 10-19	0.1596 (0.193)	0.1891 (0.194)
Employer Size: 20-49	-0.1023 (0.166)	-0.0576 (0.170)
Employer Size: 50-99	0.0412 (0.190)	0.1498 (0.188)
Employer Size 100-199	0.2244 (0.211)	0.2948 (0.223)

Table 6 cont.

Determinants of Hazard for Exit from Casual to Ongoing Employment
(Estimates are Hazard Ratios, Standard Errors in Parentheses)

Employer Size: 200-499	-0.1286 (0.252)	-0.1461 (0.256)
Employer Size: 500 or More	-0.0387 (0.208)	0.0528 (0.212)
Employer Size: Do Not Know	-0.0641 (0.250)	0.0438 (0.257)
Queensland	-0.1176 (0.144)	-0.1271 (0.150)
South Australia	-0.0242 (0.185)	0.0227 (0.180)
Western Australia	-0.0750 (0.151)	0.0039 (0.159)
Tasmania	0.1752 (0.326)	0.2180 (0.331)
Northern Territory	-0.2885 (0.484)	0.0120 (0.421)
Victoria	-0.0429 (0.129)	0.0296 (0.124)
Constant	0.5892 (0.043)	0.2262 -0.7072
Elasticity parameter (\ln_p) ³	0.5739 ** (0.043)	---
p	1.77515 ** (0.076)	---
gamma	---	0.4316 ** (0.022)
Log-Likelihood	-341.2595	-335.3468

*Statistically significant at 10 percent level.

**Statistically significant at 5 percent level.

¹The models were estimated using data from the Household Income and Labour Dynamics of Australia for years between 2002 and 2004.

²The models are accelerated failure time models. A series of industry and occupational dummies are included as control variables in the estimation. The full results are available upon request.

Table 7

Akaike Information Criterion (AIC)¹

Distribution	Log-Likelihood	k	c	AIC ²
Years 2001-2004				
Weibull	-838.99	50	2	1781.98
Log-Logistic	-805.79	50	2	1715.58
Years 2002-2004				
Weibull	-341.26	52	2	790.52
Log-Logistic	-335.35	52	2	778.69

¹The preferred model is the one with the lower value of the AIC (Cleves, Gould, and Gutierrez 2002: 231).

²The AIC is given by ' $(-2*LL)+(2*(k+c))$ ', where LL is the log-likelihood, k is the number of covariates, and c is the number of model specific parameters.

Figure 1: Hazard Functions: Data Set Originating from 2001

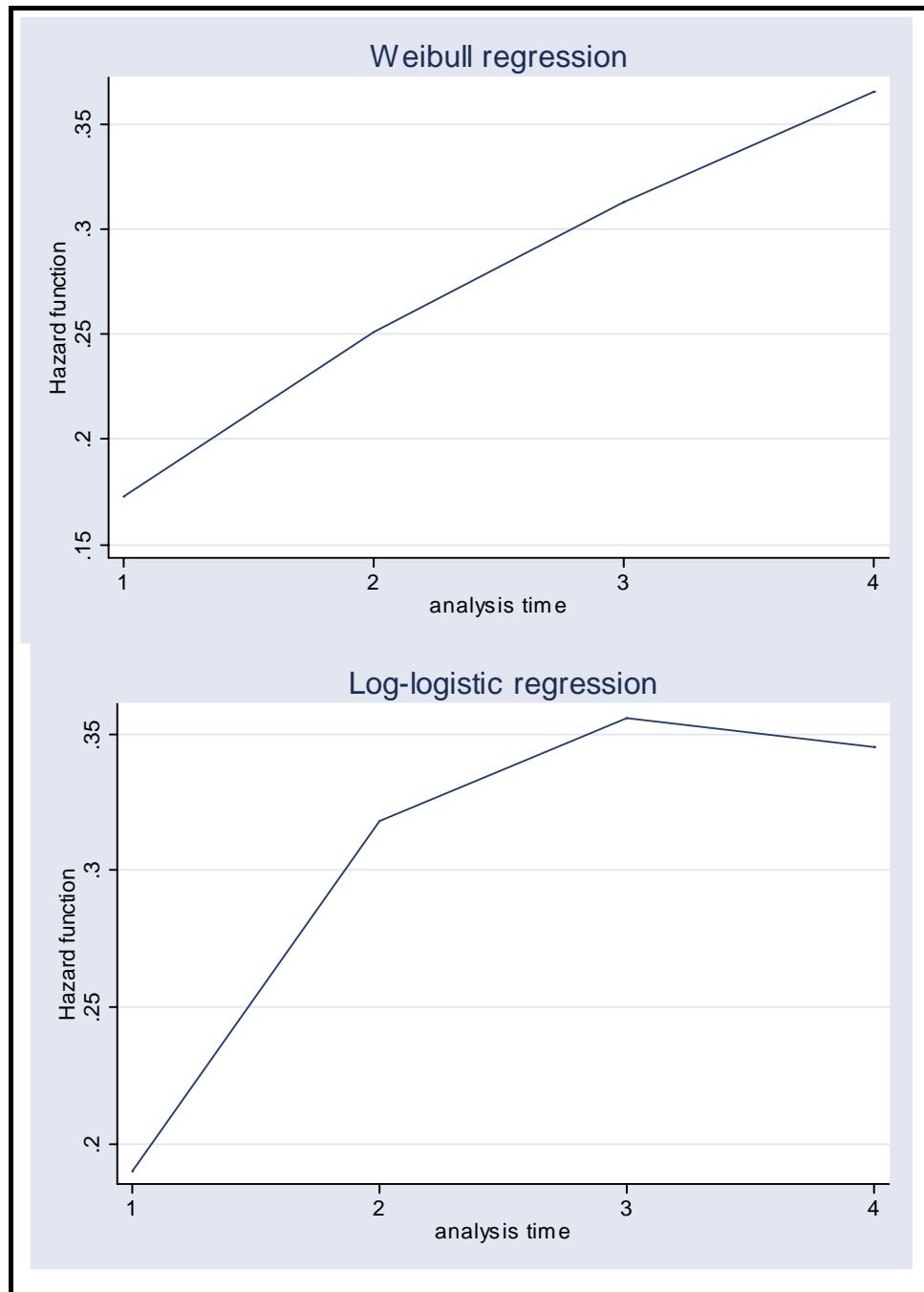


Figure 2: Hazard Functions: Data Set Originating from 2002

