

# Scarring, Habituation and Job Flexibility.\*

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## Abstract

The potential effects of the movement away from traditional full-time permanent employment has generated a large literature. A focus has been on workers' job satisfaction in more flexible employment arrangements. Evidence has been mixed but suggests job security is a key determinant of well-being. It has yet to be determined how increased transitions to and from unemployment affect the wellbeing of flexible workers. This paper provides evidence to suggest that flexible workers become habituated to prior unemployment experience provided transition time is not protracted. This appears to be more critical when labour market conditions are less favourable. These results provide some direct policy implications.

JEL Classification: J28, I31

Keywords: Life satisfaction, Unemployment, Scarring, Habituation.

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# 1 Introduction

The prevalence of flexible employment contracts has grown markedly in many OECD countries (Bradley et al 2003, Booth et al 2002, Gagliarducci 2005). One manifestation of this is the move in some countries from job security as a policy aim to employment security, the so-called ‘flexicurity’ model (European Commission 2007), which envisages multiple flexible employment contracts across the working life. An implication of this model is that individuals are more likely to experience more frequent transitions between unemployment and employment. A concern is that for some, these more flexible and insecure work histories can consist of unemployment interspersed with periods of employment in poor quality jobs; this has been characterized as a process of social exclusion (Bradley et al 2003). It is timely to ask what impact such employment models will have on workers’ wellbeing in the longer term.

Existing evidence on the effect of flexible employment on wellbeing has focused almost entirely on one dimension, job satisfaction. Earlier research suggested that flexible working contracts were associated with lower levels of job satisfaction (Booth et al 2002). More recent research suggests that these subjective differences in overall job satisfaction can be compensated in part by other characteristics of employment (Green, Kler and Leeves forthcoming). Nevertheless, there appears to be growing evidence that a relative dissatisfaction with a lack of job security is a key concern for flexible contract workers (Theodossiou and Vasileiou 2007, Green and Heywood forthcoming, Origo and Pagani 2009). The flexicurity model offers lower job security but increased employment security. Is there some compensation for workers in an employment security model to offset the decline in job security? To answer this question requires an examination workers’ overall well-being rather than consideration of job satisfaction alone.

Previous research has established that life satisfaction is lower for the unemployed compared to the employed, above and beyond any loss in income (Clark and Oswald 1994, Winkelmann and Winkelmann 1998, Carroll 2007, Frey and Stutzer 2002). However, to assess the implications of the more flexible patterns of work history envisaged in a flexicurity model requires more than a purely contemporaneous comparisons of satisfaction.<sup>1</sup> There is evidence that past unemployment affects current life satisfaction, this identifies the possibility of both scarring and habituation effects. For the employed, Clark, Georgellis and Sanfey (2001) provide evidence, using German data, of a scarring effect from past unemployment insofar as it reduces current

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<sup>1</sup>This limitation in comparing contemporaneous life satisfaction and feelings of insecurity amongst temporary workers and permanent workers has been previously noted in the social psychology literature by Silla et al (2005).

life satisfaction. However, for those currently unemployed, the amount of unemployment experienced in the last three years had less impact on life satisfaction. This is suggested to reflect individuals' habituation to the experience of unemployment. However, more recent evidence examining three European countries failed to find support for the habituation hypothesis (Clark 2006). In this paper we examine how the wellbeing of workers' in less secure employment is affected by their previous unemployment experiences and how this differs from those in more secure employment.

A further complication is that the impact of employment contract and work histories on wellbeing may depend on labour market conditions. Clark (2003) identified how unemployment is felt less acutely by the unemployed when there are higher levels of regional unemployment, and vice versa. He suggests that this reflects the impact of social norms. Our context differs somewhat as we are assessing the impact of regional labour market conditions on an individual's subjective response to past unemployment. We consider the current state of the regional economy as an indicator of employment conditions such as job stability, which will influence an individual's perceptions of job security (Borland 2002); perceptions of job security have a procyclical relationship with business conditions. If the regional economy is strong, a currently employed individual should feel rather better about past unemployment than an individual in a weaker region. The latter will likely experience more feelings of insecurity, which adversely affects job satisfaction (Origo and Pagani 2009) and, as noted above, appears to affect life satisfaction in a similar manner. Hence, we disaggregate our sample in to workers resident in relatively strong and weak regional economies and compare the effect of past unemployment on well-being.

The data used is a longitudinal panel relating to casual and permanent employees in Australia for the period 2001 to 2005. Australia provides a particularly appropriate market to examine the effect of job scarring and habituation due to the relatively high incidence and prolonged use of flexible employment contracts. The rest of the paper is set out as follows. The following section provides an overview of the data and methodology used, this is followed by the presentation and discussion of the results. The final section provides a conclusion and discussion.

## 2 Data and Methodology

### 2.1 Data

The data used in this analysis is taken from the first 5 waves (2001-2005) of the Household, Income and Labour Dynamics in Australia (HILDA) Survey. HILDA is a household based panel survey that closely follows the British Household Panel Survey (BHPS) and the German Socio-Economic Panel (GSOEP) in structure. HILDA records data on an individual's work history. The specific variable that is used in the empirical work detailing work histories is the response to a question covering how many years and months have been spent in unemployment *and* looking for work (the individual does not have to be receiving unemployment benefits to be classified as unemployed). HILDA contains detailed information on life satisfaction. Respondents are asked to choose a number on a Likert scale ranging between 0 and 10 to indicate their levels of satisfaction. The specific question that individuals are asked is "How satisfied are you with your life?". Socio-demographic data includes wage, age, part-time employment, whether living as a couple, health status, number of years in formal education, industry, occupation, public sector employment, geographic region and if the individual has paid off a mortgage. These five waves yield a total of 64,905 observations, of which 33,227 or 51.19% state their employment status as being employees aged between 15 and 64. Of this group, 16,752 or 50.42% are males and 16,475 or 49.58% are female. An unbalanced panel is used for the purposes of this study, encompassing 23,693 employees (12,282 males, 11,411 females), once we account for inconsistencies in the data and removing individuals with incomplete answers, those with multiple jobs and those in full-time education. In the following empirical estimates we limit our attention to males. For females, selection problems into flexible employment, and employment in general, are likely to be more acute. For instance, flexible work is more likely to represent a means of balancing work and family commitments for women (Booth and van Ours 2008).

The main form of flexible employment contract in Australia is casual employment. Casual employment is a legally recognized state where workers have no entitlement to sick or holiday leave. Unlike temporary employment contracts in many European countries, there are no maximum periods of employment for casual work in Australia. There is some correlation between part-time work and casual employment, but many casual employees work full-time hours. Approximately 32% of casuals in 1998 worked 30 or more hours a week (ABS 2001).

There are well known difficulties with categorizing employment contract types in Australia (Murtough and Waite 2000, Wooden and Warren 2004), insofar as the definition of casual employment created by the Australian Bureau of Statistics may also include individuals on fixed term contracts. The ABS definition (as reported in the HILDA Survey) leaves no scope for fixed-term contracts. An employee is either employed on a casual or permanent basis. Rather than use these definitions we rely upon individual responses on employment contract type in HILDA. Specifically we only categorize individuals as in casual employment if they report working in non-permanent employment and do not have any sick or holiday leave entitlements. In the case where an individual is in non-permanent employment but has holiday and sick leave entitlement, these are categorized as fixed term contracted workers. As might be expected, there are some differences in the numbers of casual employees this approach produces when compared to the standard ABS classification. For instance in the five waves of HILDA, 33,277 individuals claimed to be employees, of these 8,106 are categorized as being employed on a casual basis, as opposed to 9,136 following the standard ABS definition.

INSERT TABLE 1 HERE

In Table 1 we present summary statistics for the variables used in the empirical work. We observe that casuals are less satisfied than their permanent counterparts. In general, casuals are paid less on an hourly basis; have experienced more unemployment and less employment; are younger; are over represented in part-time employment; have less education; are less likely to be living in a capital city; and are less likely to be working in the public sector or as a skilled worker.

## 2.2 Methodology

The well-being ( $W$ ) function of individual  $i$  at time  $t$  can be expressed as:

$$W_{it} = W(\{u_{it-1} \dots u_{it-j}\}, X_{it}) \quad (1)$$

where  $\{u_{t-1} \dots u_{t-j}\}$  is the record of past unemployment experiences since entering the labour force and  $X$  is a vector of individual characteristics.

Satisfaction variables have traditionally been examined using ordered probit models, reflecting the ordinal nature of the dependent variable. We have a panel data set and want to take advantage of its longitudinal element. Van Praag and Ferrer-i-Carbonell (2004) developed a procedure that consists in deriving  $Z$  values of

a standard normal distribution that are associated with the cumulative frequencies of the different  $k$  categories of an ordinal dependent variable. Then the expectation of a standard normally distributed variable is taken for an interval between those two  $Z$  values that correspond to the class of the value of the original variable. Thus if the true unobserved continuous variable is  $W^*$  where the observed  $W_i = j$  if  $\mu_{j-1} < W_i^* < \mu_j$  for  $j = 1, 2, \dots, k$  then the conditional expectation of the latent variable is given by:

$$\overline{W}_i = E(W_i^* / \mu_{j-1} < W_i^* < \mu_j) = \frac{n(\mu_{j-1}) - n(\mu_j)}{N(\mu_j) - N(\mu_{j-1})} = \frac{n(\mu_{j-1}) - n(\mu_j)}{p_j} \quad (2)$$

where  $n$  is the standard normal density and  $p_j = N(\mu_j) - N(\mu_{j-1}), j = 1, \dots, k - 1$ . This approach allows the application of a linear model and has been termed Probit (OLS) or POLS. With longitudinal data the POLS method allows for the inclusion of individual level fixed or random effects. Thus the first estimating equation used in the sections that follow is of the form:

$$W_{it} = \phi + \beta_1(Uprev)_{it} + \beta_2(Uprev)_{it}^2 + \gamma \mathbf{X}_{it} + \delta Cas_{it} + \alpha_i + \mu_t + \varepsilon_{it} \quad (3)$$

this is a random effects model where  $Uprev$  is the total amount of unemployment in individual  $i$ 's work history,  $\sum_{n=1}^{n=j} \{u_{t-n}\}$ ;  $X$  is a vector of personal characteristics as described above;  $Cas$  is a dummy variable indicating whether the individual is a casual employee or not to capture contemporaneous differences in well-being not associated with observable characteristics;  $\alpha_i$  are individual intercepts,  $\mu_t$  represents time-varying characteristics for an individual year that affect all individuals and  $\varepsilon_{it}$  is an iid error term. The squared terms allow for nonlinearities in the relationship between length of time in unemployment and its effect on well-being. The pattern of a negative coefficient for  $\beta_1$  and a positive coefficient for  $\beta_2$  would be indicative of a common decrease in the marginal disutility from past unemployment across all workers. This is our first main estimating equation (Model I). Random effects models enable the effects of all previous recorded unemployment to be estimated, the scarring or habituation effects, rather than just the within sample variation as in a fixed effects model. Hausman tests are used to determine if the random effects assumptions are maintained in the estimated equations.

To further investigate the influence of differing work histories between casual and permanent employment on well-being we convert the  $Uprev$  variable from the continuous specification of equation three into a series

of categorical variables. We create five categories of unemployment experience. These are (a) those who have experienced some unemployment but less than six months  $U1$  (b) between six months and one year of unemployment  $U2$  (c) between one and two years of unemployment  $U3$  (d) between two and four years of unemployment  $U4$  and (e) four or more years of unemployment  $U5$ . As a result the estimating equation becomes

$$W_{it} = \phi + \beta \mathbf{U}_{it} + \gamma \mathbf{X}_{it} + \delta Cas_{it} + \alpha_i + \mu_t + \varepsilon_{it} \quad (4)$$

where  $\mathbf{U}_{it}$  is the vector of unemployment category dummies. We denote this as model II in the tables of estimates. If there is decreasing marginal disutility then the coefficients on the higher categories of unemployment should display less incremental influence on current well-being than coefficients in the lower categories. In order to examine if a certain level of past unemployment has a differing impact on casual workers compared to permanent workers, we interact each category with our casual worker dummy. These extra terms will identify variations across contract type conditional on unemployment history. We denote this as model III in the tables of estimates.

Employees in insecure employment may not be a random sample of all employees. In particular, individuals who are less affected by unemployment may be more likely to take insecure employment. If there are selection effects it would mean that any estimates of scarring effects obtained will be upwardly biased for casual employees. Hence, any difference in the impact of past unemployment on well-being would be an upper bound estimate, which leads to problems in determining if there are substantive differences in scarring and habituation effects between secure and insecure contracts. We explore the possibility for selection effects to bias our estimates in the empirical work.

Finally, we examine the issue of economic conditions on the impact of past unemployment on well-being. We identify environments that reflect differing conditions in terms of employment stability. In the first case, we identify regions that have been relatively high performers (*High*) with faster declines in unemployment and strong growth in employment and others that are low performers (*Low*) with slower declines in unemployment and weaker expansion in employment. Clark (2003) reported that the unemployed experienced higher life satisfaction when the regional unemployment rate was higher, which is attributed to the unemployed taking other unemployed people in the region as a reference group and experiencing a positive externality from their

unemployment. The current state of the regional economy will influence feelings about past unemployment but the mechanism will be different given that it is not a contemporaneous relationship we are examining. Specifically, in a regional economy that is stronger, a currently employed individual should feel relatively better about past unemployment compared to the same individual in a region where the economy is weaker. The latter may experience increased feelings of vulnerability about future employment prospects, which will be higher for those that have experienced more unemployment in the past.

### 3 Results

#### 3.1 Scarring and Habituation Effects

In Table 2 we present a summary of life satisfaction across the categories of unemployment ( $U_1 - U_5$ ) by contract type for those workers who have experienced some unemployment and the average unemployment experience and life satisfaction for this group. For permanent employees average well-being is nearly constant for unemployment histories of up to two years and then declines thereafter. Casuals' wellbeing decreases for unemployment in categories  $U_1 - U_3$  (up to a total of two years) and then shows no further signs of decline. These rather contrasting patterns provide some preliminary evidence to suggest that scarring and habituation effects may differ across contract types. Casuals who have experienced up to six months unemployment report greater levels of well-being than their permanent counterparts, which is in contrast to the general picture of lower life satisfaction for casual employees as noted in Table 1. This may be indicative of the satisfaction derived from a relatively higher degree of employment continuity for workers in flexible employment.

INSERT TABLE 2 HERE

The results for estimates of equation (3) are presented in Table 3, where unemployment histories are specified as a continuous variable and its squared term.<sup>2</sup> For brevity, in this table and all subsequent tables, only the estimates of the key variables are reported.<sup>3</sup> The second column presents the results for an ordered

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<sup>2</sup>To check the robustness of results obtained with equation 3, we adopt an alternative specification of time spent in unemployment as a percentage of a relevant period. We adopt a broader definition of the relevant period than Clark, Georgellis and Sanfey (2001) as our measurement of unemployment refers to all previous unemployment experience. The variable used is  $Uper = \sum_{n=1}^{n=j} \{u_{t-n}\}/we_t$  where  $we$  is a measure of potential work experience, which is defined as the the individual's age minus the age at which they left full-time education this replaces  $Uprev$  in equation 3. In unreported experiments an alternative definition of the relevant period using the worker's age was used instead of  $we$ . The results were qualitatively the same as those reported using  $we$ .

<sup>3</sup>Full sets of estimates are available from the authors on request.

logit model for the pooled sample. The first thing to note is that increased experience of unemployment reduces the life satisfaction of the employed; there are scarring effects. The casual dummy variable is negative and significant indicating a lower level of life satisfaction conditional on observables. Finally, we observe increases in life satisfaction associated with increased hourly wages, the positive effect of income on life satisfaction is a standard finding in previous empirical research (Frey and Stutzer 2002, Blanchflower and Oswald 2004). The Breusch-Pagan Lagrange multiplier test is a test of pooled OLS against random effects. In this case it provides strong evidence that the random effects model is preferred. Hence we move to that specification next.

The scarring effect is still evident once controls for unobservable heterogeneity are included.<sup>4</sup> However, past unemployment effects are now characterized by nonlinearities. It reduces life satisfaction up to approximately eight years, after which this decline starts to reverse. Nearly all of the observations of time in unemployment in the sample are less than eight years. Hence, in practice, increased experience of unemployment is associated with lower life satisfaction. But the curvature is indicative of decreasing disutility from past unemployment. The Hausman test results suggests the random effects assumptions are maintained in the data. The wage and casual dummy effects remain significant but their magnitude is reduced. The unreported age coefficients indicate a similar but flatter U shaped pattern for life satisfaction than has been observed consistently in previous research.<sup>5</sup>

INSERT TABLE 3 HERE

Next we estimate equation (4) with unemployment histories specified as the categorical variables ( $U_1 - U_5$ ). In column two we present the results from the basic model. The wage and casual dummy effects reported in table 3 are robust to this alternative specification. The Hausman test results again indicate that the random effects assumptions are maintained. The categorical variables suggest increasing marginal disutility when unemployment increases from anywhere between 0 - 0.5 yrs ( $U_1$ ) to the range 0.5 - 1.0 yrs ( $U_2$ ) and then well-being increases before there is a reversal and a decline in well-being as unemployment totals increase beyond two years. Next we include the interaction terms between casual and unemployment category and the results are reported in column three. In the fourth column an F-test of the hypothesis that the categorical variables and interaction terms sum to zero was conducted for each category. For the first category  $U_1$ ,

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<sup>4</sup>All standard errors reported are robust and clustered at the individual level.

<sup>5</sup>Blanchflower (2008) provides a recent summary of the evidence on life satisfaction and age.

the interaction term has a positive and significant effect and the F-test cannot reject the hypothesis that the overall effect is zero at standard levels of significance. Thus, consistent with the evidence in table 2, casual workers who have experienced up to six months unemployment do not experience a significant decline in wellbeing, unlike permanent employees. All workers experience a decline in wellbeing when previous unemployment totals are between six months and one year. Beyond that point casuals suffer no decline in wellbeing, indicative of habituation effects; the F-tests for the  $U_4$  and  $U_5$  categories summing to zero cannot reject the null hypothesis. In contrast, permanent workers with over two years of unemployment history do experience declines in wellbeing.

The higher level of well-being for casuals in category  $U_1$  does not seem to be particularly related to their current employment. For example the average tenure with employer in this category for casuals is 1.62 years and the average for all those who have experienced some unemployment is 2.07 years; the figures for permanent workers are 5.26 years and 5.00 years respectively. However, casuals in this category do perhaps feel more secure as they rate their chance of being sacked in the next twelve months at 21%, whereas the overall figure for casuals who have experienced some unemployment is 25.5%. For permanent workers the figures are 10.4% and 10.7% respectively. We investigate these issues in more detail later.

INSERT TABLE 4 HERE

To this point we have found provided evidence to suggest that workers exhibit the hypothesized patterns of scarring and habituation by contract type; scarring effects for permanent workers and habituation effects for casual workers. A potential source of bias is if casual workers are individuals who are by nature less affected by previous spells of unemployment. In this case individuals who suffer less as a result of unemployment experiences may be more willing to take casual employment. To examine this we investigate the scarring effects of previous unemployment experience on individuals that are currently unemployed and then subsequently move into casual employment. If casual workers are, as a group, inherently less affected by past unemployment then we would expect to see evidence of habituation effects (or less evidence of scarring) whilst they are in unemployment. In Table 5 we report estimates using the same categorical division of previous unemployment histories as before where the sample is all individuals who were unemployed in Wave 1.

INSERT TABLE 5 HERE

In the second column we report estimates with just the five categories of unemployment histories included.

It is evident that once previous unemployment experience extends beyond one year then the unemployed experience a significant decline in wellbeing compared to unemployed individuals with no previous history of unemployment or those with up to one year of previous unemployment, there is no evidence of any systematic increase in scarring as unemployment increases beyond two years. In the next column we interact the unemployment history categories with a variable indicating that in the next wave of the survey the individual entered casual employment. This provides an indication of whether these individuals reaction to past unemployment is different to other unemployed individuals. Only one of the terms is significant, that for  $U_1$ , so it appears that the scarring effects are present for those who transit to casual employment in much the same way as for others who are unemployed. It could be the case that the individuals who became casual employees in Wave 2 are not a representative sample of all casual employees. This was not evident in their observable characteristics which were all very similar to the averages reported in Table 1 and their unemployment experience (1.01 yrs) is the same as the casual average for that period (0.99). Additionally, we repeated the exercise using individuals who were unemployed in Wave 2 and identified those who became casual employees in Wave 3, the results were the qualitatively the same as those reported in Table 5.

We provide some insight into potential sources of habituation among casual workers by utilising a range of information available in HILDA that relates to perceptions of job security and employment prospects. Specifically we focus on three related questions, probability of quitting, probability of getting fired and satisfaction with employment opportunities, and examine how these vary by contract status. The former two variables are responses ranging between 0 and 100 and the latter is an ordered response that is converted into a continuous variable using the same procedure described above for the life satisfaction variable. Rather than enter unemployment histories on the right hand side, we investigate how contract type affects responses to perceptions of job security and employment prospects. An advantage of this approach is that we can include worker fixed effects so that we can exclude sorting of workers across contracts by time invariant worker differences. It seems unlikely that changes in attitudes occur immediately upon employment, to investigate this, we split our sample between short (less than 2 years) and long (2 years and on) tenure in employment. Each of the variables related to job security and employment prospects is used as a dependent variable in models that otherwise include all of the controls in the previous analyses, in addition we include overall life satisfaction as a dependant variable split by tenure. These estimates are presented in table 6.

INSERT TABLE 6 HERE

Consistent with our prior intuition that the relative position of casuals improves as tenure of employment increases, the negative effect of being on a casual employment contract goes to insignificance at tenures over 2 years. Casual employees have a higher probability of quitting and higher perception of getting fired when compared to permanent employees, but both diminish markedly when tenure increases beyond two years and even becomes insignificant in the case of quitting. They are also less satisfied with their employment opportunities, but this difference again diminishes with longer tenure. This suggests that time in casual employment is associated with greater satisfaction with the employment situation. In particular the increased perception of security may serve to diminish scarring effects of past unemployment histories.<sup>6</sup>

### 3.2 Regional Conditions and Scarring

Next we examine the impact of regional labour market conditions on these habituation and scarring effects. Employment conditions can influence perceptions of job security. There has been some previous research on Australian worker's perceptions of job security and macro conditions (Borland 2002). It was found that perceptions varied pro-cyclically with business conditions. We examine workers in states of Australia where business conditions differ and examine the effects on scarring and habituation. ABS data (RBA 2007) for the period 2001-2005 illustrates how the Australian economy was improving but the environment in the states of Queensland and Western Australia was rather different to those in New South Wales and Victoria. Table 7 presents some data to highlight these differences. Queensland and Western Australia have reduced unemployment rates further than the national average, during a time of overall reduction in unemployment, and achieved greater employment expansion. Queensland and Western Australia are growth areas of the Australian economy, particularly in service and resource industries. In the lower performing states, unemployment reductions are lower than the national average. These states are more heavily associated with traditional manufacturing industries that are in longer term decline. The stronger economic performance of Queensland and Western Australia has meant that both have experienced positive net internal migration throughout this period (RBA 2007). The table also shows how perceptions of losing a job in the next twelve months respond to changes in conditions. The decline in perception's of job loss are much weaker in the two

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<sup>6</sup>The estimations were repeated for the variables indicating quit and sack as a tobit model reflecting the truncated nature of the response variable and the qualitative effects of the changes in the casual variable across tenure categories were the same as those reported from the OLS estimates.

states where conditions are worse. If feelings of insecurity are higher then we might expect that the scarring effects of past unemployment will be greater

INSERT TABLE 7 HERE

The results for the workers in the two groups of states are presented in Table 8. The regressions include time fixed effects to capture the improvements in the Australian economy over the period. The Hausman test accepts the random effects specification in all cases. Our basic hypothesis appears to be supported in the results in columns two and three. Workers in lower performing states are more adversely affected by past unemployment than individuals living in states where conditions are better. The coefficient estimates suggest scarring effects in low performing states when past unemployment is anywhere between six months and two years. No scarring effects are evident in the better performing states. In columns four and six we introduce interaction terms between unemployment history category and the casual work variables as in Table 4. Casual workers exhibit less signs of habituation in the low performing states than in the earlier results. They seem to be the only group of workers associated with declines in wellbeing if previous unemployment is between one and two years. In high performing states all the interaction terms are insignificant, all workers seem less affected by previous unemployment when economic conditions are relatively strong. Overall, these results suggest that poorer business conditions increase perceptions of job insecurity and lead to past unemployment having more effect on current wellbeing. The correlation between perceptions of job insecurity (% Chance sack) and years of previous unemployment is over twice as strong in low performing states compared to high performing states.

INSERT TABLE 8 HERE

The casual dummy is insignificant in the low performing states but remains negative and significant in high performing states. The average figure for casual worker wellbeing is higher in the poorer performing states (7.73) than in higher performing states (7.66). For permanent workers there is much less difference between low and high performing with averages of 7.85 and 7.82 respectively. It is worthwhile trying to explore what contributes to this slightly higher level of wellbeing amongst casual workers in lower performing states, even though past unemployment histories are more detrimental to their wellbeing than in other areas. We take the same variables used in table 6 and run separate regressions for the High and Low performing states. We use fixed effect estimation to control for unobservable time invariant differences between workers

and concentrate on the effect of the casual dummy in the two cases. These results are presented in Table 9

INSERT TABLE 9 HERE

First, we repeat the life satisfaction regressions but with the inclusion of fixed effects. The differences observed in the random effects results are robust to the inclusion of fixed effects and the relative improvement in the life satisfaction of casuals in lower performing states remains. In the raw data the averages at the bottom of the table suggest that casual workers are more likely to quit their job in the coming twelve months in low performing states. However, in the regression results we find that although casuals are significantly more likely to quit than permanent workers in high performing states this difference the difference becomes statistically insignificant in low performing states. Casual workers perceive the chance of being sacked as more likely in low performing states and this is borne out in the regression results where the difference between casual and permanent workers increases from 8.8% to 10.6%. For employment opportunities the picture for casuals does not worsen in low performing compared to high performing states. The size of the negative coefficient on the casual variable decreases slightly in low performing states.<sup>7</sup> The reduction in the relative likelihood of casuals quitting in low performing states may be indicative of greater concerns for job security as the chances of being sacked are perceived as higher and the satisfaction derived from having a job increases overall wellbeing.

## 4 Conclusion

This paper sought to investigate the long-term effects on wellbeing for workers in insecure employment contracts who transition between jobs more than other workers. Specifically, we focussed on the role of previous unemployment experiences. In general, workers are scarred by their past experience of unemployment but those working in insecure employment contracts appear to be more habituated to the effects of previous unemployment. There was some evidence to suggest that workers on insecure contracts become relatively less concerned about job security and find increasing satisfaction with their employment situation as their tenure in employment increases.

However, the relationship between previous unemployment, wellbeing and job security is affected by

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<sup>7</sup>The estimations were repeated for the variables indicating quit and sack as a tobit model reflecting the truncated nature of the response variable and the qualitative effects of the changes in the casual variable across tenure categories were the same as those reported from the OLS estimates.

regional economic conditions. Workers on insecure contracts in regions that were performing relatively poorly were much less likely to quit and the impact of past unemployment was more keenly felt. Their unemployment experience may add to concerns of job security and impact on wellbeing. However, in these lower performing areas, conditional on employment histories and observable and unobservable characteristics, there is an increase in the relative wellbeing of insecure contract workers compared to secure contract workers. Insecure contract workers may place a relatively greater value on employment in these circumstances given their need for job security.

The evidence in this paper suggests that the impact of more frequent transitions between unemployment and employment and the wellbeing of workers in insecure contracts will depend on the speed of transitions through unemployment and stability of employment. For example, periods of transition from one job to another do not have any cumulative effect on wellbeing of current insecure contract workers if they sum to less than six months unemployment. In addition, as tenure in employment increases this is associated with a reduction in concern about past unemployment experiences. However, whilst in unemployment previous unemployment is a source of dissatisfaction in the same manner as it is for other workers. To this end, our results are complimentary to those presented by Origo and Pagani (2009) that emphasised the need for appropriate policies by firms and policy makers to enable transitions to occur more readily.

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Table 1: Summary Statistics, Male Employees

	Permanent	Casual
Life satisfaction ( $W$ )	7.84 (1.35)	7.70 (1.66)
Real Hourly Wage (AUS\$)	19.83	16.07
Previous unemployment (yrs) ( $U_{prev}$ )	0.44 (1.15)	1.23 (2.18)
Previous employment (yrs) ( $E_{prev}$ )	20.67 (11.56)	16.94 (13.58)
Age (yrs)	38.81 (11.05)	35.71 (13.45)
Part-time	0.03	0.39
Tertiary	0.25	0.13
Post-school	0.40	0.32
School	0.21	0.37
Couple	0.73	0.53
Long-term health problem	0.14	0.19
City	0.68	0.58
Regional	0.30	0.39
Remote	0.02	0.03
NESB	0.11	0.12
Public sector	0.17	0.07
Mortgage paid	0.17	0.15
Skilled	0.31	0.12
Semi-skilled	0.58	0.54
Unskilled	0.11	0.34
Primary	0.06	0.10
Man & Communication	0.35	0.33
Services	0.59	0.57
Obs	9,650	1,957

Table 2: Life Satisfaction and Unemployment Histories 2001-2005

Life Satisfaction		
	Permanent	Casual
<i>AverageU</i> ( $U > 0$ )	1.35	2.14
<i>AverageW</i> ( $U > 0$ )	7.64	7.59
<i>AverageW</i> ( $U = 0$ )	7.93	7.86
<i>U1</i>	7.64	7.85
%	40.1	27.1
<i>U2</i>	7.69	7.60
%	27.8	22.0
<i>U3</i>	7.76	7.39
%	16.9	19.5
<i>U4</i>	7.39	7.51
%	10.1	15.3
<i>U5</i>	7.40	7.48
%	5.0	16.1

Table 3: Life Satisfaction Estimates Employed 2001-2005 <sup>a</sup>

	Ordered Logit	Model I Random Effects (POLS)
Wage	0.323* (0.07)	0.125* (0.02)
Casual	-0.142*** (0.07)	-0.064** (0.03)
Uprev	-0.108** (0.05)	-0.034** (0.01)
Uprev <sup>2</sup>	0.008 (0.006)	0.002* (0.001)
Obs	11,304	11,304
B-P Lm ( $\chi^2(1)$ )		0.00
Hausman ( $\chi^2$ )		0.83
R-squared	0.02	0.07

<sup>a</sup>\*, \*\*, \*\*\* represent significance at the 1%, 5% and 10% levels respectively. Standard errors are robust and clustered at the individual level. Other variables included but not reported include; occupation dummies (9), industry dummies (16), age and age squared, education dummies (7), part-time dummy, long-term health condition dummy, living as a couple dummy, geographic dummies (3), working in public sector dummy, mortgage paid dummy and time fixed effects.

Table 4: Life Satisfaction Estimates Employed 2001-2005 (POLS RE Estimates) <sup>b</sup>

	Model II	Model III	F tests
Wage	0.120* (0.03)	0.142* (0.03)	
Casual	-0.061** (0.03)	-0.083** (0.04)	
<i>U</i> 1 (0 - 0.5yrs)	-0.068*** (0.04)	-0.110* (0.04)	7.63 [0.00]
<i>U</i> 2 (0.5 - 1.0yrs)	-0.155* (0.05)	-0.126* (0.05)	6.09 [0.01]
<i>U</i> 3 (1.0 - 2.0yrs)	-0.070 (0.05)	-0.020 (0.05)	0.13 [0.72]
<i>U</i> 4 (2.0 - 4.0yrs)	-0.120*** (0.07)	-0.187** (0.08)	5.33 [0.02]
<i>U</i> 5 (4.0 +yrs)	-0.152*** (0.09)	-0.210*** (0.13)	2.73 [0.10]
<i>U</i> 1 (0 - 0.5yrs)*Casual		0.165** (0.07)	0.65 [0.42]
<i>U</i> 2 (0.5 - 1.0yrs)*Casual		-0.087 (0.09)	6.14 [0.01]
<i>U</i> 3 (1.0 - 2.0yrs)*Casual		-0.125 (0.09)	2.71 [0.10]
<i>U</i> 4 (2.0 - 4.0yrs)*Casual		0.155 (0.11)	0.10 [0.75]
<i>U</i> 5 (4.0 +yrs)*Casual		0.113 (0.16)	0.66 [0.42]
Obs	11,304	11,304	
Hausman ( $\chi^2$ )	0.95	0.97	
R-squared	0.07	0.07	

<sup>b</sup>\*, \*\*, \*\*\* represent significance at the 1%, 5% and 10% levels respectively. Standard errors are robust and clustered at the individual level. Other variables included but not reported include; occupation dummies (9), industry dummies (16), age and age squared, education dummies (7), part-time dummy, long-term health condition dummy, living as a couple dummy, geographic dummies (3), working in public sector dummy, mortgage paid dummy and time fixed effects.

Table 5: Life Satisfaction Estimates Unemployed 2001 (POLS Estimates) <sup>c</sup>

	Model II	Model III
$U_1$ (0 - 0.5yrs)	0.024 (0.15)	-0.054 (0.17)
$U_2$ (0.5 - 1.0yrs)	-0.211 (0.15)	-0.234 (0.16)
$U_3$ (1.0 - 2.0yrs)	-0.398* (0.15)	-0.378* (0.16)
$U_4$ (2.0 - 4.0yrs)	-0.279** (0.14)	-0.304** (0.15)
$U_5$ (4.0 +yrs)	-0.384* (0.14)	-0.353* (0.14)
$U_1$ (0 - 0.5yrs)*Casual <sub>t+1</sub>		0.441*** (0.26)
$U_2$ (0.5 - 1.0yrs)*Casual <sub>t+1</sub>		0.190 (0.28)
$U_3$ (1.0 - 2.0yrs)*Casual <sub>t+1</sub>		-0.191 (0.43)
$U_4$ (2.0 - 4.0yrs)*Casual <sub>t+1</sub>		0.163 (0.30)
$U_5$ (4.0 +yrs)*Casual <sub>t+1</sub>		-0.313 (0.42)
Obs	1,055	1,055
R-squared	0.14	0.14

<sup>c</sup>\*, \*\*,\*\*\* represent significance at the 1%, 5% and 10% levels respectively. Standard errors are robust. Other variables included but not reported include; age and age squared, education dummies (7), long-term health condition dummy, living as a couple dummy, geographic dummies (3), non-english speaking background dummy, mortgage paid dummy.

Table 6: Life satisfaction 2001-2005 (POLS FE Estimates) <sup>d</sup>

	Life Satisfaction		Chance Quit (%)	
	Tenure 0-2yrs	Tenure 2yrs+	Tenure 0-2yrs	Tenure 2yrs+
Wage	0.104 (0.17)	0.124* (0.05)	-2.988 (3.40)	-5.437* (1.97)
Casual	-0.096** (0.05)	-0.020 (0.08)	6.356* (2.37)	1.289 (3.16)
Obs	4,468	8,043	4,468	8,043
Averages				
Perm	7.78	7.85	24.1	16.3
Cas	7.67	7.75	38.0	27.4
	Chance Sack (%)		Satisfaction with Emp Opportunities	
	Tenure 0-2yrs	Tenure 2yrs+	Tenure 0-2yrs	Tenure 2yrs+
Wage	3.386 (2.37)	0.018 (1.46)	0.208* (0.09)	0.073 (0.06)
Casual	12.818* (1.69)	8.306* (2.70)	-0.237* (0.05)	-0.140*** (0.09)
Obs	4,468	8,043	4,468	8,043
Averages				
Perm	10.6	9.2	7.5	7.2
Cas	27.2	16.2	6.6	6.5

<sup>d</sup>\*, \*\*, \*\*\* represent significance at the 1%, 5% and 10% levels respectively. Standard errors are robust and clustered at the individual level. Other variables included but not reported include; occupation dummies (9), industry dummies (16), age and age squared, education dummies (7), part-time dummy, long-term health condition dummy, living as a couple dummy, geographic dummies (3), working in public sector dummy, mortgage paid dummy and time fixed effects.

Table 7: Selected State Unemployment Rates 2001-2005 <sup>e</sup>

Low Performing States									
Year			New South Wales			Victoria			
	Aus U (%)	U (%)	Emp '000	Casual (%)	Chance Sack (%)	U %	Emp '000	Casual (%)	Chance Sack (%)
2001	6.8	6.0	3,032.4	24.1	17.9	6.4	2,276.1	21.0	15.7
2002	6.4	6.1	3,083.0	24.6	12.5	6.0	2,309.0	19.6	11.3
2003	5.9	5.9	3142.7	22.6	11.2	5.7	2,348.5	22.5	10.5
2004	5.4	5.4	3164.2	22.7	11.3	5.8	2,398.8	19.3	9.8
2005	5.0	5.2	3,229.9	24.5	10.8	5.4	2,473.5	20.0	10.2

  

High Performing States									
Year			Queensland			Western Australia			
	Aus U (%)	U (%)	Emp '000	Casual (%)	Chance Sack (%)	U %	Emp '000	Casual (%)	Chance Sack (%)
2001	6.8	8.3	1,686.4	30.4	16.7	6.8	926.1	26.3	18.3
2002	6.4	7.5	1,750.8	27.6	10.9	6.3	939.4	23.1	10.8
2003	5.9	6.7	1,815.9	23.9	13.1	6.0	962.1	23.9	9.2
2004	5.4	5.6	1,886.2	24.0	7.6	5.0	986.6	25.5	10.2
2005	5.0	4.8	1,977.9	23.1	8.5	4.5	1043.2	26.0	6.7

<sup>e</sup>Source: ABS 62020.0 (Casual employment % author's calculations from HILDA)

Table 8: Life Stisfaction Estimates in High and Low Performing States 2001-2005 (POLS RE Estimates) <sup>f</sup>

	Low States Model II	High States Model II	Low States Model III	F tests	High States Model III	F tests
Wage	0.128* (0.04)	0.113* (0.04)	0.126* (0.04)		0.109* (0.04)	
Casual	-0.034 (0.04)	-0.133* (0.05)	-0.023 (0.05)		-0.172* (0.07)	
<i>U</i> 1 (0 - 0.5yrs)	-0.077 (0.04)	-0.050 (0.06)	-0.105** (0.05)	3.75 [0.05]	-0.082 (0.06)	2.04 [0.15]
<i>U</i> 2 (0.5 - 1.0yrs)	-0.172* (0.06)	-0.105 (0.08)	-0.156** (0.07)	5.00 [0.02]	-0.083 (0.08)	1.52 [0.22]
<i>U</i> 3 (1.0 - 2.0yrs)	-0.173** (0.07)	-0.025 (0.09)	-0.035 (0.07)	0.32 [0.57]	-0.035 (0.09)	0.15 [0.70]
<i>U</i> 4 (2.0 - 4.0yrs)	-0.232* (0.09)	-0.028 (0.12)	-0.246** (0.11)	5.37 [0.02]	-0.179 (0.14)	2.52 [0.11]
<i>U</i> 5 (4.0 +yrs)	-0.140 (0.15)	-0.077 (0.14)	-0.193 (0.20)	0.98 [0.32]	-0.097 (0.19)	1.16 [0.28]
<i>U</i> 1 (0 - 0.5yrs)*Casual			0.116 (0.09)	0.02 [0.90]	0.122 (0.11)	0.14 [0.71]
<i>U</i> 2 (0.5 - 1.0yrs)*Casual			-0.065 (0.11)	4.20 [0.04]	-0.036 (0.14)	0.92 [0.34]
<i>U</i> 3 (1.0 - 2.0yrs)*Casual			-0.403* (0.13)	11.24 [0.00]	-0.013 (0.13)	0.14 [0.71]
<i>U</i> 4 (2.0 - 4.0yrs)*Casual			0.023 (0.16)	2.21 [0.14]	0.326*** (0.20)	0.38 [0.54]
<i>U</i> 5 (4.0 +yrs)*Casual			0.088 (0.24)	0.46 [0.50]	0.084 (0.27)	0.32 [0.57]
Obs	6,028	3,040	6,028		3,040	
Hausman ( $\chi^2$ )	0.20	0.46	0.34		0.68	
R-squared	0.07	0.08	0.07		0.08	

<sup>f</sup>\*, \*\*,\*\*\* represent significance at the 1%, 5% and 10% levels respectively. Standard errors are robust. Other variables included but not reported include; age and age squared, education dummies (7) occupation dummies (9), industry dummies (16), long-term health condition dummy, living as a couple dummy, geographic dummies (3), non-english speaking background dummy, mortgage paid dummy.

Table 9: Job Security Estimates in High and Low Performing States 2001-2005 (POLS FE Estimates) <sup>g</sup>

	Life satisfaction		Chance quit (%)	
	Low States	High States	Low States	High States
Wage	0.170* (0.05)	0.097 (0.06)	-6.832* (2.46)	-0.303 (3.29)
Casual	-0.018 (0.05)	-0.155** (0.07)	4.142 (2.83)	5.858** (2.86)
Obs	6,028	3,625	6,028	3,625
Averages				
Perm	7.85	7.82	18.2	18.5
Cas	7.73	7.66	33.2	31.8
	Chance sack (%)		Satisfaction with Emp Opportunities	
	Low States	High States	Low States	High States
Wage	1.422 (1.88)	4.899** (2.02)	0.158* (0.06)	0.067 (0.08)
Casual	10.579* (1.99)	9.298* (2.14)	-0.210* (0.06)	-0.223* (0.08)
Obs	6,028	3,625	6,028	3,625
Averages				
Perm	10.1	8.6	7.4	7.4
Cas	20.7	20.2	6.6	6.7

<sup>g</sup>\*, \*\*,\*\*\* represent significance at the 1%, 5% and 10% levels respectively. Standard errors are robust and clustered at the individual level. Other variables included but not reported include; occupation dummies (9), industry dummies (16), age and age squared, education dummies (7), part-time dummy, long-term health condition dummy, living as a couple dummy, geographic dummies (3), working in public sector dummy, mortgage paid dummy and time fixed effects.