

# Scarring, Habituation and Job Flexibility: Work Histories in Secure and Insecure Employment.

Colin P. Green\* and Gareth D. Leeves†

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## Abstract

Increases in the use of flexible employment contracts create more frequent transitions between unemployment and employment. This paper analyses the impact of cumulative unemployment experiences on the life satisfaction of Australian male workers in flexible employment. Using panel data techniques, it was found that permanent contract workers were scarred by previous unemployment. This contrasted with flexible contract workers who seem habituated to the effects of past unemployment. Social norming effects were evident for permanent workers, unemployment scarred deeper when it was less of a general norm, this was not the case for casual workers. Flexible contract workers' habituation to past unemployment and lack of social norming could contribute to the process of social exclusion.

## Abstract

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\*Colin P Green, Economics Department, Lancaster University, Lancaster LA1 4YX, UK. email [c.p.green@lancaster.ac.uk](mailto:c.p.green@lancaster.ac.uk).

†Corresponding Author: Gareth D Leeves, School of Economics, University of Queensland, St Lucia, QLD 4072, Australia. Tel: +61 7 3365 6579 Fax: +61 7 3365 7299. email [g.leeves@uq.edu.au](mailto:g.leeves@uq.edu.au)

# 1 Introduction

Some individuals experience frequent transitions between unemployment and employment. These 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). In turn, this type of work history has been associated with the growth of flexible contract employment across a number of OECD countries (Bradley et al 2003, Booth et al 2002, Gagliarducci 2005). Thus, we have seen a 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. It is timely to ask what impact such employment models will have on workers in the longer term.

It has been 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). Thus, holding income constant, moving into unemployment from employment decreases life satisfaction (Gerlach and Stephan 1996) and moving into employment from unemployment raises life satisfaction (Grun et al 2008). However, little is known about the impact on life satisfaction of ongoing movement between unemployment and employment. Evidence from research by social psychologists has found lower levels of life satisfaction and greater feelings of insecurity amongst temporary workers compared to permanent workers (De Witte and Naswall 2003, Silla et al 2005). But as Silla et al (2005) noted these cross-sectional studies suffer from limitations, one of these being the influence of past work histories on current life satisfaction. This paper analyses the extent to which cumulative periods of unemployment impact on worker life satisfaction in secure and insecure employment contracts.

There is evidence that past unemployment affects current life satisfaction. For the employed, Clark, Georgellis and Sanfey (2001) provide evidence, using UK data, of a scarring effect from past unemployment insofar as it reduces current life satisfaction.

However, for those currently unemployed, the amount of unemployment experienced in the last three years had less impact on life satisfaction. Clark, Georgellis and Sanfey (2001) suggest individuals become habituated 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 life satisfaction of workers' in less secure employment is affected by their work histories and how this differs from those in more secure employment. The habituation hypothesis would suggest that those in insecure employment will suffer less scarring from previous experiences of unemployment insofar as workers become more reconciled to the temporary nature of employment.

The impact of work histories on life satisfaction will depend on the way reference is made to social norms (Akerlof 1980). Clark (2003), identified how unemployment is felt less acutely by the unemployed when there is more of it about and vice versa. In the social psychology literature, experimental field studies have provided evidence that both temporal and group comparisons are used by individuals when assessing performance if the information is available (Bourhis and Hill 1982, Brown and Zagefka 2006). Some studies by social psychologists have identified how more economically disadvantaged groups tend towards intragroup and intertemporal comparisons rather than intergroup comparisons (Zagefka and Brown 2005, Blanz et al 2000). Specifically, Zagefka and Brown (2005) found evidence that temporal comparisons were particularly favoured by relatively disadvantaged ethnic groups in evaluating their economic standing and similar conclusions were drawn from studying comparisons by individuals from reunification East and West Germany (Blanz et al 2000). Thus, although greater aggregate unemployment is associated with lower reported levels of life satisfaction (Di Tella MacCulloch and Oswald 2001, Di Tella MacCulloch and Oswald 2003), reflecting concerns about declining job security (Green 2006) and employment conditions (Stewart and Swaffield 1997) it is unlikely to influence all groups equally.

How changes in aggregate conditions impact on the well being of workers in less secure

compared to more permanent jobs will depend on how they construct their reference groups for social norms. We examine whether scarring or habituation effects from work histories are moderated or accentuated for both groups of workers by norming effects. The data 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 variations in job security due to the relatively high incidence of flexible employment contracts.<sup>1</sup>

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. The HILDA dataset provides a rich source of information on labour market participation, outcome and performance. HILDA records data on an individual's work history. The two specific variables that are used in the empirical work detailing work histories are the responses to questions covering how many years and months have been spent in paid work (full-time or part-time) and unemployed *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,

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<sup>1</sup> Australia has the second highest proportion of workers on flexible employment contracts in the OECD after Spain.

marital status, health status, number of years in formal education, industry, occupation 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). In addition, past unemployment provides a noisier signal of the intensity of unemployment experience for females due to the greater likelihood of periods out of the labour force, these periods are not identified in our data.

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:

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

where  $\{u_{t-1} \dots u_{t-j}\}$  is the record of past unemployment experiences since entering the labour force,  $\{e_{t-1} \dots e_{t-j}\}$  is the record of past employment 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  $\mu_{j-1} < Y_i^* < \mu_j$  for  $j = 1, 2, \dots, k$  then the conditional expectation of the latent variable is given by

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

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 inclusion of individual level fixed or random effects. Thus the main estimating equation used in the sections that follow is of the form:

$$W_{it} = \phi + \beta_1(Uprev)_{it} + \beta_2(Uprev)_{it}^2 + \beta_3(Eprev)_{it} + \beta_4(Eprev)_{it}^2 + \gamma X_{it} + \alpha_i + \mu_t + \varepsilon_{it} \quad (3)$$

this is a random effects model where  $Uprev$  is the total amount of unemployment in individual  $i$ 's work history,  $\sum_{n=1}^{n=j} \{u_{t-n}\}$ , and  $Eprev$  is the total amount of employment in individual  $i$ 's work history,  $\sum_{n=1}^{n=j} \{e_{t-n}\}$ ;  $X$  is a vector of personal characteristics as described above;  $\alpha_i$  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 employment and its effect on well-being. Random effects models enable the effects of all previous recorded unemployment and employment to be estimated 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.

Clark, Georgellis and Sanfey (2001) used a variable to capture habituation effects

that specified past unemployment as a percentage of time active in the labour market, where they selected the last three years as the relevant period. 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 individual's age minus the age at which they left full-time education this replaces  $Uprev$  and  $Eprev$  in equation 3.<sup>2</sup> In either case, if  $\beta_1 < 0$ , unemployment has a scarring effect, which may be subject to nonlinearities ( $\beta_2 \neq 0$ ).

Finally, we examine the issue of social norms on the impact of past unemployment on well-being. As Clark (2003) noted the relevant group for determination of social norming effects need not be the same for all individuals. We follow the approach adopted by Clark (2003) and specify two norms, one broad and one narrow. In the first case, we identify regions that have been high performers (*High*) with relatively low unemployment and others that are low performers (*Low*) with high unemployment. 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. Our second narrower definition takes the household as the reference group and identifies whether the spouse is employed (*SpEmp*) or not (*SpUnemp*). Clark (2003) found that spousal unemployment reduces the life satisfaction of a male partner in employment but increases life satisfaction if the male partner is unemployed. In sum, scarring should be more acute for workers in high performing regions, the employment of others is experienced as a negative externality in reference to their own past unemployment experience. Similarly, we might expect that a worker whose spouse is employed will also experience a negative externality with respect to their feelings towards their own past un-

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<sup>2</sup>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  $we$ .



employment. Or more formally,  $\beta_1(High) > \beta_1(Low)$  and  $\beta_1(SpEmp) > \beta_1(SpUnemp)$ .

## 3 Results

### 3.1 Scarring and Habituation Effects

In Table 2 the results for estimates of equation three are presented. 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 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. Greater work experience also reduces satisfaction, though there are nonlinearities in this relationship that indicate a turning point. 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 Hausman test results suggests the random effects specification is maintained in the data. All standard errors reported are robust and clustered at the individual level. The scarring effect is still evident once controls for unobservable heterogeneity are included. However, past unemployment effects are now characterized by nonlinearities. It reduces life satisfaction up to approximately seven years, after which this decline starts to reverse. Approximately 97% of the observations of time in unemployment in the sample are less than seven years. Hence, in the vast majority of cases, increased experience of unemployment is associated with lower life satisfaction. The work experience coefficients also suggest a U shaped pattern for life satisfaction. The unreported age coefficients indicate a similar but flatter U shaped pattern for life satisfaction, the age coefficients increase significantly if the work experience variables are omitted. Thus, the work experience coefficients are capturing part of the well documented U shape pattern between life satisfaction and age. Blanchflower (2008) provides a recent summary of the evidence on

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

life satisfaction and age. Finally, we observe increases in life satisfaction associated with increased hourly wages, the positive effect of higher incomes on life satisfaction has been a standard finding in previous empirical research (Frey and Stutzer 2002, Blanchflower and Oswald 2004).

INSERT TABLE 2 HERE

Disaggregating the sample into permanent and casual contracted workers reveals some key differences.<sup>4</sup> The difference between the totals for casual and permanent and the total figure represents workers who are on fixed contract employment. Results for permanent workers resemble the pattern for the overall sample; increased unemployment and work experience reduce life satisfaction and with similar turning points to the previous estimates. For casual workers we find that previous unemployment does not significantly impact on life satisfaction. Casual workers appear to be less affected by unemployment periods in their work history, this is a first indication of habituation effects. Work experience is associated with reduced life satisfaction and this effect is stronger than that observed for permanent workers. We are unable to determine what mix of casual and permanent employment is contained in each work history. However, it could suggest that casual work is less intrinsically satisfying, casual work is known to be subject to more arbitrary controls by employers (Watson 2005), we investigate this in more detail below. Casual workers life satisfaction is not increased by higher wages. The size and significance of the coefficient estimates for years of unemployment and its squared term are robust if the equation is re-estimated with the exclusion of the work experience variables. In unreported fixed effects estimates, which will be consistent but inefficient in this case, we found that relatively recent spells of unemployment actually increase life satisfaction of those currently in employment and this appears particularly associated with casual workers. Grun et al (2008) found that transition into temporary employment, actually increased satisfaction more than for other types of employment. Some individuals will have moved from unemployment to employment quite recently and the short term effects

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<sup>4</sup>The Hausman statistics again suggest that the random effects specification is maintained for both groups.

of the change in status from experiencing unemployment to being in employment will have had a positive impact on satisfaction (Grun et al 2008), whilst others may be scarred by unemployment that is relatively less recent. Overall, the net effect is positive.

INSERT TABLE 3 HERE

In Table 3 we report the results from using the variable  $U_{per}$  instead of  $U_{prev}$ . The results are consistent with those in Table 2. In the last row the mean and standard deviation of  $U_{per}$  are presented. Current casual workers have experienced on average nearly three times more unemployment per year of working life than permanent workers, but the impact on life satisfaction is just over half of that observed for permanent workers and statistically insignificant at standard levels.

### 3.2 Scarring, Habituation and Tenure in Employment

To this point we have demonstrated that workers exhibit the hypothesized patterns of scarring and habituation by contract type; scarring effects for permanent workers and habituation effects for casual workers. Some workers will have just moved into their current employment whilst others will have been working for the same employer for many years. Our data provides information on how long a worker has been with their current employer. We use this to investigate how time in work with an employer affects scarring and habituation. So in Table 4 (first panel), we take male permanent workers and divide them up into categories according to tenure with employer. The first category (column five) is those with up to one year of tenure with their current employer at the interview date, the next category is those with at least one year but less than two years (column four), then two to three years (column three) and finally three or more years of tenure (column two). Given this classification we revert to using  $U_{prev}$  as our indicator of past unemployment. The mean and standard deviation of  $U_{prev}$  for each category are presented in the final row of the panel, shorter tenure workers have experienced more unemployment on average and there is greater variation in their unemployment experience, this decreases as tenure increases.

The regression results suggest that permanent workers with less than one year of tenure are not significantly affected by prior unemployment. This changes for groups with more than one year of tenure where there are significant scarring effects. The strength of scarring declines substantially as tenure extends beyond three years but is still marginally statistically significant. One possible interpretation of this pattern is that the increase in satisfaction associated with recent transitions into new employment from unemployment (Grun et al 2008) or movement from another job offsets any scarring effects from previous unemployment experienced by others in the less than one year of tenure cohort. However, once individuals are established in their job the temporary increase in satisfaction associated with transition disappear but the scarring effects from previous unemployment remain. Scarring effects then recede as tenure lengthens.

INSERT TABLE 4 HERE

In the second panel of the table, we undertake the same exercise with casual workers. The categories for 1 - 2 yrs tenure and 2 - 3 yrs tenure were collapsed into one category due to a lack of numbers in each individual category.<sup>5</sup> In general, the well-being of casual workers of all tenures is not significantly affected by length of time in unemployment. Hence, increased tenure with employer does not appear to lead to male casual workers significantly changing their feelings towards time spent in unemployment. We do not know if tenure with employer is associated only with casual employment. It is possible that workers could change from permanent or some other contractual arrangement to casual employment. However, whilst casual employment acts as a port of entry into more permanent work within an organization (Green and Leevs 2004), movements in the other direction are far less common. Overall, the results continue to support the habituation hypothesis for casual workers and suggest that scarring effects for permanent workers are rather persistent.

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<sup>5</sup>The Hausman test statistic for this group is not reported as the asymptotic assumptions underlying the test were not met. In unreported experiments it was found that test results were in this particular case sensitive to the inclusion of the variables describing education levels. Regression results omitting the education variables produced substantially the same results for *Uprev* and *Eprev* and *Wage* as those reported with a Hausman test statistic of 0.35.

### 3.3 Reference Groups and Norming

Next we examine the impact of utility adherence to the employment norm on these habituation effects. As noted earlier, we employ two distinct classifications of the reference group for norming. Our first is to identify workers living in regions that have performed above the Australian average over the period and those located in areas that performed below the average. ABS data (RBA 2007) clearly shows that during the period 2001-2005 (our sample period) the states of Queensland and Western Australia achieved superior economic outcomes compared to the rest of the country. Conversely, New South Wales and Victoria were identified as states with a relatively poor economic performance. Table 5 presents some data to highlight these differences. Compared to the low performing states, the high performing states have reduced unemployment rates further, during a time of overall reduction in unemployment, and achieved greater employment expansion. The high performing states are growth areas of the Australian economy, particularly in service and resource industries; the low performing States are more heavily associated with traditional manufacturing industries that are in longer term decline. The high performing states are also areas with more attractive living environments in terms of factors like climate and housing affordability that have been identified to have a positive effect on well-being (Brereton et al 2008). This, together with the stronger economic performance, would explain why both Queensland and Western Australia experienced positive net internal migration throughout this period (RBA 2007). The more attractive environment in the high performing states might serve to offset scarring effects. Thus any difference observed in the scarring effects between high and low performing states might be viewed as a lower bound estimate.

INSERT TABLE 5 HERE

The results for the two groups are presented in Table 6. For male permanent workers we note that the coefficient on unemployment is larger in the high performing states. Life satisfaction is lower for individual's living in high performing states who have experienced similar amounts of unemployment compared to individuals living in low performing states.

Life satisfaction declines for the first seven years of unemployment experience in high performing states compared to just over five years in low performing states. Our results confirm our a priori expectations insofar as  $\beta_1(High) > \beta_1(Low)$ ; there is a greater scarring effect where unemployment is less prevalent. This pattern is not evident for casual workers. The coefficient estimates suggest a possible scarring effects in low performing states but in this case the Hausman test rejects the random effects specification.

INSERT TABLE 6 HERE

Our narrower definition of a reference group focuses on the household and considers how spousal unemployment affects the employed partner's life satisfaction. Clark (2003) finds that there is a significant reduction in the well-being of an employed person if the partner is unemployed. If the individual is unemployed then spousal unemployment has a much smaller effect. Thus, spousal unemployment reduces well-being for the employed in a contemporaneous setting. In this instance, we were unable to split the sample further into casual and permanent workers due to a lack of numbers.

INSERT TABLE 7 HERE

In Table 7 we report estimates disaggregated by whether the partner is unemployed or not, the alternative to unemployment is that the partner is employed or not in the labour force. The Hausman test statistics suggest the random effects specification is maintained. In the last two rows of Table 7 we report the mean and standard deviation of years of unemployment and life satisfaction for each group. Life satisfaction is higher for those with a spouse who is not unemployed, which is consistent with the findings in Clark (2003). The results indicate no scarring effects if the partner is currently unemployed. Individuals seem more habituated to past unemployment when the other partner is unemployed. It must be noted that this result could reflect the fact that individual's who are less affected by previous unemployment experiences are more likely to be living with partners currently experiencing periods of unemployment. These results remain robust if the variables representing years of work experience and its squared term are omitted from the regressions

## 4 Conclusion

This paper has provided evidence that the scarring effect of unemployment is more extensive than that documented by previous research. The employed are scarred by their past experience of unemployment and these scarring effects can persist even when workers have been with the same employer for a number of years. However, individuals working in more insecure employment conditions appear to become habituated to the effects of unemployment. In common with earlier research, we find that there is an adherence to employment norms at both regional and household levels (Clark 2003). For permanent workers, the scarring effects of unemployment increased when the prevailing employment norm in a region is stronger. The evidence for workers on flexible contracts provided no indication of regional norming effects.

In sum, permanent workers suffer scarring effects from past unemployment and this is accentuated in regions with stronger economic performance. Workers on flexible employment contracts become habituated to past unemployment and their well-being is not as sensitive to general social norms. Evidence from the social psychology literature suggests that economically disadvantaged groups tend to prefer intragroup or intertemporal comparisons than intergroup. The results obtained are consistent with that suggestion. If flexible contract workers well-being is defined with reference to their own and other flexible worker's insecure work histories this could reinforce any social exclusion processes linked to the expansion in the use of flexible employment contracts.

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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 Estimates 2001-2005 <sup>a</sup>

Males	Ordered Logit		Random Effects (POLS)	
	All	All	Perm	Casual
Wage	0.308* (0.06)	0.122* (0.02)	0.134* (0.04)	0.072 (0.06)
Uprev	-0.115** (0.05)	-0.041* (0.01)	-0.061** (0.03)	-0.028 (0.02)
Uprev <sup>2</sup>	0.008 (0.006)	0.003* (0.001)	0.005 (0.004)	0.002* (0.001)
Eprev	-0.048* (0.02)	-0.021** (0.01)	-0.017*** (0.01)	-0.034*** (0.02)
Eprev <sup>2</sup>	0.0015* (0.0004)	0.0006* (0.0001)	0.0005* (0.0002)	0.0009* (0.0003)
Obs	12,294	12,294	9,650	1,957
B-P Lm ( $\chi^2(1)$ )		0.00	0.00	0.00
Hausman ( $\chi^2$ )		0.83	0.92	0.41
R-squared		0.07	0.07	0.08

<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 3: Life Satisfaction Estimates Proportion of Unemployment 2001-2005 (POLS Estimates)<sup>b</sup>

	All	Perm	Casual
Wage	0.128* (0.03)	0.137* (0.03)	0.091 (0.06)
Uper	-0.595* (0.20)	-0.730* (0.28)	-0.397 (0.29)
(Uper) <sup>2</sup>	0.549* (0.22)	0.397 (0.43)	0.433*** (0.25)
Obs	12,294	9,650	1,957
Hausman ( $\chi^2$ )	0.95	0.90	0.97
R-squared	0.07	0.07	0.08
Uper	0.016 (0.037)	0.012 (0.031)	0.035 (0.058)

<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 4: Life Satisfaction Estimates and Tenure with Employer 2001-2005 (POLS Estimates) <sup>c</sup>

	Permanent			
	Tenure > 3yrs	Tenure 2-3yrs	Tenure 1-2yrs	Tenure < 1yr
Wage	0.132* (0.03)	0.189* (0.07)	0.075 (0.07)	0.145* (0.06)
Uprev	-0.055*** (0.03)	-0.111* (0.04)	-0.144* (0.05)	-0.057 (0.04)
Uprev <sup>2</sup>	0.004 (0.004)	0.015* (0.005)	0.017* (0.005)	0.006 (0.004)
Eprev	-0.023** (0.01)	-0.018 (0.01)	-0.015 (0.01)	-0.023 (0.01)
Eprev <sup>2</sup>	0.0006* (0.0002)	0.0007** (0.0003)	0.0007*** (0.0004)	0.001* (0.0003)
Obs	4,649	1,467	1,434	2,100
Hausman ( $\chi^2$ )	1.00	0.12	0.32	0.05
R-squared	0.07	0.09	0.09	0.08
Uprev	0.37 (1.06)	0.56 (1.33)	0.55 (1.28)	0.60 (1.28)

	Casual		
	Tenure > 3yrs	Tenure 1-3yrs	Tenure < 1yr
Wage	0.147 (0.10)	0.118 (0.12)	0.077 (0.07)
Uprev	-0.077 (0.07)	-0.076 (0.06)	-0.019 (0.03)
Uprev <sup>2</sup>	0.006 (0.01)	0.008 (0.007)	0.001 (0.001)
Eprev	0.024 (0.04)	-0.027 (0.03)	-0.049** (0.02)
Eprev <sup>2</sup>	0.0001 (0.0006)	0.001*** (0.0005)	0.001** (0.0005)
Obs	464	521	972
Hausman ( $\chi^2$ )	0.12	-	1.00
R-squared	0.16	0.15	0.07
Uprev	1.07 (1.91)	1.20 (2.17)	1.33 (2.26)

<sup>c</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: Selected State Unemployment Rates 2001-2005 <sup>d</sup>

Low Performing States						
Year	New South Wales			Victoria		
	U %	Emp '000	Casual %	U %	Emp '000	Casual %
2001	6.0	3,032.4	24.1	6.4	2,276.1	21.0
2002	6.1	3,083.0	24.6	6.0	2,309.0	19.6
2003	5.9	3142.7	22.6	5.7	2,348.5	22.5
2004	5.4	3164.2	22.7	5.8	2,398.8	19.3
2005	5.2	3,229.9	24.5	5.4	2,473.5	20.0

  

High Performing States						
Year	Queensland			Western Australia		
	U %	Emp '000	Casual %	U %	Emp '000	Casual %
2001	8.3	1,686.4	30.4	6.8	926.1	26.3
2002	7.5	1,750.8	27.6	6.3	939.4	23.1
2003	6.7	1,815.9	23.9	6.0	962.1	23.9
2004	5.6	1,886.2	24.0	5.0	986.6	25.5
2005	4.8	1,977.9	23.1	4.5	1043.2	26.0

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



Table 6: Life Satisfaction Estimates in High and Low Performing States 2001-2005 (POLS Estimates) <sup>e</sup>

	Permanent Workers		Casual Workers	
	Low States	High States	Low States	High States
Wage	0.134* (0.04)	0.144* (0.05)	0.080 (0.09)	0.038 (0.09)
Uprev	-0.064*** (0.04)	-0.072*** (0.04)	-0.108*** (0.06)	-0.014 (0.07)
Uprev <sup>2</sup>	0.006 (0.005)	0.005 (0.004)	0.007 (0.009)	0.004 (0.006)
Eprev	-0.019 (0.01)	-0.004 (0.02)	-0.062* (0.02)	0.016 (0.03)
Eprev <sup>2</sup>	0.0006** (0.0003)	0.0004 (0.0003)	0.0008** (0.0004)	0.0003 (0.0006)
Obs	5,237	3,040	922	729
Hausman ( $\chi^2$ )	0.89	0.99	0.00	1.00
R-squared	0.07	0.08	0.09	0.12

<sup>e</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: Life Satisfaction Estimates and Spouse Unemployment 2001-2005 (POLS Estimates) <sup>f</sup>

	Spouse E/NILF	Spouse U
Wage	0.098* (0.03)	0.233* (0.11)
Uprev	-0.086* (0.02)	0.129 (0.09)
Uprev <sup>2</sup>	0.008* (0.003)	-0.014 (0.011)
Eprev	-0.008 (0.01)	-0.030 (0.03)
Eprev <sup>2</sup>	0.0004*** (0.0002)	0.0014 (0.0006)
Obs	8,038	490
Hausman ( $\chi^2$ )	0.98	0.87
R-squared	0.05	0.16
Uprev	0.49 (1.28)	0.56 (1.28)
Life satisfaction ( $w$ )	7.97 (1.27)	7.84 (1.35)

<sup>f</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.