Lags and Leads in Life Satisfaction:
A Test of the Baseline Hypothesis

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Abstract

This paper uses fourteen waves of the German socio-economic panel (GSOEP) data set to examine the long-run impact of life and labour market events on life satisfaction. By doing so, we advance from the standard literature which almost exclusively considers contemporaneous correlations. Our main interest is to test a revered idea in Psychology, that of the "baseline" level of life satisfaction. According to this hypothesis, individuals will, in the long run, return to some baseline level of well-being or utility, independently of what has happened to them in the past. This hypothesis is obviously similar to the economist's and psychologist's notion of habituation, except that we consider life events, rather than consumption, income, or behaviour.

We consider six different life events: unemployment, layoff, quitting a job, marriage, divorce, and birth of first child. Restricting the sample to those aged between 19 and 59 produces approximately 90 000 person-year observations, split roughly 50:50 between men and women. Our proxy utility measure is overall life satisfaction, measured on a scale of zero to ten.

As a first step, simple graphical representation of average life satisfaction (for those affected versus a control group) at the time of the event, and over the twelve years following the event, shows that the strongest effect is often at the time that the event happens. However, significant differences in life satisfaction seem to persist. Due to our long run of panel data, we can also analyse the "lead" effect of an event that will happen in the future. For example, significant lead effects are evident for unemployment and layoffs suggesting that these events are anticipated. Similar strong lead effects appear for marriage (positive) and divorce (negative). One of our projects with respect to these data is to establish whether those who anticipate the event more (in terms of their dip or rise in life satisfaction) return to their original baseline satisfaction level faster; another is to determine whether those who have higher life satisfaction bounce back faster following a negative life event.

We then carry out ordered probit regressions, controlling for age, marital status, education, number of children, household income, regional and year dummies. All of our analysis is carried out separately for men and women. We find strong evidence of lag and lead effects in life satisfaction with respect to the six job and life events described above. We also find evidence of adaptation, in that past experiences become less important. Our first results suggest, tentatively, that men adapt less quickly than women to negative labour market events, in that past unemployment and layoffs continue to be important for men for a longer time than they do for women.

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INTRODUCTION

Whether people adapt to conditions is a focal question in the area of wellbeing, because if true, it suggests a hedonic treadmill in which conditions or circumstances will not matter in the long-run for subjective wellbeing. This proposal by Campbell and Brickman has been updated to include the idea that the level of adaptation might be influenced by a person's personality (Headey and Wearing's dynamic equilibrium model) and the idea that the baseline set-point might be positive (see Diener and Diener). However, good evidence about adaptation is lacking. Virtually all of the existing data are cross-sectional, and therefore we can only compare various groups at a point in time and look at their differences. Thus, we do not know whether the groups might have initially differed in SWB, and how much of the current difference is due to pre-existing group differences or to the situation. For example, several studies have found that paraplegics are not that much less happy than comparison groups, but it is also possible that paraplegics were more likely to have a high happiness level before their accidents. This is perhaps because of a greater likelihood of extraverts and approach-oriented people being exposed to the kinds of activities that produce spinal cord injuries). Longitudinal data such as Silver's study of paraplegics have looked at short time spans such as two months, and therefore have not been long enough to fully capture the course of adaptation.

Using fourteen waves form the GSOEP, the present study is uniquely qualified to analyse adaptation effects because of the long-time course of the study, and the fact that the sample was large enough so that people in various conditions would exist in the study to compose groups of sufficient N.

Another question that the present data set can analyse is whether the effects of conditions such as employment and marriage are due to the conditions itself, or to the selection of individuals into the condition. For example, divorced people are less happy – because of the divorce, or due to the fact that divorced people have a greater likelihood of

having being unhappy people in the first place (or some third variable could be leading to the effect, such as religiosity)? Only by examining longitudinal data can we separate selection effects (differences in who selects themselves into these groups) from the effects of the circumstances themselves).

In terms of theory, the above questions are absolutely central to understanding the influences on subjective wellbeing. In terms of policy, the above kinds of data are also absolutely essential in understanding the effects that policies might have on people's experienced wellbeing.

I. Previous Literature

II. Methodology and Data

The empirical work in this paper is based on data from the first fourteen waves of the West German sub-sample of the GSOEP, spanning the period 1984-1997.[1] Focusing on those respondents who were between 19 and 59 years of age yields in a sample of 43,243 person-year observations for males and 44,526 person year observations for females. During the sample period, individuals experienced labour market and life events that affected their life satisfaction. We consider the six following major life events, although others are obviously important also:

- Unemployment
- Layoff
- Quit
- Marriage
- Divorce
- Birth of first child

For men, we observe 915 layoffs, 1456 quits, 1215 incidents of unemployment, 1218 marriages and 211 divorces. For women, we have 623 layoffs, 1451 quits, 1136 observations on unemployment, 1243 marriages, 229 divorces and 915 births of first child.

The panel nature of the data allows us to examine how individuals' reported life satisfaction changes both before and after these events occurred. Note that given that we have fourteen waves of data, we could track an individual for a maximum of thirteen years prior or after the event occurred, depending on the calendar year that the event occurred and

how long an individual has been in the sample. For example, for someone who experienced layoff in 1997 and who has been in the sample since 1984, we could in principle observe thirteen years of reported life satisfaction prior to the event. However, most individuals can obviously only be tracked for less than 13 years both previous to and after the event. In practice, in the regressions, we restrict ourselves to five-year periods before and after the event in question.

Definition of "baseline satisfaction"

The baseline satisfaction, SB_i, for each individual i in the sample is defined as the average life satisfaction of "people like you" at the time of the event (marriage, unemployment etc.) occurring. This raises the obvious question of "Who are "people like you""? We use a definition which was widespread in the early Leyden literature on reference groups: those with the same sex, age (group) and level of education. Hence, for a Male, aged 40, with higher education, who experienced divorce in the year 1997, the appropriate baseline satisfaction is the average life satisfaction of all the 40 year-old men who did not experience divorce in the year 1997. An alternative approach, which we adopt here, is to limit the sample to individuals who are observed for all periods from t-7 to t (where t is the time the event occurred) and calculate their "baseline satisfaction" as their average life satisfaction score over t-7 and t-5. Then, we consider the deviation from this baseline for a period between t-4 and t+6. Therefore, our research question here is to look at movements in life satisfaction, before, during and after a certain event, compared to the baseline satisfaction several years prior to the event. This differs from the vast majority of the existing literature, which has only considered the contemporaneous impact of an event on subjective well-being[2].

III. LAGS AND LEADS: GRAPHS

Figure 1 illustrates the effect of labour market events on life satisfaction separately for men and women . Each figure compares the mean life satisfaction before and after the event of those who experienced the event at t = 0 with their baseline satisfaction. In all of the figures, "*" indicates a significant difference between life satisfaction score at time t and the baseline.

Our first test of the baseline hypothesis is therefore based on simple plots of average

life satisfaction of those who experienced the relevant event against a baseline satisfaction. Focusing on unemployment (entry into unemployment), we can see that men anticipate unemployment for up to three years prior to the event whilst the effect of unemployment persists for up to five years after the event. For women, the effect of unemployment persists for up to three years after the event and it is anticipated only one year prior to the event. The relationship between subjective well-being and unemployment has recently inspired a lively literature in economics: Agerbo *et al.* (1997), Bjorklund and Eriksson (1998), Clark (1999*b*), Clark and Oswald (1994), Di Tella *et al.* (2000), Gerlach and Stephan (1996), Goldsmith *et al.* (1996), Korpi (1997), Namazie and Sanfey (1999), Theodossiou (1997), Whelan *et al.* (1998), Winkelmann and Winkelmann (1998), and Woittiez and Theeuwes (1998). An earlier review of the psychological and sociological literature can be found in Fryer and Payne (1986). Figure 1 shows that unemployment is indeed very strongly correlated with life satisfaction over time. Future unemployment reduces life satisfaction. In addition, past unemployment reduces life satisfaction over a long period.

Figure 1 reveals a similar picture regarding the effect of layoffs on men and women's wellbeing, showing a sharp difference between the laid-off men and women. Such sharp and persistent differences in subjective well-being, as a function of a labour market event, are striking. This implies that the anticipation of a layoff starts before the event actually occurs and the experience of layoff is so disturbing, especially for men, that its effects are felt many years after the layoff itself happened.

Regarding the effect of quits, Figure 1 shows that, at least for men, the relationship here seems less strong than that between life satisfaction and layoffs evoked above. In a way, this is to be expected. Layoffs are exogenous, whereas quits are chosen by the individual. Therefore we imagine that quits are chosen to maximise life satisfaction, so that the life satisfaction difference between those who quit and those who do not might be somewhat muted. For both men and women, there is some evidence that life satisfaction just before quitting is significantly lower than the baseline. An obvious interpretation is that low satisfaction predicts future quits[3]. Further, satisfaction post-quitting is significantly lower for women than men. In this sense, a quit may reveal relatively poor labour market prospects for women, as compared to men. On the other hand, male quitters return to their baseline level quickly.

Figure 2 moves away from the labour market to the realm of the family, focusing on the effect of life events (marriage, divorce and birth of first child) on life satisfaction. As

might be expected (or hoped), the contemporaneous correlation between marriage and life satisfaction is positive. However, the lead effect is also positive: the life satisfaction of those who will be married in the future is higher than their baseline (see Veenhoven, 1989). The positive effects of marriage also last for a couple of years into the future. There is a noticeable difference between men and women: the lead effect of marriage is only one year for men, compared to two for women. On the other hand, the positive effects last for two years for women whilst only one year for men. Looking at divorce, for both men and women, life satisfaction is lower during the two to three years prior to divorce implying that those who divorce seem to "anticipate" the event. After the event, the mean satisfaction of men who divorce is not statistically different from the mean satisfaction of the control group. In other words, we could say that men who divorce return to their baseline quickly. On the other hand, women's life satisfaction remains below the baseline for three years after their divorce. Finally, looking at the effect of birth of first child life satisfaction, we see evidence of anticipation for men, but not for women, and a lasting effect for one year for both men and women, in that life satisfaction remains statistically higher than the baseline for one year after the event. The highest point occurs at the year of the birth, followed by a sharp decline over the first year.

Figures 3 and 4 re-examine the effect of labour market and life events (respectively) on life satisfaction, but now focusing on the two questions of whether happier people are affected more by events and whether they return to their baseline more quickly. Figure 3 shows that indeed happier people (with higher baseline) are affected more by labour market events than less happy people. This is true both in terms of anticipation prior to the event and the persistence of the effect after the event occurred. In figure 4, marriage is anticipated and its effect persists for both happy and unhappy people but the effect is asymmetric in the sense that the life satisfaction score of happy people is below their baseline satisfaction whilst the opposite is true for unhappy people. There is strong evidence that happy men are affected negatively by a future divorce but they recover fast (return to their baseline) immediately after the divorce occurred. The effect of divorce on happy women seems to persist longer (for a period up to three years) and as for men it is anticipated for up to four years prior to the event. Unhappy men and women do not seem to be seriously affected by divorce, or even perhaps they achieve satisfaction scores higher than their baseline for a year or two after the event. Differences in life satisfaction scores between happy and unhappy individuals are evident also in terms of the effect of the birth of first child.

IV. REGRESSION RESULTS

In this section, we move to a multivariate analysis of leads and lags in life satisfaction. We consider the same six events as above. In general, the sample size in each regression is limited by the fact that we focus on those individuals who are observed in the sample for at least seven years before the year that they experienced the event. Missing observations on variables used in the regressions also limit the sample size. When focusing on future events (leads) the sample size in each regression is limited to those individuals who are in the "risk group" of experiencing the event (e.g. currently salaried employees who are at risk of layoff in the future). The sample sizes are shown in the results Tables.

Unemployment

Table 1 shows the effect of past and future entry into unemployment on life satisfaction. The effect of past unemployment is examined separately for the currently employed, unemployed and out-of-the labour force, as we expect the effect to differ for these groups. For both men and women, the results reveal a stronger effect of past unemployment for the currently employed, than the currently unemployed, suggesting that past entry into unemployment "scars" and that there is some evidence of habituation. The leads regression results also show strong evidence of anticipation for up to two to three years prior to the event. Future unemployment significantly reduces current well-being for both men and women. The estimated size of this effect roughly diminishes the further in the future is the entry into unemployment.

In Table 2, we estimate the effect of lagged unemployment separately for high and low baseline individuals. The results suggest that past entry into unemployment affects more severely those with a higher baseline.

Finally, Table 3 presents the results of estimating the effect the remaining labour market and life events on life satisfaction. We find evidence of a negative effect of past layoff for men, which stronger for those with a high baseline. As suggested also in our earlier graphs, the effect of layoff is less strong for women. It should be noted that these regressions control for a large number of individual characteristics, including household

income. One of the main interests of the economic literature on layoffs has been its future income effects. In this regression, these are being controlled for so that our "EVENT" variables are picking up the non-pecuniary psychological impact of past layoff. This seems to less significant for women. For quits, we also find evidence of a lagged effect for men, but not for women.

For the life event variables, the results are somewhat stronger. Current marriage is positively correlated with life satisfaction, with a stronger effect for men than for women. The effect of past marriage is also positive, but more significant for women. In fact, having got married one year ago is better than getting married now in terms of life satisfaction.

Current divorce is negatively correlated with life satisfaction. Past divorce has no effect on men's life satisfaction. For women, the estimated coefficients show that divorce two years ago has a somewhat negative effect, but that divorce four years ago has a positive effect. Obviously, we do not hold to a strict interpretation of the time scale implied by these coefficients, but the shape is consistent with, for women, divorce increasing well-being after a certain amount of time has elapsed. Last, significant lag effects are found only for one year with respect to birth of first child.

All regressions include a full set of demographic controls. The estimated coefficients on these controls show that life satisfaction is U-shaped in age (Clark *et al.*, 1996), and is positively correlated with education. There is a negative correlation with number of children, and a positive correlation, as is often found, with household income. Last, almost the strongest effects in these regression tables come from individual health, which is hugely significant.

V. Conclusion

This paper has used fourteen waves of the GSOEP to model the relationship between life satisfaction and past, contemporaneous, and future labour market and life developments. The results suggest that both past and future events are significantly correlated with current life satisfaction. For some events, there is a rapid return to baseline satisfaction, others have a lasting effect. Similarly, the anticipation of a pleasant or unpleasant event is often a very important explanatory factor of an individual's current level of wellbeing.

We have only started to scratch the surface of what can be done with large-scale long-run panel data including subjective well-being variables. Our most general conclusion at this point is that work which seeks to relate measures such as life satisfaction only to an individual's labour force and marital status at a point in time is in danger of missing out a great deal of important information. Just as the word "life" implies a long-term process, life satisfaction seems to contain an important intertemporal dimension.

NOTES

1. For a description of the GSOEP see Wagner *et al.* (1993). It would be possible to conduct the same type of analysis on panel data from other countries, although the number of waves would be significantly less. Such panel data include the RLMS (as used by Clark, Maurel and Pascal, 1999) and the Dutch panel.

2. One exception is Clark *et al*. (2000), who use GSOEP data to model the impact of past unemployment on the current life satisfaction of both the employed and the unemployed. Another is Clark (1999*a*), where past wages are related to current job satisfaction. Both papers find evidence of habituation, or of comparisons to the past: *ceteris paribus*, higher past wages reduce current job satisfaction, and greater past unemployment reduces the negative utility effect of current unemployment.

3. A small literature in economics has used panel data to relate quits to lagged job satisfaction. An early piece is Freeman (1978). More recent articles include Clark, Georgellis and Sanfey (1998) and Clark (1999*c*).

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Table 1: Entry into Unemployment and Life Satisfaction (Ordered Probit)

	MALES				FEMALES			
	lags			leads	lags			leads
	FT	*UN*	*OLF*		*FT*	*UN*	*OLF*	
Constant	2.439	4.260	-1.307	2.234	2.041	1.448	2.348	1.913
	(9.03)	(4.63)	(0.74)	(8.20)	(4.88)	(1.24)	(6.21)	(4.59)
Entry into Unemployment								
UN_{t-1}, UN_{t+1}	-0.576	-0.057	-0.389	-0.222	-0.398	0.040	-0.305	-0.142
	(3.32)	(0.54)	(1.41)	(3.94)	(1.73)	(0.35)	(0.98)	(1.74)
UN_{t-2}, UN_{t+2}	-0.326	-0.058	0.074	-0.132	-0.400	0.131	-0.553	-0.323
	(2.56)	(0.37)	(0.23)	(2.17)	(2.20)	(0.83)	(2.91)	(3.31)
UN_{t-3}, UN_{t+3}	-0.266	-0.081	0.887	-0.040	0.129	0.058	-0.014	-0.314
	(2.07)	(0.46)	(2.87)	(0.58)	(0.85)	(0.28)	(0.10)	(2.90)
UN_{t-4}, UN_{t+4}	-0.191	-0.305	0.330	-0.077	-0.055	0.196	-0.300	-0.094
	(1.57)	(1.72)	(0.79)	(0.87)	(0.29)	(1.15)	(2.33)	(0.59)
UN_{t-5}, UN_{t+5}	-0.250	-0.319	0.747	0.074	0.186	0.122	-0.016	0.054
	(1.69)	(1.60)	(1.92)	(0.57)	(1.22)	(0.58)	(0.14)	(0.29)
German national	-0.002	0.177	0.244	-0.012	0.171	0.014	0.125	0.158
	(0.07)	(2.05)	(2.36)	(0.48)	(4.24)	(0.13)	(3.22)	(3.93)
Education (years)	-0.003	0.023	-0.015	0.001	0.004	0.014	0.028	0.002
	(0.56)	(1.08)	(0.56)	(0.24)	(0.51)	(0.49)	(3.10)	(0.23)
Number of children	-0.064	-0.096	-0.061	-0.064	0.008	0.023	-0.071	0.017
	(5.47)	(1.97)	(0.87)	(5.47)	(0.35)	(0.42)	(4.23)	(0.72)
Age	-0.035	-0.186	-0.074	-0.035	-0.040	-0.060	-0.068	-0.043
	(2.74)	(4.34)	(0.99)	(2.75)	(2.01)	(1.15)	(4.11)	(2.14)
Age^2	0.0004	0.002	-0.0005	0.0004	0.0004	0.0006	0.073	0.0005
	(2.59)	(4.45)	(0.63)	(2.67)	(1.88)	(1.11)	(3.86)	(2.03)
House. income/1000	0.042	0.071	0.056	0.035	0.054	0.072	0.079	0.049
	(7.98)	(4.51)	(2.45)	(6.65)	(10.59)	(2.19)	(9.15)	(9.37)
Good health	0.513	0.402	0.922	0.479	0.463	0.327	0.562	0.424
	(22.91)	(4.97)	(7.56)	(21.64)	(12.80)	(3.61)	(16.55)	(11.84)
Marital status								
Married	0.054	0.439	-0.052	0.066	0.123	0.706	0.137	0.151
	(1.48)	(3.24)	(0.28)	(1.83)	(2.30)	(4.49)	(1.26)	(2.83)
Separated	-0.610	0.426	-0.313	-0.607	-0.086	0.159	-0.267	-0.064
	(6.27)	(1.38)	(1.05)	(6.26)	(0.84)	(0.61)	(1.76)	(0.62)
Divorced	-0.317	0.209	0.528	-0.319	0.029	0.648	-0.360	0.039
	(5.49)	(1.24)	(2.08)	(5.60)	(0.44)	(3.61)	(2.71)	(0.59)
Log-lklh	-17465	-1511	-1141	-17546	-6741	-1172	-8530	-6764
Restricted Log-lklh	-17904	1585	-1206	-17904	-6920	-1215	-8885	-6920
Person-year observations	10155	819	611	10155	3857	630	4768	3857

Notes: All regressions include, region (federal lands) and year dummies; Reference category for marital status, never married; Absolute t-values in parentheses.

Table 2: Lagged Entry into Unemployment and Life Satisfaction – High vs. Low Baseline (Ordered Probit)

	MALES						FEMALES					
	FT		*UN*		*OLF*		*FT*		*UN*		*OLF*	
	High	*Low*	*High*	*Low*	*High*	*Low*	*High*	*Low*	*High*	*Low*	*High*	*Low*
Constant	2.659	2.644	3.754	3.974	-1.942	-0.909	2.132	1.883	0.831	2.774	2.144	2.892
	(7.648)	(6.10)	(2.68)	(2.89)	(0.55)	(0.39)	(3.67)	(2.90)	(0.45)	(1.59)	(3.91)	(5.02)
Entry into Unemployment												
UN_{t-1}	-0.576	-0.550	-0.392	0.183	-0.060	-0.583	-0.693	-0.041	0.056	0.024	-0.255	-0.790
	(2.83)	(1.56)	(2.63)	(0.97)	(0.13)	(1.21)	(2.36)	(0.11)	(0.32)	(0.14)	(0.56)	(1.45)
UN_{t-2}	-0.730	0.166	-0.124	-0.152	-0.287	0.241	-0.571	-0.221	0.063	0.276	-0.483	-0.837
	(4.28)	(0.87)	(0.59)	(0.52)	(0.65)	(0.40)	(2.59)	(0.68)	(0.02)	(1.41)	(1.84)	(2.59)
UN_{t-3}	-0.410	-0.043	-0.157	-0.079	1.105	0.992	-0.015	0.222	-0.127	0.143	0.071	0.084
	(-2.28)	(0.24)	(0.58)	(0.29)	(2.71)	(1.54)	(0.07)	(1.02)	(0.41)	(0.47)	(0.37)	(0.45)
UN_{t-4}	-0.500	0.229	-0.373	-0.258	0.398	0.544	0.163	-0.251	-0.166	0.481	-0.103	-0.424
	(2.85)	(1.39)	(1.17)	(1.04)	(0.53)	(1.06)	(0.54)	(0.75)	(0.62)	(1.94)	(0.59)	(2.06)
UN_{t-5}	-0.367	-0.043	-0.599	-0.054	0.786	0.943	0.095	0.379	0.587	-0.017	0.267	-0.271
	(1.48)	(0.24)	(1.66)	(0.23)	(1.51)	(1.28)	(0.38)	(1.90)	(1.63)	(0.05)	(1.62)	(1.46)
Log-lklh	-9897	-6969	-672	-794	-428	-679	-3542	-2953	-503	-624	-4592	-3632
Restricted Log-lklh	-10089	-7143	-716	-836	-465	-715	-3609	-3040	-531	-653	-4711	-3790
Person-year observations	6182	3973	373	446	237	374	2206	1651	282	348	2742	2026

Notes: Other control variables as in Table 1; Absolute t-values in parentheses.

Table 3: Labour Market and Life Events and Life Satisfaction (Ordered probit)

		MALES				FEMALES			
		lags			leads	lags			leads
		All	High baseline	Low baseline		All	High baseline	Low baseline	
LAYOFF	$EVENT_{t-1}$, $EVENT_{t+1}$	-0.396	-0.540	-0.202	-0.256	-0.178	-0.281	-0.030	-0.110
		(3.72)	(3.34)	(1.45)	(2.37)	(2.09)	(2.35)	(0.27)	(0.85)
	$EVENT_{t-2}$, $EVENT_{t+2}$	-0.344	-0.337	-0.281	-0.046	-0.040	-0.022	0.091	-0.207
		(3.17)	(2.16)	(1.80)	(0.45)	(0.44)	(0.16)	(0.76)	(1.23)
	$EVENT_{t-3}$, $EVENT_{t+3}$	-0.389	-0.720	-0.024	-0.176	0.103	0.133	0.220	0.031
		(3.72)	(4.91)	(0.17)	(1.61)	(1.16)	(0.91)	(1.93)	(0.15)
	$EVENT_{t-4}$, $EVENT_{t+4}$	-0.282	-0.324	-0.154	0.073	0.036	0.168	-0.048	0.017
		(3.01)	(2.30)	(1.27)	(0.39)	(0.40)	(1.21)	(0.38)	(0.06)
	$EVENT_{t-5}$, $EVENT_{t+5}$	0.020	-0.049	0.222	0.039	-0.106	-0.268	0.140	0.566
		(0.25)	(0.36)	(2.38)	(0.15)	(1.30)	(2.22)	(1.31)	(1.60)
	Log-lklhd	-20743	-11316	-8776	-17594	-23214	-12539	-9903	-6771
	Restricted log-iklhd	-21426	-11570	-9048	-17949	-23942	-12780	-10190	-6920
	Person-year observations	11724	6847	4877	10155	13110	7603	5507	3857
QUIT	$EVENT_{t-1}$, $EVENT_{t+1}$	-0.100	-0.151	-0.047	-0.050	0.003	-0.054	0.130	0.002
		(1.15)	(1.44)	(0.33)	(0.49)	(0.05)	(0.68)	(1.44)	(0.01)
	$EVENT_{t-2}$, $EVENT_{t+2}$	-0.092	-0.024	-0.096	-0.065	-0.064	-0.062	0.123	-0.339
		(1.24)	(0.23)	(0.90)	(0.42)	(1.16)	(0.88)	(0.14)	(1.36)
	$EVENT_{t-3}$, $EVENT_{t+3}$	-0.175	-0.258	-0.039	-0.038	-0.063	-0.052	0.038	0.065
		(2.40)	(2.68)	(0.38)	(0.25)	(1.12)	(0.67)	(0.47)	(0.23)
	$EVENT_{t-4}$, $EVENT_{t+4}$	-0.177	-0.190	-0.075	0.143	0.036	0.118	0.057	0.232
		(2.67)	(2.07)	(0.80)	(0.65)	(0.65)	(1.48)	(0.75)	(0.61)
	$EVENT_{t-5}$, $EVENT_{t+5}$	-0.038	-0.033	0.048	0.507	0.007	0.019	0.551	0.439
		(0.59)	(0.41)	(0.47)	(1.65)	(0.14)	(0.28)	(0.67)	(1.00)
	Log-lklhd	-20761	-11333	-8781	-17596	-23216	-12543	-9904	-6772
	Restricted log-iklhd	-21426	-11570	-9048	-17949	-23942	-12780	-10190	-6920
	Person-year observations	11724	6847	4877	10155	13110	7603	5507	3857
MARRIAGE	$EVENT_{t-1}$, $EVENT_{t+1}$	0.080	-0.002	0.252	0.312	0.253	-0.005	0.660	0.416
		(0.79)	(0.02)	(1.50)	(1.91)	(2.91)	(0.05)	(5.77)	(2.23)
	$EVENT_{t-2}$, $EVENT_{t+2}$	0.130	0.104	0.202	0.186	0.273	0.263	0.481	0.093
		(1.47)	(0.92)	(1.44)	(0.69)	(3.19)	(2.18)	(4.12)	(0.42)
	$EVENT_{t-3}$, $EVENT_{t+3}$	0.148	0.166	0.230	0.060	0.169	0.066	0.425	0.195
		(1.91)	(1.61)	(1.99)	(0.13)	(1.96)	(0.52)	(3.80)	(0.47)
	$EVENT_{t-4}$, $EVENT_{t+4}$	0.230	0.236	0.210	0.048	0.127	0.049	0.226	0.258
		(2.96)	(2.40)	(1.56)	(0.18)	(1.64)	(0.50)	(1.81)	(0.36)
	$EVENT_{t-5}$, $EVENT_{t+5}$	0.045	0.005	0.008	0.245	0.070	0.148	-0.182	0.439
		(0.63)	(0.06)	(0.07)	(0.14)	(1.07)	(1.71)	(1.62)	(0.95)
	Log-lklhd	-20807	-11347	-8789	-2294	-23249	-12549	-9896	-1525
	Restricted log-iklhd	-21426	-11570	-9048	-2354	-23942	-12780	-10190	-1565
	Person-year observations	11724	6847	4877	1235	13110	7603	5507	841

Table 3 - continued

		MALES				FEMALES			
		lags			leads	lags			leads
		All	High baseline	Low baseline		All	High baseline	Low baseline	
DIVORCE	$EVENT_{t-1}$, $EVENT_{t+1}$	-0.114	-0.287	0.179	0.091	0.061	0.015	0.160	1.172
		(0.81)	(1.30)	(1.01)	(0.25)	(0.43)	(0.06)	(0.95)	(1.68)
	$EVENT_{t-2}$, $EVENT_{t+2}$	-0.159	-0.024	-0.056	-0.727	-0.376	-0.374	-0.229	-0.574
		(1.03)	(0.08)	(0.28)	(3.38)	(2.84)	(1.86)	(1.32)	(3.43)
	$EVENT_{t-3}$, $EVENT_{t+3}$	-0.136	-0.219	0.166	-0.083	-0.002	0.091	0.136	-0.617
		(0.93)	(0.90)	(0.91)	(0.35)	(0.02)	(0.41)	(0.86)	(2.53)
	$EVENT_{t-4}$, $EVENT_{t+4}$	-0.200	-0.281	0.146	-0.338	-0.020	-0.180	0.307	0.095
		(1.29)	(0.79)	(0.82)	(1.03)	(0.17)	(1.00)	(2.14)	(0.22)
	$EVENT_{t-5}$, $EVENT_{t+5}$	-0.003	-0.275	0.461	0.914	-0.008	-0.016	0.261	-0.107
		(0.02)	(0.60)	(2.61)	(2.16)	(0.07)	(0.09)	(1.93)	(0.36)
	Log-lklhd	-20813	-11349	-8789	-17181	-23255	-12551	-9917	-19547
	Restricted log-iklhd	-21426	-11570	-9048	-17650	-23942	-12780	-10190	-20066
	Person-year observations	11724	6847	4877	9812	13110	7603	5507	11085
BIRTH OF FIRST CHILD	$EVENT_{t-1}$, $EVENT_{t+1}$	0.239	0.216	0.366	0.100	0.306	0.303	0.305	0.434
		(1.95)	(1.32)	(2.02)	(0.57)	(2.52)	(2.16)	(1.32)	(2.30)
	$EVENT_{t-2}$, $EVENT_{t+2}$	-0.090	-0.215	-0.070	0.066	0.071	0.234	-0.036	0.182
		(0.79)	(1.48)	(0.42)	(0.25)	(0.78)	(1.87)	(0.25)	(0.92)
	$EVENT_{t-3}$, $EVENT_{t+3}$	0.019	-0.079	0.150	0.244	0.122	0.011	0.120	0.177
		(0.22)	(0.73)	(1.11)	(0.41)	(0.14)	(0.09)	(0.95)	(0.38)
	$EVENT_{t-4}$, $EVENT_{t+4}$	0.160	0.165	0.141	0.411	-0.002	-0.131	0.231	0.394
		(1.90)	(1.58)	(0.95)	(1.03)	(0.03)	(1.41)	(2.00)	(0.93)
	$EVENT_{t-5}$, $EVENT_{t+5}$	0.015	-0.046	0.017	0.237	-0.049	-0.077	-0.096	0.116
		(0.18)	(0.46)	(0.11)	(0.41)	(0.72)	(0.91)	(0.88)	(0.07)
	Log-lklhd	-20782	-11341	-8783	-10881	-23228	-12543	-9907	-11533
	Restricted log-iklhd	-21426	-11570	-9048	-11166	-23942	-12780	-10190	-11896
	Person-year observations	11724	6847	4877	6019	13110	7603	5507	6486

Notes: Absolute t-values in parentheses; Other control variables as in Table 1; For Lead regressions sample restricted to the risk group (currently full-time salaried employee for layoff and quit; currently single/never married for marriage; currently married for divorce; and currently no children for birth of first child).