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DURATION DEPENDENCE IN EMPLOYMENT : EVIDENCE FROM THE LAST HALF OF THE 20TH CENTURY

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Abstract. This paper extends the investigation of Ignaczak [5] of the first employment spell of workers across five different birth cohorts using pooled data from the 15th and 20th cycles of the Canadian General Social Survey (GSS) to subsequent spells of employment with the purpose of testing for employment duration dependence. As the information on the GSS surveys spans well over the last half of the 20th century we are able to test not only the potential duration dependence but its stability over time. This paper contributes to the debate of employment stability by analyzing the differences between job and employment durations and showing that successive cohorts of workers have had increasingly shorter first employment durations. The analysis finds cohort effects which play a significant role in explaining declining employment tenure. The cohort effects can be seen as a proxy for a number of socio-economic factors that affect the hazard of separation from employment. Separate analysis is completed for men and women by birth cohort. This pattern of declining tenure has occurred for both men and women, but the decline has been far more prominent for men. For men, macroeconomic factors affect the hazard more strongly in more recent cohorts, which is consistent with recessionary periods generating decreasing employment stability across cohorts. For women, cohort effects are consistent with the increasing generosity of maternity leave provisions through Unemployment Insurance.

Classification codes : J01, C14, C12, C16, C41.

Key words and phrases : Employment Stability, Multiple Spells Employment Duration.

∗. The data used for this study were provided by Statistics Canada, but the results obtained and any errors are solely those of the authors.

1 Introduction

In Ignaczak [5] it was inferred that the primary driver of declining employment tenures for first employment spells in Canada were changes in the institutional structure of the labour market which were proxied by a cohort effect. In this paper the focus will turn to a conditional semi-parametric analysis of employment spells beyond the first for individuals born after 1930 in order to determine whether the prevalence of latter spells contributed to the declines in employment stability found with the help of a fully nonparametric analysis in Ignaczak and Voia [31]. The analysis will focus on the differences between individuals born in a particular decade with those individuals who were born in succeeding decades.

The focus of the analysis can be broken down into two components. Firstly, the analysis determines whether there is a propensity for individuals to hold a greater number of employment spells over time. Secondly, the analysis determines whether the socio-economic variables which influence first employment spells affect later spells in the same manner.

In the case of the first question, it will be shown that individuals have increased their propensity to hold a larger number of employment spells over time. This result is more pronounced for men than for women. As to the second object of study, the results are more complicated. Overall, cohort effects play a much smaller role for employment tenures after the first spell and almost no effect at all for those beyond the third. However, it will be shown that macroeconomic conditions and the covariates identified for the first spell analysis tend to have consistent impacts across subsequent employment spells. Furthermore, it will be shown that an individual's total time spent in the workforce and the time spent away from the labour market also impact positively on the propensity of individuals to continue in their employment spells beyond the first.

The literature on multiple spells is traced back to the mover-stayer model of Blumen et al. [18]. However the literature has developed along a number of different avenues. The transitions of workers in the labour market have been analyzed in the context of information asymmetry, wage rigidity as well as public policy.

Much of the literature deals with the impacts of unemployment duration on subsequent employment as well as the impacts on wages. Jackman and Layard [37] showed that long-term unemployment can reduce the chances of finding subsequent work. Pissarides [38] proposed that a loss of skills during unemployment is the reason for the negative impact on the ability to find suitable subsequent employment. Lockwood [39], in a matching framework, concludes that the probability of being re-hired depends on the duration of unemployment itself. Gibbons and Katz [40] use a lemons model to show that the reemployment prospects of laid-off workers are worse than those who lose their jobs for other reasons as employers can weed out low productivity workers through the layoff process.

Much of the literature on recurrent job spells deals with youth. This is because the majority of job transitions, as well as earnings growth, occur over the earlier stages of

worker's careers. This process is examined in detail by Topel and Ward [41] who provide two reasons for the slowdown in "job hopping" and wage gains for workers over time. The first reason can be interpreted as pure worker heterogeneity following Blumen et. al. [18] in which unobservable characteristics of workers make certain workers more likely to receive training and, in turn, higher wages. This approach is lent support by Gritz [42] who showed that training increases work prospects for women and specifically, it increases spell lengths for both men and women. The second, and empirically supported, reason for job switching and the associated wage gains relies on a model of optimal search, as proposed by Jovanovic [43]. Here, rising wages and increased tenure relies on good employment pairings and rising "returns to search", i.e. wage gains even in the absence of employer sponsored training.

There are numerous policy implications when job tenures and unemployment durations are said to impact future labour market outcomes. One area, summarized in Heckman et. al. [44], are active labour market policies enacted by government. There have been numerous studies of these policy interventions, generally showing that providing job search assistance and subsidies provide only short term benefits to recipients and that post-program employment prospects are not strongly responsive to intervention. Doiron and Gorgens [45] show that, in the case of Australia, while past employment increases the probability of future employment, a previous spell of unemployment undoes this boost in labour market outcomes. Conversely, Cockx and Picchio [46] show that even very short first employment spells can lead to much improved subsequent labour market outcomes

The literature reviewed above indicates that multiple spells can be a benefit to some workers, particularly if job match is increased, but that in the instances involuntary separations they can have negative implications for economic outcomes. The literature also tends to find that periods of unemployment can have detrimental impacts on labour market participants. As such, it is important to examine not only workers initial employment spell but the spells that come after. This can shed further light on the degree of decline in worker tenures shown in Ignaczak and Voia [31].

While the current paper is limited to examining employment tenures, the breaks between employment spells, whether they be through unemployment or temporary exit from the labour force, are also part of the analysis. That is, the employment spells being examined are viewed in light of previous work experience as well as time away from employment. The results show that past labour market experience and increased breaks in employment lead to a lower hazard of work separation conditional on individual participation in an employment spell beyond the first.

The paper is organized as follows : Section 1, is comprised of an introduction and literature review. Section 2 deals briefly with the data and modeling strategy. The third section, Section 3, presents the overall results and discusses latter employment spells in light of the results presented in Ignaczak [5] regarding first spells. Finally, section 4 concludes.

2 Data

The focus of the paper is the employment tenure of individuals found in 15th and 20th cycles of the General Social Surveys (GSS). The two surveys were conducted throughout 2001 and 2006 and contain a combined 46,745 records. These records contain 19,814 usable first spells; 10,494 second spells, 5,743 third spells, 2,478 fourth spells and 1,099 fifth spells.

In the GSS, respondents retrospectively identify up to five work episodes over their life course, the last four of which will be the focus of this paper. The survey asks respondents to identify the date and age at which they began their first, second, third, fourth and fifth employment spells spell which lasted at least six months. Respondents are also asked the date and age at which that spell ends. This information is sufficient to extract details on the duration of the second to fifth employment spell for individuals. Entry into employment is self identified by an entry year. Exit is identified by exit date or by the year of retirement if a date is not provided. When respondents refuse to answer, don't know or are not asked for either the entry or exit date, the data are dropped. Furthermore, employment spells of immigrants before arrival in Canada and individuals whose studies are incomplete are also dropped. Data for ongoing spells are kept as they can contribute to the hazard of leaving employment up to the point of censoring. The employment durations were constructed by obtaining the year in which the first spell ended and subtracting it from the year it began. To maintain consistency with the earlier analysis, employment spells for all classes of workers are included in the study.

It should be recognized that the data obtained focuses on work interruptions of three months or more. The data does not permit us to verify whether the interruption ended with a return to the same employer or a new employer. Hence, the focus remains on employment stability rather than job stability. The spells with an interruption of fewer than three months were retained in the sample as the length of interruption is not a primary concern for the analysis.

Ignaczak and Voia [31] provided a detailed analysis of the data including the potential problems associated with using this retrospective data. Most of the tests performed on the data in Ignaczak and Voia [31] indicate that the sample did not suffer from any significant bias due to sample selection or memory effects. One potential data problem described there was the issue of how mortality could generate a peculiar form of attrition bias in the sample. The problem would be generated by any potential respondent who worked in the past but died before the retrospective survey date would fall out of the sample. As mentioned in Ignaczak and Voia [31], the survey samples of the GSS conform to census population benchmarks and the age distribution in the GSS matches the Canadian population at the time of the surveys. The youngest individual in the pool of usable spells was born in 1930 and hence would be at most 76 years of age in 2006 (or 71 in 2001) when the surveys were conducted. This is higher than life expectancy at age 20 in 1951

TABLE 1 – Completed Spell Frequency by Birth Cohort and Spell Number, Women

	Spell 1	Spell 2	Spell 3	Spell 4	Spell 5	Total
1930-39	4.1	2.3	0.9	0.3	0.1	7.6
1940-49	6.6	4.5	2.0	0.8	0.4	14.3
1950-59	10.9	8.5	4.7	2.1	1.0	27.2
1960-69	12.5	10.0	5.1	2.1	0.9	30.7
1970-79	9.2	6.4	3.0	1.1	0.4	20.1
Total	43.4	31.7	15.6	6.4	2.8	

(ages 71 for men and 74 for women). The 1930s birth cohort was, nevertheless, selected as the earliest possible starting point for the analysis.

In Ignaczak and Voia [31] the response rates in the GSS were sufficiently high so that selection bias was assessed as posing a fairly remote possibility. Issues common to retrospective surveys, such as the heaping and memory effects described in Torelli and Trivellato [29], were either corrected for through aggregation or addressed by testing. Recall errors are likely to remain a problem with this data ; if individuals do not recall an earlier or shorter employment spell it would bias down the number of short duration spells in early cohorts. Tests to account for this possibility were performed between the two datasets used and no clear bias was shown to exist in the data.

Ignaczak [5] benchmarked the data against the Labour Force Survey and found some discrepancies – although the general patterns between the datasets were similar up to a time trend. The analysis presented there led to the conclusion that overall, it is likely that institutional factors have contributed to the increase in work separations (for periods exceeding 3 months) for first spells while not necessarily decreasing job spell lengths. In this paper, the analysis is largely based on groupings of ten year birth cohorts. However, significant attention is paid to the spell number of the individual and comparisons across birth cohort are made by spell number. The spell lengths, are compared by birth cohort but with the added emphasis on the prevalence and durations of multiple spells. Tables 1 and 2 show the distribution of the data by birth cohort and employment spell number for men and for women.

While the distribution by cohort is comparable for men and women the prevalence of employment spells beyond the first is smaller for men indicating that, for those who completed their tenures, men were more likely than women to remain consistently attached to the labour market over their life course. Tables 3 and 4 take the same data but normalize it by cohort so as to determine whether the prevalence of employment spells expanded or diminished by birth cohort. It can be seen that the prevalence of first spells falls to a greater extent for men than for women across cohorts. There is, similarly, a corresponding above-average increase in the prevalence of spells beyond the first for men.

TABLE 2 – Completed Spell Frequency by Birth Cohort and Spell Number, Men

	Spell 1	Spell 2	Spell 3	Spell 4+	Total
1930-39	5.7	2.1	0.6	0.2	8.5
1940-49	9.2	4.3	1.5	0.7	15.8
1950-59	13.1	8.0	3.2	2.3	26.5
1960-69	15.3	7.5	3.3	2.0	28.1
1970-79	12.0	5.6	1.9	1.6	21.1
Total	55.3	27.5	10.5	6.7	

TABLE 3 – Completed Spell Frequency by Birth Cohort, Women

	Spell 1	Spell 2	Spell 3	Spell 4	Spell 5	Total
1930-39	53.6	29.5	11.2	4.2	1.4	100
1940-49	46.2	31.5	13.9	5.8	2.5	100
1950-59	40.1	31.3	17.2	7.5	3.8	100
1960-69	40.8	32.6	16.6	7.0	3.0	100
1970-79	46.0	31.9	14.8	5.2	2.1	100

TABLE 4 – Completed Spell Frequency by Birth Cohort, Men

	Spell 1	Spell 2	Spell 3	Spell 4+	Total
1930-39	67.1	24.5	6.5	1.8	100
1940-49	58.4	27.4	9.7	4.6	100
1950-59	49.5	30.0	11.9	8.5	100
1960-69	54.5	26.8	11.6	7.1	100
1970-79	56.7	26.4	9.2	7.6	100

TABLE 5 – Ongoing Spell Frequency by Birth Cohort and Spell Number, Women

	Spell 1	Spell 2	Spell 3	Spell 4	Spell 5	Total
1930-39	1.8	1.1	0.5	0.1	0.1	3.6
1940-49	3.6	3.2	2.8	1.2	0.4	11.2
1950-59	6.6	7.4	6.8	4	1.7	26.6
1960-69	7.8	8.2	8.0	4.7	2.1	30.8
1970-79	10.7	8.1	5.8	2.4	0.9	27.8
Total	30.6	27.9	23.9	12.4	5.1	

TABLE 6 – Ongoing Spell Frequency by Birth Cohort and Spell Number, Men

	Spell 1	Spell 2	Spell 3	Spell 4+	Total
1930-39	3.4	1.0	0.2	0.1	4.7
1940-49	7.3	2.9	1.4	0.4	12.1
1950-59	13.1	6.6	3.3	1.5	24.5
1960-69	17.4	8.8	3.6	1.6	31.4
1970-79	17.6	5.8	2.8	1.1	27.4
Total	58.9	25.1	11.4	4.6	

Tables 5 and 6 show the distribution of the sample by spell number and birth cohort for women and men respectively for ongoing spells. As with completed spells, men are likelier than women to be in earlier spells with only a small portion of the male sample having spells beyond the third. The distribution of observations for men and women across cohorts is similar.

Tables 7 and 8 show the prevalence of ongoing spells by their respective birth cohort. As with completed spells, the prevalence of ongoing first spells tends to drop off across cohorts while the prevalence of subsequent spells rises for both men and women.

TABLE 7 – Ongoing Spell Frequency by Birth Cohort, Women

	Spell 1	Spell 2	Spell 3	Spell 4	Spell 5	Total
1930-39	50.6	29.9	14.9	2.8	1.8	100
1940-49	32.4	28.7	24.8	10.4	3.7	100
1950-59	24.9	27.7	25.7	15.2	6.4	100
1960-69	25.3	26.5	26.0	15.4	6.8	100
1970-79	38.5	29.0	20.8	8.6	3.1	100

TABLE 8 – Ongoing Spell Frequency by Birth Cohort, Men

	Spell 1	Spell 2	Spell 3	Spell 4+	Total
1930-39	72.0	21.2	5.2	1.6	100
1940-49	60.6	24.4	11.8	3.2	100
1950-59	53.6	26.9	13.5	5.9	100
1960-69	55.5	28.0	11.4	5.1	100
1970-79	64.3	21.3	10.4	4.0	100

For the first 3 cohorts, and for both men and women, a pattern of decreasing first spells and increasing subsequent spells can be seen. The cohorts for those born after 1960 reverse this pattern. However, this is an artifact of the retrospective data used and is largely a function of the age at which employment spells begin. Summary Table 9 below will show that, on average, spells beyond the first begin at age 30 (with a standard deviation of about 8 years, making it almost certain spells beyond the first are yet to be usefully populated by the majority of members of the 1970-79 cohorts). However, before discussing the summary statistics it is worthwhile to examine the distribution of ongoing spells within the dataset.

In general, the prevalence of multiple spells seems to increase across cohorts. That is, subsequent cohorts of workers are more likely to see individuals participating in employment spells beyond the first. Table 9 presents the weighted means of employment duration and the relevant covariates by spell number.

Employment durations tend to fall across employment spells as the age at which spells began and lifetime experience rises, such that the first spell is often the longest and subsequent spells are shorter. This contrasts with the patterns of job hopping identified in young workers by Topel and Ward [41] and once again brings into contrast the concept of employment spell and job tenure. Men tend to comprise their largest share in the first spell and their share of later spells diminishes. Notably, the share of immigrants in the first few spells is higher than in subsequent spells. The prevalence of part-time employment and the chances that the individual was married at the time of the employment spell increases with the number of spells. The prevalence of community college graduation being the highest level of schooling tends to rise in the number of employment spells. The average length of breaks between spells also declines across spells. Finally, in terms of cohorts, the prevalence of multiple spells rises across cohorts until the 1960-69 cohort.

TABLE 9 – Summary Means for Five Employment Spells

	Spell 1	Spell 2	Spell 3	Spell 4	Spell 5
Emp. Duration	14.185	7.9	7.142	5.965	6.153
Male	0.474	0.343	0.265	0.209	0.227
Immigrant	0.244	0.205	0.18	0.158	0.162
Ongoing	0.44	0.414	0.502	0.518	0.498
Age began	23.549	31.63	34.305	36.717	38.047
Part-time	0.057	0.124	0.151	0.152	0.154
Married	0.175	0.613	0.714	0.772	0.771
Less than HS	0.078	0.044	0.03	0.024	0.017
High School	0.328	0.289	0.277	0.266	0.272
Comm. College	0.292	0.378	0.402	0.416	0.426
University	0.302	0.289	0.291	0.294	0.285
UR Gap	-0.331	-0.314	-0.38	-0.49	-0.574
Parental	0.157	0.176	0.121	0.067	0.036
Work. Rel	0.107	0.087	0.091	0.091	0.088
Personal	0.216	0.218	0.158	0.101	0.067
C 1930-39	0.08	0.058	0.038	0.027	0.023
C 1940-49	0.142	0.134	0.125	0.109	0.1
C 1950-59	0.235	0.27	0.294	0.324	0.34
C 1960-69	0.284	0.312	0.326	0.35	0.36
C 1970-79	0.259	0.227	0.217	0.191	0.177
C 1980-89	0.090	0.061	0.056	0.045	0.051
Lifetime Exp.	14.185	16.225	18.233	19.357	20.874
Break 1 Dur		1.786			
Break 2 Dur			1.086		
Break 3 Dur				0.93	
Break 4 Dur					0.712
Obs	16,536	10,494	5,743	2,478	1,099

Notes : C 1930-39 refers to the 1930-1939 birth cohort, similarly, C 1940-49 to C 1970-79 refer to the 1940-1949 to 1970-1979 birth cohorts.

3 Method and Results

We test the hypotheses whether the covariates which influence first employment spells do the same for subsequent spells and whether the differences identified across cohorts hold true for these latter spells. As such, a duration model approach will be employed here as in Ignaczak [5] but will be extended to account for prior work history and time away from the labour market. Furthermore, the analysis will be performed separately by employment spell.

For the purposes of the analysis a Cox semi-parametric hazard model which accounts for right-censoring is used to estimate the duration of the employment spells beyond the first. Only spells with a specified starting date are considered, eliminating any left-censoring problems. The econometric model takes the following form :

$$\theta\left(t_i|x_i, s_i\right) = \phi\left(x_i, s_i\right)\lambda\left(t_i, s_i\right)$$

where $\theta(\cdot)$ is the hazard rate, t_i is the duration of the sth spell for individual i, $\phi\left(x_i, s_i\right) = \exp(x_i\beta|s_i)$ and $\lambda\left(t_i, s_i\right)$ is the baseline hazard for individual i in spell s. Once again, the Cox model is chosen for comparability to previous results and because it is robust to misspecification due to its flexible (nonparametric) baseline hazard.

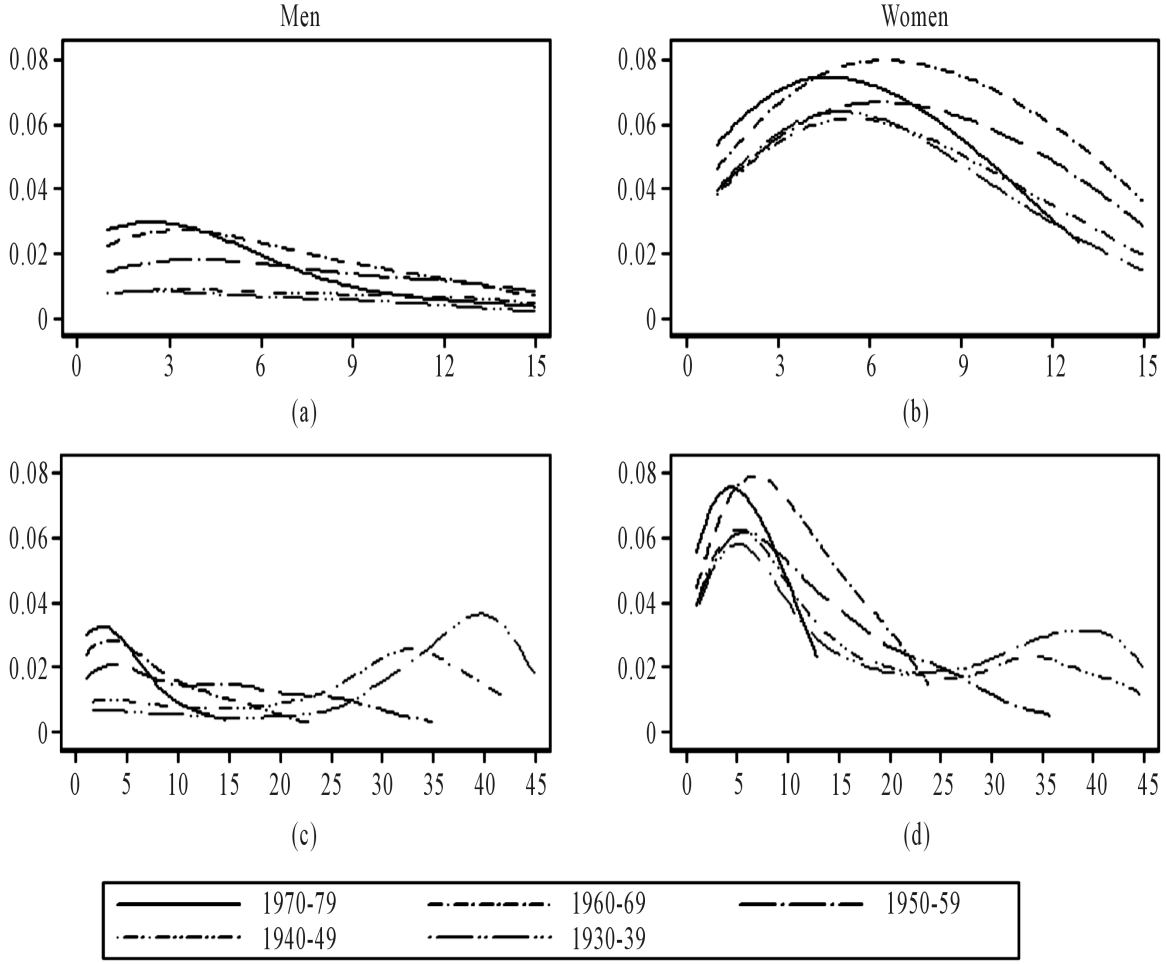
Figure 1 presents the smoothed hazard functions of employment duration for the first spell, while Figure 2 presents the smoothed hazard functions of employment duration by spell number for spells beyond the first over their first 35 years. The first thing to note is that while the hazards on the second spell display similar characteristics to those of first spells with bumps of a smaller magnitude than those seen in the first spell. For spells beyond the second, the profiles are generally flatter than earlier spells with a rising hazard towards the end. This is because spells beyond the first are unlikely to be the lifetime jobs discussed in Ignaczak and Voia [31] and hence, tend not to have the characteristic of bimodal distributions seen there.

The initial model estimates both genders together, file a subsequent model is estimated by gender for the total sample. Furthermore, this exercise is repeated for each employment spell up to the fifth by individual cohort. Because of lack of data some earlier cohorts could not be estimated for the fourth and fifth spells. The fifth spell for men could not be estimated for the same reason. A number of 71 separate equations are estimated and will be presented in groups by spell number.

3.1 Overall Assessment

Before moving on to the discussion of each individual employment spell an overall discussion of the distinctions between the first and subsequent employment spells will be

FIGURE 1 – Smoothed Empirical Hazards for first Spell

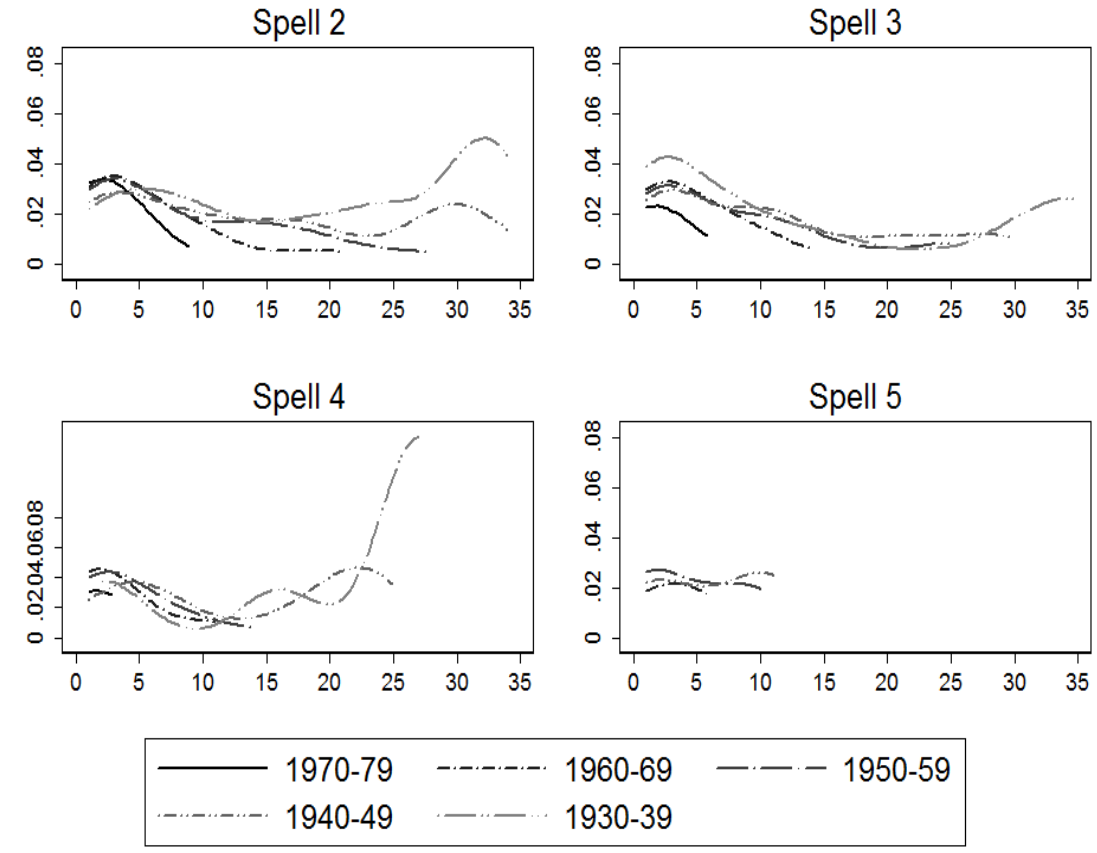


Data source : General social survey cycles 15 and 20 (2001, 2006).

Note 1 : The smoothed hazards above are displayed by birth cohort. Panels (a) and (c) are for men over a period of 15 and of 50 years respectively. Similarly, panels (b) and (d) are for women showing a 15- and 50-year period respectively.

Note 2 : Figure taken from Applied Mathematics, 2014, 5, Fig3 pg. 1658

FIGURE 2 – Smoothed Empirical Hazards for Spells Beyond the First



Data source: General Social Survey Cycles 15 and 20 (2001,2006)

presented. Tables 10 to 12 show, a comparison of the model parameters by spell number for each spell-specific subset of the data.

In Table 10 the results for both genders together are presented, with a gender dummy used to identify the distinction between men and women across spell numbers. Interestingly, with spells beyond the second, gender does not seem to play an important role in evaluating the risk to terminating an employment spell (with the exception of the fourth where the sign is reversed). With a few notable exceptions, most other variables show results which are consistent with those obtained in Ignaczak [5]. The most notable exception is the lack of significance for the cohort effects in employment spells beyond the first relative to those born in the 1980s cohort who had not completed high school.

As would be expected, the age work began plays an increasing positive contribution to the hazard of separation across spells as older beginning ages are consistent with shorter future durations. Conversely, the impact of part time work across spells is dampened for spells beyond the first. Macroeconomic conditions, as proxies by the gap between actual unemployment rates and a trend unemployment rate at the time of separation, have an increased impact on the hazard for spells beyond the third. The total lifetime work experience variable reduces the hazard but at a declining rate over the second to fourth spell. The length of the last work interruption also reduces the hazard across spells (relative to the base group), possibly indicating a reduced willingness to separate for prolonged periods after a longer labour market separation.

Table 11 performs the same analysis as above but for men. There were insufficient observations to perform a robust independent estimation for fifth spells, and so the fifth and fourth spells were combined here. As above, the results largely conform to what was found for first spells with the exception of the cohort effects which are no longer significant for the most part, and when they are, they show decreasing contributions to the hazard across time. These patterns are likely a result of the inclusion of experience and break durations in the analysis. That is, once cumulative labour market experience and the length of previous separations have been accounted for the general effects for birth years dissipate.

The age at which work began, again, has an increasingly large contribution to the hazard across employment spells. The effect of part-time employment and of being an immigrant both have smaller contributions to the hazard across spells. Lifetime experience causes a fairly constant reduction in the hazard across spells as does the duration of the previous break.

Table 12 reproduces the results for women with women born in the 1980s who have not completed high school used as the base group as in all other cases. While the results largely conform to those of men, higher levels of education are significant and consistent contributors to the hazard of separating from employment for women. This pattern in the contribution of education shows an increasing hazard of exiting employment in all spells but the fifth, wherein the contribution becomes insignificant. This may be due to

TABLE 10 – Cox Proportional Hazard Results : Both Genders by Spell Number

	Spell 1	Spell 2	Spell 3	Spell 4	Spell 5
male	-0.725***	-0.082**	0.028	0.245***	0.055
	(0.029)	(0.039)	(0.061)	(0.088)	(0.127)
age began	0.017***	0.065***	0.079***	0.081***	0.136***
	(0.003)	(0.004)	(0.005)	(0.006)	(0.012)
part-time	0.781***	0.272***	0.364***	0.242***	0.108
	(0.053)	(0.038)	(0.054)	(0.079)	(0.123)
immigrant	-0.104***	-0.209***	-0.169***	-0.09	-0.185
	(0.029)	(0.039)	(0.055)	(0.085)	(0.132)
high sch.	0.023	0.539***	0.557***	0.735***	0.274
	(0.051)	(0.089)	(0.174)	(0.22)	(0.52)
college	0.046	0.492***	0.528***	0.743***	0.188
	(0.052)	(0.086)	(0.174)	(0.22)	(0.52)
univ.	-0.023	0.307***	0.313*	0.483**	-0.015
	(0.051)	(0.085)	(0.175)	(0.221)	(0.521)
UR gap	0.105***	0.103***	0.128***	0.134***	0.182**
	(0.012)	(0.011)	(0.021)	(0.032)	(0.082)
married	-0.080**	0.160***	-0.045	-0.122	-0.025
	(0.04)	(0.031)	(0.053)	(0.077)	(0.13)
work rel.	1.470***	0.754***	1.040***	0.951***	1.594***
	(0.035)	(0.044)	(0.06)	(0.076)	(0.144)
parental	1.307***	0.816***	1.173***	1.057***	1.655***
	(0.031)	(0.035)	(0.051)	(0.083)	(0.185)
C 1930-39	-1.646***	0.208*	0.027	0.19	-2.456***
	(0.075)	(0.115)	(0.183)	(0.243)	(0.551)
C 1940-49	-1.496***	0.232**	0.048	-0.023	-2.465***
	(0.066)	(0.092)	(0.158)	(0.222)	(0.439)
C 1950-59	-1.310***	-0.007	-0.001	-0.226	-2.143***
	(0.062)	(0.087)	(0.143)	(0.197)	(0.35)
C 1960-69	-1.102***	-0.164**	-0.136	-0.397**	-1.804***
	(0.061)	(0.083)	(0.136)	(0.177)	(0.262)
C 1970-79	-0.664***	-0.192**	-0.126	-0.321*	-0.937***
	(0.06)	(0.08)	(0.131)	(0.173)	(0.216)
experience		-0.156***	-0.148***	-0.145***	-0.138***
		(0.004)	(0.005)	(0.006)	(0.01)
break 1		-0.086***			
		(0.005)			
break 2			-0.081***		
			(0.008)		
break 3				-0.138***	
				(0.019)	
break 4					-0.098***
					(0.022)
Obs	16536	10494	5743	2478	1099
ln(L)	-77589	-48251	-20905	-8013	-3122

Notes : Standard errors are in parentheses. ***, **, and * denote 1%, 5%, and 10% level of significance, respectively. C 1930-39 refers to the 1930-1939 birth cohort, similarly, C 1940-49 to C 1970-79 refer to the 1940-1949 to 1970-1979 birth cohorts.

TABLE 11 – Cox Proportional Hazard Results : Men by Spell Number

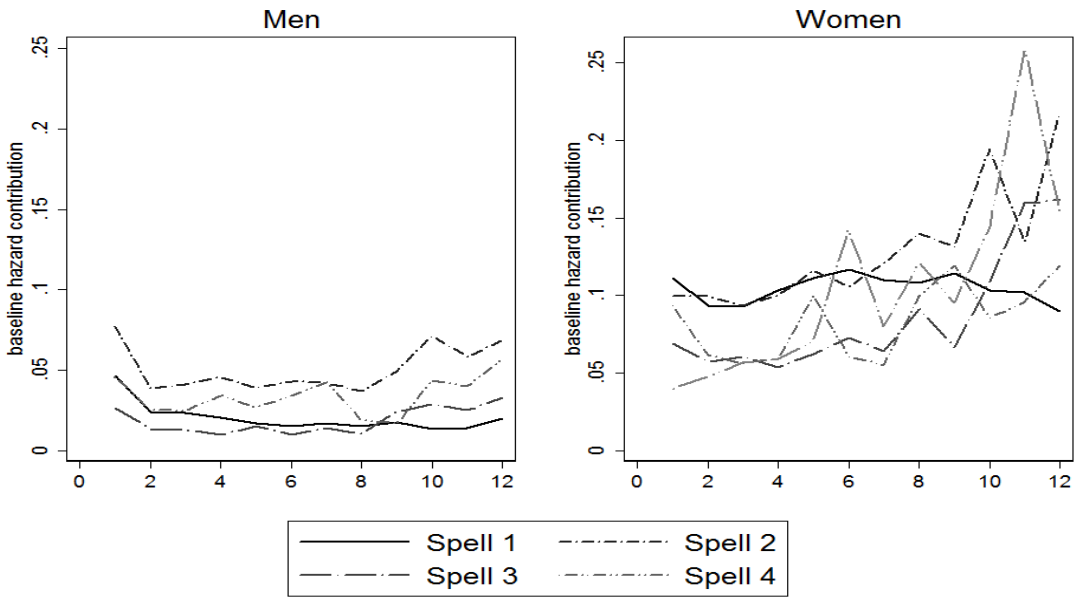
	Spell 1	Spell 2	Spell 3	Spell 4+
age began	0.059***	0.086***	0.120***	0.102***
	(0.006)	(0.008)	(0.01)	(0.012)
part-time	1.357***	0.707***	0.794***	0.186
	(0.126)	(0.12)	(0.202)	(0.229)
immigrant	-0.113**	-0.344***	-0.193	0.001
	(0.053)	(0.099)	(0.133)	(0.157)
high sch.	-0.113	0.470***	0.455*	1.336***
	(0.091)	(0.151)	(0.247)	(0.323)
college	-0.089	0.215	0.432*	1.211***
	(0.092)	(0.151)	(0.249)	(0.322)
univ.	-0.250***	-0.034	-0.115	0.950***
	(0.09)	(0.154)	(0.257)	(0.328)
UR gap	0.369***	0.188***	0.247***	-0.018
	(0.032)	(0.032)	(0.061)	(0.063)
married	-0.138*	0.158*	-0.002	0.086
	(0.076)	(0.083)	(0.106)	(0.129)
work rel.	1.771***	0.784***	1.246***	1.060***
	(0.049)	(0.091)	(0.105)	(0.144)
parental	1.662***	1.289***	1.174***	0.751*
	(0.08)	(0.172)	(0.235)	(0.408)
C 1930-39	-2.725***	0.832***	-0.228	
	(0.168)	(0.266)	(0.466)	
C 1940-49	-2.261***	0.497**	-0.046	-0.098
	(0.137)	(0.209)	(0.381)	(0.343)
C 1950-59	-1.763***	0.137	-0.236	-0.448*
	(0.122)	(0.168)	(0.299)	(0.253)
C 1960-69	-1.312***	-0.234	-0.373	-0.759***
	(0.111)	(0.144)	(0.256)	(0.2)
C 1970-79	-0.650***	-0.275**	-0.239	-0.630***
	(0.102)	(0.135)	(0.236)	(0.183)
experience		-0.156***	-0.143***	-0.158***
		(0.007)	(0.011)	(0.012)
break 1		-0.169***		
		(0.025)		
break 2			-0.243***	
			(0.058)	
break 3/4				-0.191***
				(0.067)
Obs	6980	3218	1369	691
ln(L)	-19874	-9012	-3014	-1926

Notes : Standard errors are in parentheses. ***, **, and * denote 1%, 5%, and 10% level of significance, respectively. C 1930-39 refers to the 1930-1939 birth cohort, similarly, C 1940-49 to C 1970-79 refer to the 1940-1949 to 1970-1979 birth cohorts.

interruptions for family formation in earlier spells combined with an increased tendency to remain in later spells at the end of the fertility period (as the average age of commencement for a fifth spell is around 40). Marriage comes in significantly for spells 2 and 4 but with alternating signs, making it difficult to ascribe a clear meaning to its impact.

Overall, while the dummy variable in Table 10 showed little difference between men and women, the patterns seen in the two subsequent tables make it unlikely that the effects on the hazard of leaving employment fall proportionally on men and women. Hence, the remainder of the analysis will continue to include the division between men and women.

FIGURE 3 – Baseline Hazards by Spell Number and Gender



Data Source: General Social Survey Cycles 15 and 20, 2001, 2006

Figure 3 shows the estimated hazards for men and women by employment spell over the first 12 years. For men, the profiles are flat while for women positive duration dependence exists for spells beyond the first. That is, there is an common increasing probability of leaving employment over time for spells beyond the first.

3.2 The Second Spell

In the GSS the prevalence of second spells is about two-thirds that of first spells, indicating that about one in three first continuous employment spells are the sole spell over a working life or are still in progress. The two thirds of the sample that continues into

TABLE 12 – Cox Proportional Hazard Results : Women by Spell Number

	Spell 1	Spell 2	Spell 3	Spell 4	Spell 5
age began	0.004	0.055***	0.070***	0.076***	0.144***
	(0.046)	(0.004)	(0.005)	(0.007)	(0.013)
part-time	0.675***	0.213***	0.326***	0.260***	0.039
	(0.012)	(0.038)	(0.054)	(0.081)	(0.131)
immigrant	-0.110***	-0.184***	-0.185***	-0.123	-0.291*
	(0.003)	(0.041)	(0.061)	(0.093)	(0.149)
high sch.	0.085	0.581***	0.665***	0.544**	-0.284
	(0.054)	(0.098)	(0.21)	(0.232)	(0.489)
college	0.123**	0.586***	0.630***	0.557**	-0.307
	(0.034)	(0.095)	(0.21)	(0.232)	(0.493)
univ.	0.111*	0.421***	0.496**	0.343	-0.564
	(0.048)	(0.094)	(0.21)	(0.23)	(0.492)
UR gap	0.025**	0.073***	0.114***	0.163***	0.235**
	(0.031)	(0.012)	(0.022)	(0.034)	(0.105)
married	-0.002	0.185***	-0.084	-0.254***	-0.127
	(0.06)	(0.032)	(0.054)	(0.084)	(0.15)
work rel.	1.087***	0.658***	0.937***	0.978***	1.357***
	(0.06)	(0.049)	(0.07)	(0.087)	(0.16)
parental	1.223***	0.758***	1.115***	1.035***	1.711***
	(0.061)	(0.034)	(0.052)	(0.09)	(0.208)
C 1930-39	-1.229***	0.146	0.082	0.702**	-2.635***
	(0.086)	(0.122)	(0.2)	(0.308)	(0.677)
C 1940-49	-1.205***	0.201*	0.047	0.292	-2.617***
	(0.079)	(0.107)	(0.175)	(0.284)	(0.57)
C 1950-59	-1.137***	0.035	0.037	0.073	-2.099***
	(0.075)	(0.102)	(0.162)	(0.267)	(0.488)
C 1960-69	-0.980***	-0.038	-0.1	-0.061	-1.670***
	(0.074)	(0.1)	(0.157)	(0.249)	(0.417)
C 1970-79	-0.615***	-0.111	-0.133	0.016	-0.811**
	(0.074)	(0.098)	(0.152)	(0.244)	(0.378)
experience		-0.165***	-0.158***	-0.153***	-0.137***
		(0.004)	(0.005)	(0.007)	(0.011)
break 1		-0.073***			
		(0.005)			
break 2			-0.070***		
			(0.007)		
break 3				-0.133***	
				(0.02)	
break 4					-0.085***
					(0.02)
Obs	9556	7276	4374	2013	873
ln(L)	-54741	-36778	-16791	-6203	-2313

Notes : Standard errors are in parentheses. ***, **, and * denote 1%, 5%, and 10% level of significance, respectively. C 1930-39 refers to the 1930-1939 birth cohort, similarly, C 1940-49 to C 1970-79 refer to the 1940-1949 to 1970-1979 birth cohorts.

a second spell has slightly different characteristics than those who remain in a first spell. Employment durations in second spells are half the length of first spells on average. Two thirds of those in second spells are women (compared to one-half in first spells) and they are 3 times as likely to be married. Second spells are begun at an age 10 years later than first spells and are twice as likely to be in part-time employment. Finally, those in second spells are about a third more likely to be college educated than those in first spells.

Table 13 shows the estimation results for the sample containing both men and women in relation to those born in the 1980s who had not completed high school. Overall, being a man in earlier cohorts, the age at which the spell began, being a part-time worker, weak macroeconomic conditions, work-related issues or parental responsibilities all contribute significantly and positively to the hazard of employment separation for the second spell. Conversely being an immigrant and being a man born in a latter cohort and having longer first spell tenure and a longer separation between the first and second spell contribute negatively to the hazard. When looking at the results by cohort in isolation these patterns tend to hold in general. However, the age that work began, part-time work, work-related separations and parental responsibilities have a more pronounced positive contribution across cohorts while the reduction in the hazard due to the time away from work following the first spell also increases in magnitude across cohorts.

Because of the significance of the gender coefficients in Table 13 and the changes in signs across cohorts, Tables 14 and 15 re-estimate the model by gender. While the patterns by gender generally conform to the overall results in Table 13 some differences are present. For men, whose results are shown in Table 14, the age at the beginning of the spell does not show an increasing impact across cohorts as it did in the overall sample. Being an immigrant decreases the hazard of separation from the second spell for men between the 1940s to the 1960s cohorts. In addition, the negative impact on the hazard of having additional years of experience and the length of separation after their first spell becomes more pronounced for men of later cohorts.

For women, whose second spells are treated in Table 15, a more pronounced departure from the results of the estimates on the pooled sub-sample presented in Table 9 are evident. In particular, the role of education in increasing the hazard of separation distinguishes women from men on the second spell. Interestingly, having high school education increases the hazard of separation for all cohorts. However, the increase in the hazard caused by post secondary education dissipates across cohorts between the 1940s and the 1970s birth cohort for women.

Finally, Figure 4 presents the estimated hazards over the first 12 years for the estimates in Tables 14 and 15. It can immediately be seen that women have a positive duration dependence in the case of the second spell. While the estimated hazards start at a similar degree of risk, the instantaneous probability of separation increases for women over time while for men this is not the case. This result is, in part due to the fact that women are more likely than men to go on to a further employment spell.

TABLE 13 – Cox Proportional Hazard Results : Second Spells for Both Genders by Birth Cohort

	Total	C 1930-39	C 1940-49	C 1950-59	C 1960-69	C 1970-79
Male	-0.082**	0.465***	0.197*	-0.02	-0.261***	-0.202**
	(0.039)	(0.151)	(0.119)	(0.081)	(0.07)	(0.079)
age began	0.065***	0.041***	0.060***	0.065***	0.077***	0.092***
	(0.004)	(0.007)	(0.007)	(0.006)	(0.007)	(0.01)
part-time	0.272***	0.204*	0.253***	0.287***	0.263***	0.347***
	(0.038)	(0.106)	(0.084)	(0.075)	(0.082)	(0.076)
immigrant	-0.209***	-0.151	-0.039	-0.223***	-0.264***	-0.326***
	(0.039)	(0.135)	(0.086)	(0.084)	(0.068)	(0.081)
high sch.	0.539***	0.391**	0.853***	0.278*	0.562***	0.696***
	(0.089)	(0.179)	(0.156)	(0.16)	(0.189)	(0.228)
college	0.492***	0.228	0.720***	0.425***	0.481***	0.579**
	(0.086)	(0.158)	(0.155)	(0.153)	(0.184)	(0.226)
univ.	0.307***	0.248	0.563***	0.034	0.217	0.390*
	(0.085)	(0.183)	(0.165)	(0.155)	(0.183)	(0.225)
UR gap	0.103***	-0.014	0.027	0.092***	0.134***	0.069*
	(0.011)	(0.033)	(0.031)	(0.02)	(0.02)	(0.041)
married	0.160***	0.152	0.268***	0.267***	0.130**	-0.021
	(0.031)	(0.15)	(0.102)	(0.061)	(0.051)	(0.061)
work rel.	0.754***	0.25	0.472***	0.515***	0.859***	1.073***
	(0.044)	(0.16)	(0.117)	(0.081)	(0.08)	(0.075)
parental	0.816***	0.662***	0.477***	0.524***	0.803***	1.098***
	(0.035)					
C 1930-39	0.208*					
	(0.115)					
C 1940-49	0.232**					
	(0.092)					
C 1950-59	-0.007					
	(0.087)					
C 1960-69	-0.164**					
	(0.083)					
C 1970-79	-0.192**					
	(0.08)					
experience	-0.156***	-0.131***	-0.135***	-0.165***	-0.190***	-0.232***
	(0.004)	(0.009)	(0.007)	(0.006)	(0.007)	(0.012)
break 1	-0.086***	-0.047***	-0.078***	-0.112***	-0.112***	-0.192***
	(0.005)	(0.007)	(0.007)	(0.01)	(0.014)	(0.026)
Obs	10494	663	1495	2549	3084	2220
ln(L)	-48251	-2412	-5649	-9927	-12159	-7864

Notes : Standard errors are in parentheses. ***, **, and * denote 1%, 5%, and 10% level of significance, respectively. C 1930-39 refers to the 1930-1939 birth cohort, similarly, C 1940-49 to C 1970-79 refer to the 1940-1949 to 1970-1979 birth cohorts.

TABLE 14 – Cox Proportional Hazard Results : Second Spells for Men by Birth Cohort

	Total	C 1930-39	C 1940-49	C 1950-59	C 1960-69	C 1970-79
age began	0.086***	0.092***	0.072***	0.089***	0.116***	0.062**
	(0.008)	(0.014)	(0.013)	(0.013)	(0.015)	(0.026)
part-time	0.707***	0.372	0.673**	0.539	0.616***	0.747***
	(0.12)	(0.486)	(0.341)	(0.345)	(0.186)	(0.269)
immigrant	-0.344***	0.325	-0.375*	-0.449**	-0.545***	-0.25
	(0.099)	(0.248)	(0.22)	(0.209)	(0.159)	(0.204)
high sch.	0.470***	1.006**	0.750***	0.218	0.45	0.627**
	(0.151)	(0.431)	(0.278)	(0.255)	(0.309)	(0.318)
college	0.215	0.529	0.295	0.081	0.426	0.403
	(0.151)	(0.383)	(0.292)	(0.245)	(0.306)	(0.317)
univ.	-0.034	0.019	0.146	-0.301	-0.244	0.295
	(0.154)	(0.419)	(0.332)	(0.24)	(0.305)	(0.324)
UR gap	0.188***	0.141	0.166**	0.174***	0.200***	-0.055
	(0.032)	(0.101)	(0.071)	(0.059)	(0.053)	(0.095)
married	0.158*	0.244	0.355*	0.352**	-0.123	0.197
	(0.083)	(0.27)	(0.19)	(0.138)	(0.144)	(0.178)
work rel.	0.784***	-0.717	0.425*	0.663***	0.840***	1.234***
	(0.091)	(0.673)	(0.239)	(0.138)	(0.114)	(0.128)
parental	1.289***	2.423***	0.854**	1.570***	1.797***	0
	(0.172)					
C 1930-39	0.832***					
	(0.266)					
C 1940-49	0.497**					
	(0.209)					
C 1950-59	0.137					
	(0.168)					
C 1960-69	-0.234					
	(0.144)					
C 1970-79	-0.275**					
	(0.135)					
experience	-0.156***	-0.138***	-0.120***	-0.166***	-0.239***	-0.292***
	(0.007)	(0.014)	(0.013)	(0.011)	(0.015)	(0.027)
break 1	-0.169***	-0.082***	-0.119***	-0.172***	-0.219***	-0.353***
	(0.025)	(0.03)	(0.046)	(0.043)	(0.052)	(0.081)
Obs	3218	170	454	820	952	646
ln(L)	-9012	-347	-1046	-1914	-1868	-1372

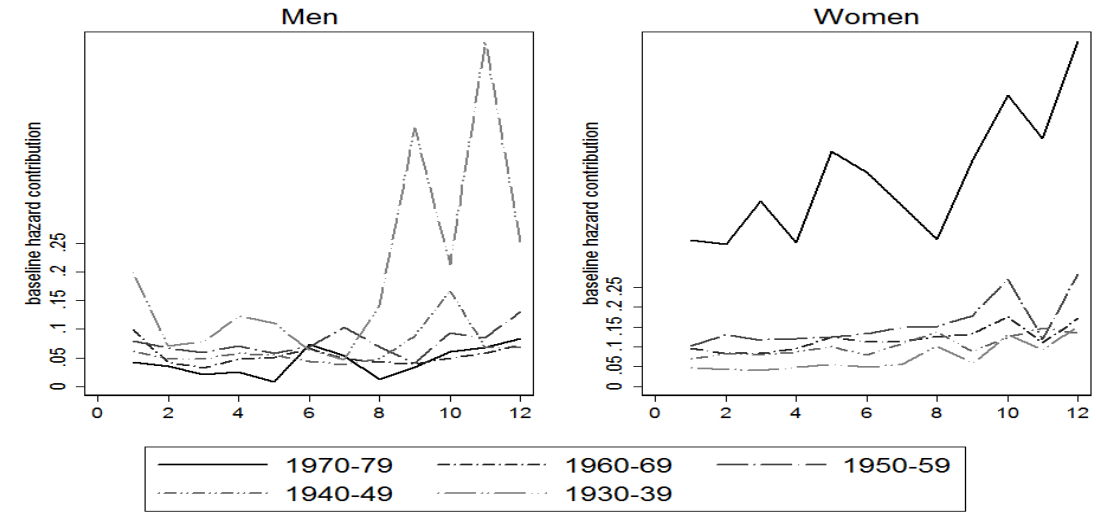
Notes : Standard errors are in parentheses. ***, **, and * denote 1%, 5%, and 10% level of significance, respectively. C 1930-39 refers to the 1930-1939 birth cohort, similarly, C 1940-49 to C 1970-79 refer to the 1940-1949 to 1970-1979 birth cohorts.

TABLE 15 – Cox Proportional Hazard Results : Second Spells for Women by Birth Cohort

	Total	C 1930-39	C 1940-49	C 1950-59	C 1960-69	C 1970-79
age began	0.055***	0.020**	0.056***	0.056***	0.071***	0.097***
	(0.004)	(0.008)	(0.006)	(0.007)	(0.007)	(0.011)
part-time	0.213***	0.145	0.229***	0.244***	0.201**	0.279***
	(0.038)	(0.11)	(0.085)	(0.074)	(0.084)	(0.079)
immigrant	-0.184***	-0.23	0.06	-0.189**	-0.201***	-0.313***
	(0.041)	(0.147)	(0.091)	(0.089)	(0.072)	(0.085)
high sch.	0.581***	0.332*	0.879***	0.479**	0.477**	0.638**
	(0.098)	(0.178)	(0.185)	(0.208)	(0.204)	(0.287)
college	0.586***	0.234	0.828***	0.703***	0.413**	0.559**
	(0.095)	(0.167)	(0.18)	(0.202)	(0.2)	(0.285)
univ.	0.421***	0.368*	0.734***	0.322	0.207	0.333
	(0.094)	(0.19)	(0.186)	(0.204)	(0.198)	(0.283)
UR gap	0.073***	-0.006	-0.003	0.076***	0.114***	0.098**
	(0.012)	(0.032)	(0.034)	(0.021)	(0.021)	(0.044)
married	0.185***	0.082	0.07	0.256***	0.231***	-0.02
	(0.032)	(0.145)	(0.09)	(0.066)	(0.054)	(0.064)
work rel.	0.658***	0.321**	0.543***	0.442***	0.776***	0.962***
	(0.049)	(0.13)	(0.104)	(0.095)	(0.1)	(0.086)
parental	0.758***	0.340**	0.355***	0.499***	0.843***	1.063***
	(0.034)					
C 1930-39	0.146					
	(0.122)					
C 1940-49	0.201*					
	(0.107)					
C 1950-59	0.035					
	(0.102)					
C 1960-69	-0.038					
	(0.1)					
C 1970-79	-0.111					
	(0.098)					
experience	-0.165***	-0.167***	-0.156***	-0.165***	-0.177***	-0.213***
	(0.004)	(0.014)	(0.009)	(0.007)	(0.007)	(0.012)
break 1	-0.073***	-0.039***	-0.076***	-0.103***	-0.095***	-0.146***
	(0.005)	(0.008)	(0.008)	(0.011)	(0.015)	(0.028)
Obs	7276	493	1041	1729	2132	1574
ln(L)	-36778	-1823	-4143	-7277	-9694	-6002

Notes : Standard errors are in parentheses. ***, **, and * denote 1%, 5%, and 10% level of significance, respectively. C 1930-39 refers to the 1930-1939 birth cohort, similarly, C 1940-49 to C 1970-79 refer to the 1940-1949 to 1970-1979 birth cohorts.

FIGURE 4 – Baseline Hazards : Second Spells by Gender and Birth Cohort



Data Source: General Social Survey Cycles 15 and 20, 2001, 2006

In general, the major contributors to the hazard identified for first spells in Ignaczak [5] tend to hold in the second spell. However, the role of gender is more complicated as the contribution of being a man to the hazard of separation changed across birth cohorts from positive in early cohorts to negative in the 1960s and 1970s cohorts. Furthermore, higher educated women no longer had the higher rates of separation seen in earlier cohorts. That is, gender's contribution to the hazard evolved across successive cohorts in the case of second spells.

3.3 The Third Spell

In the GSS approximately half of all those who had a second spell will have a third spell. Third spells are similar in length to second spells but are begun by those 3 years older on average. Nearly three quarters of those engaged in a third spell are women, 15 per cent of whom work part-time with 70 per cent of them married by the time the spell had begun. For spells after the second, the prevalence of separations for work-related and parental reasons begins to decline rapidly while the regression coefficients associated with of macroeconomic conditions become increasingly positive and significant - indicating an increased correlation with economic cycles.

As with second spells we will examine the model results in turn, first for the total sub-sample of third employment spells and then for men and women separately. Table

16 presents the regression results for all third spells together and can be interpreted in relation to those born in the 1980s who had not completed high school. The results are consistent with those of second spells overall with the role of gender producing mixed signals across cohorts when it is significant. However, cohort effects essentially play no role in the overall equation.

In Table 17, the regression results for the hazard of leaving the third spell among men are presented. The sample sizes become quite small for men and significance of many individual parameters begins to trail off after the second spell. Most of the coefficients in the equations are insignificant. The signs, when significant, remain the same but with somewhat altered magnitudes. As in spell two, the age work began contributes positively to the hazard, however the magnitude of the impact clearly declines across cohorts. The unemployment gap also increases the hazard - but with diminishing magnitude across cohorts until it is no longer significant beyond the 1950s cohort. Work related separations and parental responsibilities also increase the hazard as in Ignaczak [5]. Finally, lifetime experience tends to diminish the hazard at an increasing rate across cohorts.

Table 18, presents the results for women. Here the sample sizes remain fairly robust and the parameters remain significant. The results are largely similar to the second spell with the exception of a weaker increase in the hazard across cohorts stemming from educational attainment. Moreover, the impacts of adverse macroeconomic conditions seem to take on a more prominent role in earlier cohorts than seen in second spells for women. Lastly, work related separations contribute more positively to the hazard for third spells than they do for the second. All in all, for women, it appears that in the case of third spells, economic factors seem to play a more important role than they did for second spells.

Figure 5 presents the estimated hazard plots of the equations by gender for the estimates above. For men, with perhaps the exception of the 1940s cohort, the estimated hazards are relatively flat indicating no duration dependence. For women, in general, positive duration dependence again seems to be present. This likely stems from the greater likelihood of women than men to separate from the labor market for a prolonged period.

Overall, the hazard of leaving the third spell is much the same as leaving the second spell. For men, the age work began has a more positive impact on the hazard and for women economic conditions become more important contributors to the hazard than in the case of the second spell.

3.4 The Fourth Spell

Fewer than half of those in the sample who experienced a third spell will have a fourth spell. Fourth spells are the shortest spells (just under 6 years in duration on average) in the sample and are begun by those 3 years older on average than the third spell. The ratio

TABLE 16 – Cox Proportional Hazard Results : Third Spells for Both Genders by Birth Cohort

	Total	C 1930-39	C 1940-49	C 1950-59	C 1960-69	C 1970-79
Male	0.028	0.691**	0.516***	0.148	-0.217**	-0.153
	(0.061)	(0.282)	(0.186)	(0.11)	(0.107)	(0.128)
age began	0.079***	0.061***	0.072***	0.089***	0.094***	0.109***
	(0.005)	(0.012)	(0.008)	(0.007)	(0.011)	(0.016)
part-time	0.364***	0.407**	0.295**	0.421***	0.359***	0.278***
	(0.054)	(0.18)	(0.125)	(0.115)	(0.087)	(0.107)
immigrant	-0.169***	0.095	-0.238*	-0.116	-0.300***	-0.321**
	(0.055)	(0.183)	(0.142)	(0.103)	(0.105)	(0.125)
high sch.	0.557***	0.943***	0.287	0.391	0.127	0.71
	(0.174)	(0.313)	(0.215)	(0.246)	(0.173)	(0.566)
college	0.528***	0.795***	0.584***	0.445*	-0.083	0.547
	(0.174)	(0.272)	(0.207)	(0.247)	(0.17)	(0.564)
univ.	0.313*	1.056***	0.105	0.129	-0.254	0.296
	(0.175)	(0.26)	(0.231)	(0.247)	(0.17)	(0.562)
UR gap	0.128***	0.221***	0.122***	0.088**	0.209***	0.161**
	(0.021)	(0.08)	(0.045)	(0.035)	(0.036)	(0.069)
married	-0.045	0.536	-0.278*	-0.034	-0.143*	-0.045
	(0.053)	(0.351)	(0.155)	(0.092)	(0.075)	(0.088)
work rel.	1.040***	1.036***	0.844***	0.827***	1.086***	1.362***
	(0.06)	(0.224)	(0.14)	(0.124)	(0.088)	(0.119)
parental	1.173***	1.656***	1.319***	1.039***	1.029***	1.376***
	(0.051)					
C 1930-39	0.027					
	(0.183)					
C 1940-49	0.048					
	(0.158)					
C 1950-59	-0.001					
	(0.143)					
C 1960-69	-0.136					
	(0.136)					
C 1970-79	-0.126					
	(0.131)					
experience	-0.148***	-0.135***	-0.132***	-0.157***	-0.186***	-0.184***
	(0.005)	(0.012)	(0.009)	(0.008)	(0.011)	(0.015)
break 2	-0.081***	-0.039***	-0.060***	-0.110***	-0.116***	-0.123***
	(0.008)	(0.013)	(0.01)	(0.017)	(0.022)	(0.038)
Obs	5743	243	770	1508	1811	1191
ln(L)	-20905	-688	-2148	-4682	-5699	-3225

Notes : Standard errors are in parentheses. ***, **, and * denote 1%, 5%, and 10% level of significance, respectively. C 1930-39 refers to the 1930-1939 birth cohort, similarly, C 1940-49 to C 1970-79 refer to the 1940-1949 to 1970-1979 birth cohorts.

TABLE 17 – Cox Proportional Hazard Results : Third Spells for Men by Birth Cohort

	Total	C 1930-39	C 1940-49	C 1950-59	C 1960-69	C 1970-79
age began	0.120***	0.156***	0.152***	0.121***	0.107***	0.100***
	(0.01)	(0.041)	(0.025)	(0.015)	(0.023)	(0.036)
part-time	0.794***	2.374	-0.375	1.244***	0.58	0.685
	(0.202)	(1.467)	(0.524)	(0.391)	(0.367)	(0.428)
immigrant	-0.193	0.516	-0.163	-0.206	-0.14	-0.521
	(0.133)	(0.785)	(0.276)	(0.274)	(0.219)	(0.32)
high sch.	0.455*	2.418**	0.283	0.057	0.337	0.233
	(0.247)	(1.055)	(0.351)	(0.356)	(0.317)	(0.582)
college	0.432*	2.335**	0.585	0.312	0.032	0.252
	(0.249)	(1.09)	(0.358)	(0.343)	(0.344)	(0.531)
univ.	-0.115	1.559	-0.742	-0.329	-0.359	-0.052
	(0.257)	(0.95)	(0.472)	(0.351)	(0.328)	(0.559)
UR gap	0.247***	0.676**	0.241*	0.226**	0.184	0.211
	(0.061)	(0.281)	(0.125)	(0.111)	(0.125)	(0.255)
married	-0.002	1.471	-0.102	0.078	0.081	-0.001
	(0.106)	(1.422)	(0.201)	(0.194)	(0.189)	(0.271)
work rel.	1.246***	1.421	1.489***	1.092***	1.284***	1.232***
	(0.105)	(0.984)	(0.259)	(0.202)	(0.186)	(0.203)
parental	1.174***			0.812**	0.849***	2.016***
	(0.235)			0.057	0.337	0.233
C 1930-39	-0.228					
	(0.466)					
C 1940-49	-0.046					
	(0.381)					
C 1950-59	-0.236					
	(0.299)					
C 1960-69	-0.373					
	(0.256)					
C 1970-79	-0.239					
	(0.236)					
experience	-0.143***	-0.137***	-0.165***	-0.162***	-0.179***	-0.213***
	(0.011)	(0.033)	(0.027)	(0.014)	(0.024)	(0.04)
break 2	-0.243***	-0.288	-0.162	-0.284***	-0.125*	-0.119
	(0.058)	(0.216)	(0.113)	(0.082)	(0.074)	(0.088)
Obs	1369	38	190	367	406	285
ln(L)	-3014	-48	-289	-655	-731	-437

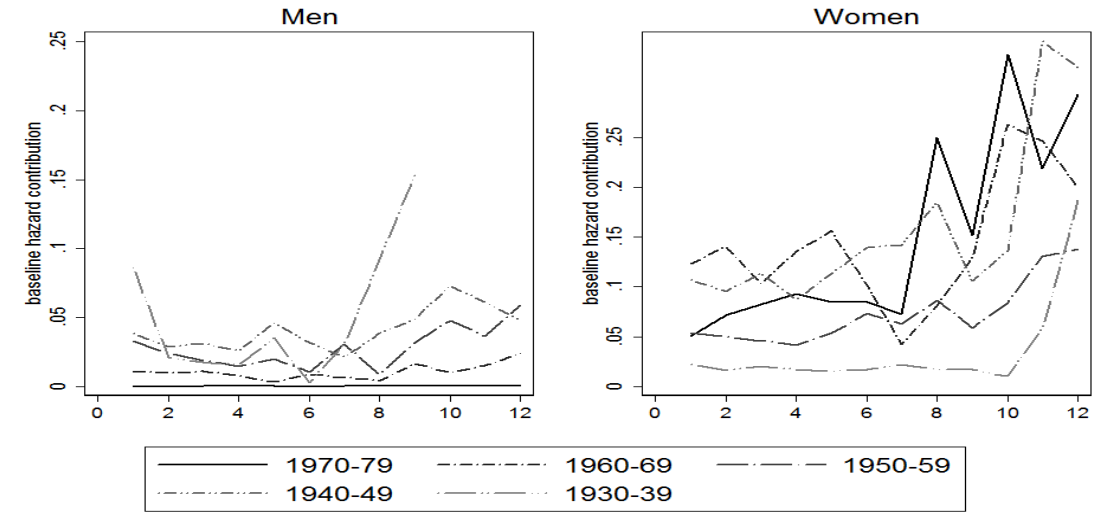
Notes : Standard errors are in parentheses. ***, **, and * denote 1%, 5%, and 10% level of significance, respectively. C 1930-39 refers to the 1930-1939 birth cohort, similarly, C 1940-49 to C 1970-79 refer to the 1940-1949 to 1970-1979 birth cohorts.

TABLE 18 – Cox Proportional Hazard Results : Third Spells for Women by Birth Cohort

	Total	C 1930-39	C 1940-49	C 1950-59	C 1960-69	C 1970-79
age began	0.070***	0.048***	0.059***	0.080***	0.090***	0.112***
	(0.005)	(0.012)	(0.009)	(0.008)	(0.013)	(0.018)
part-time	0.326***	0.372*	0.358***	0.339***	0.350***	0.256**
	(0.054)	(0.199)	(0.129)	(0.111)	(0.089)	(0.11)
immigrant	-0.185***	0.149	-0.175	-0.143	-0.342***	-0.250*
	(0.061)	(0.192)	(0.162)	(0.108)	(0.12)	(0.14)
high sch.	0.665***	0.956***	0.373	0.709**	0.099	0.832
	(0.21)	(0.324)	(0.264)	(0.305)	(0.19)	(0.798)
college	0.630***	0.777**	0.673***	0.746**	-0.089	0.586
	(0.21)	(0.303)	(0.258)	(0.305)	(0.184)	(0.796)
univ.	0.496**	1.300***	0.381	0.497	-0.209	0.378
	(0.21)	(0.307)	(0.264)	(0.303)	(0.184)	(0.792)
UR gap	0.114***	0.189**	0.115**	0.067*	0.214***	0.171**
	(0.022)	(0.08)	(0.05)	(0.036)	(0.038)	(0.071)
married	-0.084	0.027	-0.446**	-0.07	-0.202***	-0.068
	(0.054)	(0.396)	(0.198)	(0.102)	(0.077)	(0.092)
work rel.	0.937***	0.923***	0.643***	0.775***	1.019***	1.342***
	(0.07)	(0.222)	(0.156)	(0.148)	(0.1)	(0.145)
parental	1.115***	1.425***	1.127***	1.013***	1.003***	1.392***
	(0.052)					
C 1930-39	0.082					
	(0.2)					
C 1940-49	0.047					
	(0.175)					
C 1950-59	0.037					
	(0.162)					
C 1960-69	-0.1					
	(0.157)					
C 1970-79	-0.133					
	(0.152)					
experience	-0.158***	-0.158***	-0.140***	-0.162***	-0.192***	-0.171***
	(0.005)	(0.014)	(0.01)	(0.009)	(0.012)	(0.016)
break 2	-0.070***	-0.034***	-0.057***	-0.094***	-0.111***	-0.113***
	(0.007)	(0.013)	(0.011)	(0.016)	(0.023)	(0.042)
Obs	4374	205	580	1141	1405	906
ln(L)	-16791	-575	-1667	-3676	-4616	-2594

Notes : Standard errors are in parentheses. ***, **, and * denote 1%, 5%, and 10% level of significance, respectively. C 1930-39 refers to the 1930-1939 birth cohort, similarly, C 1940-49 to C 1970-79 refer to the 1940-1949 to 1970-1979 birth cohorts.

FIGURE 5 – Baseline Hazards : Third Spells by Gender and Birth Cohort



Data Source: General Social Survey Cycles 15 and 20, 2001, 2006

of men to women in the sample also declines to its lowest - with 5 women to each one man experiencing a fourth spell. Beyond this, the prevalence of parental responsibilities or personal reasons for departure are much less frequent than for second or third spells.

Table 19 presents the regression results for the total sub-sample of fourth spells. The patterns evident in third spells are also present in fourth spells. Overall, the results suggest an increased hazard from being a man, the age work began, part-time status, higher levels of education as well as work-related and parental reasons. As in Ignaczak [5], work experience and the length of the previous separation negatively impact the hazard in relation to those born in the 1980s who had not completed high school.

For men in Table 19, the quality of the cohort-based estimates deteriorate due to small sample sizes. The total estimate is of sufficient size to identify the now-typical pattern seen in the other regressions, with the age employment began, higher education, and work-related issues increasing the hazard while lifetime experience and the previous break from employment decrease the hazard. Interestingly, the cohort effects from later decades reduce the hazard of separation. That is, men born in latter generations are at lower risk of separating from employment in their fourth spell than those of previous generations.

For women, the sample sizes are sufficient to identify the same patterns as seen above. The only major distinction between third and fourth spells for women is the reduced impact of part-time work, in magnitudes (when significant). The positive contribution of part-time status to the probability of separation deteriorates across cohorts for fourth

TABLE 19 – Cox Proportional Hazard Results : Fourth Spells for Both Genders by Birth Cohort

	Total	C 1930-39	C 1940-49	C 1950-59	C 1960-69	C 1970-79
Male	0.245***	-1.216	0.586**	0.506***	0.078	-0.042
	(0.088)	(0.833)	(0.262)	(0.155)	(0.158)	(0.179)
age began	0.081***	0.139***	0.070***	0.085***	0.087***	0.065**
	(0.006)	(0.027)	(0.011)	(0.01)	(0.015)	(0.025)
part-time	0.242***	0.774**	0.487**	0.144	0.321**	0.223
	(0.079)	(0.36)	(0.224)	(0.139)	(0.136)	(0.238)
immigrant	-0.09	0.059	-0.380*	0.042	-0.248	0.029
	(0.085)	(0.322)	(0.215)	(0.162)	(0.171)	(0.15)
high sch.	0.735***	-0.439	0.688**	0.686	0.490*	0.828***
	(0.22)	(0.85)	(0.347)	(0.492)	(0.291)	(0.304)
college	0.743***	-0.707	0.5	0.712	0.535*	0.825***
	(0.22)	(0.84)	(0.362)	(0.499)	(0.278)	(0.292)
univ.	0.483**	-0.76	0.429	0.478	0.188	0.505*
	(0.221)	(0.837)	(0.339)	(0.502)	(0.289)	(0.303)
UR gap	0.134***	0.125	-0.013	0.093	0.230***	-0.008
	(0.032)	(0.109)	(0.081)	(0.06)	(0.056)	(0.13)
married	-0.122	-1.886***	-0.08	0.244	-0.12	-0.382**
	(0.077)	(0.456)	(0.333)	(0.171)	(0.119)	(0.15)
work rel.	0.951***	2.112***	1.112***	0.820***	1.012***	0.982***
	(0.076)	(0.536)	(0.245)	(0.147)	(0.13)	(0.154)
parental	1.057***	2.389***	0.986***	1.002***	0.958***	1.112***
	(0.083)					
C 1930-39	0.19					
	(0.243)					
C 1940-49	-0.023					
	(0.222)					
C 1950-59	-0.226					
	(0.197)					
C 1960-69	-0.397**					
	(0.177)					
C 1970-79	-0.321*					
	(0.173)					
experience	-0.145***	-0.184***	-0.121***	-0.142***	-0.181***	-0.210***
	(0.006)	(0.026)	(0.012)	(0.01)	(0.014)	(0.025)
break 3	-0.138***	-0.125**	-0.122***	-0.148***	-0.160***	-0.197*
	(0.019)	(0.06)	(0.036)	(0.032)	(0.033)	(0.102)
Obs	2478	85	293	737	836	452
ln(L)	-8013	-186	-728	-1962	-2137	-1104

Notes : Standard errors are in parentheses. ***, **, and * denote 1%, 5%, and 10% level of significance, respectively. C 1930-39 refers to the 1930-1939 birth cohort, similarly, C 1940-49 to C 1970-79 refer to the 1940-1949 to 1970-1979 birth cohorts.

TABLE 20 – Cox Proportional Hazard Results : Fourth Spells for Men by Birth Cohort

	Total	Coh 1930-49	Coh 1950-59	Coh 1960-69	Coh 1970-79
age began	0.102***	0.110***	0.129***	0.055	0.206***
	(0.014)	(0.031)	(0.022)	(0.034)	(0.056)
part-time	0.192		0.504	0.357	-37.578***
	(0.307)		(0.564)	(0.743)	(1.096)
immigrant	0.122	-0.820*	0.428	0.071	0.132
	(0.184)	(0.465)	(0.383)	(0.386)	(0.242)
high sch.	0.957**	0.588	1.011*	2.747**	0.972**
	(0.434)	(0.726)	(0.597)	(1.311)	(0.472)
college	0.939**	1.217**	0.799	2.944**	0.916**
	(0.442)	(0.487)	(0.654)	(1.298)	(0.449)
univ.	0.429	0.914	0.041	2.865**	0.432
	(0.457)	(0.574)	(0.715)	(1.338)	(0.475)
UR gap	0.043	-0.302	-0.076	0.092	0.262
	(0.079)	(0.196)	(0.123)	(0.133)	(0.235)
married	0.144	1.311*	0.663**	0.187	-0.932*
	(0.152)	(0.79)	(0.332)	(0.246)	(0.491)
work rel.	0.696***	1.100*	0.461	0.596**	0.505**
	(0.151)	(0.572)	(0.328)	(0.287)	(0.242)
parental	0.03			-0.021	
	(0.216)			(0.364)	
C 1930-39	-0.676				
	(0.681)				
C 1940-49	0.126				
	(0.465)				
C 1950-59	-0.254				
	(0.33)				
C 1960-69	-0.590**				
	(0.279)				
C 1970-79	-0.561**				
	(0.244)				
experience	-0.153***	-0.194***	-0.146***	-0.182***	-0.229***
	(0.014)	(0.038)	(0.019)	(0.033)	(0.05)
break 3	-0.183**	-0.177	-0.406***	-0.1	0.054
	(0.073)	(0.223)	(0.15)	(0.123)	(0.167)
Obs	465	62	140	138	97
ln(L)	-1200	-92	-268	-243	-183

Notes : Standard errors are in parentheses. ***, **, and * denote 1%, 5%, and 10% level of significance, respectively. C 1930-39 refers to the 1930-1939 birth cohort, similarly, C 1940-49 to C 1970-79 refer to the 1940-1949 to 1970-1979 birth cohorts.

spells. This is the reverse of the patterns observed for first spells in Ignaczak [5].

Figure 6 shows the estimated hazards of the regressions. For men, of the 1970s cohort there is clear evidence of positive duration dependence. This is also the case for women in the earliest cohort. However, these results – particularly for men – are suspect due to small sample sizes.

FIGURE 6 – Baseline Hazards : Fourth Spells by Gender and Birth Cohort

Data Source: General Social Survey Cycles 15 and 20, 2001, 2006

Fourth spells tend to repeat the pattern identified for third spells. However, for women, part-time status appears to have a weaker impact on latter cohorts of workers. On the whole, however fourth and third spells are remarkably similar across cohorts for women. For men, there are too few observations to reliably evaluate the results by cohort. Nevertheless, being born in a latter cohort (in the full sub-sample equation) tends to reduce the hazard of separation in the fourth spell.

3.5 The Fifth Spell

Fewer than half of those in the sample who experienced a fourth spell participate in a fifth. Fifth spells are, on average, only slightly longer than fourth spells and are begun about 1 year later in life than are fourth spells. The ratio of men to women in the sample is slightly higher in fifth spells than fourth spells (one man per four women rather than one per five). In most other aspects, the characteristics of those who are engaged in fifth spells are similar to those in fourth spells.

TABLE 21 – Cox Proportional Hazard Results : Fourth Spells for Women by Birth Cohort

	Total	C 1930-39	C 1940-49	C 1950-59	C 1960-69	C 1970-79
age began	0.076***	0.148***	0.071***	0.077***	0.091***	0.02
	(0.007)	(0.029)	(0.014)	(0.011)	(0.016)	(0.028)
part-time	0.260***	0.827**	0.535**	0.095	0.322**	0.318
	(0.081)	(0.347)	(0.225)	(0.144)	(0.139)	(0.225)
immigrant	-0.123	0.181	-0.251	-0.033	-0.344*	-0.141
	(0.093)	(0.327)	(0.244)	(0.176)	(0.188)	(0.193)
high sch.	0.544**	0.452	0.749	1.102**	0.223	0.654*
	(0.232)	(1.271)	(0.557)	(0.514)	(0.245)	(0.341)
college	0.557**	0.209	0.554	1.103**	0.25	0.633**
	(0.232)	(1.215)	(0.595)	(0.515)	(0.224)	(0.319)
univ.	0.343	0.11	0.607	0.987*	-0.142	0.398
	(0.23)	(1.228)	(0.558)	(0.516)	(0.23)	(0.302)
UR gap	0.163***	0.012	0.096	0.128*	0.246***	-0.138
	(0.034)	(0.117)	(0.092)	(0.068)	(0.061)	(0.155)
married	-0.254***	-1.611***	-0.607**	0.024	-0.209	-0.214
	(0.084)	(0.45)	(0.306)	(0.196)	(0.129)	(0.157)
work rel.	0.978***	1.857***	0.933***	0.840***	1.049***	1.178***
	(0.087)	(0.56)	(0.325)	(0.166)	(0.136)	(0.203)
parental	1.035***	2.561***	1.016***	0.905***	1.001***	1.086***
	(0.09)					
C 1930-39	0.702**					
	(0.308)					
C 1940-49	0.292					
	(0.284)					
C 1950-59	0.073					
	(0.267)					
C 1960-69	-0.061					
	(0.249)					
C 1970-79	0.016					
	(0.244)					
experience	-0.153***	-0.175***	-0.123***	-0.152***	-0.185***	-0.204***
	(0.007)	(0.027)	(0.015)	(0.011)	(0.014)	(0.027)
break 3	-0.133***	-0.127*	-0.123***	-0.123***	-0.168***	-0.261**
	(0.02)	(0.07)	(0.037)	(0.03)	(0.036)	(0.111)
Obs	2013	75	241	597	698	355
ln(L)	-6203	-175	-567	-1506	-1729	-797

Notes : Standard errors are in parentheses. ***, **, and * denote 1%, 5%, and 10% level of significance, respectively. C 1930-39 refers to the 1930-1939 birth cohort, similarly, C 1940-49 to C 1970-79 refer to the 1940-1949 to 1970-1979 birth cohorts.

TABLE 22 – Cox Proportional Hazard Results : Fifth Spells for Both Genders by Birth Cohort

	Total	C 1930-39	C 1940-49	C 1950-59	C 1960-69	C 1970-79
Male	0.055	5.125***	0.506	0.282	-0.251	-0.123
	(0.127)	(1.793)	(0.375)	(0.223)	(0.226)	(0.231)
age began	0.136***	0.224***	0.208***	0.151***	0.154***	0.088**
	(0.012)	(0.051)	(0.027)	(0.021)	(0.034)	(0.043)
part-time	0.108	-0.281	-0.177	0.377**	-0.228	-0.107
	(0.123)	(0.634)	(0.361)	(0.178)	(0.259)	(0.326)
immigrant	-0.185	-2.780**	-0.177	-0.286	-0.19	-0.507*
	(0.132)	(1.165)	(0.359)	(0.245)	(0.276)	(0.298)
high sch.	0.274	0.348	-0.227	1.807	-0.568	0.819*
	(0.52)	(1.286)	(0.464)	(1.203)	(0.625)	(0.484)
college	0.188	1.159	-0.188	1.85	-0.92	0.733*
	(0.52)	(1.03)	(0.445)	(1.207)	(0.649)	(0.377)
univ.	-0.015	-0.486	-0.859**	1.511	-0.812	0.748*
	(0.521)	(0.959)	(0.43)	(1.203)	(0.634)	(0.383)
UR gap	0.182**	0.205	0.166	0.238	0.241	-0.258
	(0.082)	(0.253)	(0.267)	(0.161)	(0.167)	(0.279)
married	-0.025	1.137	-0.036	0.396	-0.207	-0.188
	(0.13)	(1.762)	(0.474)	(0.299)	(0.2)	(0.236)
work rel.	1.594***	1.540*	2.427***	1.500***	1.500***	2.439***
	(0.144)	(0.916)	(0.527)	(0.229)	(0.24)	(0.403)
parental	1.655***	3.432**	5.585***	2.274***	1.755***	1.737***
	(0.185)					
C 1930-39	-2.456***					
	(0.551)					
C 1940-49	-2.465***					
	(0.439)					
C 1950-59	-2.143***					
	(0.35)					
C 1960-69	-1.804***					
	(0.262)					
C 1970-79	-0.937***					
	(0.216)					
experience	-0.138***	-0.136***	-0.122***	-0.122***	-0.171***	-0.222***
	(0.01)	(0.05)	(0.023)	(0.016)	(0.022)	(0.036)
break 4	-0.098***	-0.618	-0.111***	-0.111***	0.03	-0.165
	(0.022)	(0.453)	(0.026)	(0.041)	(0.046)	(0.189)
Obs	1099	35	132	339	377	187
ln(L)	-3122	-61	-242	-782	-748	-367

Notes : Standard errors are in parentheses. ***, **, and * denote 1%, 5%, and 10% level of significance, respectively. C 1930-39 refers to the 1930-1939 birth cohort, similarly, C 1940-49 to C 1970-79 refer to the 1940-1949 to 1970-1979 birth cohorts.

Table 22 shows the total sample results with the usual variables having the same signs and similar levels of significance. However, gender is no longer a significant contribution to the hazard (with the exception of the 1930s cohort which suffers from a small sample size). The age at which work began has a diminishing positive impact across successive cohorts. Likewise, lifetime experience has a diminishing negative impact across cohorts. The total sub-sample estimation yields increasingly small reductions in the hazard across successive cohorts as was the case with first employment spells in relation to those born in the 1980s who had not completed high school.

Table 23 shows the results for men, while all cohort-based estimations suffer from small sample sizes the total sub-sample of men in their fifth spell has a sufficient sample size for analysis. Only the age at which work began, high school education and work related separations contribute positively and significantly to the hazard. Lifetime experience and cohort effects negatively impact the hazard, with cohort effects causing milder declines in the hazard across successive birth cohorts.

Table 24 presents the regression results for women in their fifth spell. As in Ignaczak [5], age work began, the unemployment rate gap, work related separations and parental responsibilities contribute positively to the hazard. Cohort effects, lifetime experience and the duration of the previous break reduce the hazard of separation. The cohort effects also show a dampening of the reduction in the hazard across successive birth cohorts.

Figure 7 shows the estimated hazards for the equations, for both men and women of the 1930s a volatile pattern can be observed. These volatile patterns can be attributed to small sample sizes (the 1970s cohort for men has an equally volatile pattern). The 1940s cohort for women shows increasing duration dependence, in other cases the estimated hazards are all essentially flat.

Fifth spells do not stand out significantly from fourth spells in terms of the variables which influence the hazard. One exception, for both men and women is that the cohort effects identified in first spells – namely, the decrease in the negative contribution of cohort effects to the hazard across successive birth cohorts – generally hold. This was a key characteristic of first spells that did not appear in spells two through four. It is uncertain why this would be the case but one explanation could be that the addition of lifetime experience and break durations explained many features that cohort effects otherwise would in the earlier spells while other unobserved characteristics become more prominent for the final spells.

TABLE 23 – Cox Proportional Hazard Results : Fifth Spells for Men by Birth Cohort

	Total	Coh 1930-49	Coh 1950-59	Coh 1960-69	Coh 1970-79
age began	0.143***	0.137	0.117***	0.235**	0.09
	(0.026)	(0.105)	(0.039)	(0.093)	(0.09)
part-time	0.387		0.187	0.751	2.160**
	(0.382)		(0.636)	(1.309)	(0.963)
immigrant	-0.332	0.557	-0.824	0.991*	-1.186*
	(0.34)	(1.396)	(0.721)	(0.537)	(0.709)
high sch.	1.566**	-0.408	1.728	0.388	0.481
	(0.68)	(2.371)	(1.305)	(0.434)	(1.252)
college	1.107*	-1.504	1.535	-0.66	0.523
	(0.666)	(1.938)	(1.383)	(0.578)	(0.813)
univ.	1.222*	-1.437	1.519	0.267	0.994
	(0.65)	(1.356)	(1.187)	(0.514)	(0.889)
UR gap	-0.121	-0.102	-0.095	-0.207	0.355
	(0.138)	(0.619)	(0.282)	(0.325)	(0.38)
married	0.06	-1.024	0.599	-0.788*	0.145
	(0.247)	(1.107)	(0.615)	(0.444)	(0.527)
work rel.	2.646***	2.587**	2.268***	3.340***	2.926***
	(0.378)	(1.043)	(0.666)	(0.922)	(0.808)
parental	0.532			0.034	
	(0.327)			(0.935)	
C 1930-39	-0.04				
	(0.957)				
C 1940-49	-2.032**				
	(0.997)				
C 1950-59	-2.404***				
	(0.774)				
C 1960-69	-2.014***				
	(0.478)				
C 1970-79	-1.039***				
	(0.368)				
experience	-0.157***	-0.142	-0.098***	-0.178***	-0.290***
	(0.027)	(0.117)	(0.037)	(0.046)	(0.076)
break 4	-0.1	-0.424*	0.097	0.133	-0.499
	(0.199)	(0.23)	(0.252)	(0.406)	(0.735)
Obs	226	23	68	70	50
ln(L)	-486	-20	-105	-76	-66

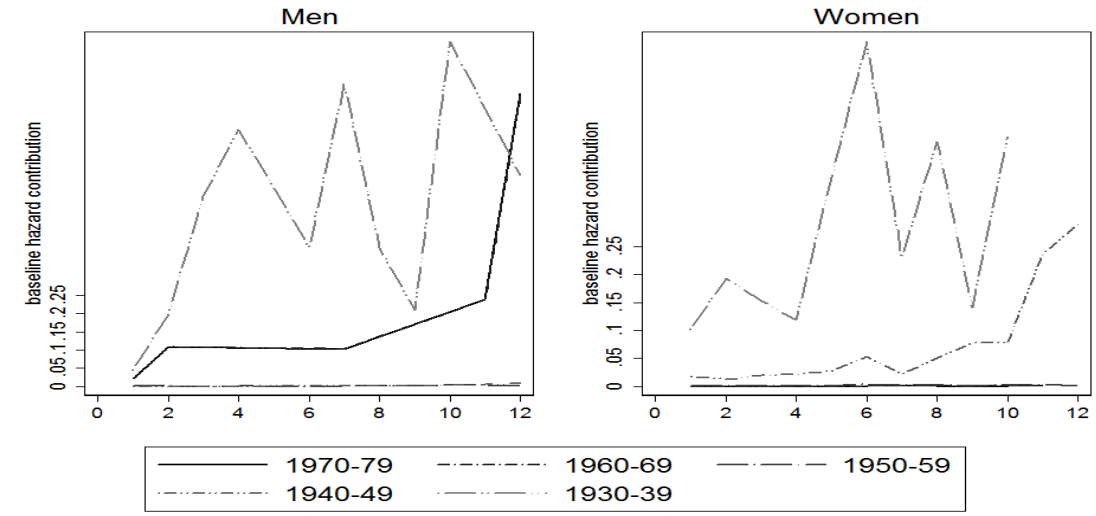
Notes : Standard errors are in parentheses. ***, **, and * denote 1%, 5%, and 10% level of significance, respectively. C 1930-39 refers to the 1930-1939 birth cohort, similarly, C 1940-49 to C 1970-79 refer to the 1940-1949 to 1970-1979 birth cohorts.

TABLE 24 – Cox Proportional Hazard Results : Fifth Spells for Women by Birth Cohort

	Total	Coh 1930-49	Coh 1950-59	Coh 1960-69	Coh 1970-79
age began	0.144***	0.193***	0.156***	0.152***	0.089*
	(0.013)	(0.024)	(0.022)	(0.038)	(0.052)
part-time	0.039	-0.116	0.344*	-0.219	-0.328
	(0.131)	(0.313)	(0.191)	(0.249)	(0.356)
immigrant	-0.291*	-0.615**	-0.16	-0.428	-0.313
	(0.149)	(0.311)	(0.267)	(0.326)	(0.343)
high sch.	-0.284	-0.55	0.355	-0.764	
	(0.489)	(0.449)	(0.458)	(0.779)	
college	-0.307	-0.221	0.448	-1.114	-0.195
	(0.493)	(0.4)	(0.469)	(0.811)	(0.312)
univ.	-0.564	-0.831**	0.067	-1.068	-0.432
	(0.492)	(0.418)	(0.471)	(0.794)	(0.38)
UR gap	0.235**	0.444**	0.301	0.263	-0.4
	(0.105)	(0.192)	(0.2)	(0.184)	(0.36)
married	-0.127	0.155	0.285	-0.054	-0.254
	(0.15)	(0.504)	(0.353)	(0.251)	(0.283)
work rel.	1.357***	1.199***	1.217***	1.299***	2.352***
	(0.16)	(0.38)	(0.244)	(0.278)	(0.441)
parental	1.711***	5.011***	2.120***	1.945***	1.683***
	(0.208)				
C 1930-39	-2.635***				
	(0.677)				
C 1940-49	-2.617***				
	(0.57)				
C 1950-59	-2.099***				
	(0.488)				
C 1960-69	-1.670***				
	(0.417)				
C 1970-79	-0.811**				
	(0.378)				
experience	-0.137***	-0.115***	-0.131***	-0.165***	-0.215***
	(0.011)	(0.02)	(0.018)	(0.023)	(0.036)
break 4	-0.085***	-0.103***	-0.102**	0.031	-0.157
	(0.02)	(0.024)	(0.04)	(0.045)	(0.164)
N	873	144	271	307	137
ln(L)	-2313	-314	-588	-587	-247
Obs	873	144	271	307	137
ln(L)	-2313	-314	-588	-587	-247

Notes : Standard errors are in parentheses. ***, **, and * denote 1%, 5%, and 10% level of significance, respectively. C 1930-39 refers to the 1930-1939 birth cohort, similarly, C 1940-49 to C 1970-79 refer to the 1940-1949 to 1970-1979 birth cohorts.

FIGURE 7 – Baseline Hazards : Fifth Spells by Gender and Birth Cohort



Data Source: General Social Survey Cycles 15 and 20, 2001, 2006

4 Conclusions

Employment tenures beyond the first spell tend to be shorter and are begun later in life. In general, the prevalence of multiple spells increase across cohorts. Because each employment tenure may contain several jobs and can only be terminated by a prolonged absence from employment, the customary job shopping of youth is not evident in these tenures. In fact, the process is quite the reverse, with employment tenures shortening as the number of tenures rises, while for jobs the opposite seems to be the case. Furthermore, men are much more likely than women to not undergo bouts of separation from employment. Hence the proportion of men in each successive spell dwindles, from one in two to one in five by the fourth spell.

The key socio-economic factors that affect the hazard of separation are, as in Ignaczak [5], work-related separations and parental responsibilities as well as the age that work began. Part-time status also tends to be a major contributor to the hazard of separation. Conversely, cohort effects - which play a major role in first spells – as well as marital status tend to be insignificant contributors in the second through fourth spells. Finally, lifetime experience and the break between the last employment spell and the current contribute negatively to the hazard across all employment spells. This indicates that as work experience is accumulated individuals are more likely to settle in longer-term positions and as the length of the preceding separation becomes longer workers are less inclined to depart from their current spells.

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