UI

Unemployment Insurance
and Labour Market
Transitions

by Stephen R. G. Jones

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UI and the
Labour Market

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Unemployment Insurance Evaluation Series

Human Resources Development Canada (HRDC), in its policies and programs, is committed to assisting all Canadians in their efforts to live contributing and rewarding lives and to promote a fair and safe workplace, a competitive labour market with equitable access to work, and a strong learning culture.

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Table of Contents

Abstract

The purpose of this paper is to investigate the effects of Unemployment Insurance (UI) on durations of non-employment and unemployment by conducting an econometric study of the probability that a spell of unemployment or non-employment will end within a given time period and of the factors that affect that probability. Labour Force Survey (LFS) and Labour Market Activity Survey (LMAS) data for 1986-87 and 1988-90 are used.

An examination of non-employment spells in a two-state model of the labour market and focuses on the role played by various indicators of UI recipiency, allowing for personal and regional effects on non-employment durations. Various employment outcomes are then seen as alternative or "competing risks" in an attempt to see whether UI recipiency operates in a different manner in determining the probability of reaching different outcomes.

A three-state model of the labour market is examined to analyze unemployment (rather than non-employment) durations and the effect of UI recipiency on the probability of moving into employment or leaving the labour force altogether.

The three-state analysis is extended to study the alternative types of jobs that may follow a period of unemployment and UI recipiency and to determine whether indicators of UI recipiency operate differently for these various competing risks.

Throughout the research, care has been taken to use the best data available for the question at hand and to match the time period of UI recipiency with the associated spell of non-employment or unemployment. However, the timing of information available in these data is inadequate for the study of potentially delicate (and potentially important) UI exhaustion effects. Given this qualification, the significant findings of the research suggest that:

- UI recipiency has a significant effect on non-employment spell durations, as estimated in both a regression and a hazard framework for 1986-87;
- UI recipiency has some unusual effects in the case of non-employment spells that span at least one calendar-year "seam" (1986-87, 1988-89, 1988-90, and 1989-90), perhaps as a consequence of reverse causation from spell duration to UI eligibility;
- UI recipiency variables have a significant influence on the probability of moving from unemployment to employment, compared with that of leaving the labour force altogether, at least for the period 1986-87;
- UI recipiency variables have little effect on unemployment spells, according to Labour Force Survey data for the period 1988-89;
- Competing-risks analysis of unemployment durations in 1986-87 indicate that sales/service occupations play a distinctive role, as do long-term versus short-term jobs;
- There is evidence that suggests that the use of spell-specific UI data (made possible by the second LMAS dataset) supports the results based on calendar-year UI recipiency information, indicating only slight and insignificant UI effects during the 1988-89 period.

Introduction

This paper describes work performed in investigating the effects of unemployment insurance (UI) on durations of unemployment and other forms of non-employment (i.e., persons who want to work but are not actively seeking work, and persons who are out of the labour force altogether). Some of this work also entails an analysis of the characteristics of the employment obtained after the period of non-employment or unemployment. The paper begins with a summary of the research issues and objectives, and then outlines the methodology employed. The results follow — those for non-employment durations in Section 1 and those for unemployment in Section 2. A number of conclusions are presented in Section 3.

While UI affects jobless durations by altering the probability that a spell may end at a given date, it may also have an effect on the type of job found.

Issues and Objectives

The effects of UI recipiency on various types of labour market transitions are critical in any evaluation of the program's effects and effectiveness. One key issue is that, while UI affects jobless durations by altering the probability that a spell may end at a given date, it may also have an effect on the type of job found by the recipient. By subsidizing job search, UI can lead to better worker/job matches and higher productivity. These socially beneficial gains may therefore provide microeconomic justification for the public provision of UI benefits. At the same time, some argue that UI may encourage or facilitate patterns of employment and unemployment that result in repeat use of the UI system, with temporary or "marginal" employment being arranged so as to meet eligibility requirements for benefits. Research on the outcomes of UI-supported job search thus has a bearing on a central question of policy concern.

The specific goals of the present study are to examine the effects of UI recipiency on duration of unemployment or joblessness, to examine these effects when allowance is made for alternative outcomes (e.g., employment or withdrawal from the labour force) following an unemployment spell, and to examine such effects when allowance is made for alternative types of employment, variously defined, following unemployment or non-employment spells. A related question that the research will touch upon (subject to some data limitations, discussed below) is that of repeat UI usage in the context of multiple unemployment or non-employment spells.

Methodology

The methodology used in the research is based on an econometric analysis of individual-level data on UI recipiency, as well as demographic and other characteristics of the individual, and weekly records of jobless durations. The study employs data from the Labour Market Activity Survey (LMAS), the only publicly available source of longitudinal data on Canadian labour markets. In particular, both the 1986-87 and the 1988-90 LMAS longitudinal files are analyzed. (The LMAS data do have one particular limitation for the analysis of unemployment durations, which will be discussed later on.) In addition, the study relies on a unique type of dataset, which consists of matched records from the LMAS and from the Labour Force Survey (LFS). These matched data are available for both

The basic analytical framework is an econometric model of labour market transitions, used to study the factors affecting the probability that an unemployment or non-employment spell will end in a particular week or month, given that it has not ended before the beginning of that week or month.

the 1986-87 and the 1988-90 LMAS; in the latter case, however, the LFS data on unemployment spells do not go beyond 1989. The use of matched data avoids problems relating to recall bias and, in particular, permits some analysis of unemployment spells — a potentially valuable complement to the analysis of periods of non-employment. At the same time, however, it also introduces the potential problem of a spurious degree of mobility in the labour market, arising from uncorrelated state classification error. This potential drawback must be borne in mind, especially in the analysis of the shortest durations (one month, in the LFS data).

The basic analytical framework is an econometric model of labour market transitions, used to study the factors affecting the probability that an unemployment or non-employment spell will end in a particular week or month, given that it has not ended before the beginning of that week or month. This conditional probability is termed the "hazard". The hazard-based approach has three major advantages over, for example, regression-based estimates of the determinants of durations. First, it allows appropriately for unemployment spells that are still in progress when the observation period ends — for example, the six-month period during which a person is followed by the LFS. Second, it makes it possible to allow the determinants of duration to be time-varying; for example, when overall economic conditions within a particular region worsen during the course of a (lengthy) spell, the probability of exit from unemployment can be allowed to decline. (Of course, in relatively short spells, such time-varying covariates may not move enough to play a significant role.) Third, in the hazard framework, the probability of leaving unemployment may vary as the spell progresses, in what is referred to as "duration dependence".[1]

In the present case, the analysis adopts a particular version of the hazard framework — namely, the "proportional hazards" model (Cox 1972), in which the effect of explanatory variables is restricted so as to be proportional to a "baseline hazard."[2] The factors that affect the hazard — the probability of transiting from non-employment to employment — are analyzed. In addition, various types of employment are envisaged as distinct outcomes, and hazards from the status of non-employment into each such outcome are estimated. This analysis of various types of employment as potential outcomes gives one tentative empirical implementation of the well-known concepts of "regular" and "marginal" employment. The types of employment investigated here are based on industry, occupation, full- or part-time status of the job, and realized job duration. The approach followed here views these multiple outcomes as alternative or "competing" risks. Its econometric implementation states that a spell of non-employment terminating in employment of type A, say, contributes a truncated (or "censored") spell of non-

1 Surveys of this approach include Kalbfleisch and Prentice (1980), Cox and Oakes (1985), Kiefer (1988), and Lancaster (1990). Note that duration dependence of this type could, at least in principle, constitute a microeconomic foundation for hysteresis effects in unemployment in the aggregate.

2 According to this model, the baseline hazard $b(t, 0)$, which gives the conditional escape probability at time t when all regressors are set at zero, is allowed to assume any shape. Given this, the effect of explanatory variables is then restricted so as to be proportional to this baseline, yielding an overall hazard of

$$h(t, X) = b(t, 0)\, e^{X'\beta}$$

where X is a vector of independent variables and β is a coefficient vector.

employment for the hazard from non-employment into employment of type B. For both the single-hazard and competing-risks specifications, the use of a proportional-hazards transition model with a flexible baseline hazard avoids restricting the analysis by an arbitrary choice of functional form.

Data Sources, Strengths, and Limitations

An issue that must be faced is the appropriate choice of data sources. The use of the LMAS (either the 1986-87 or the 1988-90 file) to study unemployment durations and their determinants raises the problem of the so-called "LMAS filter". Some have argued that the weekly information on non-employment states in the LMAS is "filtered" (Jones and Riddell 1995). Owing to the nature of the LMAS questionnaire design — which, except for special treatment of year end, links all periods of non-employment to a subsequent job and only records unemployment spells that are continuous and that terminate in that job — a potentially important number of unemployment spells may be missed. As a consequence, it does not seem that much can be gained from an uncritical analysis of unemployment spells based on LMAS data.[3]

Given this problem, two potential directions can be pursued. First, for each individual in the LMAS (which was administered as a supplement to the Labour Force Survey), Statistics Canada was able to provide contemporaneous LFS records on labour force status for each of the months that person was in the LFS sample. Such matched data are available for all persons in both longitudinal files of the LMAS. Note, however, that the LFS data are monthly — whereas LMAS durations are weekly — and are for a maximum of six months,[4] not the two- and three-year retrospective periods covered by the two successive LMAS sets. In addition, the LFS information categorizes agents into three states — employed, unemployed, and out of the labour force — rather than the four states that are covered in the LMAS.[5] Finally, the extracts of LFS data supplied for this work contain no demographic and related information about the persons concerned. However, this information is accessible by individual-level matching of the LFS data with demographic and other details in the LMAS data. These matched datasets are referred to here as LMA-LFS data.

Before these matched data are used in analysis, however, a significant issue must be mentioned — the potential for misleading results. Because each LMA-LFS dataset relies on the matching of information on an individual in adjacent months and because there is the possibility that the individual was incorrectly coded in any month, classification error problems could generate too many short spells, not unlike the overstatement found in the gross flows literature (see, e.g., Abowd

3 This must be an empirical question, depending as it does on the number of unemployment spells that do, in fact, end in labour force withdrawal; Jones and Riddell (1995) simulate a number of model economies, parameterized to line up in the aggregate with what is known about the Canadian economy, before concluding that the filter problem appears to be severe. However, this is not the same as having genuine, unfiltered spell data; consequently, the true extent of the LMAS filter must remain unproven.

4 This is the duration of the period during which a person is covered by the LFS.

5 The fourth LMAS labour market state was one of "marginal attachment" to the labour force, determined by an expressed desire for work even though not presently seeking it. It is termed "unemployed without search" in the LMAS 1988-89-90 Longitudinal Micro File Record Layout.

and Zellner 1985; Meyer 1988; Poterba and Summers 1986; and Stasny 1988). In general, one would expect that such patterns of error would produce too many one-month spells (in various states) but that the patterns for two-month spells and longer would be comparatively little affected by uncorrelated classification error.

The second avenue for empirical research, given the LMAS filter, is to adopt a two-state model of the labour market, coding all weeks as either employed or non-employed. The portmanteau non-employment state then encompasses three categories — the unemployed, those who want work but are not actively seeking work (the LMAS "marginal" state), and nonparticipants. Since the LMAS correctly dates jobs — and indeed may do a particularly good job at such dating across the "seam" of interview years (see the discussion in Michaud, Egan et al. 1991) — the complementary state of non-employment is also correctly dated.[6] Hence, provided the analyst is prepared to group all non-employment spells together, the LMAS can be used to analyze such durations.

There are two main limitations of this approach if the object of interest is unemployment or periods of UI recipiency rather than non-employment. First, many of the non-employed are full-year non-participants, so that the longest durations correspond largely to persons who have little genuine link to the labour market and for whom a grouping with the unemployed is behaviourally quite poor, at least if unemployment is defined in LFS terms. To some degree, this problem can be rectified by omitting all non-employment spells that were already in progress at the time the LMAS two- or three-year period began. By focusing on "fresh spells" that begin within the LMAS period, full-year non-participants are excluded from the sample.

A further problem, however, arises as a result of other groups that move into and out of non-employment within a year (or within the LMAS two- or three-year span), thus generating fresh spells on non-employment that nonetheless fail to correspond to unemployment as usually defined. The main problem of this type comes from movement into and out of full-time education, which the LFS would code as "out of the labour force" rather than unemployment but which, in a two-state model, will be confounded with unemployment spells under the non-employment grouping. Editing of the sample to omit those below a certain age would be one expedient way of trying to reduce the extent of this difficulty. The use of the self-reported reasons for first leaving employment in the two-year period covered by the LMAS is also investigated here, and persons who reported leaving employment (and hence starting a fresh non-employment spell) because of retirement, ill health, other personal reasons, or education are dropped from the sample. While this adjustment cannot correctly rule out non-employment spells that may have started as unemployment and later turned into education, for example, and while it could also lead to the erroneous exclusion of a spell that began as ill health but became one of LFS-defined unemployment, it does nonetheless represent a possible improvement over the straightforward use of all non-employment spells. Both possibilities were investigated empirically, and some results are reported for both types in the empirical section below.

6 Subject to the usual problems of measurement error, and so on, of course.

It should also be noted that LFS-defined unemployment does not line up exactly with recipiency of unemployment insurance, a point that will be kept in mind throughout this aspect of the research.[7] In addition, the analysis will use the LMAS data on UI recipiency: for 1986 and 1987, this covers recipiency during a calendar year; for 1988-90, data are available for UI recipiency both during each calendar year (i.e., 1988, 1989 and 1990) and during a particular non-employment spell. Care is taken in the analysis to examine spell durations corresponding to the nature of these data on UI recipiency. Note that exact timing information on UI recipiency is not available in either data group, however, and that the geographic information available at the provincial level in the LMAS does not permit an accurate imputation of total weeks of eligibility to each individual. Consequently, the use of LMAS data does not allow questions that many researchers have thought important with respect to the timing of UI exhaustion to be precisely addressed. Nonetheless, the strengths of these data should be kept in mind, including the sample size, its national coverage, its longitudinal nature, and its representativeness of all provinces. For the study of a competing-risks framework, in particular, the wealth of job-specific detail in the two LMAS data groups makes that survey an important source of information.

Finally, one unavoidable data limitation in the present study arises from the lack of exogenous variation in the rate of UI benefits during the sample period. Much recent work has suggested that the most credible results may arise not from complex structural and econometric modelling but rather from the relatively straightforward study of situations where a "natural" or "unintended experiment" occurs. However, given the present lack of data of UI benefit rates at the individual level and given the absence of such an exogenous, quasi-experimental change in the period, such alternative methods for the assessment of the effects of Canadian UI must await another study with another dataset.

7 See Lévesque (1987 and 1989).

1. Analysis of Non-Employment Spells

…attention is restricted throughout to fresh spells that are initiated within the period, so that the problem of initial conditions and spell truncation does not arise.

The first group of results comes from the analysis of non-employment durations, using the two LMAS datasets in a two-state econometric framework (i.e., employment and non-employment). The results for the two datasets will be interwoven throughout the discussion in an effort to discern common patterns across the five-year period from 1986 to 1990.

The analysis is based first on 1986-87 data pertaining to over 20,000 non-employment spells, as summarized in Table A.1. In this table, and in some cases hereafter, spell types are broken down in two different ways. First, spells are characterized by their sequence number, indicating whether a particular spell is the first, second, third, fourth, or fifth for the individual in the two- or three-year LMAS sample period. As noted above, attention is restricted throughout to fresh spells that are initiated within the period, so that the problem of initial conditions and spell truncation ("left-censoring") does not arise. While this use of fresh spells may pose a sample selection problem for some very long durations (of jobs, for example), in the present study of non-employment spells this sampling seems sensible. Also, my 1986-87 study focuses on the first five non-employment spells experienced by any single individual. Although some information is available for spells with a higher sequence number, the small number of observations makes it difficult to conduct a proper analysis beyond five spells. For 1988-90, data pertaining to only the first three fresh spells experienced by an individual are reported in this research.

The second breakdown of spell types is linked to the nature of the UI recipiency data available for 1986-87: this first LMAS dataset simply contains a dummy variable for UI recipiency in each year (i.e., UI86 and UI87). As a consequence, the analysis must classify non-employment spells into three groups: those beginning and ending in 1986 (referred to as "86 spells"); those beginning in 1986 and continuing across the "seam" into 1987 ("86-87 spells"); and those beginning in 1987 ("87 spells"). In the latter two cases, the spell may end in 1987, in which case it is complete, or may be on-going at year's end, in which case it is truncated ("right-censored") in our sample. In the following analysis, 86 spells are directly affected by UI recipiency in 1986; 86-87 spells by UI recipiency, in both 1986 and 1987; and 87 spells by UI recipiency, only in 1987.

For the second LMAS dataset (1988-90), it has already been noted that some data matching UI recipiency to particular non-employment spells are available. To some degree, this structure of the data may reduce the need for the types of spell breakdowns conducted with the 1986-87 data. However, for reasons that have to do with comparability across the two LMAS datasets and with potential data accuracy, an analogous split is applied to the 1988-90 data. In this case, as reported in Tables A.2 and A.3, there are six spell groups: those which began in 1988 and ended in 1988, 1989, or 1990; those which began in 1989 and ended in 1989 or 1990; and those which began and ended in 1990. Note that, as with the terminal year (1987) in the first group, a spell may "end" in 1990 either by actually ending within that year or by remaining in progress (and hence "censored") at the end of the year.

Table A.1 provides summary statistics on non-employment spells by sequence number and potential UI recipiency category. By definition, all 86 spells are completed, while the percentage of 86-87 spells ongoing at the end of 1987 ranges from 29 percent for first spells to 7 percent and 14 percent, respectively, for fourth and fifth spells. Roughly half of 87 spells in these data are "right-censored" — a figure that varies surprisingly little by spell sequence number. Mean durations (expressed in weeks) are naturally longest for 86-87 spells, a finding that is again consistent across the different spell sequence numbers. In interpreting these figures, one should bear in mind sample sizes: while samples are large for spells with low numbers in the sequence, they drop off dramatically by spell no. 5 (where there are, for example, only 35 non-employment spells starting and ending in 1986.

Most important, Table A.1 also provides mean values for the UI recipiency dummy variables for each spell number and each year of the 1986-87 LMAS. For first spells, 48 percent of 86 spells and 86-87 spells are by individuals who reported UI recipiency in 1986, though this figure drops to 14 percent for 87 spells. The corresponding figures for 1987 UI recipiency are slightly lower for 86 spells and 86-87 spells — 38 percent and 44 percent, respectively — but the figure for 87 spells is much higher, at 41 percent. In view of the concerns that have been expressed in recent years about patterns of repeat use, the finding that only 14 percent of people experiencing 87 first spells received UI in 1986 is of some interest. To the extent that the goal is to analyze patterns of UI recipiency, however, the fairly low rates of UI recipiency recorded at any time during the year in which these non-employment spells occurred is perhaps discouraging, since they must imply that a relatively large number of these spells are not really unemployment as usually conceived. As the spell numbers rise, the proportion of spells associated with individuals who report UI recipiency in one or both years also tends to increase, but it never exceeds two thirds.

The corresponding data for 1988-90 are summarized in Tables A.2 and A.3. As expected from the overall data in Table A.2, 88 spells (i.e., those which began and ended in 1988) had a mean duration of about two months (as did 86 spells), while 88-89 spells and 88-90 spells had mean durations of 33 and 111 weeks, respectively. Results for 89 spells are broadly similar to those for 88 spells, while 89-90 spell durations average out at almost 40 weeks. Final-year spells have a mean duration of nearly 17 weeks, close to the 15-week duration of the final year in the 1986-87 group. Of the spells still in progress in 1990, those which had begun in 1988 had a one-third chance of completion within 1990, while the corresponding chances for spells beginning in 1989 and 1990 were 80 and 40 percent, respectively. Finally, Table A.2 shows that the proportions of spells associated with UI recipiency in that year are mostly similar to the pattern found in the earlier group. The figures for 88 spells are very close to those for 86 spells (48 percent UI recipiency in the year for both, and 37 and 38 percent in the subsequent year for the first and second groups, respectively), although those for 88-89 spells are perhaps higher than might have been expected, given the 86-87 spell data in Table A.1.

Table A.3 provides figures for the second LMAS group, broken down by spell sequence number, with attention being restricted to the first three spells experienced by those who were surveyed. As in Table A.1 for the first group, the

proportion reporting UI recipiency in subsequent years rises with the spell number. Interestingly, it is evident that first spells that began in 1989 or 1990 are associated with low rates of UI recipiency in 1988 (such recipiency would have to be associated with a spell in progress — a "left-censored" spell — at the beginning of the 1988 calendar year), the three figures for UI88 being 16, 14, and 9 percent, respectively, in the last three columns of the first panel of Table A.3. Similarly, only 7 percent of first spells beginning in 1989 are associated with any UI recipiency in 1989. As sequence numbers rise, however, these figures naturally increase considerably.

Single-Hazard Specifications

The first type of econometric model analyzed here is that of a single "risk" (or hazard) out of non-employment into employment; two specifications are presented initially. Table A.4 gives the complete results of three ordinary-least-squares (OLS) equations pertaining to non-employment durations for first spells in 1986-87, while Table A.5 provides the coefficients of the various UI dummy variables for a similar OLS specification for each spell number; in the latter case, the explanatory variables in the equation are the same as for the full results but only the UI results are reported, for economy of exposition. The complete results for first non-employment spells contain strongly significant UI dummy-variable effects for all three UI spell chronological groups (86 spells, 86-87 spells, and 87 spells), although the signs of the coefficients are not uniform. UI recipiency in 1986 lengthens the (completed) duration of a spell ending that year by 2.2 weeks and the (potentially incomplete) duration of a 1986-87 spell by 2.4 weeks; similarly, UI recipiency in 1987 increases the length of a non-employment spell beginning in 1987 by 3.6 weeks.

The large and negative coefficient of the UI87 dummy variable for spells spanning the 1986-87 seam is anomalous, however. Interpreted literally, it means that UI recipiency in 1987 tended to shorten the mean duration of a spell that began in 1986 and continued at the beginning of 1987 by over 15 weeks. Since possibly the sign and certainly the magnitude of this effect seem unusual, it is worth considering a potential cause. One reason could be that 86-87 spells tended to be quite long and that the likelihood of UI exhaustion before the beginning of 1987 was greater for longer spells. UI recipiency in 1987 would then be associated with shorter 86-87 spells, on average, so that in effect the causation might be from spell length to UI eligibility and recipiency, rather than from UI recipiency to duration.

The remaining results in Table A.4 are largely plausible, although little other than gender is significant for the (mostly short) 86 spells. For both the 86-87 spells and those beginning in 1987, regional effects are strong and fairly uniform, Ontario being the excluded base case, while age, gender, the presence of children, and minority status all have clear effects on non-employment durations. The related sets of coefficients in Table A.13, which give just the UI dummy variable results for each spell in the sequence, are consistent with the first-spell findings, though smaller sample sizes and consequent rising standard errors as the spell number increases lead to statistical insignificance for all coefficients in most cases. The exception is the UI87 coefficient for 86-87 spells, where the markedly negative effect on duration persists for all spell numbers and where, again, the

argument about reverse causation from duration to UI eligibility and recipiency may apply.

A weakness of the model whose results are reported in Tables A.4 and A.5 is that it cannot allow for "open-ended" (right-censored) durations and that it implicitly imposes a constancy to the hazard from non-employment to employment. As a consequence of these limitations, this analysis was not replicated for the second LMAS data group. Both problems of regression-based methods of duration analysis can, however, be rectified by hazard estimation, and Tables A.6 and A.8 report the corresponding results for 1986-87, using Cox proportional-hazards models. Tables A.7 and A.9 provide results for the second dataset. In interpreting the results, it should be noted that, since the object of study is now the probability that a given spell will end in a given period, one would naturally expect the sign of each coefficient to be the opposite of that for the regression analysis of duration — in other words, that a high probability that a spell will end should translate into a short spell duration, and vice versa.

In Table A.6, complete results are presented for the Cox model on a sample that excluded non-employment spells initially coded as being exits from employment into states other than unemployment. Table A.8 then reports the UI results for different spell numbers, using the alternative sample of all non-employment spells. In practice, the inclusion or exclusion of these non-employment spells that may not be unemployment does not alter the results significantly. The results in Table A.6 show some similarities and some differences, relative to the preceding regression-based results. The UI dummy variables have similar effects, with reversed signs as expected, in every case but one the coefficient on UI86 in 86-87 spells, which was significant in the OLS results but is insignificantly different from zero in the hazard estimation, perhaps owing to non-constancy of the hazard or to the open-endedness of some of the durations. The patterns of the other coefficients are largely similar to the OLS results of Table A.4, with regional effects lengthening durations (and lowering the hazard) relative to the case of Ontario, and with being female, a member of a visible minority, or older all tending to lower the chances of leaving non-employment. Looking across spell sequence numbers for the corresponding UI results in Table A.8 (where, as before, all other explanatory variables also enter into the hazard specification and estimation), the pattern seen in Table A.4 is repeated in that only UI87 remains significant and only for 86-87 spells. Again, all of the standard errors increase with the spell sequence numbers, though the comparative stability of the UI87 coefficient for 86-87 spells is striking.

Table A.7 presents proportional-hazards estimation results for the second LMAS group, using calendar-year UI recipiency data and matching appropriate UI recipiency variables to each of the six spell groups. The figures show significantly negative coefficients of UI88 for 88 spells and 88-89 spells, and similarly of UI89 for 89 spells and 89-90 spells. They also show significantly positive UI coefficients of UI89 for 88-89 spells and of UI90 for 88-90 spells, 89-90 spells, and 90 spells. The other explanatory variables tend to play roles similar to those in the first set of results, with regional effects usually being negative (relative to the base case of Ontario) though often insignificant, and with some significant role emerging for gender, marital status, age, education, and number of children. For second spells, Table A.9 provides the coefficients of the various UI recipiency

…an appropriate method of analysis is to envisage as "competing risks" the various ways in which a non-employment spell may end.

variables for the 1988-90 data. Where significant in the second-spell data, these UI variables always have the same sign and approximate magnitude as for first spells (reported in the top panel of Table A.9), although both UI88 for 88-89 spells and UI89 for 89-90 spells lose statistical significance for second spells, perhaps as a consequence of a smaller sample size.

Finally, with regard to single-risk modelling, the spell-specific UI information available only in the second LMAS dataset was used to estimate a proportional-hazards structure for the whole sample, without the breakdown by spell start-year and end-year that was necessary in the preceding analysis. These results, with identical control variables, are given in Table A.10. Using a dichotomous variable for the reporting of UI recipiency during a given spell, the first column of the table displays a significantly positive coefficient for this variable. When the reported number of weeks of UI recipiency is used during a particular non-employment spell, the second column also shows a significantly positive point estimate for this coefficient. Both results imply that UI recipiency in these data tends to raise the probability that a non-employment spell will end, controlling for the other factors detailed in the table. One potential cause of these results could be a tendency for true hazard to rise as UI eligibility is exhausted, with a larger number of reported UI weeks during a spell being associated with a spell that is closer to this hypothesized exhaustion point. However, in the absence of detailed timing data, this potential explanation cannot be readily verified or rejected.

Competing-risks Models of Non-Employment Durations

The duration analysis conducted to this point was based on the assumption that agents face a single risk (or hazard) out of non-employment into employment. However, as noted in the introduction, it may be more appropriate to think of UI as affecting the type of employment that an agent may find after a spell of non-employment and to consider that the random (or "stochastic") processes governing these various types of jobs may differ. In such a context, an appropriate method of analysis is to envisage as "competing risks" the various ways in which a non-employment spell may end. While in progress, then, a non-employment spell is viewed as one that can potentially end in any type of employment; when it ends in a particular type, it becomes a completed spell for that type of employment and a right-censored spell for all other types; if it remains in progress at the end of the sample period — that is, at the end of 1987 or 1990, in the cases examined here — it is a right-censored spell for all of the potential ways in which it might have ended.

Four ways in which employment can be decomposed are investigated in order to consider such a competing-risks specification — by industry, occupation, full time/part time status of the job, and job duration.[8] Given the nature of the data, this last breakdown can really be made operational only when jobs are divided according to a short/not-short distinction, with short-term jobs typically being

8 Operationally, employment spells subsequent to a period of non-employment were matched, using the LMAS under the assumption that the start data of the job had to be within two weeks of the end date of the non-employment spell. Where more than one job match was obtained in this way, owing to multiple concurrent job-holding, analysis proceeded using the first such job on the LMAS record.

taken to mean less than 15, 10, or five weeks in duration. Jobs are not observed after the end of 1987 or 1990, in the two periods considered above, so that the question of how many jobs last more than three years, for example, cannot be investigated. For each such split of employment types, a proportional-hazards duration specification has been estimated. The results for first spells in 1986-87 are summarized in Tables A.11 and A.13. The corresponding results for 1988-90 are presented in Tables A.12 and A.14.

Two alternative ways of subdividing the employment risk are by job type and by job duration.

The industry breakdown in Table A.11 exhibits the positive effect on the hazard of UI87 for 86-87 spells for each industry, as well as for employment spells as a whole, but the negative effect on the hazard from UI86 for 86 spells appears solely for transitions into the service industry. Also, UI86 has a positive effect on the hazard for 86-87 spells that end in manufacturing, but it has no significant effect on the other hazard or on the non-employment-to-employment hazard overall. Finally, the effect of UI87 on the hazard differs in sign between manufacturing and services, the former being positive and the latter negative, and both being significantly different from zero. This certainly suggests that different effects operate for these two types of spells and that UI recipiency may affect the two in different ways.

Table A.11 also contains a breakdown of employment outcomes by four occupational categories, again estimated by using only first spells and in a competing-risks, proportional-hazards framework. The positive and significant coefficient of UI87 for 86-87 spells is here present for all four competing hazards, with the largest point estimate affecting the "other" occupational category. The negative and significant coefficients of both UI86 (for 86 spells) and UI87 (for 87 spells) are each present for the risk into managerial/professional jobs and into sales/service jobs, though not for clerical or "other" risks. Finally, there is a significantly negative coefficient of UI86 for 86-87 spells for the sales/service outcome, whereas this coefficient is of equal size but opposite sign for the risk into the "other" occupational grouping.

Two alternative ways of subdividing the employment risk are by job type and by job duration. Results from these estimations, using first non-employment spells in the first LMAS dataset, are presented in Table A.13. In the first panel, the "job type" division focuses on the full-time or part-time status of jobs obtained after a spell of non-employment. With respect to the estimated coefficients of the various UI dummy variables related to the various spell groups, there is one clear difference between the two job types: for 86-87 spells, the UI86 coefficient is significantly positive for the hazard into full-time jobs but significantly negative for that into part-time work. In other respects, the results display similar patterns of sign and significance for both full- and part-time jobs, though the UI86 point estimates for 86 spells and UI87 estimates for 87 spells are each larger for part-time jobs, while the UI87 coefficient for 86-87 spells is three times larger in the case of the hazard into full-time employment.

The second panel of Table A.13 presents a breakdown of employment by subsequent job duration. As noted above, the severe truncation of observations associated with measures of subsequent employment durations prevents the estimation of any long measure of duration. In addition, much interest seems to hinge upon issues relating to comparatively short employment durations, typically those that

minimally fulfil the variable entrance requirements for participation in the UI program.[9] Accordingly, three divisions are explored, defining a "short" job alternatively as one that lasts less than 15, 10, or five weeks. For the 15-week employment span, the two sets of hazard estimates are quite similar, the one difference being the significant positive coefficient of UI86 for 86-87 spells for long jobs. With reduced short-job durations, sample sizes decline and standard errors increase, so that the coefficients lose their significance. For the 10-week work duration, the UI87 dummy variable loses its significance for 87 spells; for the five-week span, only the UI87 variable for 86-87 spells remains significantly different from zero. These latter spans probably involve samples that are too small to be useful.

The results for the second LMAS dataset are presented in Tables A.12 and A.14, using spell-specific measures (UI spell and UI weeks) as in Table A.10. The industry-based, competing-risks model produces comparatively little departure from the overall results in Table A.10, with significant and positive coefficients around unity for the UI spell dummy variable and with a significant coefficient around 0.02-0.03 for the measure of UI weeks within the non-employment spell. This uniformity across industries stands in some contrast to the UI results reported for the first group in Table A.11. For the occupational breakdown in the second panel of Table A.12, there is a somewhat clearer indication that the alternative outcomes may be different, with the UI spell dummy variable for sales and services having a smaller positive coefficient and the UI weeks variable for clerical and "other" having negative and significant coefficients, in contrast to the small positive figure in Table A.10.

9 For instance, provincial average variable entrance requirements in 1986 ranged from 10 to 12 weeks of employment, depending on the regional unemployment rate.

2. Analysis of Unemployment Spells

The next set of results comes from the analysis of unemployment spells using the matched LMA-LFS datasets constructed for the 1986-87 and 1988-90 LMAS groups. These spell data are monthly and are initially divided into the three labour force states used in the Labour Force Survey — that is, employment, unemployment, and not-in-the-labour-force (NLF). In addition, these data are for a maximum of six months — the length of time a respondent is covered by the LFS — although it should be noted that exactly which six-month period is covered varies from individual to individual.[10] Finally, while such data are a valuable addition to the LMAS itself, avoiding both recall-bias problems and the LMAS filtering of unemployment durations, one must bear in mind the potential classification error that may result when using linked record data.

Table A.15 gives summary statistics for the 1986-87 unemployment spells, categorized by sequence number. As before, left-censoring problems are avoided by the use of only fresh spells — that is, unemployment spells that begin during the six-month period of observation. There are nearly 7,000 first unemployment spells with a mean duration of a little under two months; of these, roughly 40 percent were still in progress when the survey period ended, while 30 percent ended in employment and a similar proportion in withdrawal from the labour force. Second spells are naturally much less common (since they require that the first spell be terminated within the six-month period) and have a somewhat shorter mean duration. Also, more second spells are ongoing at the end of the observation period, with the breakdown into right-censored, employment-ending, and NLF-ending outcomes being approximately 70 percent, 15 percent, and 15 percent, respectively. Finally, there are 12 individuals who manage to have three unemployment spells that begin in the six-month period. By necessity (given the structure of the data), all third spells have a duration of no more than one month and are ongoing at the end of the period.

Similarly, Table A.16 provides the figures for the second LMAS group, although since none of the unemployment spells can be observed to continue into 1990 (because of the LFS's six-month "window"), they are viewed as 1988-89 unemployment spells. Mean durations and censoring frequency by spell sequence number are very close to those in the first LMA-LFS dataset, the one slight difference being that 76 percent of second spells are incomplete in the 1988-89 data, up from 69 percent in the 1986-87 data. The relative frequency with which such spells end in employment, as opposed to labour force withdrawal, is essentially unchanged across the two datasets for first spells but is lower in proportion in the 1988-89 data, a consequence of the greater frequency of second-spell censoring in the second dataset. Finally, only five individuals in the 1988-89 data manage to be "perfectly mobile" in that they achieve three fresh spells within a six-month "window."

10 All of the matched LFS records were surveyed in the early months of either 1987 or 1989, however, since all of these respondents also provided answers to one of the two questionnaires of the LMAS that were administered as a supplement to the LFS in those periods.

Regional variables have a significantly depressing effect on the hazard into employment and a positive effect on the hazard into NLF.

Three-state Competing-Risks Analysis: Breakdown by Outcome

Since the underlying labour market data is now divided into three states, the analysis should appropriately begin with an examination of a competing-risks, proportional-hazards framework focusing on the probability of transiting from unemployment to either employment or NLF.[11] Complete results from such a model with the 1986-87 data are given in Tables A.17 and A.18, estimated for the first-spell sample of unemployment durations. Table A.17 first presents the hazard into employment, divided into the three spell groups, while Table A.18 presents the hazard into NLF; both hazards are estimated as competing risks. The UI dummy variables are significantly different from zero in the results for 86-87 spells, with UI86 having a significantly negative coefficient for the employment hazard and with UI87 also having a negative coefficient for the NLF hazard. In addition, there is a numerically large and significantly negative UI87 coefficient for the 87 spell hazard into NLF. The variables associated with being male and with the presence of children exert a significant influence in some of the estimated specifications, the first having opposite effects on 87 spell hazards into employment and NLF. Regional effects are strongest (relative to Ontario) in the Atlantic provinces; for every spell group, regional variables have a significantly depressing effect on the hazard into employment and a positive effect on the hazard into NLF.

For the second LMA-LFS dataset, the comparable competing-risks results are given in Tables A.19 and A.20, using the same calendar year UI recipiency analysis and spell-group breakdown as in Tables A.17 and A.18. In this case, however, none of the UI coefficients are significant for the hazard into either employment or NLF, although many of the other control variables do exhibit similar effects, with regional variables lowering the hazard into employment (all relative to Ontario) and raising the hazard into NLF. Overall, though, one might be reluctant to read too much into the significant UI effects found with the first LMS-LFS dataset, given that these effects are not found in the 1988-89 data.

Some confirmation of these results in found in Table A.21, which uses the 1988-90 LMAS spell-specific UI variables matched to the unemployment spells from the second LMA-LFS dataset. With the same other controls as before, both a single-hazard and a competing-risks specification (into employment or NLF) produce insignificant coefficients for both UI variables. In each case, the point estimates for UI spell are positive and those for UI weeks are negative, both of these results being consistent with the non-employment spell results in Table A.10; however, the standard errors are such that it cannot reliably be inferred that these estimates are not different from zero just by chance. While negative in one sense, the results are consistent with the various calendar-year-based figures from the preceding two tables.

Competing-risks Analysis: Breakdown by Job Type

In addition to the three-state breakdown provided by the LMA-LFS matched data, a competing-risks analysis of a multi-state framework was conducted, with

11 That is, studies that have unemployment data available but only investigate a single-hazard specification may potentially be quite misleading.

a variety of job types as alternative, competing outcomes. The employment types used follow those in the preceding section, so that the principal differences are the present use of unemployment as the origin state and the possibility that an unemployment spell may end in withdrawal from the labour force. The results for the coefficients of the UI dummy variables in this competing-risks framework are presented in Tables A.22 to A.25. Again, the sample employed includes all observations for which a satisfactory job match can be made (or which end in NLF) and hence differs slightly from the overall sample used in Tables A.17 to A.20, where the data requirements were slightly less stringent.

The industrial breakdown in Table A.22 yields only two significant UI variable coefficients from the first dataset for the risks into the various types of employment — a negative coefficient for UI87 in the case of the 86-87 spell hazard into service-sector employment, and a positive coefficient for UI87 in the case of the 87 spell hazard into manufacturing jobs. In the case of the second group of data, the industrial breakdown leads to results in Table A.23 that show some positive effects of both UI spell and UI weeks for unemployment spells that end in primary-sector jobs. However, estimates failed to converge for both manufacturing and services in these data.

The occupational competing-risks model using the 1986-87 data in Table A.24 shows that UI87 has negative effects on the 86-87 spell and 87 spell hazards into sales/service employment, though no other UI dummy variables are significant for hazards into employment. In both cases, UI86 and UI87 have significant effects on both 86-87 spell and 87 spell hazards into NLF. In the case of the 1988-89 data, Table A.25 shows that only the "other" category produced significant UI spell and UI weeks effects, both with positive point estimates, although again problems were experienced with the convergence of models in the case of two occupational outcomes.

The breakdown of employment into full-time and part-time status in the first LMA-LFS dataset, reported in Table A.26, failed to yield any significant effects of the UI dummy variables on hazards into employment, although the significant negative coefficients on these variables for the 86-87 spell and 87 spell hazards into NLF remain, with slightly altered point estimates.[12] In the case of the second dataset, Table A.27 shows significantly positive effects of both UI spell and UI weeks for full-time jobs, though the model did not converge in the case of part-time jobs.

Finally, Tables A.28 and A.29 report a breakdown of employment outcomes into short-term (less than 15 weeks) and long-term subsequent job durations for the two LMA-LFS datasets. In the case of the 1986-87 data, long-term jobs have significant negative UI effects from UI87 for both 86-87 spells and 87 spells, while no significant UI dummy variables were found for the hazard into short-term jobs. In the case of the 1988-89 unemployment spells, there is a significantly positive coefficient of UI spell for long-term jobs but the model again did not converge in the case of short-term outcomes.

12 These estimates differ from those in the preceding tables because the samples involved are slightly different, reflecting some missing data in each group of LMAS data for industry, occupation, full-time/part-time status, and job duration.

3. Conclusion

This paper has studied the effects of various indicators of UI recipiency on non-employment and unemployment durations, both in a single-hazard framework and with allowance for alternative job types modelled as competing risks. Throughout, care has been taken to use the best data available for the question at hand and to match the time period of UI recipiency with the associated spell of non-employment or unemployment. However, as noted previously, the timing information available in these data is inadequate for the study of potentially delicate (and potentially important) UI exhaustion effects. Given this qualification, the principal findings of the research are as follows:

- UI recipiency has a significant effect on non-employment spell durations, estimated in both a regression and a hazard framework for 1986-87;
- UI recipiency has some unusual or perverse effects in the case of non-employment spells that span at least one calendar-year "seam" (1986-87, 1988-89, 1988-90, and 1989-90), perhaps as a consequence of reverse causation from spell duration to UI eligibility;
- there are some interesting differences in the pattern of UI effects in the competing-risks analysis of non-employment spells, especially with respect to subsequent job duration;
- UI recipiency variables have a significant influence on the probability of moving from unemployment to employment, compared with that of leaving the labour force altogether, at least in 1986-87;
- UI recipiency variables have little effect on unemployment spells, according to LFS data for the period 1988-89;
- competing-risks analysis of unemployment durations in 1986-87 shows that sales/service occupations play a distinctive role, as do long-term vs. short-term jobs;
- there is some evidence that the use of spell-specific UI data (made possible by the second LMAS dataset) supports the results based on calendar-year UI recipiency information, indicating only slight and insignificant UI effects during the 1988-89 period.

Appendix: Tables

General Notes

N = sample size

* = coefficient significant diferent from zero at the 5 percent level

** = coefficient significantly different from zero at the 1 percent level

1. Durations are in weeks; “completed” denotes the fraction of spells that ended before the end of 1987; UI86 and UI87 denote UI recipiency in 1986 and 1987, respectively.
2. Durations are in weeks; “completed” denotes the fraction of spells that ended before the end of 1990; UI88, UI89, and UI90 denote UI recipiency in 1988, 1989 and 1990, respectively.
3. Estimated on a sample that excludes non-employment spells where the exit from the previous employment is coded as to a non-unemployment state (e.g., education).
4. Other controls included in the estimated equations but with coefficients not reported here are “male,” “married,” and “visible minority” dummy variables, as well as age, years of education, number of own children, and region of residence.

Table A.1
Summary Statistics on 1986-87 Non-Employment Spells, by Sequence Number

Spell Number		1986 spells	1986-87 spells	1987 spells
1	Mean duration	9.47	46.43	15.41
	Completed	1.00	0.71	0.45
	UI86	0.48	0.48	0.14
	UI87	0.38	0.44	0.41
	N	7,143	6,949	6,443
2	Duration	5.39	32.67	12.09
	Completed	1.00	0.83	0.39
	UI86	0.52	0.59	0.46
	UI87	0.45	0.56	0.53
	N	1,510	1,157	5,869
3	Duration	4.89	28.75	9.51
	Completed	1.00	0.86	0.46
	UI86	0.56	0.61	0.53
	UI87	0.50	0.60	0.59
	N	444	295	2019
4	Duration	8.83	27.66	9.13
	Completed	1.00	0.93	0.42
	UI86	0.55	0.57	0.59
	UI87	0.44	0.55	0.66
	N	149	161	760
5	Duration	7.25	26.27	9.03
	Completed	1.00	0.86	0.48
	UI86	0.63	0.57	0.62
	UI87	0.43	0.57	0.64
	N	35	44	290

Source 1986-87 Labour Market Activity Survey.
Note: See General Note 1.

Table A.2
Summary Statistics of the Full Sample of 1988-90 Non-Employment Spells

	1988	1988-89	1988-90	1989	1989-90	1990
Mean duration	8.66	32.71	111.16	8.63	39.62	16.61
	(8.30)	(15.17)	(25.17)	(8.15)	(24.06)	(14.87)
Completed	1.00	1.00	0.35	1.00	0.79	0.39
	(0.00)	(0.00)	(0.48)	(0.00)	(0.41)	(0.49)
UI88	0.48	0.55	0.38	0.33	0.31	0.31
	(0.50)	(0.50)	(0.49)	(0.47)	(0.46)	(0.46)
UI89	0.37	0.55	0.22	0.47	0.41	0.32
	(0.48)	(0.50)	(0.41)	(0.50)	(0.49)	(0.47)
UI90	0.35	0.46	0.11	0.37	0.38	0.49
	(0.48)	(0.50)	(0.31)	(0.48)	(0.49)	(0.50)
N	5,706	4,844	1,769	5,253	8,594	14,240

Source 1988-90 Labour Market Activity Survey.
Note: See General Note 2.

Table A.3
Summary Statistics on 1988-90 Non-Employment Spells, by Sequence Number

	1988	1988-89	1988-90	1989	1989-90	1990
FIRST SPELLS						
Mean duration	9.06	34.38	112.89	9.25	43.21	22.02
	(8.55)	(14.93)	(24.78)	(8.63)	(26.32)	(17.80)
Completed	1.00	1.00	0.34	1.00	0.74	0.38
	(0.00)	(0.00)	(0.47)	(0.00)	(0.44)	(0.49)
UI88	0.47	0.53	0.37	0.16	0.14	0.09
	(0.50)	(0.50)	(0.48)	(0.37)	(0.34)	(0.28)
UI89	0.35	0.53	0.20	0.39	0.29	0.07
	(0.48)	(0.50)	(0.40)	(0.49)	(0.45)	(0.25)
UI90	0.34	0.44	0.10	0.27	0.28	0.35
	(0.48)	(0.50)	(0.29)	(0.45)	(0.45)	(0.48)
N	5,022	3,923	1,585	2,528	4,313	4,746
SECOND SPELLS						
Mean duration	5.72	26.21	96.48	8.42	37.57	15.89
	(5.23)	(14.32)	(23.81)	(7.92)	(21.01)	(14.00)
Completed	1.00	1.00	0.49	1.00	0.83	0.42
	(0.00)	(0.00)	(0.50)	(0.00)	(0.38)	(0.49)
UI88	0.56	0.62	0.50	0.45	0.45	0.29
	(0.50)	(0.49)	(0.50)	(0.50)	(0.50)	(0.45)
UI89	0.46	0.61	0.31	0.52	0.51	0.31
	(0.50)	(0.49)	(0.47)	(0.50)	(0.50)	(0.46)
UI90	0.42	0.51	0.19	0.43	0.46	0.49
	(0.49)	(0.50)	(0.39)	(0.49)	(0.50)	(0.50)
N	598	787	106	1,873	3,011	4,207
THIRD SPELLS						
Mean duration	5.46	22.44	97.47	7.52	33.70	12.92
	(4.51)	(12.35)	(25.94)	(7.04)	(20.53)	(10.81)
Completed	1.00	1.00	0.40	1.00	0.84	0.34
	(0.00)	(0.00)	(0.51)	(0.00)	(0.36)	(0.48)
UI88	0.67	0.71	0.47	0.54	0.55	0.47
	(0.47)	(0.45)	(0.52)	(0.50)	(0.50)	(0.50)
UI89	0.54	0.68	0.40	0.60	0.59	0.49
	(0.50)	(0.47)	(0.51)	(0.49)	(0.49)	(0.50)
UI90	0.46	0.58	0.20	0.50	0.52	0.58
	(0.50)	(0.50)	(0.41)	(0.50)	(0.50)	(0.49)
N	76	115	15	646	968	3,250

Source 1988-90 Labour Market Activity Survey.
Note: See General Note 2.

Table A.4
OLS Model of the Determinants of First 1986-87 Non-Employment Spells

	1986 spells	1986-87 spells	1987 spells
UI86	2.20** (0.23)	2.37** (0.66)	—
UI87	—	15.38** (0.66)	3.62** (0.33)
Male	-0.90** (0.22)	-7.56** (0.51)	-2.84** (0.32)
Married	0.02 (0.25)	-0.24 (0.60)	-0.80* (0.37)
Visible minority	0.01 (0.60)	2.96* (1.31)	1.43 (0.83)
Age	0.01 (0.01)	0.35** (0.02)	0.14** (0.01)
Years of education	0.05 (0.05)	0.12 (0.14)	-0.18* (0.08)
Number of own children	0.03 (0.08)	-0.67** (0.20)	-0.31* (0.13)
Atlantic provinces	-0.04 (0.33)	1.81* (0.79)	1.15* (0.48)
Quebec	0.35 (0.38)	1.85* (0.91)	1.10* (0.54)
Prairie provinces	0.52 (0.31)	3.67** (0.82)	1.17* (0.46)
British Columbia	0.56 (0.39)	2.92** (1.08)	0.19 (0.60)
Constant	7.61** (0.76)	42.01** (1.94)	12.40** (1.12)

Note: See General Note 3.

Table A.5
Coefficients on UI Dummy Variables in OLS Equations for Determinants of 1986-87 Non-Employment Spells by Sequence Number

	1986 spells	1986-87 spells		1987 spells
Spell	UI86	UI86	UI87	UI87
1	2.20** (0.23)	2.37** (0.66)	-15.38** (0.66)	3.62** (0.33)
2	0.40 (0.31)	0.80 (1.51)	-7.25** (1.50)	0.01 (0.29)
3	-0.22 (0.60)	2.26 (2.85)	-12.05** (2.76)	-0.43 (0.46)
4	-0.81 (1.67)	2.29 (3.64)	-9.00* (3.74)	-0.97 (0.78)
5	-0.33 (3.10)	3.58 (10.25)	-18.58* (9.39)	-1.45 (1.30)

Notes: Each entry gives the coefficient of the respective dummy variable indicating UI recipiency in 1986 or 1987 in an OLS (ordinary-least-squares) equation for the determinants of non-employment duration. See also General Note 4.

Table A.6
Cox Proportional-Hazards Model of the Determinants of 1986-87 Non-Employment Spells

	1986 spells	1986-87 spells	1987 spells
UI86	-0.19** (0.03)	0.04 (0.04)	—
UI87	—	0.81** (0.04)	-0.15** (0.04)
Male	0.07* (0.03)	0.46** (0.03)	0.31** (0.04)
Married	0.04 (0.03)	0.00 (0.04)	0.21** (0.04)
Visible minority	0.04 (0.07)	-0.27** (0.08)	-0.27** (0.10)
Age	0.00 (0.00)	-0.02** (0.00)	-0.02** (0.00)
Years of education	0.00 (0.01)	0.00 (0.01)	0.05** (0.01)
Number of own children	0.00 (0.01)	0.04** (0.01)	-0.01 (0.02)
Atlantic provinces	-0.02 (0.04)	-0.09 (0.05)	-0.40** (0.06)
Quebec	-0.06 (0.05)	-0.16** (0.05)	-0.25** (0.06)
Prairie provinces	-0.06 (0.04)	-0.19** (0.05)	-0.21** (0.05)
British Columbia	-0.09 (0.05)	-0.19** (0.07)	-0.11 (0.07)

Note: See General Note 3.

Table A.7
Cox Proportional Hazards Model of the Determinants of 1988-90 Non-Employment Spells

	1988	1988-89	1988-90	1989	1989-90	1990
UI88	-0.36** (0.03)	-0.17** (0.05)	0.03 (0.11)	—	—	—
UI89	—	0.38** (0.04)	0.17 (0.12)	-0.41** (0.04)	-0.25** (0.05)	—
UI90	—	—	1.37** (0.11)	—	0.34** (0.05)	0.25** (0.05)
Male	0.18** (0.03)	0.30** (0.03)	0.30** (0.10)	0.15** (0.04)	0.36** (0.04)	0.34** (0.05)
Married	-0.04 (0.04)	0.11** (0.04)	-0.29* (0.11)	-0.00 (0.05)	0.18** (0.05)	0.18** (0.06)
Visible minority	-0.02 (0.09)	-0.19 (0.10)	0.13 (0.25)	-0.01 (0.13)	-0.08 (0.12)	-0.23 (0.13)
Age	-0.00 (0.00)	-0.00 (0.00)	-0.04** (0.00)	0.00 (0.00)	-0.02** (0.00)	-0.02** (0.00)
Years of education	-0.01 (0.01)	0.00 (0.01)	0.06** (0.02)	-0.01 (0.01)	0.04** (0.01)	0.03* (0.01)
Number of own children	-0.02 (0.01)	0.02 (0.01)	0.02 (0.04)	-0.01 (0.02)	0.03 (0.02)	0.07** (0.02)
Atlantic provinces	-0.05 (0.05)	-0.03 (0.06)	-0.03 (0.15)	-0.12 (0.06)	0.05 (0.05)	-0.19* (0.08)
Quebec	-0.06 (0.05)	0.07 (0.07)	-0.07 (0.16)	-0.08 (0.07)	-0.09 (0.07)	-0.26** (0.08)
Prairie provinces	-0.04 (0.05)	0.04 (0.06)	0.07 (0.15)	-0.07 (0.06)	-0.17** (0.06)	-0.07 (0.07)
British Columbia	-0.10 (0.06)	-0.03 (0.08)	0.19 (0.18)	-0.12 (0.08)	-0.11 (0.08)	0.20* (0.09)

Notes: Each entry gives the coefficient on the respective dummy variable indicating UI recipiency in 1988, 1989, or 1990 in a Cox hazard specification equation for the determinants of non-employment duration; all non-employment spells are employed in the estimation.
See also General Note 4.

Table A.8
Coefficients of UI Dummy Variables in Cox Hazard Estimation of the Determinants of 1986-87 Non-Employment Spells by Sequence Number

	1986 spells	1986-87 spells		1987 spells
Spell	UI86	UI86	UI87	UI87
1	-0.22** (0.03)	0.06 (0.04)	0.78** (0.04)	-0.16** (0.04)
2	-0.07 (0.06)	0.00 (0.09)	0.47** (0.09)	0.06 (0.05)
3	0.01 (0.11)	-0.04 (0.18)	0.77** (0.18)	0.10 (0.08)
4	0.00 (0.21)	-0.31 (0.24)	0.62* (0.26)	0.07 (0.13)
5	0.20 (0.44)	-0.39 (0.64)	1.57* (0.64)	-0.03 (0.20)

Notes: Each entry gives the coefficient of the respective dummy variable indicating UI recipiency in 1986 or 1987 in an Cox hazard specification equation for the determinants of non-employment duration; all non-employment spells are employed in the estimation.
See also General Note 4.

Table A.9
Coefficients on UI Dummy Variables in Cox Hazard Estimation of the Determinants of 1988-90 Non-Employment Spells by Sequence Number

	1988	1988-89	1988-90	1989	1989-90	1990
First spells						
UI88	-0.36** (0.03)	-0.17** (0.05)	0.03 (0.11)	—	—	—
UI89	—	0.38** (0.04)	0.17 (0.12)	-0.41** (0.04)	-0.25** (0.05)	—
UI90	—	—	1.37** (0.11)	—	0.34** (0.05)	0.25** (0.05)
Second spells						
UI88	-0.20* (0.10)	-0.20 (0.12)	0.45 (0.28)	—	—	—
UI89	—	0.32** (0.11)	-0.45 (0.29)	-0.14* (0.05)	-0.00 (0.06)	—
UI90	—	—	1.42** (0.36)	—	0.57** (0.05)	0.18** (0.05)

Notes: Each entry gives the coefficient on the respective dummy variable indicating UI recipiency in 1988, 1989, or 1990 in a Cox hazard specification equation for the determinants of non-employment duration; all non-employment spells are employed in the estimation.
See also General Note 4.

Table A.10
Cox Proportional-Hazards Model of the Determinants of 1988-90 Non-Employment Spells Using Spell-Specific UI Variables

	Specification 1	Specification 2
UI receipt in spell	0.83** (0.03)	—
UI weeks in spell	—	0.02** (0.00)
Male	0.36** (0.02)	0.35** (0.02)
Married	0.12 (0.01)	0.16** (0.02)
Visible minority	-0.09 (0.05)	-0.09* (0.05)
Age	-0.02** (0.00)	-0.02** (0.00)
Years of education	0.02** (0.00)	0.03** (0.00)
Number of own children	0.02* (0.01)	0.01 (0.01)
Atlantic provinces	-0.04 (0.02)	-0.05* (0.02)
Quebec	-0.08 (0.03)	-0.08** (0.03)
Prairie provinces	-0.01 (0.02)	-0.02 (0.02)
British Columbia	-0.07* (0.03)	0.06 (0.03)

Note: Based on a proportional-hazards estimation of a full 1988-90 sample, using spell-specific UI recipiency and UI duration measures.

Table A.11
Coefficients on UI Dummy Variables in Cox Hazard Estimation of Competing-Risks Specification for the Determinants of 1986-87 Non-Employment Spells

	1986 spells	1986-87 spells		1987 spells
	UI86	UI86	UI87	UI87
INDUSTRY				
Primary	-0.11 (0.15)	0.15 (0.13)	1.08** (0.13)	0.19 (0.21)
Manufacturing	0.15 (0.10)	0.39** (0.09)	1.03** (0.09)	0.25* (0.13)
Services	-0.48** (0.05)	-0.03 (0.06)	0.63** (0.06)	-0.35** (0.07)
OCCUPATION				
Management/professional	-0.64** (0.10)	-0.07 (0.11)	0.56** (0.11)	-0.42** (0.12)
Clerical	-0.20 (0.11)	0.13 (0.12)	0.64** (0.12)	0.04 (0.13)
Sales/services	-0.63** (0.09)	-0.29** (0.10)	0.57** (0.10)	-0.62** (0.12)
Other	0.00 (0.07)	0.30** (0.06)	1.00** (0.06)	0.09 (0.09)

Notes: Each entry gives the coefficient of the respective dummy variable indicating UI recipiency in 1986 or 1987 in a Cox hazard specification equation for the determinants of non-employment duration; all non-employment spells are employed in the estimation.
See also General Note 4.

Table A.12
Coefficients on Spell-Specific UI Variables in Cox Hazard Estimation of Competing-Risks Specification for the Determinants of 1988-90 Non-Employment Spells

	Industry		
	Primary	Manufacturing	Services
UI spell	1.22** (0.12)	1.23** (0.07)	0.99** (0.05)
UI weeks	0.03** (0.01)	0.03** (0.00)	0.03** (0.00)

	Occupation			
	Management/ professional	Clerical	Sales/services	Other
UI spell	1.17** (0.09)	1.05** (0.09)	0.55** (0.10)	1.22** (0.06)
UI weeks	-0.01 (0.01)	-0.02* (0.01)	-0.06** (0.01)	-0.02** (0.00)

Notes: Each entry gives the coefficient of the respective UI variable in a Cox hazard competing-risks specification equation for the determinants of 1988-90 non-employment duration.
See also General Note 4.

Table A.13
Coefficients on UI Dummy Variables in Cox Hazard Estimation of Competing-Risks Specification for the Determinants of 1986-87 Non-Employment Spells

	1986 spells	1986-87 spells		1987 spells
	UI86	UI86	UI87	UI87
JOB TYPE				
Full-time	-0.21** (0.05)	0.22** (0.05)	0.91** (0.05)	-0.11 (0.06)
Part-time	-0.58** (0.08)	-0.26** (0.08)	0.28** (0.08)	-0.43** (0.10)
JOB DURATIONS				
Short < 15 wks	-0.15* (0.07)	-0.05 (0.08)	0.92** (0.08)	-0.22* (0.11)
Long >14 wks	-0.43** (0.06)	0.18** (0.05)	0.75** (0.05)	-0.19** (0.06)
Short < 10 wks	-0.21* (0.09)	-0.08 (0.11)	0.74** (0.11)	-0.17 (0.14)
Long > 9 wks	-0.36** (0.05)	0.15** (0.05)	0.81** (0.05)	-0.20** (0.06)
Short < 5 wks	-0.09 (0.13)	-0.10 (0.19)	0.67** (0.19)	-0.08 (0.21)
Long > 4 wks	-0.35** (0.05)	0.13** (0.05	0.80** (0.04)	-0.20** (0.06)

Notes: Each entry gives the coefficient of the respective dummy variable indicating UI recipiency in 1986 or 1987 in a Cox hazard competing-risks specification equation for the determinants of non-employment duration. See also General Note 4.

Table A.14
Coefficients on UI Variables in Cox Hazard Estimation of Competing-Risks Specification for the Determinants of 1988-90 Non-Employment Spells

	Job type	
	Full-time	Part-time
UI spell	1.24** (0.04)	0.66** (0.09)
UI weeks	0.03** (0.00)	0.02** (0.01)

	Job duration	
	Short job (< 15 weeks)	Long job (>14 weeks)
UI spell	-3.63** (1.00)	1.24** (0.04)
UI weeks	-1.02 (0.64)	0.03** (0.00)

Notes: Each entry gives the coefficient on the respective dummy variable indicating UI receipt in 1986 or 1987 in a Cox hazard competing-risks specification equation for the determinants of non-employment duration. See also General Note 4.

Table A.15
Summary Statistics on LMA-LFS 1986-87 Unemployment Spells by Sequence Number

	Duration (months)	Right-censored	Ends in employment	Ends in NLF	N
Spell Number					
1	1.82 (1.15)	0.41 (0.49)	0.31 (0.47)	0.27 (0.44)	6,841
2	1.34 (0.59)	0.69 (0.46)	0.16 (0.37)	0.15 (0.35)	797
3	1.00 (0.00)	1.00 (0.00)	0.00 (0.00)	0.00 (0.00)	12

Source 1986-87 Labour Market Activity Survey and Labour Force Survey.
Notes: Summary statistics for unemployment durations from 1986-87 Labour Market Activity Survey matched to the contemporaneous Labour Force Survey, Durations are in months, Right Censored denotes the fraction of unemployment spells that are still in progress at the end of the LFS sampling window, while the following two columns denote the fractions of unemployment spells that end in Employment and in NLF (labour force withdrawal), respectively. N denotes the sample size.

Table A.16
Summary Statistics on LMA-LFS 1988-89 Unemployment Spells by Sequence Number

	Duration (months)	Right-censored	Ends in employment	Ends in NLF	N
Spell Number					
1	1.78 (1.10)	0.41 (0.49)	0.31 (0.46)	0.28 (0.45)	4456
2	1.27 (0.52)	0.76 (0.43)	0.11 (0.32)	0.12 (0.33)	567
3	1.00 (0.00)	1.00 (0.00)	0.00 (0.00)	0.00 (0.00)	5

Source 1988-90 Labour Market Activity Survey and Labour Force Survey.
Notes: Summary statistics for unemployment durations from 1988-90 Labour Market Activity Survey matched to the contemporaneous Labour Force Survey, Durations are in months, Right Censored denotes the fraction of unemployment spells that are still in progress at the end of the LFS sampling window, while the following two columns denote the fractions of unemployment spells that end in Employment and in NLF (labour force withdrawal), respectively. N denotes the sample size.

Table A.17
Cox Proportional-Hazards, Competing-Risks Model of the Determinants of 1986-87 Unemployment Spells: Hazard into Employment

	1986 spells	1986-87 spells	1987 spells
UI86	-0.15 (0.12)	-0.42** (0.16)	—
UI87	—	-0.17 (0.16)	-0.11 (0.07)
Male	0.11 (0.11)	-0.12 (0.14)	0.21** (0.07)
Married	0.02 (0.12)	-0.15 (0.16)	0.12 (0.07)
Visible minority	0.15 (0.29)	0.18 (0.28)	-0.18 (0.20)
Age	-0.00 (0.01)	0.00 (0.01)	-0.00 (0.00)
Years of education	0.03 (0.03)	0.05 (0.04)	0.03 (0.02)
Number of own children	-0.10* (0.04)	0.15** (0.05)	0.02 (0.02)
Atlantic provinces	-0.37* (0.17)	-0.48* (0.20)	-0.29** (0.09)
Quebec	-0.27 (0.19)	-0.39 (0.24)	-0.20 (0.11)
Prairie provinces	-0.08 (0.17)	-0.38 (0.20)	-0.25* (0.10)
British Columbia	-0.15 (0.12)	-0.39 (0.25)	-0.01 (0.12)

*Notes: ** Denotes a coefficient significantly different from zero at the 1 percent level,*
** Similarly at the 5 percent level.*

Table A.18
Cox Proportional-Hazards, Competing-Risks Model of the Determinants of 1986-87 Unemployment Spells: Hazard into NLF

	1986 spells	1986-87 spells	1987 spells
UI86	0.17 (0.13)	-0.28 (0.16)	—
UI87	—	-0.40* (0.16)	-0.52** (0.08)
Male	-0.19 (0.12)	-0.02 (0.14)	-0.28** (0.08)
Married	0.09 (0.14)	0.02 (0.15)	-0.03 (0.09)
Visible minority	0.15 (0.37)	0.02 (0.33)	0.01 (0.24)
Age	-0.00 (0.00)	-0.01 (0.01)	0.00 (0.00)
Years of education	-0.11** (0.04)	-0.06 (0.04)	-0.07** (0.02)
Number of own children	0.07 (0.04)	0.05 (0.05)	0.00 (0.03)
Atlantic provinces	0.52* (0.22)	0.73** (0.26)	0.41** (0.12)
Quebec	0.63** (0.23)	1.05** (0.27)	0.33* (0.14)
Prairie provinces	0.39 (0.23)	0.41 (0.27)	-0.16 (0.14)
British Columbia	0.45 (0.26)	0.18 (0.33)	-0.06 (0.17)

*Notes: ** Denotes a coefficient significantly different from zero at the 1 percent level,*
** Similarly at the 5 percent level.*

Table A.19
Cox Proportional-Hazards, Competing-Risks Model of the Determinants of 1988-89 Unemployment Spells: Hazard into Employment

	1988 spells	1988-89 spells	1989 spells
UI88	0.05 (0.12)	-0.03 (0.13)	—
UI89	—	0.04 (0.13)	-0.14 (0.08)
Male	-0.04 (0.11)	0.02 (0.12)	0.10 (0.08)
Married	0.09 (0.12)	-0.11 (0.14)	0.13 (0.10)
Visible minority	-0.02 (0.35)	-0.63 (0.46)	0.15 (0.20)
Age	0.00 (0.00)	0.00 (0.01)	-0.00 (0.00)
Years of education	-0.00 (0.03)	0.02 (0.02)	-0.00 (0.02)
Number of own children	0.01 (0.05)	0.13** (0.05)	0.05 (0.03)
Atlantic provinces	-0.36* (0.18)	-0.60** (0.20)	-0.59** (0.12)
Quebec	-0.56** (0.21)	-0.50* (0.22)	-0.48** (0.14)
Prairie provinces	0.14 (0.18)	-0.27 (0.21)	-0.43** (0.14)
British Columbia	-0.43* (0.21)	-0.48* (0.24)	-0.18 (0.16)

*Notes: ** Denotes a coefficient significantly different from zero at the 1 percent level,*
** Similarly at the 5 percent level.*

Table A.20
Cox Proportional Hazards Competing Risks Model of the Determinants of 1988-89 Unemployment Spells: Hazard into NLF

	1988 spells	1988-89 spells	1989 spells
UI88	-0.05 (0.13)	0.17 (0.13)	—
UI89	—	-0.12 (0.13)	-0.06 (0.09)
Male	0.05 (0.12)	-0.32** (0.12)	-0.16 (0.08)
Married	-0.07 (0.13)	0.37* (0.15)	0.11 (0.10)
Visible minority	-0.01 (0.39)	-0.01 (0.42)	0.02 (0.27)
Age	-0.01 (0.01)	-0.00 (0.01)	-0.01 (0.00)
Years of education	0.01 (0.03)	-0.05 (0.03)	-0.00 (0.02)
Number of own children	-0.09 (0.05)	0.02 (0.05)	0.02 (0.04)
Atlantic provinces	0.58* (0.23)	-0.06 (0.22)	0.02 (0.14)
Quebec	0.71** (0.24)	0.04 (0.24)	-0.06 (0.16)
Prairie provinces	-0.20 (0.28)	-0.01 (0.24)	-0.36* (0.17)
British Columbia	0.50 (0.26)	-0.87** (0.31)	-0.64** (0.23)

*Notes: ** Denotes a coefficient significantly different from zero at the 1 percent level,*
** Similarly at the 5 percent level.*

Table A.21
Coefficients of Spell-Specific UI Variables in Cox Hazard Estimation of Single-Hazard and Competing-Risks Specification for the Determinants of 1988-89 Unemployment Spells

		Competing risks	
	Single hazard	Into employment	Into NLF
UI spell	0.31 (0.23)	0.11 (0.36)	0.48 (0.29)
UI weeks	-0.02 (0.02)	-0.01 (0.03)	-0.03 (0.03)

Notes: Each entry gives the coefficient of the respective spell-specific UI variable in a single-hazard or competing-risks specification for the determinants of unemployment duration.
See also General Note 4.

Table A.22
Coefficients of UI Dummy Variables in Cox Hazard Estimation of Competing-Risks Specification for the Determinants of 1986-87 Unemployment Spells

	1986 spells	1986-87 spells		1987 spells
	UI86	UI86	UI87	UI87
Primary sector	0.39 (0.63)	1.78 (1.16)	-0.32 (0.77)	-0.51 (0.28)
Manufacturing sector	0.08 (0.46)	-0.26 (0.41)	0.04 (0.40)	0.57** (0.20)
Service sector	-0.06 (0.22)	0.02 (0.32)	-0.77* (0.31)	-0.31 (0.13)
NLF	-0.05 (0.13)	-0.37* (0.16)	-0.37* (0.16)	-0.52** (0.08)

Notes: Each entry gives the coefficient of the respective dummy variable indicating UI recipiency in 1986 or 1987 in a Cox hazard competing-risks specification equation for the determinants of unemployment duration.
See also General Note 4.

Table A.23
Coefficients of Spell-Specific UI Variables in Cox Hazard Estimation of Competing-Risks Specification for the Determinants of 1988-89 Unemployment Spells

	Industry			
	Primary	Manufacturing	Services	NLF
UI spell	3.91** (1.30)	—	—	0.54 (0.41)
UI weeks	0.33* (0.13)	—	—	-0.01 (0.04)

Notes: Each entry gives the coefficient of the respective spell-specific UI variable in a single-hazard or competing-risks specification for the determinants of unemployment duration.
See also General Note 4.

Table A.24
Coefficients on UI Dummy Variables in Cox Hazard Estimation of Competing Risks Specification for the Determinants of 1986-87 Unemployment Spells

	1986 spells	1986-87 spells		1987 spells
	UI86	UI86	UI87	UI87
Management/professional	-0.02 (0.45)	-0.47 (0.66)	-0.76 (0.62)	-0.36 (0.27)
Clerical	0.49 (0.53)	0.52 (0.65)	-0.74 (0.58)	-0.13 (0.29)
Sales/services	-0.39 (0.43)	0.47 (0.48)	-2.59** (0.67)	-0.48* (0.22)
Other	0.03 (0.29)	-0.20 (0.35)	0.47 (0.35)	0.15 (0.14)
NLF	-0.05 (0.13)	-0.37* (0.16)	-0.37* (0.16)	-0.52** (0.08)1

Notes: Each entry gives the coefficient on the respective dummy variable indicating UI receipt in 1986 or 1987 in a Cox hazard competing risks specification equation for the determinants of unemployment duration.
See also General Note 4.

Table A.25
Coefficients on Spell-Specific UI Variables in Cox Hazard Estimation of Competing Risks Specification for the Determinants of 1988-89 Unemployment Spells

	Occupation				
	Management/ professional	Clerical	Sales/ services	Other	NLF
UI spell	—	—	1.89 (1.06)	2.03** (0.60)	0.54 (0.41)
UI weeks	—	—	0.07 (0.07)	0.08* (0.04)	-0.01 (0.04)

Notes: Each entry gives the coefficient on the respective spell-specific UI variable in a single hazard or competing risks specification for the determinants of unemployment duration.
See also General Note 4.

Table A.26
Coefficients on UI Dummy Variables in Cox Hazard Estimation of Competing-Risks Specification for the Determinants of 1986-87 Unemployment Spells

	1986 spells	1986-87 spells		1987 spells
	UI86	UI86	UI87	UI87
Full-time	0.25 (0.26)	0.06 (0.32)	-0.33 (0.30)	0.14 (0.13)
Part-time	-0.24 (0.31)	-0.54 (0.50)	-0.30 (0.56)	-0.17 (0.24)
NLF	-0.05 (0.13)	-0.34* (0.16)	-0.40* (0.16)	-0.53** (0.08)

Notes: Each entry gives the coefficient on the respective spell-specific UI variable in a single hazard or competing risks specification for the determinants of unemployment duration.
See also General Note 4.

Table A.27
Coefficients on Spell-Specific UI Variables in Cox Hazard Estimation of Competing-Risks Specification for the Determinants of 1988-89 Unemployment Spells

	Job type		
	Full-time	Part-time	NLF
UI spell	2.10** (0.52)	—	0.54 (0.41)
UI weeks	0.07* (0.03)	—	-0.01 (0.04)

Notes: Each entry gives the coefficient on the respective spell-specific UI variable in a single hazard or competing risks specification for the determinants of unemployment duration.
See also General Note 4.
The symbol — indicates that the estimated equation failed to converge.

Table A.28
Coefficients on UI Dummy Variables in Cox Hazard Estimation of Competing-Risks Specification for the Determinants of 1986-87 Unemployment Spells

	1986 spells	1986-87 spells		1987 spells
	UI86	UI86	UI87	UI87
Short-term job < 15 weeks	-0.17 (0.24)	-0.36 (0.76)	-0.29 (0.75)	0.55 (0.25)
Long-term job > 14 weeks	0.33 (0.31)	0.02 (0.25)	-0.49** (0.24)	-0.22* (0.11)
NLF	-0.05 (0.13)	-0.37* (0.16)	-0.37* (0.16)	-0.52** (0.08)

Notes: Each entry gives the coefficient on the respective dummy variable indicating UI receipt in 1986 or 1987 in a Cox Hazard competing-risks specification equation for the determinants of unemployment duration.
See also General Note 4.

Table A.29
Coefficients on Spell-Specific UI Variables in Cox Hazard Estimation of Competing-Risks Specification for the Determinants of 1988-89 Unemployment Spells

	Job type		
	Short-term job (< 15 weeks)	Long-term job (> 14 weeks)	NLF
UI spell	—	1.97** (0.51)	0.54 (0.41)
UI weeks	—	0.07 (0.03)	-0.01 (0.04)

Notes: Each entry gives the coefficient on the respective spell-specific UI variable in a single hazard or competing risks specification for the determinants of unemployment duration.
See also General Note 4.
The symbol — indicates that the estimated equation failed to converge.

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List of UI Evaluation Technical Reports

Unemployment Insurance Evaluation

In the spring of 1993, a major evaluation of UI Regular Benefits was initiated. This evaluation consists of a number of separate studies, conducted by academics, departmental evaluators, and outside agencies such as Statistics Canada. Many of these studies are now completed and the Department is in the process of preparing a comprehensive evaluation report.

Listed below are the full technical reports. Briefs of the full reports are also available separately. Copies can be obtained from:

Human Resources Development Canada
Enquiries Centre
140 Promenade du Portage
Phase IV, Level 0
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