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**ECONOMIC CIRCUMSTANCES AND THE STABILITY OF  
NONMARITAL COHABITATION**

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## **EXECUTIVE SUMMARY**

Using data from the first two waves of Survey of Labour and Income Dynamics (1993-1994), this paper examines the role of economic circumstances in cohabitation dissolution through legal marriage or union separation. Data are analysed using discrete-time event history methods separately for women and men, and for each of the competing exits. The results show that deterioration in household economic circumstances increases union instability. For both cohabiting women and men, an increase in personal earnings raises the likelihood of union separation. While semi-professional and skilled women are more likely to dissolve their unions through separation, professional and semi-professional men are more apt to marry their partners. Further, women with incomes below the low income cut-off point are more likely to separate than women with higher incomes. For dissolved unions, women who receive social assistance are more likely to separate than to marry. The implications of these results are discussed.



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## 1. INTRODUCTION

Nonmarital cohabitation has become an integral part of Canadian conjugal life. According to the 1996 Census, there were over 920,000 cohabiting couple families in Canada, or one in seven families, up from one in nine in 1991.<sup>1</sup> Nearly half of these families include children, whether born to the cohabiting couple or brought into the family from previous unions. About two-thirds of cohabiting couples were never married, and over a quarter were divorced (Canadian Census). Canada is not alone. Similar trends of nonmarital cohabitation have also been observed in other industrial countries (e.g., Blanc 1987; Bumpass and Sweet 1989; Carmichael 1990; Carlson 1985; Hoem 1986; Leridon 1990; Manting 1996; Ramsøy 1994).

The rapid increase in nonmarital cohabitation is crucial to our understanding of changing marriage patterns and the decline in marriage as a social institution. Although the prevalence and patterns of cohabitation have been well documented (e.g., Burch and Madan 1986; Dumas and Péron 1992; Thornton 1988) and the factors influencing union formation identified (e.g., Bumpass and Sweet 1989; Lillard, Brien and Linda J. Waite 1995, Thornton 1991; Wu and Balakrishnan 1994), we know relatively little about the outcomes of nonmarital cohabitation. The purpose of this study is to examine two competing outcomes of union relationships: union separation and legalisation through marriage.

In this study we focus on the role of economic circumstances in the process of nonmarital union dissolution. Prior studies have shown that economic factors such as labor income, employment status and welfare programs play an important role in

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<sup>1</sup> Cohabiting unions are commonly referred to as common-law unions in Canada. The Canadian Census defines common-law unions as two persons of opposite sex who are not legally married to each other, but live together as husband and wife in the same household.

the formation (e.g., Lefebvre and Merrigan 1997; MacDonald and Rindfuss 1981; Moffitt 1990; Schultz 1995) and dissolution of marital unions (e.g., Becker, Landes, and Michael 1977; South and Lloyd 1995; South and Spitze 1986; Tzeng and Mare 1995). We reason that the same economic circumstances may also influence cohabiting couples' decision to dissolve their unions through marriage or separation. Our empirical analysis draws on recent Canadian national longitudinal data which include detailed labour and income measures.

## **2.      PRIOR STUDIES**

The rising popularity of cohabitation as an alternative lifestyle has attracted much scholarly attention in recent years. However, few studies have focused on the stability of cohabitation relationships.<sup>2</sup> Many of the earlier studies are limited to providing descriptive accounts of union stability. The results of these studies generally indicate that cohabitations are fragile, short-lived unions which more often end in marriage than separation (e.g., Blanc 1987; Bumpass and Sweet 1989; Burch and Madan 1986; Leridon 1990). There was generally little discussion on why some unions were more stable than others, and why some unions turned into marriages but others were dissolved through separation.

As the incidence of cohabitation continues to rise, more union history data have been collected, providing opportunities for closer examinations of socioeconomic and demographic differentials of union stability. In the United States, for example, the 1987-88 National Survey of Families and Households (NSFH)

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<sup>2</sup> No attempt was made to provide an exhaustive review of the literature on (cohabiting) union stability. Our focus is on North America primarily because of space limitations and greater similarities in the patterns of cohabitation (and socioeconomic conditions) between Canada and the U.S. than between Canada and western European countries (see, e.g., Blanc 1987; Hoem and Hoem 1992; Trussell et al. 1992).



included detailed information about nonmarital cohabitations, and has provided data for several studies of cohabitation dissolution. Manning and Smock (1995) examined a range of sociodemographic determinants in the dissolution of cohabitations, and found that factors such as school enrollment, children, and age, all affected the likelihood of cohabitation dissolution. Further, full time employment was found to decrease the likelihood of separation, and men's employment was more important to the stability of the cohabitation than women's employment.

In a follow-up study, Smock and Manning (1997) focused on the effect of partners' economic circumstances on the stability of cohabitation relationships. It was an important study in that it measured the effects of both partners' economic situations, including both earnings and full-time/part-time employment status. Results of their study indicate that only the male partner's economic resources affected the stability of cohabitation. Increased earnings were found to increase the likelihood of marriage, while full time employment was associated with lower odds of separating than marrying.

The 1990 Canadian General Social Survey (GSS-90) has also generated data for several studies of nonmarital union stability. Wu and Balakrishnan (1995) found that when the analysis was separated by gender, cohabiting women were more likely to marry, while cohabiting men were more likely to separate. Regardless of their number or age, children had a strong negative impact on the likelihood of separation, perhaps by raising the benefits of a division of labour, or by raising the financial, psychic, and opportunity costs of separation (Wu 1995). Findings also suggest that cohabitations were more stable and accepted in the province of Quebec, as cohabitators there had lower separation and marriage rates. Consistent with Manning and Smock (1995), Wu and Balakrishnan (1995) found that women's school enrollment decreased the exit of cohabitation via marriage while increasing the likelihood of separation.

Unfortunately the GSS-90 does not provide measures of economic situations other than in the interview year, restricting the depth of research on Canadian nonmarital cohabitation.

Lefebvre and Merrigan (1997) also used GSS-90 data to examine cohabitation stability, but furthered previous analyses by including some imputed economic measures based on provincial-level data on labour income, labour market participation rates and welfare programs. Provincial welfare benefit levels and provincial labour force participation rates for men and women were not found to affect the hazard of union dissolution, although both men's and women's wage rates were negatively related to dissolution.

All of these studies indicate that cohabitations are temporary and transitory unions, that marriage is the most likely exit, and that men are more likely than women to end the cohabitation via separation. Children appear to play a preventative role in cohabitation dissolution, while school enrollment appears to impair union stability. However, the effects of other factors are not as consistent. Further, our understanding of the effect of economic circumstances on union stability is at best limited to measures of income level and full time or part time employment. Full time employment appears to enhance union stability in the United States, but the effects of other economic indicators such as occupational status are unknown. The only study to evaluate the impact of income at the individual level found that men's earnings increase the likelihood of marriage in the U.S. (Smock and Manning 1997). Beyond these few points based on a small number of studies, we do not know how economic circumstances affect the process of cohabitation dissolution.

### **3. ECONOMIC CIRCUMSTANCES AND THE STABILITY OF COHABITATION**

Prior research has often viewed nonmarital cohabitation as a "trial marriage" primarily because many cohabiting couples eventually marry each other (Bennett, Blanc, and Bloom. 1988; Thornton 1988). The 1987-88 NSFH data show that the most frequently cited reason for unmarried individuals living together is to assess compatibility before marriage (Bumpass, Sweet and Cherlin 1991). If this is true, then their economic circumstances during cohabitation may serve as a barometer of the economic future and role expectations the couple faces. Because marriage generally means an improvement in commitment to the union, the timing of marriage is often "a matter of convenience, rather than a marker of a changed commitment" (Bumpass and Sweet 1989, p. 615). Employment or other economic resources may facilitate the legalisation of the relationship.

Economic circumstances may also influence a couple's decision to separate. Here, we extend theories of marital instability (e.g., Becker et al. 1977) to include nonmarital cohabitation. We assume that the factors that influence marital stability are also relevant to nonmarital union stability (e.g., Becker et al. 1977; Morgan and Rindfuss 1985; South and Lloyd 1995; South and Spitze 1986). By the same logic, the factors that affect the entry into marriage should also be useful to understand the transition to legal marriage (e.g., Becker 1981; Goldscheider and Waite 1986; Marini 1978; Oppenheimer 1988).

Economic factors have been shown to affect the timing of marriage and its dissolution. Generally, past research suggests that men's economic circumstances affect marriage more than women's. Improved economic situations tend to spur on marriage. Employed men are more likely to marry than unemployed individuals or

students (Goldscheider and Waite 1986; Landale and Forste 1991; Oppenheimer, Kalmijn and Lim 1997; Raley 1996; Wilson 1987). Once married, an increase in men's earnings and hours worked appears to enhance marital stability (Becker et al. 1977; South and Lloyd 1995).

Although research on women's economic circumstances and social assistance is extensive, the findings are mixed. Women's employment and earnings have been found to facilitate the entry into marriage (Bennett, Bloom, and Craig 1989; Goldscheider and Waite 1986; Lichter et al. 1992; Tzeng and Mare 1995), to impair marital stability (e.g., Hoem and Hoem 1992; South and Spitze 1986), to deter divorce (Lefebvre and Merrigan 1997), or to be insignificant (e.g., South and Lloyd 1995). Further, social assistance may increase divorce (Allen 1993; Becker et al. 1977) perhaps by compensating for a reduction in economic resources as a result of marital dissolution. Other studies have indicated that welfare is not associated with marital stability (Lefebvre and Merrigan 1997; Lichter et al. 1992).

In this study we consider three hypotheses. First, we examine an economic deprivation hypothesis which suggests that the risk of union separation is high for individuals who experience relatively poor economic circumstances. Economic difficulties tend to create tension and conflict between partners, which in turn raises union instability. Further, if a prime purpose of marriage is to establish property rights and social status, couples with few assets or low incomes may feel content to continue cohabiting without marriage (Raley 1996; Lillard et al. 1995). It could also be that young couples cohabit until they are able to afford a place suitable for a married couple (Lillard et al. 1995). In short, we expect that cohabiting couples who experience difficult economic circumstances are less likely to marry and more likely to separate.

Second, we examine a female-oriented hypothesis in which cohabiting couples have a lower propensity to marry or remain together as women's economic positions improve. The reason is that women's economic independence may reduce the desirability of marriage (Becker et al. 1977). This hypothesis is also known as "independence hypothesis" (Oppenheimer 1994). Further, current Canadian social assistance programs tend to provide proportionately greater benefits to singles than to married couples (Morrison and Oderkirk 1994). Social assistance and employment may act as buffers to lost economic resources in the event of a union separation, particularly for women, reducing some of the financial barriers to separation from an unhappy or unproductive union. Therefore, we anticipate that improved women's economic circumstances and social assistance may increase union instability.

Third, we examine a male-oriented hypothesis in which men's increased economic position facilitates marriage, because historically marriage has been contingent on young men's abilities to establish an independent household at or above a certain socially accepted level (Dixon 1971; Goldscheider and Waite 1986; Oppenheimer 1988). In a recent review of American marriage patterns, Oppenheimer (1994) argues that it is the deterioration in men's employment opportunities, particularly those with lower levels of schooling, that has been responsible for recent delays and declines in marriage. The detrimental effect of poor employment opportunities on marriage has been particularly evident for young African Americans (Wilson 1987). Accordingly, we expect that an increase in men's economic position should elevate the likelihood that cohabiting couples marry.

## **4. METHODS**

### **Data**

The data used in this study come from the ongoing Survey of Labour and Income Dynamics (SLID), a longitudinal survey conducted by Statistics Canada, beginning in Spring 1993. The survey was designed to monitor the changes in the economic well-being of individuals and families over time, and to examine the determinants of their well-being. The survey is based on a probability sampling, with the target population consisting of persons over the age of 15 living in Canada, excluding people in the Yukon and Northwest Territories, residents of institutions, persons living on Reserves, and full-time members of the Canadian Armed Forces living in barracks. Individuals are interviewed twice a year by telephone to collect information about their labour market experiences, income, and family circumstances. The survey collects data on all persons in the selected households and follows them for six years. Our analysis is based on the first two waves of the SLID (1993-94). The cumulative response rate through the end of 1994 is 77.9%, and includes roughly 27,900 individuals.

The data are well suited to our analyses as they contain detailed information on respondents' economic circumstances, such as income, work schedules, and marital/cohabitational histories. However, except for a few crude measures of fertility for women, the SLID does not collect data on childbearing histories, although the presence and number of children are known to affect union stability (Wu 1995). (Data limitations will be discussed more fully in the last section of the paper.) To study cohabiting union stability, we restrict the sample to respondents who were cohabiting

at the beginning of the survey.<sup>3</sup> After deleting cases where responses to key variables are missing, our study sample includes 688 women and 671 men.

## **Variables**

*The Dependent Variables.* Our primary dependent variable is a trichotomy indicating whether a cohabiting couple: a) married, b) separated, or c) remained cohabiting without marriage in a given month. To compare and contrast the two competing outcomes of the cohabitation, we also use a dichotomy indicating whether the outcome was marriage or separation. Obviously, this variable is observed only for those who have made a transition out of the cohabitation.

*Economic Circumstance Variables.* We examine several aspects of the individual's financial and employment status. Table 1 provides operational definitions and means for the independent variables used in the analyses. We include four direct measures of the respondent's financial resources. Personal earnings are only observed yearly and thus measured as a yearly time-variant variable. Personal earnings include the respondent's total labour income and income from all other sources during the calendar year prior to the survey time. In order to capture the overall financial situation of the union (i.e., the partner's earnings), we also include family income in the analysis, which is also measured as a yearly time-variant variable. Family income includes the total earnings from all members of the household.

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<sup>3</sup> The SLID has a similar definition of cohabitation as Canadian Census (see note 1).

**Table 1. Definitions and Descriptive Statistics for Independent Variables Used in Analyses**

<b>Variable</b>	<b>Definition</b>	<b>Women Mean or %<sup>a</sup></b>	<b>Men Mean or %<sup>a</sup></b>
<b><i>Financial</i></b>			
Personal earnings <sup>b</sup>	Total employment income or earnings (x \$1,000).	14.881	25.290
Family earnings <sup>b</sup>	Total family employment income or earnings (x \$1,000).	38.807	40.062
Low income <sup>b</sup>	Dummy indicator (1 = yes, 0 = no). Family's income is below regional low income cut-off.	14.6%	12.3%
Social assistance <sup>c</sup>	Dummy indicator (1 = yes, 0 = no). Social Assistance received by at least one family member.	8.2%	8.6%
<b><i>Employment Status<sup>c</sup></i></b>			
Professional	Worked at professional or high level management position during the month.	8.6%	5.8%
Semi-professional, full time	Worked 130 hours or more at semi-professional, technical, middle management, supervisor, foreman/forewoman position during the month.	8.8%	18.7%
Semi-professional, part-time	Worked less than 130 hours at semi-professional, technical, middle management, supervisor, foreman/forewoman position during the month.	2.1%	1.4%
Skilled employee, full-time	Worked 130 hours or more at skilled worker/employee/farmer or semi-skilled worker/employee position during the month.	20.2%	25.5%
Skilled employee, part-time	Worked less than 130 hours at skilled worker/employee/farmer or semi-skilled worker/employee position during the month.	5.5%	1.7%
Unskilled, full-time	Worked 130 hours or more at unskilled worker/employee/farm laborer position during the month.	8.2%	10.5%
Unskilled, part-time	Worked less than 130 hours at unskilled worker/employee/farm laborer position during the month.	1.3%	0.6%



**Table 1. Definitions and Descriptive Statistics for Independent Variables Used in Analyses**

Variable	Definition	Women Mean or % <sup>a</sup>	Men Mean or % <sup>a</sup>
<b><i>continued</i></b>			
Unspecified, full-time	Worked 130 hours or more at unspecified position during the month.	0.8%	4.5%
Unspecified, part-time	Worked less than 130 hours at unspecified position during the month.	2.7%	0.7%
Unemployed (Reference group)	No paying job held.	41.8%	30.6%
<b><i>Sociodemographic</i></b>			
Age <sup>b</sup>	Age in 5-year groupings (1 = 15-19, ... 15 = 85+).	4.297	4.761
Educational attainment <sup>b</sup>	Educational attainment in 5 levels (1 = elementary school or less, ... 5 = post-secondary certificate or higher).	3.787	3.716
School enrolment <sup>c</sup>	Dummy indicator (1 = yes, 0 = no). Respondent attending school, college, or university.	11.1%	7.2%
Mother's education	Mother's educational attainment in 5 levels (1 = elementary school or less, ... 5 = postsecondary certificate or higher).	2.138	2.025
Father's education	Father's educational attainment in 5 levels (1 = elementary school or less, ... 5 = postsecondary certificate or higher).	2.086	2.034
Rural residence <sup>b</sup>	Dummy indicator (1 = yes, 0 = no). Respondent living in a rural area.	16.7%	16.8%
Foreign born	Dummy indicator (1 = yes, 0 = no). Respondent not born in Canada.	5.8%	6.8%
Quebec <sup>b</sup>	Dummy indicator (1 = yes, 0 = no). Respondent living in Quebec.	50.1%	49.8%
Motherhood <sup>b</sup>	Dummy indicator (1 = yes, 0 = no). Respondent previously given birth.	63.0%	--
Number of children	Number of children born or raised by respondent.	1.337	--

**Table 1. Definitions and Descriptive Statistics for Independent Variables Used in Analyses**

Variable	Definition	Women Mean or % <sup>a</sup>	Men Mean or % <sup>a</sup>
<i>continued</i>			
Post-marital cohabitation	Dummy indicator (1 = yes, 0 = no). Respondent has previously been married.	32.1%	28.0%
<b>Time Effect</b>			
Month <sup>d</sup>	Duration of cohabitation in months since Dec. 31, 1992.	11.946	11.938
Month square <sup>d</sup>	Square of 'Month' variable.	190.403	190.363
Months previously cohabited	Duration of cohabitation in months prior to Dec. 31, 1992.	65.037	70.028
<i>N</i>		688	671

<sup>a</sup> Means and percentages for yearly time-variant variables are based on the first year. Means and percentages for monthly time-variant variables are based on the first person-month.

<sup>b</sup> Yearly time-variant variable.

<sup>c</sup> Monthly time-variant variable.

<sup>d</sup> Means are based on the total person-month file.

*Note:* Weighted means and percentages, unweighted *N*.

Statistics Canada sets a yearly "low income cut-off" level, which identifies people who spend roughly 55% (20 percentage points higher than the Canadian national average) of their income or more on food, shelter, and clothing. We use a yearly time-variant dummy indicator to capture those unions in which the total money income falls below the low income threshold for that year and region. We also include a monthly time-variant indicator of whether any household member received social assistance or provincial income supplements during the month.

Previous research has been unable to examine employment status beyond hours worked by the respondent. The SLID contains detailed information not only on

monthly hours worked, but also on the class of work done by the respondent. To include a detailed analysis of employment status we use a series of nine monthly time-variant indicators reflecting the respondent's occupation and work schedule. The dummy indicators consist of a collapsed Pineo-Porter-McRoberts classification scheme, further differentiated by full-time (130 hours or more per month) or part-time status, with unemployed persons comprising the reference group. Detailed descriptions of all the dummy categories are shown in Table 1.

*Control variables.* We include several sociodemographic variables as controls in the analyses. Prior research has shown that age, educational attainment, school enrollment, mother's and father's educational attainment, rural residence, nativity, region, motherhood, number of children, and post-marital cohabitation all have been found to affect union formation and dissolution (e.g., Becker et al., 1977; Bumpass et al 1991; Castro-Martin and Bumpass 1989; Goldscheider and Wait 1986; Lefebvre and Merrigan 1997; Lillard et al. 1995; Manting 1996; Morgan and Rindfuss 1985; South and Spitze 1986; Thornton, Axinn, and Teachman 1995; Waite and Lillard 1991; White 1990; Wu and Balakrishnan 1995). To control for time effects on union stability (e.g., Becker et al. 1977; Trussell, Rodríguez, and Vaughan 1992; Waite and Lillard 1991), measures of the duration (in months) of cohabitation from the start of the survey and duration square are included in the analyses to fit a quadratic function of time (Allison 1984). Further, as individuals have been cohabiting for varying lengths of time prior to the survey (median of 44 months), we include the previous length of cohabitation (in months).

### **Analytical Strategy**

We follow a cohort of cohabiting couples monthly over a period of two years to examine the effects of change in economic circumstances on couples' marital decisions. Our empirical analysis begins with a double-decrement life table procedure, estimating monthly rates of marriage and union separation. The life tables estimate the probability of disruption at each duration (month) of cohabitation and provide the description of these probabilities in terms of the cumulative experience of disruption by successive duration. Individuals who marry or separate contribute exposure to the "risk" at each duration until the time of dissolution. Individuals who have yet to dissolve the cohabitation also contribute exposure at each duration up to the time of the survey. Respondents whose cohabitations ended due to the death of their partners are censored at the time of "bereavement". Life tables are calculated separately for premarital and postmarital cohabitations, as stability varies by union sequence (Becker et al. 1977; Hoem and Hoem 1992).

We next estimated a series of complementary log-log models with competing risks to evaluate the effects of economic circumstances on marriage and separation separately for women and men (Allison 1995; Agresti 1990). The models are based on discrete-time survival methods (Allison 1984), which use multiple one-month observations (person-months) representing each respondent's

life experiences.<sup>4</sup> Each respondent contributes person-months to the analyses from 1 January 1993 until the cohabitation is dissolved or is censored at the time of the interview (i.e., they did not dissolve the cohabitation before the end of December 1994). Individuals whose partners died are censored at the time of the partner's death. Marriage and separation are treated as competing "risks" in that separate models were estimated for each event type (e.g., separation) censoring the other event types (e.g., marriage and "widowhood") at the beginning of the interval in which it occurs. Further, analyses are conducted separately for men and women to allow comparisons of factor effects between genders and because the SLID does not include measures of children for men. The resulting person-month files include 14,211 person-months for women and 13,934 for men.

Complementary log-log models give estimates of the underlying proportional hazards models in continuous time, from which we can derive a model for data grouped into intervals. If we assume that events are generated by Cox's proportional hazards model (Cox 1972), we can derive the equation

$$\log[-\log(1-P_{it})] = a_t + \beta_1 x_{it1} + \dots + \beta_k x_{itk}$$

where  $t = 1, 2, 3, \dots$  are intervals of equal length beginning at the origin,  $P_{it}$  is the probability that an event (marriage or separation) occurs to an individual  $i$  in interval  $t$ , given that the individual did not experience an event in interval  $t-1$ , and  $x_1, \dots, x_k$  is a set of  $k$  covariates (Agresti 1990, p. 105). For complementary log-log models,

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<sup>4</sup> Although we could use nonparametric survival models such as Cox's proportional hazard models (Cox 1972) or parametric models such as failure-time models (Kalbfleisch and Prentice 1980), the former tend to be computationally demanding for large datasets with many ties, and the latter do not handle time-varying covariates well (Allison 1995). Discrete-time models do not have these problems. Because union disruption is a continuous process and events can occur at any point in time, we used the complementary log-log models for multivariate analyses. One advantage of the complementary log-log models is that parameter estimates are directly comparable to those estimated by the Cox's proportional hazard models, and therefore have a relative risk interpretation as Cox model estimates (Allison 1995, pp. 216-217). In unreported analyses, we experimented with fitting a series of multinomial logit models treating the two outcomes of cohabitation as competing risks to our person-month data. There are no substantive differences between the two sets of estimates.

parameter estimates,  $\beta$ s, have a "relative risk" interpretation analogous to the Cox model estimates. A simple transformation,  $100(e^{\beta}-1)$ , can be interpreted as the percentage change in the odds of an event occurring for a one unit increase in a given independent variable, holding other covariates constant.

To compare the two competing exits, we also estimated binary logit models of marriage (versus separation) for those individuals who dissolved their cohabitations. Here we are interested in how economic circumstances and other covariates affect the type of exits. The logit model can be written as

$$\log(P_{it}/[1-P_{it}]) = a_t + \beta_1 x_{it1} + \dots + \beta_k x_{itk}$$

where  $t = 1, 2, 3, \dots$  are intervals of equal length beginning at the origin,  $P_{it}$  is the conditional probability that individual  $i$  marries in interval  $t$ , given that the individual has not married in interval  $t-1$ , and  $x_1, \dots, x_k$  is a set of  $k$  covariates. The parameter estimates,  $\beta$ s, are the log-odds of marriage. For a one unit change in a given independent variable, the estimated odds of marriage are multiplied by  $\exp(\beta)$ .

## 5. RESULTS

Table 2 presents the cumulative proportions of premarital and postmarital cohabitators marrying and separating since 31 December 1992. The life tables indicate some differences in stability between premarital and postmarital cohabitations. One quarter of premarital cohabitations were dissolved at the end of the 24 month period, with roughly equal proportions exiting by marriage and separation. Postmarital cohabitations appear to be more stable than premarital cohabitations, with 85% remaining intact at the end of the 24 month period. Postmarital cohabitations also appear to end in marriage and separation in equal proportions.

**Table 2. Life Table Estimates of Cumulative Proportion of Cohabiting Couples Married or Separated in Canada: 1993-1994**

Months since Dec. 31, 1992	Premarital Cohabitation			Postmarital Cohabitation		
	Proportion			Proportion		
	Surviving	Married	Separated	Surviving	Married	Separated
6	0.980	0.002	0.018	0.991	0.002	0.007
12	0.881	0.065	0.054	0.945	0.031	0.024
18	0.831	0.073	0.096	0.913	0.048	0.039
24	0.753	0.124	0.123	0.854	0.071	0.075
N	1000			432		
Percent Censored	88.1%			91.7%		

Note: Life table estimates are based on two double-decrement survival tables. The complete survival tables are available from the authors upon request.

Table 3 presents the complementary log-log competing risk estimates for women's transition out of cohabitation. Model 1 shows the effects of women's economic situations on the risk of dissolution separately for marriage and separation. Model 2 adds sociodemographic and time effect variables to Model 1, and is our preferred model based on log likelihood improvement tests.<sup>5</sup> Although women's financial circumstances appear to have no significant effects on the probability of marriage, financial factors do affect the probability of separation. Personal earnings are directly related to the likelihood of separation. For example, Model 2 shows that a \$1,000 increase in personal earnings increases the probability of separation by nearly 12% ( $100[e^{0.112}-1]$ ), whereas a \$1,000 increase in family earnings decreases the probability of separation by nearly 9%. Cohabiting couples with earnings below the low-income cut-off are nearly 95% more likely to separate than those above the cut-

<sup>5</sup> For the two marriage models, chi-square value is 47.5 (*d. f.* = 14, *p* < .001). The corresponding chi-square value for the two separation models is 37.1 (*d. f.* = 14, *p* < .001).

off. Receipt of social assistance does not have a significant effect on marriage or separation. In analyses not reported here, interactions between motherhood and receipt of social assistance were also not significant.

Several occupational groups are related to the probability of marriage and separation. Full-time skilled employees are approximately 86% more likely to marry than unemployed women (see Model 2). After controlling for sociodemographic and time factors, the initially positive effect of part-time skilled employment on marriage becomes insignificant. Full-time semi-professionals and skilled employees are substantially more likely to separate than unemployed women (243% and 210%, respectively).

Most of the controlled sociodemographic and time effects are not significant, with a few exceptions. Foreign born women are more likely to marry than women born in Canada. Cohabitations appear to be substantially more stable in the province of Quebec, with cohabiting women there being 74% less likely to marry and 39% less likely to separate than other Canadian women cohabitators. Months previously spent in the cohabitation also tend to lower the probability of marriage, although there is no significant impact on separation.



**Table 3. Parameter Estimates for Complementary Log-Log Models of Exit From Cohabitation: Canadian Women, 1993-1994**

Independent Variables	Model 1		Model 2	
	Marriage b	Separation b	Marriage b	Separation b
<b>Financial</b>				
Personal earnings <sup>a</sup>	-0.012	0.096 ***	-0.017	0.112 ***
Family earnings <sup>a</sup>	0.006	-0.078 ***	0.009	-0.094 ***
Low income <sup>a</sup>	0.238	0.722 **	-0.099	0.666 **
Social assistance <sup>d</sup>	-0.594	0.346	-0.761	0.282
<b>Employment Status<sup>b</sup></b>				
Professional	-0.030	-0.094	0.144	-0.055
Semi-professional, FT	0.457	1.160 **	0.374	1.232 **
Semi-professional, PT	0.268	0.453	0.716	0.185
Skilled employee, FT	0.757 **	1.365 ***	0.620 *	1.132 ***
Skilled employee, PT	0.899 **	0.795	0.717	0.645
Unskilled, FT	0.126	0.664	-0.043	0.683
Unskilled, PT	-0.192	1.168	-0.099	1.164
Unspecified, FT	0.238	0.795	0.307	0.544
Unspecified, PT	0.289	0.769	0.241	0.347
<b>Sociodemographic</b>				
Age <sup>a</sup>			-0.178	-0.109
Educational attainment <sup>a</sup>			-0.021	0.158
School enrolment <sup>d</sup>			0.095	0.095
Mother's education			0.166	-0.089
Father's education			-0.167	-0.022
Rural residence <sup>a</sup>			-0.504	0.109
Foreign born			0.979 **	-1.075
Quebec <sup>a</sup>			-1.340 ***	-0.490 *
Motherhood <sup>a</sup>			-0.555	-0.157
Number of children			0.140	-0.040
Post-marital cohabitation			-0.282	-0.130
<b>Time Effect</b>				
Month			0.001	0.071
Month square			-0.001	-0.003
Months previously cohabited			-0.008 **	-0.004
Intercept	-5.643 ***	4.810 ***	-3.176 ***	-4.547 ***
Log Likelihood	-482.2	-433.4	-434.7	-396.3
(d.f.)	14	14	28	28
Number of cases	688		688	
Number of person-months	14,211		14,211	

<sup>a</sup> Yearly time-variant variables.

<sup>b</sup> Monthly time-variant variables.

\*  $p < .10$  \*\*  $p < .05$  \*\*\*  $p < .01$  (two-tailed test)

Table 4 presents the complementary log-log estimates for men's exits from cohabitation, with Models 1 and 2 following a similar specification as in Table 3. Model 2 is again our preferred model.<sup>6</sup> As for women, men's financial circumstances are not significantly related to the probability of marriage, but do affect separation. Model 2 shows that a \$1,000 increase in personal earnings increases the probability of separation by nearly 12%, remarkably similar to the effect of women's personal earnings. Also similar to women, household income is negatively related to the probability of separation. Neither being below the low income cut-off nor receipt of social assistance significantly affect men's marriage or separation.

Professional and full-time semi-professional men are more likely to marry than unemployed men (318% and 117%, respectively). Other work statuses do not differ significantly from unemployment. Again, many of the control variables are not significant. Men's educational attainments increase the probability of marriage, while Quebec men are 83% less likely to marry than men elsewhere in Canada. Longer cohabitations tend to be increasingly stable over time, as months previously cohabited decrease the probability of marriage and separation.

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<sup>6</sup> The chi-square values are 64.5 and 88.8 (*d. f.* = 12,  $p < .001$ ) for the marriage and separation models, respectively.

**Table 4. Parameter Estimates for Complementary Log-Log Models of Exit From Cohabitation: Canadian Men, 1993-1994**

Independent Variables	Model 1		Model 2	
	Marriage b	Separation b	Marriage b	Separation b
<b>Financial</b>				
Personal earnings <sup>a</sup>	0.008	0.106 ***	0.003	0.113 ***
Family earnings <sup>a</sup>	-0.009	-0.098 ***	-0.012	-0.103 ***
Low income <sup>a</sup>	-0.604	0.131	-0.541	-0.009
Social assistance <sup>b</sup>	-0.199	-0.091	-0.249	0.112
<b>Employment Status<sup>b</sup></b>				
Professional	1.026 *	-0.767	1.431 **	-0.654
Semi-professional, FT	0.663	0.047	0.777 *	0.319
Semi-professional, PT	0.694	0.493	0.763	1.272
Skilled employee <sup>c</sup>	0.379	-0.079	0.313	-0.058
Unskilled <sup>c</sup>	0.546	-0.334	0.547	-0.261
Unspecified <sup>c</sup>	0.449	0.344	-0.092	0.109
<b>Sociodemographic</b>				
Age <sup>a</sup>			-0.042	-0.102
Educational attainment <sup>a</sup>			0.187 *	-0.067
School enrolment <sup>b</sup>			-1.415	-0.448
Mother's education			0.042	0.108
Father's education			-0.030	0.113
Rural residence <sup>a</sup>			-0.403	-0.129
Foreign born			-0.571	0.159
Quebec <sup>a</sup>			-1.778 ***	-0.329
Post-marital cohabitation			-0.636	-0.510
<b>Time Effect</b>				
Month			0.013	0.077
Month square			-0.001	-0.004
Months previously cohabited			-0.009 **	-0.006 *
Intercept	-5.437 ***	-4.697 ***	-4.422 ***	-3.870 ***
Log likelihood (d.f.)	-477.3 11	-447.6 11	-412.8 23	-388.8 23
Number of cases		671		671
Number of person-months		13,934		13,934

<sup>a</sup> Yearly time-variant variables.

<sup>b</sup> Monthly time-variant variables.

<sup>c</sup> Due to small cell sizes, full time and part time workers are grouped together.

\*  $p < .10$  \*\*  $p < .05$  \*\*\*  $p < .01$  (two-tailed test)

Table 5 presents parameter estimates for two binary logit models for women and men, respectively. The models estimate the conditional probability of marriage versus separation given that the cohabitation was dissolved. Looking first at women's probability of marriage relative to separation, the table indicates that increased personal earnings decrease the probability of marriage. Increased family earnings increase the probability of marriage. Although women below the low income cut-off are more likely to separate than those above the cut-off (Table 3), Table 5 indicates that for those women who do dissolve their cohabitations, the low-income cut-off has no significant effect on the type of exit taken. Further, while receipt of social assistance does not affect cohabitation dissolution, the odds that dissolved cohabitations receiving social assistance end in marriage are only 0.074 ( $e^{-2.602}$ ) that of other cohabitations, meaning that these cohabitations more likely end in separation.

While Table 3 indicates that women in full-time skilled employment positions are more likely to marry or separate than unemployed women, Table 5 further shows that skilled women who do dissolve their cohabitations are less likely to marry than they are to separate. Also, women currently enrolled in school are significantly less likely to marry than separate, although enrollment itself does not affect dissolution probability (see Table 3). Finally, we find that the intercept is positive and significant, suggesting that all else being equal, women who dissolve their cohabitation are more likely to marry than to separate. Other factors do not have significant effects on the type of exit taken.

**Table 5. Parameter Estimates for Binary Logit Models of Marriage vs. Separation: Canada, 1993-1994**

Independent Variables	Women b	Men b
<b>Financial</b>		
Personal earnings <sup>a</sup>	-0.141 ***	-0.162 ***
Family earnings <sup>a</sup>	0.095 ***	0.109 ***
Low income <sup>a</sup>	-0.692	-0.926
Social assistance <sup>d</sup>	-2.602 ***	-0.371
<b>Employment Status<sup>b</sup></b>		
Professional	-1.071	3.147 *
Semi-professional, FT	-0.772	0.920
Semi-professional, PT	0.606	0.674
Skilled employee, FT <sup>c</sup>	-1.652 **	1.041
Skilled employee, PT	0.567	--
Unskilled, FT <sup>c</sup>	-0.391	1.109
Unskilled, PT	-1.624	--
Unspecified, FT <sup>c</sup>	-0.931	-0.651
Unspecified, PT	-1.141	--
<b>Sociodemographic</b>		
Age <sup>a</sup>	-0.309	0.114
Educational attainment <sup>a</sup>	-0.168	0.645 **
School enrolment <sup>d</sup>	-1.893 *	-2.154
Mother's education	0.072	0.010
Father's education	-0.022	-0.117
Rural residence <sup>a</sup>	-1.401	0.250
Foreign born	2.175	-0.232
Quebec <sup>a</sup>	-0.521	-1.936 ***
Motherhood <sup>a</sup>	-0.531	--
Number of children	0.106	--
Post-marital cohabitation	0.895	0.173
<b>Time Effect</b>		
Month	-0.265	-0.328 **
Month square	0.012	0.014 **
Months previously cohabited	-0.007	0.008
Intercept	4.810 **	-1.486
Log Likelihood	-62.0	-68.8
(d.f.)	28	23
N	151	140

<sup>a</sup> Yearly time-variant variables.

<sup>d</sup> Monthly time-variant variables.

<sup>c</sup> Due to small cell sizes for men, full time and part time workers are grouped together.

\*  $p < .10$  \*\*  $p < .05$  \*\*\*  $p < .01$  (two-tailed test)

Turning next to men, increased personal earnings tend to decrease the probability of the transition to marriage, while family earnings increases this probability. Men in professional positions are substantially more likely to end their cohabitations in marriage than separation. Educational attainment also increases the probability of ending a cohabitation in marriage, while Quebec cohabitators are substantially less likely to marry than they are to separate. Finally, there appears to be a time effect for men, with the probability of ending the cohabitation by marriage decreasing over time at a decreasing rate. Other factor effects are not significant.

## **6. DISCUSSION**

This study has examined economic circumstances and nonmarital union. We have examined whether financial circumstances and employment status affect the risk of marriage or separation for cohabiting Canadian men and women. We presented three hypotheses: an economic deprivation hypothesis in which the risk of separation is high in relatively poor economic circumstances; a female-oriented hypothesis in which improved women's economic circumstances lead to lower likelihood of marriage, as women's economic independence may reduce the desirability of marriage; and a male-oriented hypothesis in which men's economic circumstances are directly related to marriage, because historically marriage has been contingent on men's abilities to establish independent households. Our analysis began with a descriptive life table of the study sample, and was followed by a series of multivariate regression analyses.

First, our life tables reveal higher cohabitation survival rates than previously reported. Other studies have characterised Canadian cohabitations as more stable than American cohabitations (e.g., Le Bourdais and Marcil-Gratton 1996). American studies report that between half and two-thirds of cohabitations are dissolved in two

years (e.g., Bumpass and Sweet 1989; Smock and Manning 1997). Our study also suggests Canadian cohabitations are relatively more stable: 75% of premarital cohabitations and 85% of postmarital cohabitations remained intact two years after the survey. However, other Canadian research reports dissolution rates approximately 20% higher than those found here (e.g., Wu and Balakrishnan 1995).

There may be two complementary explanations for this discrepancy. One is that cohabitations may have become more stable over time as the cohabitations observed in this study were more recent than those observed in prior studies. This is consistent with the view that cohabitation has increasingly become an alternative lifestyle in Canadian society (Wu and Balakrishnan, 1995). Another explanation is that the discrepancy reflects our length-biased sample. As noted, we did not observe each cohabitation from its beginning, but rather at the time of the survey. While we have included the previous months spent cohabiting as a covariate in our regression analyses, those most likely to dissolve their cohabitations may have selected themselves out of our sample before the survey and are not included. This means that respondents in our sample have cohabited for varying lengths before the survey date (median = 44 months). Clearly long-term cohabitations are over-represented in our sample. These long term cohabitations tend to "accumulate" in the population, leading to more of them in cross-sections than might be expected from a cohort perspective (Bumpass et al. 1991). This problem has arisen in other studies based on similar sample construction methods (e.g., Smock and Manning 1997), with similar consequences on dissolution rates.<sup>7</sup>

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<sup>7</sup> For example, using data from the two waves of the NSFH, Smock and Manning (1997) reported that about half of American cohabitations survived two years, which are also about 20 percentage points below the estimates based on data from the first wave of the NSFH (see Bumpass and Sweet 1989).

Turning now to our hypotheses (the economic deprivation, female-oriented, and male-oriented hypotheses), our results provide some support for each. Support for the economic deprivation hypothesis is found in all regression models. The probability of separation is reduced when household earnings increase (see Tables 3 and 4). Further, women in cohabitations with incomes below the low income cut-off point are more likely to separate (Table 3). Table 5 reinforces these effects, and identifies receipt of social assistance as decreasing the likelihood that marriage will be the exit taken in dissolved unions.

Support for the female-oriented hypothesis is shown in Tables 3 and 5. Contrary to previous research (e.g., Lefebvre and Merrigan 1997), women's personal earnings are positively related to the likelihood of separation. Also, while previous research has found that the receipt of social assistance is not significantly related to the probability of union dissolution (e.g., Lefebvre and Merrigan 1997; Smock and Manning 1995), as is the case here, it is also shown here that for those women who receive social assistance and dissolve their unions, separation rather than marriage is more likely (Table 5). This may suggest that social assistance enables women to escape unproductive or abusive unions. Increased social resources for women, in addition to economic resources, also appear to decrease the probability of marriage, illustrated by full-time semi-professional and skilled employee status increasing separation (Tables 3 and 5). For women with these resources available, marriage may be less desirable, or separation from bad unions may be facilitated.

Finally, mixed support for the male-oriented hypothesis is shown in Tables 4 and 5. Contrary to the hypothesis and prior research (e.g., Lefebvre Merrigan 1997; Smock and Manning 1997), men's personal earnings are directly related to the probability of separation. However, total family earnings appear to contribute to the stability of cohabitation (Table 4). Increased social resources, illustrated by



professional and full-time semi-professional status, are positively related to the probability of marriage. Similarly, consistent with prior research, increased educational attainment increases the probability of marriage (Smock and Manning 1997).

The sociodemographic and time effects are generally consistent with prior research. Residents of Quebec are less likely to marry and more likely to separate than other Canadians (Lefebvre and Merrigan 1997; Wu 1995). Women's school enrollment leads cohabitators to be less likely to marry than to separate (Manning and Smock 1995). Further, the direction of potential age effects are similar to those found elsewhere (e.g., Lefebvre and Merrigan 1997); older women are more likely to separate, and older men less likely (though not significantly so). Long-term cohabitations become increasingly stable -- cohabitators are less likely to marry or separate the older the union (Tables 4 and 5).

These findings highlight several important aspects of cohabitation dissolution. First, in contrast to the American situation (e.g., Smock and Manning 1997), women's economic circumstances contribute significantly to the stability of Canadian cohabitations. Women's economic circumstances primarily affect the probability of separation. Increased economic and social resources make marriage less desirable (Table 5), or facilitate the dissolution of unions (Table 3). Men's financial situations appear to deter union separation without significantly increasing the probability of marriage, but employment status does have a positive effect on marriage (Table 4).

Second, previous studies have been limited to examining the effects of full-time or part-time employment without controlling for occupational status (e.g., Manning and Smock 1995; Smock and Manning 1997). The present study indicates that employment status effects extend beyond work schedules. While full-time employment affects marriage in some cases, as previous studies suggest, these effects

vary by gender and occupation in Canada. Full-time skilled women employees are more likely to marry than unemployed women, but they are even more likely to separate, as are full-time semi-professionals. These two occupation groups also make up the two largest sources of women's employment (Table 1), which suggests that simply grouping all full-time or part-time workers together regardless of occupation could provide misleading results.

These findings concur with the research on marriage dissolution that indicates women's employment destabilises the union (e.g., Hoem and Hoem 1992; South and Spitze 1986; White 1990), as conflicting marital and work roles may increase tension in the union, or increased resources may offset the costs of dissolution. However, occupation effects persist with income controlled, indicating that employment effects extend beyond financial resources. South and Lloyd (1995) suggest that the risk of union dissolution is highest where partners encounter an abundance of spousal alternatives. Increased women's labour force participation may increase union instability as the supply of attractive alternatives to current partners is increased. Following this line of reasoning, we may expect occupations with sex ratios favouring the opposite sex to increase the likelihood of separation, if these potential spousal alternatives are also in attractive economic positions (i.e., high level jobs). Therefore, women in high level occupations (that are predominantly held by men) may have an abundant supply of attractive spousal alternatives, potentially increasing the benefits of forming a new union. Both semi-professional and skilled employee positions provide such a setting, which perhaps contributes to an explanation of how occupation, separate from income, affects union stability.

Professional and full-time semi-professional men are more likely to marry than unemployed men are, which is consistent with research on marriage behaviour (e.g., Landale and Forste 1991; Oppenheimer et al. 1997). Again, simply grouping full-time

or part-time workers together may prove to be misleading. Although personal earnings appear to be positively related to the probability of separation, steady employment in high level occupations may make men attractive as partners, or increase the normative pressure on them to legalise a nonmarital union. Table 5 indicates that professionals are substantially more likely to marry than to separate, strengthening the notion of increased attractiveness or pressure to marry at high occupational status.

The rise in cohabitation prevalence warrants increased research attention beyond simple descriptive accounts of duration and dissolution. With cohabitation playing an increasing role in Canadian conjugal life, the study of changing union formation and dissolution patterns must include all unions. The dissolution process of nonmarital unions is as important to family life as the divorce process. This study attempts to provide current estimates of cohabitation duration and dissolution in Canada, with a detailed analysis of the marital and separation processes affecting both men and women. Particular emphasis has been placed on the role of economic circumstances in cohabitation stability, an area that has previously been neglected by the literature due to data limitations.

The SLID data set, while providing detailed measures of economic circumstances, does impose some limitations on our research. First, as noted, the SLID provides a potentially problematic length-biased sample, in that unions are observed from the start of the survey, rather than the start of the union. Because long term cohabitations tend to "accumulate" in the population, they are over-represented in our sample, and those unions most likely to marry or separate may have already done so before the survey, and are thus not included in the analyses.

Second, the SLID sample has detailed information on each respondent's labour market activities, but lacks measures of partners' activities. Measurements of partners' economic circumstances are limited to income level, although relative employment activities of union partners have also been shown to affect marital union stability (Tzeng and Mare 1995).

Finally, the SLID includes extensive labour and income information at the expense of other areas. Potentially problematic here is the general lack of information regarding children. Child information is included only for women, and includes the date of birth for the first child only, although the total number of children raised by the respondent is also measured. As a consequence, we are unable to assess whether children are still living with the respondent, and in many cases, we can not measure the effect of child timing on union stability. These factors have also been shown to affect union stability (e.g., Bumpass et al. 1991; Morgan and Rindfuss 1985; Tzeng and Mare 1995; Wu 1995).

Despite the data limitations, the wealth of information on economic circumstances in the SLID is important to our understanding of the changing nature of Canadian conjugal life. It is our hope that future research is able to further examine the interplay between cohabitation partners' economic circumstances and union stability. Clearly both partners play a role in the process of cohabitation dissolution, with financial and employment factors each affecting stability distinctly.

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