Wage Differentials between Common-law and Legally Married Workers in Canada

Jiangshan Tian

(7411384)

Major paper presented to the

Department of Economics of the University of Ottawa

in partial fulfillment of the requirement of the M.A. degree

Supervisor: Professor Gilles Grenier

ECO 6999

Ottawa, Ontario

October 2017

Abstract

Common-law is now an important marital status in Canada and an amazingly large number of individuals live common-law in the province of Quebec. In this paper, I focus on the factors that affect marital status and the marriage wage differential between common-law and legally married individuals. I use the public use microdata file of the National Household Survey (NHS) 2011 as my working dataset. With two equations using respectively marital status and logarithm of wage as dependent variables, I find that individuals who have high educational attainment, are immigrant, speak English as mother tongue and have children are relatively more likely to be legally married, and that common-law individuals earn less than those who are legally married, with the important exception of common-law females living in Quebec who earn more than their legally married counterparts. Males still own a marriage wage premium compared to females. In particular, the wage differential between individuals in two types of marital status is smaller in Quebec than that in the rest of Canada.

Keywords: common-law, legally married, marriage wage premium

Table of Contents

1 Introduction

With social development and technological progress, human well-being and standards of living have significantly improved, but not equally for everybody. The issue of wage differentials among different groups of workers has been increasingly brought to public attention. In general, males have a wage advantage over females with the same productivity characteristics. Kunze (2008) has documented the long existence of gender wage gaps and wage discrimination against females. Likewise, immigrants earn less than non-immigrants. Card (2009) estimates that in the U.S., a rise in overall wage inequality of around 5% can be attributed to the inflow of immigrants from 1980 to 2010, since immigrants earn less than the native-born. Also, educated individuals earn more than those who are less educated. Morissette, Picot, and Lu (2013) show that, even though the wage gap between high school and university educated individuals has decreased over time due to rising wages among less educated individuals, those who have more human capital still receive higher wages. Other factors involved in wage differentials include language, culture, religion, and marriage.

In recent years, researchers have paid some attention to the marriage wage premium, which states that being married affects an individual's wage level. For males, marriage generally produces a positive effect on wages. According to Dougherty (2006), married men have a 20% wage advantage over single men; getting married appears to make them to be more productive. In contrast, for females, getting married may decrease their capability to make money. Traditionally, males have played an important role in supporting their families by earning money, whereas females have taken care of their husbands and children by doing housework.

It is widely acknowledged that a common-law relationship is one of the marital statuses in Canada that is recognized by law. In particular, individuals living in a common-law relationship account for a remarkably large proportion of the population in one Canadian province, Quebec. In this paper, I focus on wage differentials between common-law and legally married workers. I use the public use microdata file of the National Household Survey (NHS) 2011 as my working dataset. I specify two equations that I estimate separately for males and females to address the research question. The first one uses marital status as the dependent variable. The second equation uses the logarithm of wages as the dependent variable. The first equation focuses on the factors that make

individuals more likely to be legally married or to be in a common-law relationship. The second equation investigates whether married individuals have different wages than those who are in common-law relationships. Also, given that Quebec is the province with the largest proportion of common-law individuals, I divide my dataset between individuals who live in Quebec and those who live in the rest of Canada.

The main findings of this paper are that females who are highly educated, who are immigrants, and who have children are more likely to be legally married. In addition, the education level seems to affect more males than females in their decision to live common-law, because the coefficient for males is larger than that for females. Males who lived in Quebec with bachelor's or higher degrees tend to be less likely to be legally married. The wage equation demonstrates that legally married individuals have a 4.8% wage premium in the whole sample. Legally married males have higher earnings than their common-law counterparts, while the difference is smaller for females. Moreover, the wage gap between common-law and legally married individuals is largely reduced in the Quebec subsample.

The rest of this paper is organized as follows. Section 2 discusses the past literature, which is related to human capital and wage inequality between marital statuses and genders. Section 3 provides a description of the data and of the restrictions of the sample. Section 4 presents the econometric models and their specifications. In Section 5, I provide the empirical analysis and an interpretation of the results. Finally, Section 6 concludes.

2 Literature review

In this section, I go over some empirical studies that are related to the marriage wage premium for men and women. I present an overview of the background factors that explain why married men usually earn higher wages than never married men, while this is usually not the case for married women as compared to never married women. I also discuss the determinants of wage differences for different groups of people, including heterosexual, homosexual, married, cohabiting, and single people. Finally, I review the situation in Canada regarding marriage and living common-law, paying particular attention to the case of Quebec.

It is a well-known fact that married men earn more than never married men (Le Bourdais, Neill, and Vachon, 2000; Ginther and Zavodny, 2001; Hango and Le Bourdais, 2007). One controversial issue regarding the marriage premium is whether married men are more skilled or productive than single men due to self-selection into marriage (Richardson, 2000; Ginther and Zavodny, 2001; Chun and Lee, 2001). For instance, Ginther and Zavodny (2001) use American microdata from the National Longitudinal Survey Young Men Cohort (NLS) and the Census from 1966 to 1980 to investigate the impact of marriage on the wages of men. According to the regression results, married men earn between 10 percent and 20 percent more than those who were never married. They propose that an important reason could be that men with higher wages are more likely to be selected by women and get married. To address possible reverse causality, they introduce the notion of the shotgun wedding, which is the result of an unintended pregnancy and which is presumed to be unrelated to men's wages. They add it to the regression model as an independent variable, specifically a dummy variable that equals one if a man's marriage was soon followed by a birth and zero otherwise. They argue that premarital conception is a determinant that forces them to marry sooner. The authors compare the marriage premium for white married men whose wives were pregnant or had a child before the marriage to that for men whose wives were not in one of the above situations. They believe that the selected sample isolates the relationship between the earning abilities of married men and the marriage premium. The results show that at most 10 percent of the marriage premium can be explained by selection.

Another explanation is that the marriage premium is caused by household production. Hersch and Stratton (2000) use the U.S. National Survey of Families and Households (NSFH), which is a panel dataset from 1987 to 1988 and from 1992 to 1994. The empirical study explains that due to the fact that housework is taken care of by wives, married men usually have more time and energy to increase their human capital and therefore gain higher wages. However, the regression shows that married men essentially spend the same time on housework as single men. The authors conclude that the household production explanation of the wage premium from past studies is not convincing. Chun and Lee (2001) confirm that finding using different U.S. data. The reason why married men have higher wages than never married men cannot be fully explained by marriage selection. They use

the 1999 Current Population Survey March Supplement as their dataset and indicate that household production plays an essential role in society. The results show that men with working wives have lower wage premiums than those whose wives do not work. In addition, they also question whether marital unions are more vulnerable if men are less skilled. Richardson (2000) uses data from the Swedish Level of Living Survey from 1968 to 1991 and finds that single men earn lower wages than married, divorced, and widowed men. Richardson finds that household production improves the wage premium. His findings are also in accordance with earlier studies that the selection cannot fully explain why single men earn lower wages.

Loh (1996) holds a different opinion about the relationship between the marriage premium and the productivity of married men. He uses the U.S. National Longitudinal Survey of Youth Labor Market Experience (NLSY) as his dataset and has three main findings: 1) the size of the wage premium does not change significantly with the performance of wives in the labour market; 2) single self-employed men earn more than married self-employed men; 3) the hourly premium for married men does not change after they get married. Those findings enrich the studies on the marriage wage premium.

Cohen (2002) uses U.S. Current Population Survey data from 1976 to 1999 to consider the special case of cohabiters. He finds that both white and black men have a marriage wage premium and that black women have a higher cohabitation wage premium which causes black couples to be less likely to marry than other races. The marriage premium declines when cohabiters are taken into account and are excluded from the never married men group. The coefficient for black married men decreases when cohabiters are excluded from the never married men group. However, since it is statistically insignificant, the author confirms that the marriage premium declines and that the cohabiters should be counted as a separate group. Cohen provided an overview of the situation when cohabitation was not as prevalent as it is today. In this paper, I extend that analysis by focusing on the difference in premiums of common-law and legally married men in Canada.

Compared to men, married women normally experienced a lower marriage premium or even a wage penalty. Richardson (2000) states that married women earn less than their unmarried counterparts. Women are considered to be more specialized than men in housework work, which

takes the time that could have been invested in human capital in order to earn a higher wage. Dougherty (2006) uses data taken from waves 1980 to 2002 of the U.S. National Longitudinal Survey of Youth (NLSY) and finds that both married men and women have a wage premium. The marriage premium for men increased over time from 14% in the first year of marriage to approximately 18% in the tenth year of marriage. For women, however, the marriage premium decreases from 11% to 8% during the same period of time. Carlson and Swartz (1988) examine the marriage wage premium between black and white women with U.S. 1980 census data. They claim that married black women have a wage premium whereas the married white women have a wage penalty. Similarly, Glauber (2007) investigates the motherhood and marriage wage penalties for different races. The African American married mothers with more than two children earn low wages; compared to Hispanic women, their motherhood is not associate with a wage penalty. This indicates that African American married mothers earn lower wages in this case. White married mothers experienced a wage penalty, which also applies to the never married mother. Loughran (2002) examines the relationship between education attainment and marriage wage premium. He finds that the decreasing trend in the marriage rate for women is closely related to wage inequality among married couples. Compared to less-educated black women, the marriage wage penalty has a larger impact on white women and on more-educated black women. Up to 18% of the decrease of the propensity to marry can be attributed to this cause.

In this paper, I examine a particular case of the marriage premium by comparing legally married and common-law men and women. I focus on the possible differences between Quebec and the rest of Canada, since Quebec has a high proportion of people living common-law. Le Bourdais and Lapierre-Adamcyk (2004) discuss whether cohabitation is a replacement or an alternative to traditional marriage in Canada. First of all, they observe that cohabitation rates in Quebec are higher than those in the rest of Canada, whereas the marriage rates go in the opposite direction. For example, by 2000, less than 40 percent of women in Quebec were expected to marry legally at least once, while this was the case for more than 60 percent in the rest of Canada. Second, they discuss the reason why marriage has been gradually replaced by cohabitation, since an increasing number of people tend to live together but without a formal engagement. Cohabitation is seen as an approach to

assess the solidity of a relationship. In addition, they find that having children matters in the choice between marriage and cohabitation. Childless relationships are more fragile than unions with children. Third, religious and cultural backgrounds also explain why increasing numbers of people choose cohabitation. The authors claim that the increase in the divorce rate indicates that marriage has become more unstable in Western countries in the past decades. Cohabitation is not only a lifestyle which has developed quickly among young people; it is also used by middle aged people to form their family instead of getting legally married.

Kiernan (2001) notes that cohabitation was generally considered the pre-stage to legal marriage, and it has now developed as an alternative to legal marriage. Statistics Canada (2015) shows that the percentage of married couples decreased from 91.6% to 67% from 1961 to 2011, whereas the percentage of common-law couples increased from 5.6% to 16.7% from 1981 to 2011 (data on common-law relationship are not available prior to 1981). The age at marriage also increased for both men and women. With the decline in the rate of marriage, cohabitation and divorce rates rose. As a result, more people remain in marital statuses other than legally married. However, the relationships between people in cohabitation are also less stable than those in legal marriages. This can be partly explained by the fact that people are not enforced by law to fulfil legal commitments and responsibilities. For example, legally married couples have legal rights to divide their joint estate, but this is not the case when it comes to common-law couples.[1] Besides, often considered as a 'trial marriage', cohabitation tends to be a favorable preliminary solution for the next level of life, which is either being separated or being legally married.

Conjugal life without enforced responsibility is increasingly accepted. More and more children are born to unmarried parents. Statistics Canada (2011) shows that the percentage of children living with single parents (including divorced, separated, and married spouse absent) has increased over time. In particular, the percentage of single (never married) parents rose dramatically from 1.4% in 1941 to 37.4% in 2011. This phenomenon may reflect the situation that cohabitation is more unstable in term of forming a permanent family than legal marriage. Bélanger, Morency, and Spielauer (2010)

[1] The provision in Ontario's Family Law Act that govern the division of property apply only to married couples, not to common-law couples.

find that the percentage of children with parents in common-law relationship in Quebec and the rest of Canada were 37% and 11% respectively in simulated cohorts.[2] Ménard (2011) observes that the marriage rate decreased while both divorce and common-law union rates rose over the last decades. He uses Statistics Canada's 2006 General Social Survey (GSS) to investigate the factors that lead to the disintegration of families. He finds that, whether couples are living common-law or are legally married, the presence of children strengthens the union relationship and decreases the probability of dissolution.

Cohabitation also has a large impact on financial responsibility. According to past studies (Shelton and John, 1993; Le Bourdais and Sauriol, 1998; Seltzer, 2000), cohabiting couples are more likely to share housework responsibilities and to be financially independent; legally married couples are more prone to pool expenses and wives are more likely to be responsible for housework.

The reasons that the proportion of cohabitating couples in Quebec is larger than that in the rest of Canada are related to different religious issues and cultural backgrounds. During the 1960s, the movement known as the Quiet Revolution had a huge impact on attitudes regarding traditional behaviours. Fertility and marriage rates in Quebec were reduced as they were in other Roman Catholic societies. Laplante (2014) states that the Quiet Revolution significantly changed women's traditional attitudes towards society in Quebec. Beaujot, Du, and Ravanera (2013) illustrate the different features that are related to child-care and common-law union. The tradition of civil law in Quebec is different from that of the common law in the rest of Canada, which is based on the equivalent British system, in terms of the form of marriage. Another distinct feature of Quebec is the policy of $5 per day for day care that was introduced in Quebec in 1997 (increased to $7 in 2004) with the aim of releasing the burden of lone parents and increasing their family income. That child-care policy brought more job opportunities for women in the labour market.

Past studies have also found that education is an important factor that determines the stability of conjugal unions. Hango and Le Bourdais (2007) investigate the relationship between union formation and level of education. They note that leaving school has a positive impact on starting

[2] They use microsimulation model to examine the effect of marital behavior on fertility. The method is often employed to estimate the effect of certain policies or tools before implementing them.

conjugal life and on getting married. In addition, higher educational attainment for women increases the possibility of disruption of conjugal unions. According to human capital theory, more schooling improves the probability of finding a good job. As a result, women working full-time do not find it advantageous to maintain family stability, as do those who work part-time or are housewives. Le Bourdais, Neill, and Vachon (2000) examine the determinants of family disruption in Canada. The educational background of women, the working status of their spouses, and the ages of their children are the major factors that have an impact on family stability. For example, when the spouse makes the transition from being a student to being a worker, the family may become vulnerable if the transition does not meet the partner's expectation.

Most of the past studies have concentrated on the marriage premium for heterosexual couples. With social developments and the need for a better understanding of homosexual relationships, the latter have been brought to public attention. Lafrance, Warman, and Woolley (2009) study wage differences for the homosexual group for individuals who lived in cohabitation and are legally married in Canada. The regressions show that even though partnered gay men work more than their single counterparts, there is no statistically significant wage advantage for them. However, partnered lesbians earn 10% more than their single counterparts. The marriage premium has a different impact on the two groups of homosexual people. Compared with heterosexual married couples, gay and single men do not own a wage advantage, which means that gay and single men earn less. The authors use the Canadian Community Health Survey (CCHS) which is a dataset looking mainly at health issues. Zavodny (2008) examines whether there exists a marriage premium for gay men using the data from the U.S. General Social Survey (GSS) and the National Health and Social Life Survey. In his paper, he finds that cohabiting gay men do not have wage advantages compared with non-cohabiting gay men and single heterosexual men. Cohabiting heterosexual men also have no large difference in wages compared to their non-cohabiting counterparts.

In summary, the literature shows that a marriage wage premium generally exists. Males have wage advantages compared to females. Married men and lesbians earn more than gay men and single women. In Canada, the wage gap between legally married and common-law individuals is another important phenomenon that needs to be studied, given that the common-law relationship is one of the

legal marital statuses in Canada whose prominence has been increasing. In this paper, I investigate further the labour market impacts of marital choices by studying wage differences between common-law and legally married men and women in Quebec and in the rest of Canada.

3 Data and variables

The dataset that I use for this paper is the public use microdata file of the National Household Survey (NHS) 2011. It is a file provided by Statistics Canada that contains 887,012 individuals. The questionnaire offers information on social, demographic, and economic characteristics of the Canadian population and on living standard by using 133 indicators. It provides an overview of the condition of Canadian households and was collected by online questionnaires, paper questionnaires or telephone interviews.

I restrict my sample to the working age population, which is defined as individuals between 19 and 64 years of age. Also, in order to focus exclusively on the comparison between legally married and common-law individuals, I keep only people living in couples and I drop all the other marital status groups, which include the single, the separated, the divorced, and the widowed. Two types of regressions are estimated. The dependent variable of the first regression is marital status, which is a dummy variable that includes two categories: common-law and legally married individuals. According to Statistics Canada (2011), married (and not separated) is defined as representing a person who is married and has not separated or obtained a divorce, and who is living with his or her spouse. Common-law represents a person who is living with another person as a couple but who is not legally married to that person. The dependent variable of my second regression is the gross wages during the year 2010 with a range from $1,000 to $200,000 (very small and very large values are considered outliers and are dropped, as well as those with zero wages). Wages are converted to logarithmic form to observe the percentage change effect of marital status on gross wages.

The explanatory variables include educational attainment, weeks worked, immigration status, province, Census Metropolitan Area (CMA), age group, gender, mother tongue, presence of children, and religion. The original highest educational attainment variable has thirteen categories; I combine and regroup them into three new categories which are high school diploma and below, college

diploma and bachelor's degree, and above bachelor's degree. Weeks worked contains six categories -1 to 9, 10 to 19, 20 to 29, 30 to 39, 40 to 48, and 49 to 52 weeks - and it ranges in value from 1 to 6. I take the logarithm of the value.[3] Immigrant status consists of two categories of immigrants and non-immigrants, and the observations of non-permanent residents are dropped. Census Metropolitan Area (CMA) contains dummy variables for five major areas, Toronto, Montreal, Vancouver, Calgary, and Edmonton. The other major areas are classified into the group of all other Census Metropolitan area and there is also a residual group for residents in non-CMA regions. Age contains ten categories -18 to 19, 20 to 24, 25 to 29, 30 to 34, 35 to 39, 40 to 44, 45 to 49, 50 to 54, 55 to 59, and 60 to 64 years of age - and I take the midpoint of each category. Language is represented by dummy variables for people whose mother tongues are English, French and other languages. The presence of children aged 0 to 1, 2 to 5, 6 to 14, and 15 to 25 and above is specified as a set of dummy variables. Religion includes five categories, which are Roman Catholic, other Christian and Jewish (including Anglican, Baptist, Christian Orthodox, Lutheran, Pentecostal, Presbyterian, United Church, Other Christian, and Jewish), Muslim, Eastern religions (including Buddhist, Hindu, and Sikh), and no religion. I drop the observations with unavailable information for each variable and the final number of observations is 246,791.

Table 1 shows the mean wages and the distribution between legally married and common-law individuals of various characteristics. In my total sample, 75.6% of the individuals are legally married and 24.4% live common-law. The average wages of the legally married individuals are larger than those of the common-law individuals by a difference of $8,000. For the level of education, compared with 74% and 75% of individuals in the categories high school diploma and below and college diploma and bachelor's degree who are legally married respectively, 83.3 % of individuals who possess a degree above bachelor are legally married, which is the largest proportion among the three education categories. Only 8.5% of immigrants live common-law, which is much smaller than the share of their non-immigrant counterparts, which is 29.6%. Next, 79.7% of the people whose mother tongue is English are legally married, compared to only 49.6% of the people

[3] Alternatively, one could create a dummy variable for each category of weeks worked. However, the codes for the categories are approximately proportional to the number of weeks, so I treat the categorical variable as if it were a continuous variable.

whose mother tongue is French. Note that the large majority of people whose mother tongue is neither English nor French are legally married, with 92.4% of individuals belonging to that group. Looking at religion, 32% of Roman Catholic individuals live common-law and this dominates the other religions groups. In particular, only 3.6% of Muslim individuals and 4.4% of Eastern religion individuals live common-law. In addition, individuals belonging to other religions and with no religion have high proportions, 26.5% and 31.1% respectively, of people living common-law; those are almost as high as those of the Roman Catholic group. Comparing the provinces, we note that a huge 47.7% of individuals in Quebec live common-law, which is about twice as large as for people in New Brunswick (the province that ranks second with respect to that proportion), where 23.6% of the people live common-law. In Ontario, 84.4% of individuals are legally married and only 15.6% live common-law. Similarly, 41.1% of individuals living in the Montréal Census metropolitan area (CMA) located in Quebec, the second most populous metropolitan area in Canada, live in common-law relationship, the largest proportion in any Canadian area.

Since the analysis in this paper is done by gender, Table 2 shows the same comparisons separately for legally married and common-law males and females. The average wage of $41,800 for legally married females is higher than the $36,900 of their common-law counterparts. Similarly, the legally married males earn more than common-law males with average wages of $60,900 and $50,100 respectively. For the level of education, 80.9% of females and 85.6% of males with degrees above bachelor's degree are legally married. Therefore, highly educated males are more likely to be legally married than highly educated females. There are no important differences in the proportions for men and women for the high school diploma or below and the college diploma and bachelor's degree education categories. The proportion of males with no religion who are legally married male is larger than that of their female counterpart at, 69.7% and 67.9% of the population respectively. Within the province of Quebec, 48% females live common-law, a slightly higher proportion than the 47.4% of males in the same situation. In all other provinces, less than 25% of both males and females live in common-law relationship.

4 Model Specifications

The econometric model takes the form of the following two equations:

$$marstat_i = \beta_0 + \beta_1 X_1 + \varepsilon_i \quad (1)$$

$$lwage_i = \alpha_0 + \alpha_1 marstat_i + \alpha_2 X_2 + \upsilon_i \quad (2)$$

where *marstat* is a binary variable which is equal to one if the individual is in a common-law relationship and zero if he or she is legally married. $lwage_i$ is the logarithm form of annual wages in 2010 for individual *i*. The independent variables include the highest educational attainment, age, age squared, weeks worked, immigrant status, gender, mother tongue, religion, province, Census Metropolitan Area (CMA), and presence of children aged 0 to 1, 2 to 5, 6 to 14, and 14 to 25 and over. Due to different numbers of control variables in the two equations, I use X_1 and X_2 to represent control variables in (1) and (2) respectively. The highest level of educational attainment is represented by a series of binary variables for individuals who have a high school diploma or less (the reference category), those who have a bachelor's degree or college diploma, and those who have a degree that is above a bachelor's degree. Weeks worked is the logarithm form for each category of hours worked (as explained earlier). Immigrant status is a binary variable which is equal to one if the individual is an immigrant and zero if the individual is not an immigrant. Census Metropolitan Area (CMA) is represented by a series of binary variables for residents who live in Toronto (the reference category), Montreal, Vancouver, Calgary, Edmonton, all other CMAs, and in other than CMAs region. Gender is a binary variable which is equal to zero if female (the reference category) and one if male. Age is a continuous variable and constructed by taking the midpoint for each category. The age squared is the square of age. Mother tongue is represented by a series of binary variables for individuals whose mother tongue is English (the reference category), French, and another mother tongue. Religion is represented by a series of binary variable for people who are Roman Catholic (the reference category), other Christian or Jewish, Muslim, Eastern religions, other religions, and no religion. Presence of children aged 0 to 1, 2 to 5, 6 to 14, 14 to 25 and over are all binary variables equal to one if the individual has one or more children in the given age range, and zero if none. Individuals with no children is the reference group.

Equation (1) examines the factors that bring about people to choose between legal marriage and common-law relationship. Equation (2) focuses on the impact of marital status - legally married or common-law on wages. Note that all my explanatory variables in the two models are dummies

except age, age squared and weeks worked. In order to observe the difference between each category, I set the legally married non-immigrant female with high school diploma or below, who speaks English as mother tongue, is Roman Catholic, who has no children, and lives in Toronto and also in Ontario to be the reference person.

5 Results

In this paper, I use ordinary least square (OLS) as the method for both equations (1) and (2). Although marital status (*marstat*) is endogenous in the first equation, it is treated as exogenous in the second equation which explains how marital status affect the wage level. In theory, a simultaneous equations method such as two-stage least square (2sls) should be used in order to address the problem. However, choosing instruments is a difficult issue and an inappropriate instrument could lead to results that are even worse than OLS. Therefore, in spite of that problem, I still use OLS as a method which provides useful results. In addition, since the dependent variable of the first equation is a dummy variable, the probit model was also used to check the regression results, I found that it does not deviate much from the OLS and only the OLS results are presented below, with robust standard errors to account for possible heteroscedasticity.

5.1 Marital status as dependent variable

Table 3 shows factors that affect marital status in three different subsamples: the whole sample, males, and females. As already mentioned, a value of zero for *marstat* represents legally married and one represents a common-law relationship. First of all, looking at the first column for the whole sample, compared to individuals who have high school diploma or below, people with a college diploma or bachelor's degree and above are less likely to be in a common-law relationship. Specifically, higher educational attainment produces -3.2 and -5.8 percentage point changes respectively in the probability of living common-law and both coefficients are statistically significant at the 1% level. The negative coefficient for age shows that older people are more likely to be legally married, and the positive coefficient of the age squared indicates that this trend slows as people get older. Next, immigrants are 4.5 percentage points less likely to be in a common-law relationship than non-immigrants. Compared to females, males are 1.6 percentage points more likely to be in

common-law relationships. The coefficients of the mother tongue variables indicate that individuals whose mother tongue is French are 14.9 percentage points more likely to live common-law, which is in accordance with past studies and the descriptive statistics; on the other hand, those with mother tongues other than English and French tend to be more likely to get legally married. Not surprisingly, the presence of children of increasing age is associated with a higher probability of being legally married. Furthermore, compared to individuals who are Roman Catholic, those who belong to other Christian and Jewish group, to the Muslim group and to the Eastern religions are all less likely to be in a common-law relationship than the Roman Catholics. Given that a large proportion of the people of Quebec are Roman Catholic, the results meet expectations. Interestingly, individuals who belong to other religions or who have no religion are 6.9 percentage points more likely to be in a common-law relationship than those in the reference category. Additionally, the coefficients for the CMAs demonstrate that compared to individuals living in Toronto, those who live in Montreal are less likely to be in a common-law relationship with the magnitude of 5.1 percentage points. Considering that the regression model has already taken into account of the effects of province and religion, taking out those effects, the coefficient of Montreal could be negative. For the other CMAs, the coefficients are very small or not significant. The province effects show that individuals living in Quebec are 18.6 percentage points more likely to live common-law than those living in Ontario. In general, the coefficients for the whole sample are logical and reasonable as expected.

Magnitude differentials appear when analyzing the male and female subsamples. Compared to males who have a high school diploma or less, males with a college diploma or bachelor's degree or more than a bachelor's degree are less likely to be in a common-law relationship by magnitudes of 3.7 and 6.5 percentage points respectively. Compared with their male counterparts, females have smaller coefficients for the two highest educational levels. Also, as females get older, they become more likely to be legally married at a higher rate than their male counterparts. Next, compared with male non-immigrants, male immigrants are 3.8 percentage points more likely to be legally married, a difference which is smaller than that for their female counterparts for whom the magnitude of the differential is 5.1 percentage points. The coefficients of mother tongue do not show large differences between males and females. Compared with individuals whose mother tongue is English, those

whose mother tongue is French are more likely to be in a common-law relationship for both males and females. In addition, individuals with other mother tongues have larger probabilities of being legally married, with magnitudes of 7.2 and 6.5 percentage points for males and females respectively. The coefficients of the rest of the variables including presence of children, religion, province, and CMA demonstrate similar magnitudes and the same sign as for the whole sample. They tell us that there are no large differences between males and females in deciding their marital statuses related to the factors mentioned above.

Given the very large proportion of people in common-law relationships in Quebec noted earlier, Table 4 compares the situations in Quebec and the rest of Canada for males and females respectively. Individuals with high educational attainments are more likely to be legally married in general, but the effect of education is smaller in Quebec. Individuals living in Quebec with a college diploma or a bachelor's degree have a smaller coefficient of -0.013, compared to -0.032 in the whole sample and -0.042 for of the rest of Canada sample. Also, individuals living in Quebec are less likely to be in common-law relationships as age increases by a smaller amount than those in the rest of Canada. For immigrants, the probability of being common-law in Quebec is 10.4 percentage points lower than that of non-immigrants; this difference is significantly larger than that of the rest of Canada. Moreover, people living in the rest of Canada whose mother tongue is French have a much smaller coefficient than those living in Quebec. The presence of children also affects marital statuses in Quebec differently. Compared to individuals who have no children, those who have children are more likely to be legally married in Quebec as their children grow up, with coefficients of -0.017, -0.033, -0.060, and -0.101 respectively for the different categories of children's ages; this increasing trend is opposite to what we observe in the rest of Canada. Given that people in Quebec are very affected by religions as mentioned in the literature review. The reason why the high proportion of common-law relationships in Quebec can be attributed to the fact that individuals in Quebec who are Roman Catholic account for a larger proportion than in other provinces; and Roman Catholicism is the religion that possesses the largest proportion of common-law individuals except for individuals who have no religion in this dataset.

Table 5 shows the results separately for each of the three educational attainment groups and for

the CMAs of Toronto and Montreal only. Immigrants with a college diploma or a bachelor's degree are more likely to be legally married than their Canadian-born counterparts by 3.8 percentage points, as compared to 5.6 and 5.3 percentage points more likely for high school and below and above bachelor's degree respectively. Also note that as educational attainment increases, the effect of having French as one's mother tongue increases. Those with more than bachelor's degree are 7.6 percentage points more likely to live common-law than those with a bachelor's degree. In contrast, individuals whose mother tongues are not French are less likely to be in common-law relationship as the educational level increases. The last subsample examines the situation of people living in Toronto and Montreal, which are the two major metropolitan areas of Canada. In particular, compared to individuals whose mother tongue is English, those whose mother tongue is French are 30.5 percentage points more likely to be in a common-law relationship, which is essentially larger than for the whole sample in Table 3 and the other subsamples. The reason behind might be explained by the fact that there are less people in Toronto than in Montreal and that French speakers mostly reside in Quebec.

5.2 Log wage as dependent variable

In this section, I want to see if there are any differences in earnings between those who are legally married and those living common-law. Table 6 presents the results, first for the raw regressions with no controls, and then for the regressions with all the controls. Table A in the appendix presents the complete regressions. The top part of Table 6 shows the results of raw regressions when the log wage is the dependent variable and marital status is the only independent variable. First, in the whole sample, individuals who live common-law have a wage level that is approximately 15.1% lower than that of those who are legally married. Second, compared to males, females are less affected by common-law marital status. Females who are legally married earn 10.9% more than those who are in a common-law relationship; the difference changes to 18.8% when it comes to males. Moreover, there exists a huge difference between Quebec and the rest of Canada in the effect of common-law marital status on wages. Individuals who live common-law earn about 18.5% less than those who are legally married in the rest of Canada. In Quebec, however, the difference is only about 3.0%. Furthermore, males living in the rest of Canada have a large wage gap

associated with living common-law as compared to their counterparts living in Quebec, the difference between the two being 17.7 percentage points. For females living in Quebec, the coefficient of the common-law marital status is statistically insignificant. In contrast, females living in the rest of Canada who live common-law earn 14.2% less than their legally married counterparts. When the sample is broken down by highest educational attainment, the coefficients reveal that individuals who have high school or below and college diploma and bachelor's degree earn respectively 15% and 13.1% less if they live common-law, which is much greater in magnitude than the 8.6% of those who possess degrees that are above the bachelor level. Interestingly, individuals living in Toronto and Montreal who are legally married own a 4.9% marriage wage premium, which is much smaller than what we observed in the whole sample.

The lower part of Table 6 shows the common-law marital status coefficients after adding all the control variables. In the full sample, the wage disadvantage for common-law individuals decreases to 4.8%, which is about one third of what it was in the raw regression. The common-law wage disadvantages of the subsamples of males and females also decrease quite a bit, to 8.9%.and 0.9% respectively. In particular, the latter effect is not statistically significant, which reveals that the marriage wage premium disappeared and is explained by other control variables. Females are in a relatively weak position compared to males after getting legally married. Similarly, in the Quebec sample there is no significant wage difference due to living common-law. Considering that a large proportion of individuals live in common-law in Quebec, the wage disadvantage is neutralized and it is not as obvious as in most of other subsamples. The proportion of common-law individuals who earn high wages in Quebec is larger than that in the rest of Canada in general. Furthermore, on the one hand, the wage advantage for married Quebec males does not change much after adding all controls; increasing from 4.5% to 4.9%. On the other hand, the results indicate that Quebec females who live common-law earn 4.3% more than their legally married counterparts. Note that this is the only coefficient in all the subsamples which shows a wage advantage for common-law individuals, and that it is statistically significant at the 1% level. Thus, common-law marital status affects females more than males in Quebec. Not surprisingly, there is a common-law wage disadvantage for both males and females in the rest of Canada sample; however, females are less affected than their male

counterparts. Looking at the subsamples for the three categories of highest educational attainment, the wage gap is largely decreased when compared to the situation before adding controls; and the gap between categories is about the same for all three education levels. Finally, the marriage wage premium for individuals who live in Toronto and Montreal does not change much after adding the controls. This reveals that people with both types of marital status have very similar characteristics in Toronto and Montreal.

6 Conclusion

Past studies have shown that a marriage wage premium generally exists, but that it differs between males and females. In this paper, I investigate the wage differentials between common-law and legally married individuals in Canada, given the fact that a common-law relationship is an important marital status and that there are large numbers of common-law individuals living in Canada, especially in the province of Quebec. I use the public use microdata file of the National Household Survey (NHS) 2011 as my working dataset. With two equations using respectively marital status and the logarithm wages as dependent variables, I divide my dataset into several subsamples and examine the factors that make individuals more likely to be legally married or to live in a common-law relationship, and how common-law marital status and other characteristics affect wages.

In the first equation, I find that individuals with college diploma or bachelor's degree and above a bachelor's degree are more likely to be legally married than those with a high school diploma or below. The coefficients for higher educational attainments are all negative in different magnitudes in different subsamples; this implies that individuals with the highest educational attainments that are higher than high school diploma or below are more likely to be legally married. Immigrants are more likely to be legally married than non-immigrants. Compared to individuals who have no children, those with children of various ages tend to be less prone to be in common-law relationships. Moreover, males with a bachelor's and above degree are more likely to be legally married than those with high school diploma or below. In particular, males who live in Quebec react more to the highest educational attainment than those living in the rest of Canada. Overall, education plays an essential

role in determining marital status.

The second equation shows that being legally married is positively correlated with the wage level. Coefficients in the raw regression decline after adding more control variables, except for the subsamples of males and females living in Quebec. With all the controls, in the whole sample, legally married individuals earn 4.8% more than those who are in common-law relationships. Compared to legally married males who have a 8.9% wage advantage compare to common-law males, the coefficient of 0.9% for legally married females turns to statistically insignificant. Specifically, marital status in Quebec does not have a significant effect on wage gap as observed in other subsamples; legally married individuals still earn more than those who are in common-law relationship but by a difference of only 0.3%, which is statistically insignificant. Note that Quebec females own common-law wage advantage of 4.3% compared to their legally married counterparts; it is also the only positive coefficient in all subsamples when all controls are added. Finally, individuals in both types of marital status in Toronto and Montreal do not appear to have very different characteristics, the marriage wage premium only decreasing from 4.9% to 4.5% when the control variables are added.

The results above show that wage gaps exist in Canada between the marital statuses of legally married and living common-law. A controversial issue that has been discussed in the literature on marital status is reverse causality: are legally married individuals more capable of gaining high wages, or are individuals who are able to earn more money also more likely to be legally married? Due to the limited available data and the difficulty of choosing appropriate instrumental variables, this issue was not specifically addressed and further research is needed to solve this endogeneity problem.

Reference

Beaujot, R., C.J., Du, and Z, Ravanera. (2013). Family policies in Quebec and the rest of Canada: Implications for fertility, child-care, women's paid work, and child development indicators. *Canadian Public Policy* 39(2), 221-240.

Bélanger, A., J.D., Morency, and M, Spielauer. (2010). A Microsimulation model to study the interaction between fertility and union formation and dissolution: An application to Canada and Quebec. *Canadian Studies in Population* 37(3), 339-373.

Card, D. (2009). Immigration and inequality. Working paper 14683. National Bureau of Economic Research.

Carlson, L.A. and C, Swartz. (1988). The earnings of women and ethnic minorities, 1959–1979. *ILR Review* 41(4), 530-546.

Chun, H and I, Lee. (2001). Why do married men earn more: productivity or marriage selection? *Economic Inquiry* 39(2), 307-319.

Cohen, P.N. (2002). Cohabitation and the declining marriage premium for men. *Work and Occupations* 29(3), 346-363.

Dougherty, C. (2006). The marriage earnings premium as a distributed fixed effect. *Journal of Human Resources* 41(2), 433-443.

Ginther, D.K. and M, Zavodny. (2001). Is the male marriage premium due to selection? The effect of shotgun weddings on the return to marriage. *Journal of Population Economics* 14(2), 313-328.

Glauber, R. (2007). Marriage and the motherhood wage penalty among African Americans, Hispanics, and Whites. *Journal of Marriage and Family* 69(4), 951-961.

Hango, D.W. and C, Le Bourdais. (2007). Early union formation in Canada: Links with education. *European Journal of Population/Revue Européenne de Démographie* 23(3), 339-368.

Hersch, J and L.S., Stratton. (2000). Household specialization and the male marriage wage premium. *ILR Review* 54(1), 78-94.

Kiernan, K. (2001). The rise of cohabitation and childbearing outside marriage in Western Europe. *International Journal of Law, Policy and the Family*, 15(1), 1-21.

Kunze, A. (2008). Gender wage gap studies: consistency and decomposition. *Empirical Economics* 35(1), 63-76.

Lafrance, A., C, Warman, and F, Woolley. (2009). Sexual identity and the marriage premium. Queen's Economics Department Working Paper, No. 1219.

Laplante, B. (2014). Normative groups: The rise of the formation of the first union through cohabitation in Quebec, a comparative approach. *Population Research and Policy Review* 33(2), 257-285.

Le Bourdais, C and E, Lapierre-Adamcyk. (2004). Changes in conjugal life in Canada: Is cohabitation progressively replacing marriage? *Journal of Marriage and Family* ,66(4), 929-942.

Le Bourdais, C., G, Neil, and N, Vachon. (2000). Family disruption in Canada: Impact of the changing patterns of family formation and of female employment. *Canadian Studies in Population* 27(1), 85-105.

Le Bourdais, C. and A, Sauriol. (1998). La part des pères dans la division du travail domestique au sein des familles Canadiennes. *Montreal INRS-Urbanisation*, 55.

Loh, E.S. (1996). Productivity differences and the marriage wage premium for white males. *Journal of Human Resources*, 566-589.

Loughran, D.S. (2002) The effect of male wage inequality on female age at first marriage. *The Review of Economics and Statistics* 84(2), 237-250.

Ménard, F.P. (2011). What makes it fall apart? The determinants of the dissolution of marriages and common-law unions in Canada. *McGill Sociological Review* 2, 59.

Morissette, R., W. G., Picot, and Y, Lu. (2013). The evolution of Canadian wages over the last three decades. *Statistics Canada.* Catalogue no. 11F0019M—No. 347.

Richardson, K. (2000). The evolution of the marriage premium in the Swedish labor market 1968-1991. IFAU-Institute for Labour Market Policy Evaluation Working Paper 2000 (5).

Seltzer, J. A. (2000). Families formed outside of marriage. *Journal of Marriage and Family*, 62(4), 1247-1268.

Shelton, B. A., and D, John. (1993). Does marital status make a difference? Housework among married and cohabiting men and women. *Journal of Family Issues*, 14(3), 401-420.

Statistics Canada (2011). Censuses of population, 1931 to 2011. Catalogue number: 91F0015M-11.

Statistics Canada (2011). National Household Survey, 2011 [Canada] public use microdata file (PUMF): individuals File. Identification: NHS-99M001X-E-2011-pumf-individuals.

Statistics Canada (2013). 2011 Census program. Catalogue number: 99-012-X2011013, Ottawa.

Statistics Canada (2015). 2011 Census of population, 1961 to 2011. Catalogue number: 97-553-X2006001.

Zavodny, M. (2008). Is there a 'marriage premium' for gay men? *Review of Economics of the Household* 6(4), 369-389.

Table 1: Mean value of wages and distribution between legally married and common-law of individuals for different characteristics (row proportion sum to 1)

	Legally married individual	Common law individual
Mean wages in 2010	$51,600	$43,600
Total sample	0.756	0.244
Education		
High school diploma or below	0.740	0.260
College diploma or bachelor's degree	0.750	0.250
Above bachelor's degree	0.833	0.167
Immigration status		
Non-immigrants	0.704	0.296
Immigrants	0.915	0.085
Gender		
Male	0.757	0.243
Female	0.754	0.246
Mother tongue		
English mother tongue	0.797	0.203
French mother tongue	0.496	0.504
Other mother tongues	0.924	0.076
Religion		
Roman Catholic	0.680	0.320
Other Christian and Jewish	0.873	0.127
Muslim	0.964	0.036

Eastern religions	0.956	0.044
Other religions	0.735	0.265
No religion	0.689	0.311
Province		
Newfoundland and Labrador	0.818	0.182
Prince Edward Island	0.834	0.167
Nova Scotia	0.793	0.207
New Brunswick	0.765	0.236
Quebec	0.523	0.477
Ontario	0.844	0.156
Manitoba	0.836	0.164
Saskatchewan	0.826	0.174
Alberta	0.818	0.182
British Columbia	0.820	0.180
Census metropolitan area		
Toronto	0.884	0.116
Montreal	0.589	0.411
Vancouver	0.851	0.149
Calgary	0.829	0.171
Edmonton	0.822	0.178
Other CMA	0.755	0.245
Non-CMA	0.711	0.289

Source: National Household Survey, 2011 public use microdata file: individuals file.

Table 2: Mean value of wages and distribution between legally married and common-law of male and female for different characteristics (row proportion for each gender sum to 1)

	Legally married female	Common law female	Legally married male	Common law male
Mean wages in 2010	$41,800	$36,900	$60,900	$50,100
Total sample	0.754	0.246	0.757	0.243
Education				
High school diploma and below	0.752	0.249	0.730	0.270
College diploma and bachelor's degree	0.746	0.254	0.755	0.245
Above bachelor's degree	0.809	0.191	0.856	0.144
Immigration status				
Non-immigrants	0.705	0.296	0.704	0.296
Immigrants	0.915	0.085	0.916	0.084
Mother tongue				
English mother tongue	0.798	0.202	0.796	0.204
French mother tongue	0.494	0.506	0.498	0.502
Other mother tongues	0.920	0.080	0.927	0.073
Religion				
Roman Catholic	0.682	0.318	0.676	0.324
Other Christian and Jewish	0.867	0.133	0.879	0.121
Muslim	0.964	0.036	0.964	0.036
Eastern religions	0.957	0.043	0.955	0.045
Other religions	0.750	0.250	0.720	0.280
No religion	0.679	0.321	0.697	0.303

Province				
Newfoundland and Labrador	0.822	0.178	0.815	0.185
Prince Edward Island	0.837	0.163	0.830	0.170
Nova Scotia	0.791	0.209	0.794	0.206
New Brunswick	0.773	0.227	0.757	0.243
Quebec	0.520	0.480	0.527	0.474
Ontario	0.843	0.157	0.846	0.154
Manitoba	0.836	0.164	0.836	0.164
Saskatchewan	0.826	0.174	0.825	0.175
Alberta	0.814	0.186	0.820	0.180
British Columbia	0.817	0.183	0.823	0.177
Census metropolitan area				
Toronto	0.881	0.119	0.887	0.113
Montreal	0.585	0.415	0.593	0.407
Vancouver	0.843	0.157	0.858	0.142
Calgary	0.818	0.182	0.840	0.160
Edmonton	0.823	0.177	0.821	0.179
Other CMA	0.754	0.246	0.756	0.244
Non-CMA	0.715	0.285	0.708	0.292

Source: National Household Survey, 2011 public use microdata file: individuals file.

Table 3: Regression results with common-law marital status as dependent variable, by gender

	Whole Sample	Male	Female
(High School diploma or below as reference)			
College diploma or bachelor's degree	-0.032***	-0.037***	-0.025***
	(0.002)	(0.002)	(0.003)
Above bachelor's degree	-0.058***	-0.065***	-0.050***
	(0.003)	(0.003)	(0.004)
Age	-0.039***	-0.037***	-0.041***
	(0.001)	(0.003)	(0.001)
Age squared	0.003***	0.001***	0.001***
	(0.001)	(0.001)	(0.001)
Immigrants	-0.045***	-0.038***	-0.051***
	(0.003)	(0.004)	(0.004)
Male	0.016***		
	(0.002)		
(English mother tongue as reference)			
French mother tongue	0.149***	0.143***	0.154***
	(0.004)	(0.005)	(0.005)
Other mother tongues	-0.069***	-0.072***	-0.065***
	(0.003)	(0.004)	(0.004)
(Individual with no children as reference)			
Presence of children aged 0 to 1	-0.093***	-0.082***	-0.107***
	(0.003)	(0.004)	(0.004)
Presence of children aged 2 to 5	-0.087***	-0.086***	-0.090***
	(0.002)	(0.003)	(0.003)
Presence of children aged 6 to 14	-0.070***	-0.064***	-0.077***
	(0.002)	(0.003)	(0.003)
Presence of children aged 15 to 25	-0.053***	-0.054***	-0.051***

	(0.004)	(0.005)	(0.005)
(Religion: Roman Catholic as reference)			
Other Christian	-0.043***	-0.051***	-0.036***
	(0.002)	(0.003)	(0.003)
Muslim	-0.087***	-0.075***	-0.108***
	(0.003)	(0.005)	(0.005)
Eastern religion	-0.060***	-0.051***	-0.068***
	(0.003)	(0.004)	(0.004)
Other religion and no religion	0.068***	0.063***	0.075***
	(0.002)	(0.003)	(0.003)
(CMA: Toronto as reference)			
Montreal	-0.051***	-0.051***	-0.050***
	(0.005)	(0.006)	(0.006)
Vancouver	-0.011**	-0.022***	0.002
	(0.005)	(0.006)	(0.007)
Calgary	0.002	-0.006	0.011
	(0.006)	(0.008)	(0.008)
Edmonton	-0.002	-0.001	-0.003
	(0.006)	(0.008)	(0.008)
Other CMA	-0.007***	-0.007**	-0.007**
	(0.002)	(0.003)	(0.004)
Non-CMA	-0.005*	-0.005	-0.005
	(0.003)	(0.004)	(0.004)
(Province: Ontario as reference)			
Quebec	0.186***	0.191***	0.181***
	(0.004)	(0.006)	(0.006)
British Columbia	0.010***	0.014***	0.006
	(0.004)	(0.005)	(0.005)
Alberta	-0.016***	-0.013**	-0.020***

	(0.004)	(0.006)	(0.006)
Prairies Provinces	-0.021***	-0.019***	-0.023***
	(0.003)	(0.004)	(0.004)
Atlantic Provinces	0.002	0.007	-0.003
	(0.003)	(0.005)	(0.005)
Constant	1.340***	1.335***	1.372***
	(0.013)	(0.019)	(0.018)
Observation	246,971	126,363	120,428
R^2	0.373	0.247	0.253

Note: The estimation method is ordinary least square (OLS). Standard errors in brackets. *significant at 10% level; **significant at 5% level; ***significant at 1% level (all two-tailed test).

Table 4: Regression results with common-law marital status as dependent variable, by males and females in Quebec and the rest of Canada.

	Quebec	Rest of Canada	Quebec Male	Quebec Female	Rest of Canada Male	Rest of Canada Female
(High School diploma or below as reference)						
College diploma or bachelor's degree	-0.013***	-0.042***	-0.024***	0.001	-0.046***	-0.037***
	(0.004)	(0.002)	(0.006)	(0.006)	(0.003)	(0.003)
Above bachelor's degree	-0.048***	-0.064***	-0.071***	-0.025**	-0.068***	-0.059***
	(0.007)	(0.003)	(0.010)	(0.010)	(0.004)	(0.004)
Age	-0.018***	-0.043***	-0.017***	-0.019***	-0.042***	-0.045***
	(0.001)	(0.003)	(0.002)	(0.002)	(0.001)	(0.001)
Age squared	0.001	0.003***	0.001	0.001	0.001***	0.001***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Immigrants	-0.104***	-0.035***	-0.097***	-0.110***	0.030***	-0.041***
	(0.008)	(0.002)	(0.012)	(0.011)	(0.004)	(0.004)
Male	0.027***	0.014***				
	(0.004)	(0.002)				
(English mother tongue as reference)						
French mother tongue	0.181***	0.060***	0.168***	0.197***	0.053***	0.066***
	(0.008)	(0.005)	(0.011)	(0.011)	(0.007)	(0.007)
Other mother tongues	-0.070***	-0.063***	-0.082***	-0.059***	-0.067***	-0.058***
	(0.010)	(0.003)	(0.014)	(0.014)	(0.004)	(0.004)
(Individual with no children as reference)						
Presence of children aged 0 to 1	-0.017***	-0.123***	-0.004	-0.033***	-0.113***	-0.137***
	(0.006)	(0.003)	(0.008)	(0.009)	(0.004)	(0.005)
Presence of children aged 2 to 5	-0.033***	-0.106***	-0.030***	-0.038***	-0.104***	-0.108***
	(0.005)	(0.002)	(0.007)	(0.008)	(0.003)	(0.004)
Presence of children aged 6 to 14	-0.060***	-0.076***	-0.047***	-0.075***	-0.072***	-0.080***
	(0.005)	(0.002)	(0.006)	(0.007)	(0.003)	(0.003)
Presence of children aged 15 to 25	-0.101***	-0.049***	-0.097***	-0.104***	-0.055***	-0.042***

	(0.012)	(0.003)	(0.017)	(0.016)	(0.005)	(0.005)
(Religion: Roman Catholic as reference)						
Other Christian	-0.150***	-0.037***	-0.162***	-0.137***	-0.044***	-0.030***
	(0.007)	(0.002)	(0.010)	(0.010)	(0.003)	(0.003)
Muslim	-0.197***	-0.052***	-0.186***	-0.217***	-0.039***	-0.074***
	(0.010)	(0.004)	(0.012)	(0.014)	(0.005)	(0.006)
Eastern religion	-0.072***	-0.058***	-0.055***	-0.092***	-0.053***	-0.064***
	(0.014)	(0.003)	(0.020)	(0.020)	(0.004)	(0.004)
Other religion and no religion	0.055***	0.072***	0.050***	0.060***	0.065***	0.080***
	(0.006)	(0.002)	(0.008)	(0.009)	(0.012)	(0.003)
Constant	1.146***	1.409***	1.165***	1.149***	1.409***	1.434***
	(0.026)	(0.008)	(0.021)	(0.036)	(0.012)	(0.207)
Observation	59,980	186,811	30,887	29,093	95,476	91,335
R^2	0.230	0.165	0.229	0.232	0.163	0.169

Note: The estimation method is ordinary least square (OLS). Standard errors in brackets. *significant at 10% level; **significant at 5% level; ***significant at 1% level (all two-tailed test).

Table 5: Regression results with common-law marital status as dependent variable, by educational attainments and for Toronto and Montreal.

	High School and Below	College and Bachelor	Above Bachelor	Toronto and Montreal
(High School diploma or below as reference)				
College diploma or bachelor's degree				-0.021***
				(0.003)
Above bachelor's degree				-0.045***
				(0.004)
Age	-0.040***	-0.037***	-0.029***	-0.028***
	(0.001)	(0.001)	(0.002)	(0.001)
Age squared	0.001***	0.001***	0.001***	0.001***
	(0.001)	(0.001)	(0.001)	(0.001)
Immigrants	-0.056***	-0.038***	-0.053***	-0.062***
	(0.005)	(0.003)	(0.007)	(0.004)
Male	0.020***	0.013***	-0.001	0.019***
	(0.003)	(0.002)	(0.004)	(0.003)
(English mother tongue as reference)				
French mother tongue	0.109***	0.161***	0.185***	0.305***
	(0.007)	(0.005)	(0.010)	(0.005)
Other mother tongues	-0.080***	-0.070***	-0.040***	-0.050***
	(0.005)	(0.003)	(0.006)	(0.004)
(Individual with no children as reference)				
Presence of children aged 0 to 1	-0.058***	-0.103***	-0.098***	-0.077***
	(0.007)	(0.003)	(0.007)	(0.005)
Presence of children aged 2 to 5	-0.076***	-0.091***	-0.085***	-0.069***
	(0.005)	(0.003)	(0.005)	(0.004)
Presence of children aged 6 to 14	-0.062***	-0.077***	-0.087***	-0.062***
	(0.004)	(0.002)	(0.005)	(0.003)
Presence of children aged 15 to 25	-0.051***	-0.055***	-0.065***	-0.042***

	(0.006)	(0.005)	(0.008)	(0.005)
(Religion: Roman Catholic as reference)				
Other Christian	-0.056***	-0.040***	-0.028***	-0.041***
	(0.004)	(0.002)	(0.005)	(0.004)
Muslim	-0.117***	-0.087***	-0.055***	-0.078***
	(0.008)	(0.005)	(0.007)	(0.004)
Eastern religion	-0.062***	-0.060***	-0.043***	-0.066***
	(0.005)	(0.004)	(0.007)	(0.004)
Other religion and no religion	0.061***	0.071***	0.060	0.057***
	(0.004)	(0.003)	(0.006)	(0.004)
(CMA: Toronto as reference)				
Montreal	-0.033***	-0.054***	-0.089***	
	(0.009)	(0.006)	(0.015)	
Vancouver	-0.007	-0.010	-0.017	
	(0.009)	(0.006)	(0.013)	
Calgary	0.020*	-0.003	0.018	
	(0.011)	(0.007)	(0.018)	
Edmonton	0.014	-0.006	0.004	
	(0.011)	(0.008)	0.018	
Other CMA	-0.001	-0.009***	-0.019***	
	(0.005)	(0.003)	(0.006)	
Non-CMA	-0.001	-0.005	-0.026***	
	(0.005)	(0.004)	(0.009)	
(Province: Ontario as reference)				
Quebec	0.153***	0.204***	0.194***	
	(0.008)	(0.006)	(0.014)	
British Columbia	-0.004	0.014***	0.014	
	(0.006)	(0.005)	(0.011)	
Alberta	-0.029***	-0.013**	-0.03**	

	(0.007)	(0.006)	(0.015)	
Prairies Provinces	-0.03***	-0.018***	-0.026***	
	(0.006)	(0.004)	(0.009)	
Atlantic Provinces	-0.003	0.005	-0.006	
	(0.006)	(0.004)	(0.010)	
Constant	1.413***	1.266***	1.009***	1.081***
	(0.022)	(0.018)	(0.049)	(0.025)
Observation	76,239	145,388	25,164	68,746
R^2	0.227	0.263	0.243	0.282

Note: The estimation method is ordinary least square (OLS). Standard errors in brackets. *significant at 10% level; **significant at 5% level; ***significant at 1% level (all two-tailed test).

Table 6a: Raw regression for the log wage as dependent variable.

	Whole sample	Male	Female	Quebec	Rest of Canada	Quebec Male	Quebec Female
Marital status	-0.151***	-0.188***	-0.109***	-0.030***	-0.185***	-0.045***	-0.009
	(0.004)	(0.005)	(0.006)	(0.007)	(0.006)	(0.001)	(0.010)
Constant	10.538***	10.755***	10.310***	10.431***	10.560***	10.619***	10.228***
	(0.002)	(0.003)	(0.003)	(0.005)	(0.002)	(0.007)	(0.007)
R^2	0.005	0.008	0.002	0.001	0.005	0.001	0.000
	Rest of Canada Male	Rest of Canada Female	High School and Below	Diploma and Bachelor	Above Bachelor	Toronto and Montreal	
Marital status	-0.222***	-0.142***	-0.150***	-0.131***	-0.086***	-0.049***	
	(0.008)	(0.008)	(0.008)	(0.005)	(0.016)	(0.008)	
Constant	10.782***	10.327***	10.311***	10.602***	10.818***	10.532***	
	(0.003)	(0.003)	(0.004)	(0.003)	(0.007)	(0.004)	
R^2	0.009	0.003	0.005	0.004	0.001	0.001	

Note: The estimation method is ordinary least square (OLS). Standard errors in brackets. *significant at 10% level; **significant at 5% level; ***significant at 1% level (all two-tailed test). The complete regression results are shown in Appendix Table A.

Table 6b: Regression for the log wage as dependent variable controlling for the full set of explanatory variables.

	Whole sample	Male	Female	Quebec	Rest of Canada	Quebec Male	Quebec Female
Marital status	-0.048***	-0.089***	-0.009	-0.003	-0.079***	-0.049***	0.043***
	(0.004)	(0.006)	(0.006)	(0.007)	(0.005)	(0.009)	(0.010)
Constant	6.727***	7.140***	6.696***	6.476***	6.664***	6.888***	6.422***
	(0.028)	(0.040)	(0.038)	(0.052)	(0.032)	(0.076)	(0.072)
R^2	0.321	0.256	0.315	0.318	0.310	0.258	0.319
	Rest of Canada Male	Rest of Canada Female	High School and Below	Diploma and Bachelor	Above Bachelor	Toronto and Montreal	
Marital status	-0.118***	-0.040***	-0.051***	-0.047***	-0.062***	-0.045***	
	(0.007)	(0.007)	(0.007)	(0.005)	(0.015)	(0.008)	
Constant	7.131***	6.606***	6.770***	7.049***	6.393***	6.665***	
	(0.048)	(0.044)	(0.044)	(0.037)	(0.110)	(0.055)	
R^2	0.239	0.304	0.324	0.289	0.300	0.307	

Note: The estimation method is ordinary least square (OLS). Standard errors in brackets. *significant at 10% level; **significant at 5% level; ***significant at 1% level (all two-tailed test). The complete regression results are shown in Appendix Table A. The control variables are the highest educational attainment, age, age squared, weeks worked, immigration, gender, mother tongue, presence of children in different age range, religion, central metropolitan area, and province.

Appendix

Table A: Regression results with log wages as dependent variable, all explanatory variables included.

	Whole Sample	Male	Female	Quebec	Rest of Canada	Quebec Male	Quebec Female
Common-law marital status	-0.048***	-0.089***	-0.009	-0.003	-0.079***	-0.049***	0.043***
	(0.004)	(0.006)	(0.006)	(0.007)	(0.005)	(0.009)	(0.010)
(High School diploma or below as reference)							
College diploma and bachelor's degree	0.278***	0.231***	0.332***	0.300***	0.280***	0.248***	0.360***
	(0.003)	(0.005)	(0.005)	(0.007)	(0.004)	(0.009)	(0.010)
Above bachelor's degree	0.524***	0.420***	0.639***	0.613***	0.523***	0.497***	0.737***
	(0.006)	(0.008)	(0.009)	(0.013)	(0.007)	(0.019)	(0.018)
Age	0.083***	0.083***	0.084***	0.091***	0.080***	0.088***	0.093***
	(0.001)	(0.002)	(0.002)	(0.002)	(0.001)	(0.012)	(0.002)
Age squared	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Weeks worked	1.082***	1.054***	1.092***	1.015***	1.116***	1.029***	0.987***
	(0.006)	(0.010)	(0.008)	(0.013)	(0.007)	(0.020)	(0.017)
Immigrants	-0.134***	-0.131***	-0.132***	-0.165***	-0.085***	-0.176***	-0.146***
	(0.006)	(0.008)	(0.009)	(0.015)	(0.006)	(0.020)	(0.023)
Male	0.370***			0.334***	0.381***		
	(0.003)			(0.006)	(0.004)		
(English mother tongue as reference)							
French mother tongue	0.016**	0.003	0.028***	-0.069***	-0.027***	-0.050**	-0.088***
	(0.007)	(0.009)	(0.010)	(0.014)	(0.009)	(0.020)	(0.021)
Other mother tongue	-0.121***	-0.155***	-0.087***	-0.128***	-0.100***	-0.150***	-0.110***
	(0.006)	(0.008)	(0.009)	(0.019)	(0.006)	(0.026)	(0.028)
(Individual with no children as reference)							

Presence of children aged 0 to 1	-0.012**	0.024***	-0.058***	-0.088***	0.018**	-0.001	-0.201***
	(0.006)	(0.007)	(0.010)	(0.011)	(0.007)	(0.013)	(0.019)
Presence of children aged 2 to 5	0.010*	0.036***	-0.028***	0.018**	0.002	0.022**	0.011
	(0.005)	(0.006)	(0.007)	(0.009)	(0.005)	(0.011)	(0.013)
Presence of children aged 6 to 14	-0.035***	0.011**	-0.085***	0.003	-0.053***	0.014	-0.009
	(0.004)	(0.006)	(0.006)	(0.007)	(0.005)	(0.010)	(0.011)
Presence of children aged 15 to 25	0.005	0.040***	-0.002	0.050**	0.025**	0.044	0.052
	(0.007)	(0.015)	(0.015)	(0.025)	(0.012)	(0.036)	(0.033)
(Religion: Roman Catholic as reference)							
Other Christian	-0.064***	-0.051***	-0.073***	-0.103***	-0.064***	-0.101***	-0.105***
	(0.004)	(0.006)	(0.006)	(0.014)	(0.005)	(0.020)	(0.021)
Muslim	-0.221***	-0.215***	-0.214***	-0.228***	-0.195***	-0.201***	-0.251***
	(0.012)	(0.015)	(0.019)	(0.025)	(0.014)	(0.031)	(0.042)
Eastern religion	-0.138***	-0.149***	-0.121***	-0.088***	-0.131***	-0.010**	-0.074
	(0.009)	(0.012)	(0.012)	(0.033)	(0.009)	(0.043)	(0.050)
Other religion and no religion	-0.056***	-0.057***	-0.053***	-0.038***	-0.047***	-0.046***	-0.023
	(0.004)	(0.006)	(0.007)	(0.010)	(0.005)	(0.014)	(0.016)
(CMA: Toronto as reference)							
Montreal	-0.010	0.015	-0.037***				
	(0.008)	(0.011)	(0.012)				
Vancouver	-0.037***	-0.067	-0.070***				
	(0.011)	(0.014)	(0.015)				
Calgary	-0.079***	-0.106***	-0.048**				
	(0.013)	(0.018)	(0.020)				
Edmonton	-0.091***	-0.071***	-0.112***				
	(0.013)	(0.018)	(0.020)				
Other CMA	-0.054***	-0.022***	-0.087***				
	(0.006)	(0.008)	(0.008)				

Non-CMA	-0.168***	-0.114***	-0.230***				
	(0.006)	(0.009)	(0.009)				
(Province: Ontario as reference)							
Quebec	-0.167***	-0.164***	-0.167***				
	(0.008)	(0.011)	(0.011)				
British Columbia	-0.025***	-0.003	-0.048***				
	(0.008)	(0.011)	(0.011)				
Alberta	0.159***	0.233***	0.079***				
	(0.010)	(0.013)	(0.014)				
Prairies Provinces	-0.029***	-0.040***	-0.018*				
	(0.007)	(0.009)	(0.010)				
Atlantic Provinces	-0.010***	-0.115***	-0.086***				
	(0.007)	(0.009)	(0.009)				
Constant	6.727***	7.140***	6.696***	6.476***	6.664***	6.888***	6.422***
	(0.028)	(0.040)	(0.038)	(0.052)	(0.032)	(0.076)	(0.072)
Observation	246,791	126,363	120,428	59,980	186,811	30,887	29,093
R^2	0.321	0.256	0.315	0.318	0.310	0.258	0.319

	Rest of Canada Male	Rest of Canada Female	High School and Below	Diploma and Bachelor	Above Bachelor	Toronto and Montreal	
Common-Law marital status	-0.118***	-0.040***	-0.051***	-0.047***	-0.062***	-0.045***	
	(0.007)	(0.007)	(0.007)	(0.005)	(0.015)	(0.008)	
(High school or below as reference)							
College Diploma and Bachelor's Degree	0.235***	0.334***				0.287***	
	(0.005)	(0.006)				(0.007)	
Above Bachelor's Degree	0.417***	0.643***				0.502***	
	(0.009)	(0.010)				(0.010)	
Age	0.080***	0.080***	0.083***	0.082***	0.111***	0.085***	
	(0.002)	(0.002)	(0.002)	(0.002)	(0.005)	(0.003)	

Age Square	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Weeks worked	1.081***	1.134***	1.036***	1.085***	1.200***	1.079***
	(0.012)	(0.009)	(0.011)	(0.009)	(0.021)	(0.013)
Immigrants	-0.091***	-0.075***	-0.118***	-0.138***	-0.141***	-0.173***
	(0.008)	(0.009)	(0.011)	(0.007)	(0.017)	(0.009)
Male			0.456***	0.355***	0.207***	0.284***
			(0.005)	(0.004)	(0.011)	(0.006)
(English mother tongue as reference)						
French Speakers	-0.071***	0.017	-0.012	0.027***	0.054***	0.149***
	(0.012)	(0.012)	(0.012)	(0.009)	(0.021)	(0.009)
Other Language Speakers	-0.141***	-0.059***	-0.127***	-0.112***	-0.136***	-0.154***
	(0.008)	(0.009)	(0.011)	(0.008)	(0.017)	(0.009)
(Individual with no children as reference)						
Presence of Children aged 0 to 1	0.034***	-0.001	-0.039***	-0.011	0.037**	0.010
	(0.009)	(0.012)	(0.012)	(0.007)	(0.018)	(0.011)
Presence of Children aged 2 to 5	0.039***	-0.045***	-0.008	0.012**	0.012	0.025***
	(0.007)	(0.009)	(0.009)	(0.006)	(0.014)	(0.008)
Presence of Children aged 6 to 14	0.005	-0.114***	-0.060***	-0.031***	-0.024**	-0.014*
	(0.006)	(0.007)	(0.007)	(0.005)	(0.012)	(0.007)
Presence of Children aged 15 to 25	0.044**	0.008	-0.001	0.026*	0.017	0.0121
	(0.017)	(0.017)	(0.016)	(0.015)	(0.039)	(0.016)
(Religion: Roman Catholic as reference)						
Other Christian	-0.045***	-0.080***	-0.071***	-0.058***	-0.061***	-0.069***
	(0.006)	(0.007)	(0.078)	(0.006)	(0.014)	(0.009)
Muslim	-0.195***	-0.176***	-0.235***	-0.188***	-0.240***	-0.237***
	(0.018)	(0.021)	(0.025)	(0.016)	(0.027)	(0.015)

Eastern Religion	-0.143***	-0.113***	-0.162***	-0.106***	-0.184***	-0.135***
	(0.013)	(0.013)	(0.014)	(0.013)	(0.025)	(0.012)
Other Religion and No Religion	-0.039***	-0.055***	-0.066***	-0.049***	-0.067***	-0.043***
	(0.007)	(0.007)	(0.008)	(0.006)	(0.014)	(0.009)
(CMA: Toronto as reference)						
Montreal			-0.041***	-0.018*	0.096***	
			(0.015)	(0.010)	(0.028)	
Vancouver			-0.082***	-0.010	0.038	
			(0.018)	(0.014)	(0.035)	
Calgary			-0.116***	-0.070***	0.006	
			(0.023)	(0.018)	(0.054)	
Edmonton			-0.117***	-0.086***	-0.037	
			(0.023)	(0.018)	(0.054)	
Other CMA			-0.077***	-0.067***	0.056***	
			(0.010)	(0.007)	(0.015)	
Non-CMA			-0.200***	-0.175***	-0.012	
			(0.011)	(0.008)	(0.021)	
(Province: Ontario as reference)						
Quebec			-0.143***	-0.172***	-0.212***	
			(0.014)	(0.010)	(0.027)	
British Columbia			0.067***	-0.065***	-0.152***	
			(0.013)	(0.010)	(0.029)	
Alberta			0.188***	0.153***	0.072	
			(0.016)	(0.013)	(0.046)	
Prairies Provinces			0.007	-0.036***	-0.120***	
			(0.011)	(0.009)	(0.027)	
Atlantic Provinces			-0.137***	-0.086***	0.071***	
			(0.011)	(0.009)	(0.024)	
Constant	7.131***	6.606***	6.770***	7.049***	6.393***	6.665***

	(0.048)	(0.044)	(0.044)	(0.037)	(0.110)	(0.055)
Observation	95,476	91,335	76,239	145,388	25,164	68,746
R^2	0.239	0.304	0.324	0.289	0.300	0.307

Note: The estimation method is ordinary least square (OLS). Standard errors in brackets. *significant at 10% level; **significant at 5% level; ***significant at 1% level (all two-tailed test).