A Study of the Labour Market Outcomes of Married Immigrant Women in Canada

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Abstract

Using 2006 Census data, this paper investigates three labour market outcomes and their determinants for both Canadian-born and immigrant married women aged 30-50. The three labour market outcomes are labour force participation, employment status and full-time full-year work status. The factors that determine the labour market outcomes for both Canadian-born and immigrant married women include the presence of children, other family income and educational attainment. Additionally, immigration characteristics are taken into account when analysis is done for the immigrant women. The results suggest that Canadian-born women have better labour market outcomes than their foreign-born counterparts and that the magnitude of the positive effect of educational attainment on female labour market outcomes is larger for the native-born Canadian women than for the immigrants. Moreover, immigrant women participate more in the Canadian labour market the longer they live in Canada. Comparisons are also done between the immigrant women born in different regions. The results show that women born in the U.S./Europe participate the most in the Canadian labour market, while women born in Asia participate the least. In addition, the magnitude of the same determinant varies across different groups of immigrant women, such as other family income and knowledge of Canadian official languages.

1. Introduction

In the twentieth century, a remarkable feature of the labour market in most developed countries has been the substantial increase of female labour force participation. Although the participation growth took place at different times across various countries, there has been an important increase in female labour force participation in all developed economies since the 1960s. This rise was more remarkable among married women, especially those with young children. Moreover, the majority of the rise in the female participation rate is due to the rise in married women's participation rate (Killingsworth & Heckman, 1986).

In particular, female labour force participation experienced an outstanding increase in Canada. In 2006, 58 percent of working aged women were employed, compared to 42 percent in 1976. During the same period, the proportion of men who had jobs witnessed a decline, from 73 percent to 68 percent. Because of those two trends, in 2006, nearly one half (47 percent) of the employed labour force were women, a proportion that has increased by 10 percentage points since 1976 (Almey, 2007).

As a nation with a broad immigration policy, Canada has attracted an increasing number of immigrants during the last two decades. According to 2006 Census data, the total Canadian population was 31 million, out of which more than 6 million people were born outside of Canada. The proportion of foreign-born people reached its highest point in 75 years at 20 percent, meaning that one out of five in the total population was born in a foreign country. Between 2001 and 2006, the foreign-born

population in Canada increased by 13.6 percent, compared to only 3.3 percent of the Canadian-born (Statistics Canada, 2007). Today, around 70 percent of the Canadian demographic growth is derived from immigration. Statistics Canada estimates that by 2031, this statistic will increase to 80 percent, demonstrating immigration's important role in future population growth (Yssaad, 2012).

Accordingly, immigrants in Canada have been an increasing part of the labour supply over the past two decades. It is expected that they will remain an important source of new workers. As for the immigrant women's outcome in the Canadian labour market, according to Chui (2011), 95 percent of immigrant women and 80 percent of Canadian-born women were of working age in 2006 (aged 15 or over). Among those working aged immigrant women, 56 percent were in the labour force in 2006 and they accounted for 21 percent of the total Canadian female labour force in that year. From 2001 to 2006, Canadian-born women's labour force increased by 7 percent, whereas that rate for immigrant women increased by 17 percent. Therefore, there is a considerable interest in the behaviour of married female immigrants in the Canadian labour market.

Given the two increasing trends of female labour supply and of immigration in Canada, it is worthwhile to investigate how married female immigrants behave in the Canadian labour market compared to their Canadian-born counterparts. Among the immigrant women, labour market outcomes of females born in different regions are of particular interest.

The purpose of this paper is to analyse the labour market outcomes of married

Canadian-born women and married immigrant women with data from the Public Use Microdata File of the 2006 Canada Census. Three labour market outcomes will be studied with a binary choice model: labour force participation, employment status and full-time full-year work status.

The paper is structured as follows. Section 2 is a review of relevant literature regarding female and immigrant labour supply in Canada. The description of the dataset, the sample and the models for the three labour supply indicators are presented in Section 3. Section 4 presents empirical results and discusses them. Section 5 is the conclusion of this paper.

2. Literature Review

There is an extensive literature on the labour supply of married women in Canada. Some of that literature has addressed the case of immigrants.

Carliner et al. (1980) conducted an empirical study of female labour supply and fertility using 1971 Canadian census data. There were three measurements of the female labour supply: the labour force participation of wives, weeks worked by wives in 1970 and hours usually worked by wives. They found that women with higher education who lived in cities and had fewer children supplied more labour than other women. Moreover, a married woman's labour supply decreased with her husband's wage. Within the same region, there was no significant difference between the labour supply of English and French speaking women. In addition, the level of labour supply was higher for women living in Ontario and in the Prairie provinces. However, no immigrant female's labour supply was discussed in that paper.

Boyd (1984) compared the occupational statuses of female immigrant employees in Canada to those of native born women and of native and foreign born men. She used data from the 1973 Canadian Mobility Study on the wages and salaries of the labour force aged 25 to 64. She observed that immigrant women had lower occupational status on average than that of men and the native born groups. These lower occupational statuses "reflected not only immigrant women's age, place of residence, social origins and educational attainments, but also their membership in two negative status groups: female and foreign born" (Boyd, 1984, pp.1091). Nevertheless, within the foreign born groups, place of birth was an important determinant of occupational status. The results indicated that being female and foreign born had less impact on the occupational attainments of women born in the United States and the United Kingdom than that of women born in continental Europe and elsewhere.

Duleep and Sanders (1993) employed 1980 U.S. Census data to compare the labour force participation of immigrant wives from Asia to that of immigrant wives from Europe and Canada. Their results suggested that the proficiency in English and the years since immigration increased the propensity to work for immigrant women in 1979. However, when they considered women with the same number of years since migration, their labour force participation was negatively associated with their husbands' years since migration.

Powell (1997) combined the 1988 Canadian National Child Care Survey and the 1988 Labour Market Activity Survey to investigate the impact of child care costs on

the labour supply of Canadian married mothers. He concluded that the presence of children aged 5 years or below significantly decreased the probability of labour force participation of married women, whereas the education level had a significantly positive effect on the probability of their labour force participation decision. He also showed that women living in Ontario had a significantly higher probability of participation than women in other provinces. While the difference between English or French-speaking immigrants' participation in the labour force was not statistically different from that of non-immigrants, there was a low probability that a non-English or French-speaking immigrant in Canada would participate in the labour force.

Man (2004) focuses on the working experience in the Canadian labour market of a specific group: women from China. She conducted individual interviews with 50 immigrant women from China, of which 20 came from Mainland China and the rest came from Hong Kong. Many of the women interviewed received a high level of education, although most of them came to Canada as dependents of their husbands. Fifteen of the Hong Kong women and all 20 of the Mainland Chinese women worked in professional or administrative positions before they came to Canada. However, at the time of the interview, eleven of the Mainland Chinese women were unemployed. Among the Hong Kong women, eight were housewives and three were unemployed. It is obvious that there were big changes in these women's lives after they arrived in Canada. The author also found that the interviewed women experienced the same difficulties as other immigrant women of colour when looking for a job. The lack of "Canadian experience" and their "foreign" degrees were the main disadvantages for

immigrant women. As a result, many of these well educated, skilled immigrant professionals were unemployed. Some took low-paid or part-time jobs to meet their immediate needs.

Almey (2007) used data from the Labour Force Survey to provide updated information on female participation in the Canadian labour market. She found that the unemployment rate of women was slightly lower than that of men. In 2006, 6.1 percent of the women who participated in the labour market did not have a job, while the figure for men was 6.5 percent. Among all the working aged women, those between the ages 25 and 54 account for the largest proportion. Results also showed that female employment levels differed by province. There was a higher probability for women in Ontario and the Western provinces to be employed than women in Quebec and the Atlantic provinces. Also, there has been an increase in the employment rate of women with children in the past century, although the employment rate of women with children was still lower than that of women without children. In particular, the presence of pre-school aged children had a larger negative effect on their mothers' employment. As for the intensity of work, 26 percent of employed women worked part-time in 2006. This proportion was relatively high compared to that of men (11 percent). Women in different age groups had different reasons to work part-time. Women aged 25-44 were more likely to work part-time in 2006 due to personal or family responsibilities or due to the difficulties of finding a full-time job. In contrast, women aged 45 and over preferred part-time employment to full-time employment. In that report, the labour market outcomes of women in

Canada are compared to their male counterparts and their previous performances. However, nothing was said of the labour market outcomes of immigrant women.

Gilmore (2008) used data from the Labour Force Survey to investigate the immigrant labour market in Canada. The author found that in 2006, no matter where the immigrant was born, a large number of very recent immigrants aged 25 to 54 had experienced more difficulties in the labour market than their Canadian counterparts. Within the immigrant groups, the labour market performance of immigrants born in Southeast Asia was the best, especially for those from the Philippines, regardless of their years since migration. Therefore, it is not surprising that among very recent immigrants, the employment rates and participation rates of those from Southeast Asia are quite similar to those of their Canadian-born counterparts. However, the employment rates of immigrants born in other parts of Asia (including the Middle East), Latin America, Europe and Africa are all lower than those of Canadian-born population. In addition, the source of immigrants has changed over the past few decades. Recent immigrants mainly come from Asia, whereas in the mid-1980s, a majority of immigrants came from Europe. The study found a notable difference in labour market outcome between immigrant and Canadian-born women in 2006. Regardless of the place of birth and years since migration, employment rate was lower for nearly all immigrant women categories.

Chui (2011) used Census data to examine various aspects of immigrant women in Canada. Immigrant women's employment rate increased from 50.5 percent in 2001 to 51.5 percent in 2006, but immigrant women still had a lower employment rate than

Canadian-born women who also had an increasing employment rate from 57.9 percent to 59.5 percent during the same period. Among the immigrant women, the probability of being employed was much lower for new landed ones. In 2006, the employment rate for immigrant women aged 25-64 who landed in Canada between 2001 and 2006 was 56.8 percent. However, the employment rate for total female immigrant population in that age group was 70.5 percent and 78.5 percent for their Canadian-born counterparts. The author also states that female immigrants are more likely to be legally married than their Canadian counterparts and the majority of them live with family members. Regarding the educational attainment, the proportion of women completing university was higher among immigrant women than among Canadian-born women. Generally, Chui found that "core working aged" immigrant women between 25 and 64, were those more likely to gain a higher education. Accordingly, the source of immigrant women has changed as well: the largest proportion of immigrant women were born in the United Kingdom followed by mainland China, India and the Philippines. This is different from the situation in 1971, when a majority of immigrant women were born in Europe.

Grenier and Nadeau (2011) employed data from the 2006 Census Microdata Master File to analyse and compare the gap of employment rate between immigrants and Canadian-born population living in two metropolitan areas, Montreal and Toronto. The sample was composed of man and women aged from 18 to 64 including both immigrants and Canadian-born individuals who lived in Montreal and Toronto. The dependent variable, work status, is defined as the probability of working full-time

full-year. The explanatory variables include work experience, education, language ability, marital status, place of birth and years since migration. The results showed that immigrants experienced more difficulties to be employed in the Montreal labour market compared to the Toronto labour market. In addition, the place of birth of an immigrant also plays an important role in access to work. Immigrants from certain countries integrate better to the labour market than those from other countries in both Montreal and Toronto. In addition, female and male immigrants have similar results.

Desjardins and Cornelson (2011) examined the labour market outcomes for the more recent immigrants in Canada. Estimates of the immigrant wage gap and excess unemployment were presented using data from 2006 Census Public Use Microdata File. The study found that various labour market related characteristics such as age, gender, experience as well as education should be taken into account in order to examine the labour market outcomes. The author presented several figures about the outcomes of the unemployment regression. It was shown that excess unemployment was higher in Canada's three largest cities where immigrants lived intensively. There was difference in the unemployment rate between men and women, where female immigrants had a higher unemployment rate than their male counterparts. In addition, the unemployment rate was also related to the years since migration. Very recent immigrants who arrived in Canada during the last five years had a higher unemployment rate than immigrants who had lived in Canada for more than five years. Moreover, potential factors which may result in a higher unemployment rate of immigrants also included the quality of education and language skills.

Through the review above, we can see that a large body of literature has paid attention to labour market outcomes of immigrants in Canada. The factors that significantly influence these outcomes include gender, years since migration, place of birth, education, and language ability. Some studies have addressed female immigrants' labour market activity. However, labour market outcomes for female immigrants are more frequently compared to those of their male counterparts. In addition, the existing literature fails to examine the difference of labour market outcomes between Canadian-born women and immigrant women.

The rest of this paper will explore further the different labour market outcomes of Canadian-born and immigrant married women. Comparisons will also be done between immigrant women from different regions.

3. Data and Model

The data used in this paper is drawn from the public use microdata of the 2006 Census of Canada. The census takes place every five years and is conducted by Statistics Canada. It provides comprehensive information on demographic, social and economic characteristics of Canadians. Married women aged 30 to 50 are the objects of my study. The census also has information on legal marital status, but living in common law in Canada is now similar to being married. Therefore, I consider women who are "now married or living in common law". These ages between 30 and 50 are important in labour supply decisions of married women. On the one hand, a 30-year-old married woman has likely finished her education and may have children at pre-school ages (less than 6 years old) who are very dependent on their parents.

Therefore, her labour supply has to consider the trade-off between focusing on her own career and taking family responsibilities. At the other extreme, a married woman aged 50 or so is likely to have older children who are less dependent, so she would probably increase her labour force participation. The labour force participation of married women will be examined for the following four groups: Canadian-born, the U.S. or Europe born immigrant (U.S./Europe), Asia born immigrant (Asia), and other-country-born immigrant (Other). The sample contains 90,282 married women aged 30-50 among which 20,867 were born outside of Canada.

3.1 Variables

Dependent variables

In order to analyse the labour market activity, I use three outcomes as dependent variables: *labour force participation*, *employment status*, and *"full-time full-year" work status*. All the three measurements are defined as binary variables.

The first dependent variable, labour force participation, indicates whether the respondent is in the labour force or not. It is defined using the information on labour market activity of the population aged 15 and over during the week (Sunday to Saturday) prior to Census Day (May 16, 2006). Respondents were classified as "Employed", "Unemployed", or "Not in the labour force". Both the employed and the unemployed consist of the labour force. The variable labour force participation is equal to one if a woman is in the labour force and it is equal to zero otherwise.

The definition of the second dependent variable, employment status, is also based on the information of labour market activity. This time, the dummy variable

employment equals 1 only if an individual is employed. For both unemployed individuals and those who are not in the labour force, this dummy variable equals 0.

The third dependent variable "full-time full-year" is defined based on an individual's work activity in 2005. A "full-time full-year" worker refers to individuals 15 years of age and over who worked 49 to 52 weeks with mostly full time pay in 2005 or who were self-employed.

Both employed and unemployed are counted in the labour force, and "full-time full-year" status indicates a higher level of work intensity for the employed individuals. The labour force participation determines the labour supply, while the employment status and the full-time full-year status are determined by both labour supply and labour demand. Therefore, those three dependent variables show a gradation in terms of intensity of attachment to the labour market.

Independent variables

In this section, the description of the key explanatory variables is provided. Labour market outcomes are the result of the interaction between labour supply and labour demand. The labour supply determines the reservation wage, which is the lowest wage at which an individual is willing to work. It is related to one's preferences and to non-wage income. The labour demand determines the offered wage which depends mainly on human capital, such as education. A person accepts a job if the offered wage is greater than the reservation wage. Therefore, the independent variables should include those that effect both labour supply and labour demand.

The age variable, in the 2006 census, is presented in five year groups so I take

the midpoint of each age group to approximate a continuous variable. As one could expect, at the beginning of her 30s, a married woman would probably decrease her labour supply due to family reasons, for example, taking care of young children. However, as the children grow up and become less dependent, her labour supply is likely to increase. Therefore, age is used as independent variable and "age squared" is also included to allow for a non-linear effect. The impact of age is expected to be positive, but this rate of increase is expected to be decreasing.

In order to investigate the provincial effect on the female labour market outcomes, a geographic variable indicating the province where the current residence is located is included. Because Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick and Northern Canada have a small number of residents, they are combined together and are called the Atlantic Provinces. For the same reason, Manitoba and Saskatchewan are considered together. The remaining four provinces are Quebec, Ontario, Alberta and British Columbia. I use Ontario as the benchmark.

The variables that are related to family are expected to be crucial to the labour supply decision of a married woman, because these variables are considered to affect her reservation wage. Three dummy variables for the presence of children in the corresponding woman's census family are defined. They indicate whether a woman: (1) has no children, (2) has at least one child aged 0 to 5, or (3) only has children aged 6 or over. The reference category is the married women without any children. In addition, the variable "other family income" is included. This income is calculated by subtracting the wife's wages from the sum of the total incomes of all members of the

census family. It includes the husband's wages and salaries as well as incomes from other sources by all members of the family. Intuitively, a married woman should be less likely to work outside the home if her husband earns much more than the average earning level and vice versa. Therefore, both the presence of children in a census family and the other family income are expected to be negatively associated with the labour supply of married women. In particular, young children should have a more negative effect, because mothers are likely to spend more time with them. According to Almey (2007), the presence of children also has an effect on the labour demand side for a married woman.

Generally speaking, some personal characteristics, such as education and language proficiency of immigrants, are thought to be related to both one's labour supply and labour demand, because they can be the determinant of both reservation wage and offered wage. I generate a set of dummy variables indicating one's education level, which is defined based on the highest certificate, diploma or degree that an individual obtained. With the available data, I classify the highest degree into six levels: (1) no certificate, (2) high school graduation certificate or equivalency certificate, (3) trades, apprenticeship and college certificate, (4) university certificate or diploma below bachelor level, (5) bachelor's degree or university certificate above bachelor level and (6) master's degree, doctorate degree and degree in medicine, dentistry, veterinary medicine or optometry. The level of "no certificate" is taken as the benchmark.

Regarding the language variable, the knowledge of the Canadian official

languages is classified into four categories in the data set. This language ability indicates whether an individual has the ability to conduct a conversation in English only, in French only, in both English and French or in none of the official languages of Canada. Since I study women's labour market outcomes throughout all Canada, I simply distinguish women who speak neither English nor French from those who speak English only, French only, or both. The reference group is made up of women who can speak at least one of the official languages. Educational attainment and official language proficiency are expected to be positively associated with female's labour market outcomes.

Since attention in this paper is paid to the labour market activity of immigrant married women, there are four variables that are related to immigration: immigrant status, place of birth, years since migration, and location of study. First, there are three categories in the dataset for immigrant status: non-permanent residents, non-immigrants (Canadian citizens by birth) and immigrants. Non-permanent residents were dropped from the sample, since their numbers are small and their behaviour is not our interest for now. A dummy variable is created to indicate whether the respondent is an immigrant or not. The expectation is that Canadian-born people have a higher probability of being employed than immigrants due to their better adaption to the native labour market. I also define immigrants from various regions of the world using the information on place of birth. First of all, a few observations of women who are Canadian citizens by birth but were born in a foreign country were dropped from the sample. Similarly, those who reported to be immigrant but were

born in Canada were also excluded. Thus, all the immigrants are foreign-born and all the non-immigrants are Canadian-born. The places of birth for the immigrants are divided into three categories: the United States and Europe (United Kingdom, Germany, other Northern and Western Europe, Poland, other Eastern Europe, Italy, Portugal, other Southern Europe), Asia (West Central Asia and the Middle East, Mainland China, Hong Kong, other Eastern Asia, Philippines, other Southeast Asia, India, Pakistan, other Southern Asia), and Others (Central America, Jamaica, other Caribbean and Bermuda, South America, Eastern Africa, Northern Africa, other Africa, Oceania and others). The Canadian-born group is chosen as the benchmark when the analysis is done with the whole sample. When it comes to the analysis on immigrants only, we expect that women born in an English-speaking or French-speaking country would have better labour market outcomes.

The variable of years since migration is a common factor that often appears when analyzing immigrant behaviour. To compute the years since migration, I first dropped the immigrants who landed in the year 2006, because we don't have information for them, especially for the variable full-time full-year status in 2005. Thus, years since migration represent the number of years from which landed immigrant status was first obtained in Canada to the year of 2005. The years since migration for Canadian-born women are set to zero. As the years of migration increases, immigrants should behave more and more like native-born residents; we expect that female labour market participation is increasing with the years since migration.

Finally, the location of study variable indicates where the highest certificate, diploma or degree was obtained. It is thought to be an important determinant of immigrants' outcome in the labour market on the labour demand side. In the census data, the location of study was only reported by those who had completed a certificate, diploma or degree above the secondary (high) school level. A dummy variable indicating whether or not the highest degree was obtained in Canada is generated. This dummy variable takes the value of zero in either of the two cases: (1) the highest degree of the respondent is above secondary school and this degree was obtained outside of Canada, or (2) the respondent had not completed a certificate, diploma or degree above the secondary school level. The expected effect is that women with a secondary certificate, diploma or degree obtained within Canada are more likely to be employed.

3.2 Descriptive statistics

Table 1 presents the summary statistics of the three dependent variables. The sample is divided between immigrant women and Canadian-born women. Among immigrant women, three sub-samples are obtained according to places of birth.

Table 1. Summary of the labour market outcomes of married women aged 30 to 50, Canada, 2006, percentages

	Whole sample	Canadian-born	Immigrants			
			All immigrants	U.S./Europe	Asia	Other
Labour force participation	81.7	83.8	74.8	80.5	71.2	76.0
Employment	77.7	80.2	69.5	76.6	65.3	70.0

Full-time full-year	46.4	48.7	38.6	45.2	34.9	38.3
Sample size	90282 (100%)	69415 (76.9%)	20867 (23.1%)	6156 (6.8%)	10833 (12.0%)	3878 (4.3%)

Source: 2006 Census public use microdata

According to the last row of Table 1, approximately 77 percent of the whole sample are Canadian-born women and slightly more than one half (52 percent) of the immigrant women were born in Asia. For the whole sample as well as the five subsamples, the labour force participation rate is larger than the employment rate, and the difference between them is the unemployment rate. Among those who were employed, more than half worked full-time full-year during the year 2005 for both Canadian-born and immigrant women. For all these three measurements of labour market activity, immigrant women participate less in the labour market than Canadian-born ones. Among immigrant women, those born in the U.S./Europe participate the most in the labour market, whereas women born in Asia participate the least.

Table 2. Summary of some characteristics of married women aged 30-50, Canada, 2006, percentages

	Whole sample	Canadian-born	Immigrants			
			All immigrants	U.S./Europe	Asia	Other
Presence of children						
No children	20.7	22.4	14.9	17.8	13.3	14.5
Aged 0 to 5	25.9	24.8	29.5	23.4	31.3	34.5
Aged 6 and over only	53.4	52.8	55.6	58.8	55.4	51.0
Highest degree						
No certificate	10.7	10.6	11.0	8.6	12.3	11.1
High school/ College/ University below bachelor	63.9	66.7	54.6	58.6	50.0	61.2
Bachelor	20.0	18.4	25.2	21.6	28.6	21.4
Master or doctorate degree	5.4	4.3	9.2	11.2	9.1	6.3

Knowledge of official language						
English/French/both	98.9	100.0	95.4	98.8	92.3	98.6
None	1.1	0.0	4.6	1.2	7.7	1.4

Source: 2006 Census public use microdata

Table 2 presents summary statistics of selected independent variables. There exist important differences between Canadian-born and immigrant married women. First of all, for the whole sample, 21 percent of married women aged 30-50 have no children. However, this proportion is much lower among the immigrants; in particular, it is only 13 percent for Asian immigrant married women. Among the Canadian-born women, 25 percent have at least one child aged 0 to 5, and 53 percent only have children aged 6 or over. Those two proportions are much higher among immigrants than non-immigrants. In conclusion, immigrant married women are more likely to have children than their Canadian counterparts.

Secondly, the proportion of married women having no certificate is slightly higher among immigrants than among non-immigrants. This is likely related to the fact that many immigrant women came to live in Canada with their husbands who were expected to be the main wage earners. However, in terms of university education, immigrant women have higher levels than their Canadian-born counterparts. One possible explanation is that the Point System tends to select immigrant candidates with higher educational attainment.

Thirdly, it is not surprising that Canadian-born women have a much better knowledge of the Canadian official languages than their foreign-born counterparts. Every native-born Canadian woman can speak at least one of the Canadian official languages, however, about one in twenty immigrant women knows neither of them.

Comparisons between immigrant women reveal that women from Asia and other parts of the world are more likely to have children than those from the U.S./Europe. Concerning women with children, female immigrants from the U.S./Europe are more

likely to have children aged 6 and over. Next, a larger proportion of women from Asia and other parts of the world possess no certificate than their counterparts from the U.S./Europe. The proportion of having a certificate above a bachelor degree is lower for women from other parts of the world. Finally, immigrant women from Asia demonstrate a significantly weaker proficiency in official languages than that of the other two immigrant women groups.

3.3 Models

This study uses three models which regress labour force participation, employment status and full-time full-year work status respectively on relevant independent variables. Each dependent variable is applied to the whole sample as well as four sub-samples: one of Canadian-born married women, one of married women born in the U.S. or in Europe (U.S./Europe), one of married women born in Asia (Asia) and one of married women born in other parts of the world (Other). Considering that all the three dependent variables are dichotomous, estimations could have been obtained by a probit or logit regression model. In this paper, I used a linear probability model to do the analysis. In addition, I also ran probit regressions on the three dependent variables separately. The results of the probit regressions are similar to those of the linear probability model. Therefore, I only present the linear probability estimates here. Given that heteroscedasticity might be a potential issue in the linear probability model, I used the option robust standard errors in all the regressions.

The following three models present the labour market outcomes for the whole sample and the four sub-samples respectively. Y represents three dependent variables

and β_i's are the OLS estimated coefficients.

Model 1 (for the whole sample)

$$Y = \beta_0 + \beta_1 \text{ (age variables)} + \beta_2 \text{ (years since migration)} + \beta_3 \text{ (place of birth)} + \beta_4 \text{ (place of residence)} + \beta_5 \text{ (presence of children)} + \beta_6 \text{ (other family income)} + \beta_7 \text{ (highest education)} + \beta_8 \text{ (location of study)} + \beta_9 \text{ (knowledge of official language)} + \mu$$

Model 2 (for immigrant women born in the U.S./Europe, Asia and other parts of the world respectively)

$$Y = \beta_0 + \beta_1 \text{ (age variables)} + \beta_2 \text{ (years since migration)} + \beta_3 \text{ (place of residence)} + \beta_4 \text{ (presence of children)} + \beta_5 \text{ (other family income)} + \beta_6 \text{ (highest education)} + \beta_7 \text{ (location of study)} + \beta_8 \text{ (knowledge of official language)} + \mu$$

Model 3 (for Canadian-born women)

$$Y = \beta_0 + \beta_1 \text{ (age variables)} + \beta_2 \text{ (place of residence)} + \beta_3 \text{ (presence of children)} + \beta_4 \text{ (other family income)} + \beta_5 \text{ (highest education)} + \beta_6 \text{ (knowledge of official language)} + \mu$$

Model 1 regresses the three labour market outcomes indicators on the independent variables for the whole sample. In Model 2, the corresponding regressions are estimated for immigrant women from specific regions. Therefore, the dummy variable indicating place of birth is eliminated. Model 3 represents regressions for Canadian-born women only, which includes all the independent variables in Model 2 except the variables for years since migration and for location of study. The elimination of the variable for location of study in Model 3 is due to the

potential multicolinearity with the highest degree. This variable was defined such that those without secondary certificate are all taking the value of zero.

4. Regression Analysis

4.1 Regressions of three labour market outcomes for the whole sample

Table 3 presents the OLS estimated coefficients for labour force participation, employment status and full-time full-year work status for the whole sample.

Table 3. Regression analysis for three measurements of labour market outcomes, *whole sample* of married women aged 30-50, Canada 2006 (robust standard errors of coefficients in parentheses)

	Labour force participation	Employment	Full-time full-year
Age	0.0047	0.0108**	0.0148**
	(0.0041)	(0.0044)	(0.0052)
Age^2	-0.0001	-0.0001**	-0.0002**
	(0.0001)	(0.0000)	(0.0001)
Years since migration	0.0050**	0.0062**	0.0070**
(zero for Canadian-born)	(0.0003)	(0.0003)	(0.0004)
Place of birth *(Reference: born in Canada)*			
U.S./Europe	-0.1398**	-0.1696**	-0.1771**
	(0.0092)	(0.0097)	(0.0106)
Asia	-0.1739**	-0.2068**	-0.1998**
	(0.0075)	(0.0078)	(0.0081)
Other	-0.1456**	-0.1858**	-0.1959**
	(0.0090)	(0.0095)	(0.0100)
Place of residence *(Reference: Ontario)*			
Atlantic provinces	-0.0216**	-0.0501**	-0.0498**
	(0.0049)	(0.0055)	(0.0065)
Quebec	-0.0056	-0.0083**	-0.0205**
	(0.0033)	(0.0035)	(0.0043)
Manitoba & Saskatchewan	0.0102	0.0189**	-0.0196**
	(0.0052)	(0.0055)	(0.0071)
Alberta	-0.0083	-0.0001	-0.0404**
	(0.0044)	(0.0047)	(0.0056)

British Colombia	-0.0091**	-0.0098**	-0.0879**
	(0.0041)	(0.0044)	(0.0051)
Presence of children *(Reference: no children)*			
Presence of children aged 0-5	-0.1319**	-0.1443**	-0.2212**
	(0.0038)	(0.0041)	(0.0050)
Presence of children aged 6+ only	-0.0036	-0.0032	-0.0651**
	(0.0031)	(0.0034)	(0.0044)
Other family income	-0.0006**	-0.0006**	-0.0010**
	(0.00003)	(0.00004)	(0.00004)
Highest degree *(Reference: no certificate)*			
High school certificate	0.1373**	0.1484**	0.1258**
	(0.0055)	(0.0057)	(0.0058)
College certificate	0.1749**	0.1819**	0.1151**
	(0.0079)	(0.0083)	(0.0089)
University certificate below bachelor	0.2005**	0.2073**	0.1683**
	(0.0090)	(0.0095)	(0.0089)
Bachelor certificate	0.2158**	0.2282**	0.1871**
	(0.0079)	(0.0083)	(0.0087)
Certificate above bachelor	0.2571**	0.2745**	0.2157**
	(0.0086)	(0.0090)	(0.0103)
Location of study *(Reference: secondary study outside Canada/ no secondary certificate)*			
Within Canada	0.0266**	0.0369**	0.0560**
	(0.0065)	(0.0069)	(0.0076)
Knowledge of official language *(Reference: English/French/both)*			
Neither English nor French	-0.1354**	-0.1432**	-0.0972**
	(0.0164)	(0.0165)	(0.0138)
R-squared	0.0679	0.0748	0.0658
F-statistics	267.69	312.43	349.31
Sample size	90282	90282	90282

Notes: ** Significant at 5%

Source: 2006 Census public use microdata

First of all, all the coefficients except those of the place of residence show the same pattern with respect to the three labour market outcomes. The estimated coefficients of age are all positive, indicating that age has a positive effect on these three labour market outcomes. In particular, the effect is statistically significant on

employment and full-time full-year work status. As age increases by one year, women are 1.1 percentage points more likely to be employed and are 1.5 percentage points more likely to work full-time full-year. On the other hand, the negative signs of estimated coefficients for age-square indicate that the positive effect of age increases at a decreasing rate. Next, the variable of years since migration also has a significant effect on immigrant female labour market participation. The positive sign implies that women participate more in the labour market as they stay longer in Canada. This is consistent with the research on assimilation of immigrants. In addition, if women stay in Canada for one additional year, they are 0.5 percentage points more likely to participate in the labour market and are 0.7 percentage points more likely to work full-time full-year. Regarding the places of birth, the negative estimated coefficients reveal that all women born outside of Canada are less likely to participate in the labour market or to be employed compared to their Canadian-born counterparts. Moreover, the absolute values of estimated coefficients for Asian women are the largest in all the three regressions. In particular, an Asian woman is 21 percentage points less likely to be employed in comparison with a Canadian-born woman. The results also show that women in other provinces, except in Manitoba and Saskatchewan, have lower labour market participation compared to women live in Ontario. This result is not consistent with our expectations because low female labour force participation is even present in British Colombia, where there is a high intensity of immigrants.

Next, the presence of children and other family income are two family-related

variables that are expected to affect a married woman's labour supply. The results show that having children reduces the probability of married women's labour market participation as well as her probability of being employed. Women with at least one child aged 0 to 5 are 13 percentage points less likely to be in the labour force and 14 percentage points less likely to be employed than those with no children. In contrast, the negative effect of only having children aged 6 and over is not statistically significant on labour force participation and employment status. Moreover, the presence of children aged 0-5 and 6+ both significantly reduce the probability for married women to work full-time full-year, and this negative effect is stronger for women with pre-school aged children. Having at least one child aged 0 to 5 or only having children aged 6 and over reduces the probability of a married woman to work full-time full-year by 22 percentage points and by 7 percentage points respectively. Therefore, full-time full-year work status is negatively affected by the presence of children, especially pre-school aged children. These results are consistent with our expectations. Considering the effect of other family income, it is statistically significant but is very small. Since that variable is measured in thousands of dollars, it can be estimated that if other family income is increased by twenty thousand dollars for example, the probability for a married female to participate in the labour force will be decreased by 1.2 percentage points, and the corresponding probability to work full-time full-year will be decreased by 2 percentage points.

With respect to the education variables, it is found that possessing a higher degree increases the probability of female labour market participation. For example, a

married female with a high school certificate is 15 percentage points more likely to be employed than her counterpart with no certificate, and this figure increases to 27 percentage points for a married female with a certificate above a bachelor's degree. Consistent with our expectations, a secondary certificate or diploma obtained in Canada has a significantly positive effect on married women's labour market participation, whereas knowing neither of the Canadian official languages has a significantly negative effect.

4.2 Regression of labour force participation for married women born in different regions separately

Table 4 presents the estimated coefficients of Model 2 and Model 3 using labour force participation as dependent variable.

Table 4. Regression analysis of *labour force participation* for *Canadian-born* and all *immigrant* married womenaged 30-50, Canada 2006 (robust standard errors of coefficients in parentheses)

	Canadian-born	U.S./Europe	Asia	Other
Age	0.0007	0.03719**	0.0161	0.0210
	(0.0044)	(0.0168)	(0.0135)	(0.0212)
Age^2	-0.0000	-0.0005**	-0.0002	-0.0003
	(0.0001)	(0.0002)	(0.0002)	(0.0003)
Years since migration		0.0031**	0.0068**	0.0035**
		(0.0005)	(0.0006)	(0.0008)
Place of residence *(Reference: Ontario)*				
Atlantic provinces	-0.0188**	-0.0269	-0.1696	-0.2272
	(0.0050)	(0.0366)	(0.1481)	(0.1416)
Quebec	0.0010	-0.0220	-0.0665**	-0.0302
	(0.0035)	(0.0155)	(0.0156)	(0.0167)
Manitoba & Saskatchewan	0.0111**	-0.0300	0.0817**	-0.0036
	(0.0054)	(0.0320)	(0.0308)	(0.0444)

Alberta	-0.0096**	-0.0270	0.0202	-0.0048
	(0.0048)	(0.1835)	(0.0150)	(0.0249)
British Colombia	-0.0099**	-0.0076	-0.0053	-0.0213
	(0.0048)	(0.1429)	(0.0103)	(0.0225)
Presence of children *(Reference: no children)*				
Presence of children aged 0-5	-0.1201**	-0.1554**	-0.1712**	-0.1858**
	(0.0042)	(0.0160)	(0.0134)	(0.0201)
Presence of children aged 6+ only	-0.0005	-0.0248	-0.0209	-0.0076
	(0.0033)	(0.0129)	(0.0127)	(0.0187)
Other family income	-0.0007**	-0.0008**	-0.0001	-0.0003
	(0.00004)	(0.0001)	(0.0001)	(0.0002)
Highest degree *(Reference: no certificate)*				
High school certificate	0.1618**	0.0214**	0.0430**	0.1264**
	(0.0062)	(0.0219)	(0.0165)	(0.0278)
College certificate	0.2154**	0.0845**	0.1302**	0.1564**
	(0.0059)	(0.0234)	(0.0184)	(0.0290)
University certificate below bachelor	0.2383**	0.1170**	0.1488**	0.2123**
	(0.0080)	(0.0292)	(0.0192)	(0.0328)
Bachelor certificate	0.2557**	0.1076**	0.1755**	0.1989**
	(0.0062)	(0.0237)	(0.0165)	(0.0288)
Certificate above bachelor	0.3043**	0.1535**	0.1810**	0.2576**
	(0.0075)	(0.0255)	(0.0204)	(0.0344)
Location of study *(Reference: secondary study outside Canada/ no secondary certificate)*				
Within Canada		0.0158	0.0372**	0.0558**
		(0.0143)	(0.0125)	(0.0186)
Knowledge of official language *(Reference: English/French/both)*				
Neither English nor French	-0.2160**	-0.2256**	-0.1184**	-0.2137**
	(0.0740)	(0.0596)	(0.0189)	(0.0668)
R-squared	0.0547	0.0520	0.0760	0.0931
F-statistics	212.43	16.08	52.42	21.81
Sample size	69415	6156	10833	3878

Notes: ** Significant at 5%

Source: 2006 Census public use microdata

The estimated coefficients of age show that the effect of age on female labour force participation is significant and more evident for women born in the U.S./Europe than for women in the other three groups. As expected, the variable of years since migration has a significantly positive effect on immigrant women's labour force participation. The provincial effect varies across the four groups. For female immigrants from the U.S./Europe and other parts of the world, Ontario seems to be a more attractive labour market. Female immigrants' labour force participation in other provinces is less but not significantly different from that of their counterparts living in Ontario. However, Asian women living in Quebec are 7 percentage points less likely to participate in the labour market than their counterparts living in Ontario. One possible explanation is the language barrier in Quebec. In comparison, living in Quebec decreases the probability of female labour force participation for those from the U.S./Europe by only 2 percentage points compared to those living in Ontario.

There is no surprise that having at least one pre-school aged child significantly decreases female labour market participation. However, the presence of children aged 6 and over only also has a negative effect on female labour force participation, but this effect is not statistically significant for neither of the groups. In addition, the negative effect of the presence of children is significantly higher for immigrant women than for Canadian-born women. It might be the case that childcare is costly, or that immigrants are less likely to have other family members or relatives in the host country to help in taking care of their children. Another family-related variable is other family income, which is expected to decrease a female's labour force

participation. For women from Asia and other parts of the world, though, other family income does not significantly affect their labour supply.

With respect to the education variables, the results show that married women in all the groups who possess a high school certificate or higher are more likely to participate in the labour market than those without a certificate. For each group, the probability of labour force participation increases with a woman's educational attainment. When comparisons are done between different groups, it can be seen that education attainment has a larger effect on the participation of Canadian-born women than the participation of the foreign-born women. For example, a Canadian-born woman with a certificate above a bachelor's degree is 30 percentage points more likely to participate in the labour market than her counterpart without a certificate. However, a woman born in the U.S./Europe is only 15 percentage points more likely and one born in Asia is 18 percentage points more likely to participate in the Canadian labour market than her counterpart without a certificate. The weaker effect of educational attainment on immigrant women's labour force participation might be related to their lack of choice. In order to meet their financial needs, immigrant women's labour supply decisions may not depend too much on their education level. Another education variable is the location of study. The results indicate that a secondary certificate obtained in Canada significantly increases the labour force participation of women from Asia and other parts of the world. However, the effect of a Canadian certificate is not significant on the labour force participation of women from the U.S./Europe. One possible explanation might be that a U.S. or European

certificate is more recognized than other foreign certificates.

Considering the knowledge of official languages, the estimated results for all the groups are consistent with our expectation that knowing neither of the Canadian official languages significantly decreases female labour force participation.

The analysis in this section concerns mainly the supply side of the labour market and it highlighted several important findings. First of all, the longer a married immigrant woman aged 30-50 has been in Canada, the more likely she will participate in the Canadian labour market. Second, female labour force participation varies across provinces. Third, both the presence of children and other family income decrease married women's labour supply. In particular, the immigrant women's labour supply is more likely to be subject to the presence of children. Specifically, the presence of pre-school age children has a stronger negative effect on their mothers' labour supply. Third, educational attainment increases the female labour supply, and the effect is more evident for Canadian-born women. Fourth, a Canadian degree increases female labour force participation, especially for those from Asia and other parts of the world. Lastly, knowing neither of the Canadian official languages decreases the female labour supply.

4.3 Regression of employment status for married women born in different regions separately

Table 5 presents the estimated coefficients of Model 2 and Model 3 using employment status as dependent variable.

Table 5. Regression analysis of *employment status* for *Canadian-born* and all *immigrant*

married women aged 30-50, Canada 2006 (robust standard errors of coefficients in parentheses)

	Canadian-born	U.S./Europe	Asia	Other
Age	0.0064	0.0441**	0.0187	0.0430
	(0.0048)	(0.0180)	(0.0141)	(0.0225)
Age^2	-0.0001	-0.0006**	-0.0003	-0.0006
	(0.0001)	(0.0002)	(0.0002)	(0.0003)
Years since migration		0.0037**	0.0085**	0.0050**
		(0.0005)	(0.0006)	(0.0008)
Place of residence *(Reference: Ontario)*				
Atlantic provinces	-0.0471**	-0.0298	-0.3709**	-0.1860
	(0.0056)	(0.0383)	(0.1670)	(0.1417)
Quebec	0.0027	-0.0402**	-0.0964**	-0.0752**
	(0.0038)	(0.0168)	(0.0162)	(0.0179)
Manitoba & Saskatchewan	0.0199**	-0.0135	0.0824**	0.0110
	(0.0058)	(0.0327)	(0.0341)	(0.0453)
Alberta	-0.0043	-0.0183	0.0509**	0.0091
	(0.0051)	(0.0192)	(0.0156)	(0.0261)
British Colombia	-0.0149**	-0.0229	0.0118	-0.0117
	(0.0052)	(0.0155)	(0.0107)	(0.0237)
Presence of children *(Reference: no children)*				
Presence of children aged 0-5	-0.1321**	-0.1605**	-0.1933**	-0.2081**
	(0.0046)	(0.0172)	(0.0141)	(0.0218)
Presence of children aged 6+ only	0.0016	-0.0258	-0.0382**	-0.0107
	(0.0036)	(0.0141)	(0.0135)	(0.0205)
Other family income	-0.0006**	-0.0007**	-0.0001	-0.0002
	(0.00004)	(0.0001)	(0.0001)	(0.0002)
Highest degree *(Reference: no certificate)*				
High school certificate	0.1799**	0.0134	0.0323	0.1033**
	(0.0064)	(0.0227)	(0.0167)	(0.0283)
College certificate	0.2391**	0.0536**	0.1374**	0.1405**
	(0.0061)	(0.0245)	(0.0188)	(0.0297)
University certificate below bachelor	0.2690**	0.1022**	0.1232**	0.1911**
	(0.0085)	(0.0307)	(0.0198)	(0.0344)
Bachelor certificate	0.2871**	0.0782**	0.1655**	0.1975**
	(0.0065)	(0.0248)	(0.0169)	(0.0296)
Certificate above bachelor	0.3381**	0.1415**	0.1794**	0.2578**
	(0.0080)	(0.0267)	(0.0210)	(0.0364)

Location of study *(Reference: secondary study outside Canada/ no secondary certificate)*				
Within Canada		0.0378**	0.0193	0.0705**
		(0.0154)	(0.0135)	(0.0200)
Knowledge of official language *(Reference: English/French/both)*				
Neither English nor French	-0.2052**	-0.2562**	-0.1376**	-0.1947**
	(0.0721)	(0.0602)	(0.0190)	(0.0644)
R-squared	0.0586	0.0552	0.0849	0.1124
F-statistics	237.78	18.29	62.41	29.36
Sample size	69415	6156	10833	3878

Notes: ** Significant at 5%

Source: 2006 Census public use microdata

For women already in the labour force, their employment status reflects more the demand side of the labour market. Except for some of the estimated coefficients relating to the place of residence, the estimated coefficients in Table 5 have the same signs as those in Table 4. However, their magnitude differs; the estimated coefficients in Table 5 are larger in most cases.

For Canadian-born women, age has a much larger effect on their employment status than it had on their labour force participation, although neither of these effects is significant. Immigrant women also have higher chances of being employed with more years since migration. In particular, the probability of being employed increases by one percentage point if an Asian woman lives in Canada for one extra year. The effect of years since migration might be explained by the fact that employers value more an applicant's "Canadian experience" in the workforce (Man 2004). Again, married female's employment status varies across the provinces. Compared to labour

force participation, the probability of being employed for immigrant women in Quebec is still lower than that of their counterparts in Ontario. In addition, this negative effect becomes statistically significant for all immigrant groups. The lower employment status in Quebec of female immigrants might be explained by the requirement of knowing French for many jobs in Quebec.

As expected, the presence of children also reduces the probability that a married woman will be employed. The magnitude of this negative effect is slightly higher on female employment status than on their labour force participation decisions. For Asian women, the presence of children aged 6 and over has a significant effect on their probability to be employed. Again, the probability to be employed is more sensitive to the presence of pre-school aged children. Female immigrants with children are less likely to be employed than their Canadian-born counterparts. In particular, the difference is statistically significant for Asia-born immigrants.

Without surprise, the probability of employment increases with educational attainment for all the groups. For the Canadian-born women, the impact of education level on the probability of employment is larger than that on their labour force participation decisions. A Canadian-born woman with a bachelor degree is 26 percentage points more likely to participate in the labour market, and is 29 percentage points more likely to be employed than her counterpart with no certificate. Moreover, this difference is statistically significant. In contrast, most immigrant women have an opposite result. For example, a woman born in the U.S./Europe with a bachelor degree is 11 percentage points more likely to participate in the labour market, but is

only 8 percentage points more likely to be employed than her counterpart without a certificate. In this case, the difference is not statistically significant. Another finding is that the location of study no longer has a significant effect on Asian women's employment status, but it still significant affects the employment status of the other two groups of immigrant women. As for the knowledge of language, knowing neither English nor French significantly decreases the probability of employment for both Canadian-born and foreign-born women.

Similarly to my conclusions about the determinant of labour force participation, both Canadian-born and foreign-born female's employment status is significantly determined by educational attainment, presence of pre-school aged children, and knowledge of the Canadian official languages.

4.4 Regression of full-time full-year work status for married women born in different regions separately

Table 6 presents the estimated coefficients of Model 2 and Model 3 using full-time full-year work status as dependent variable.

Table 6. Regression analysis of *full-time full-year work status* for *Canadian-born* and all *immigrant* married women aged 30-50, Canada 2006 (robust standard errors of coefficients in parentheses)

	Canadian-born	U.S./Europe	Asia	Other
Age	0.0119**	0.0313	0.0126	0.0391
	(0.0060)	(0.0204)	(0.0140)	(0.0237)
Age^2	-0.0001	-0.0004	-0.0001	-0.0004
	(0.0001)	(0.0003)	(0.0002)	(0.0003)
Years since migration		0.0040**	0.0105**	0.0069**
		(0.0006)	(0.0007)	(0.0009)

Place of residence *(Reference: Ontario)*				
Atlantic provinces	-0.0483**	-0.1064**	-0.2266	-0.1704
	(0.0067)	(0.0483)	(0.1201)	(0.1487)
Quebec	-0.0129**	-0.0619**	-0.0924**	-0.0655**
	(0.0048)	(0.0191)	(0.0150)	(0.0184)
Manitoba& Saskatchewan	-0.0184**	-0.0909**	0.0588	-0.1127**
	(0.0075)	(0.0406)	(0.0357)	(0.0471)
Alberta	-0.0416**	-0.0783**	-0.0094	-0.0352
	(0.0063)	(0.0221)	(0.0166)	(0.0287)
British Colombia	-0.0967**	-0.0960**	-0.0549**	-0.1018**
	(0.0063)	(0.0181)	(0.0107)	(0.0257)
Presence of children *(Reference: no children)*				
Presence of children aged 0-5	-0.2290**	-0.2402**	-0.1745**	-0.2156**
	(0.0057)	(0.0200)	(0.0149)	(0.0245)
Presence of children aged 6+ only	-0.0606**	-0.0815**	-0.0707**	-0.0838**
	(0.0048)	(0.0176)	(0.0148)	(0.0245)
Other family income	-0.0012**	-0.0008**	-0.00004	-0.0005**
	(0.00004)	(0.0001)	(0.0001)	(0.0002)
Highest degree *(Reference: no certificate)*				
High school certificate	0.1603**	-0.0023	0.0252	0.0163
	(0.0067)	(0.0254)	(0.0155)	(0.0270)
College certificate	0.1971**	0.0315	0.0578**	0.0500
	(0.0063)	(0.0277)	(0.0185)	(0.0295)
University certificate below bachelor	0.2636**	0.0703**	0.0789**	0.0739**
	(0.0105)	(0.0355)	(0.0191)	(0.0350)
Bachelor certificate	0.2777**	0.0817**	0.1042**	0.0856**
	(0.0071)	(0.0282)	(0.0161)	(0.0288)
Certificate above bachelor	0.3046**	0.1119**	0.1145**	0.1506**
	(0.0105)	(0.0312)	(0.0205)	(0.0398)
Location of study *(Reference: secondary study outside Canada/ no secondary certificate)*				
Within Canada		0.0246	0.0262	0.0440**
		(0.0187)	(0.0148)	(0.0220)
Knowledge of official language (*Reference: English/French/both)*				
Neither English nor French	-0.1430	-0.2009**	-0.0901**	-0.1261**
	(0.0761)	(0.0498)	(0.0157)	(0.0532)

R-squared	0.0586	0.0557	0.0740	0.0873
F-statistics	301.88	23.48	52.40	23.89
Sample size	69415	6156	10833	3878

Notes: ** Significant at 5%

Source: 2006 Census public use microdata

The estimations of full-time full-year work status show that the magnitude of some coefficients is higher than the previous estimations, and some important differences exist compared to the estimations of labour force participation and employment status. First of all, living in Quebec has a significantly negative effect on the full-time full-year work status for all married women, including the Canadian-born ones. With respect to the presence of children, while having children aged 6 and over does not significantly affect the probability of participation in the labour force or the probability of being employed, it significantly lowers the probability of a married woman to work full-time full-year. This can be explained by the fact that many married women with children are willing to work part-time or part of the year while taking care of their children, but they find it more difficult to keep a full-time job all year long. In addition, other family income still has an insignificant effect on the probability of working full-time full-year for an Asian woman. For the other three groups, other family income has a significant and larger effect on the probability of working full-time full-year than on the employment status. The employed women might prefer to work part of the year if her other family income is much superior to the average level. In particular, if other family income increases by twenty thousand dollars, a Canadian-born woman is 1.2 percentage points less likely to be employed and 2.4 percentage points less likely to work full-time full-year.

Considering the education variables, the positive effects of high school and college certificates on full-time full-year work status are no longer significant for all immigrant women. For example, the probability of working full-time full-year for a woman born in other parts of the world is not statistically higher than that for her counterpart without a certificate. This might reflect the situation where immigrant women with low education level are able to get only part-time jobs. Moreover, studying in Canada is only significantly positive on full-time full-year work status for the women from other parts of the world. Again, knowing neither English nor French still significantly decreases female immigrants' probability of working full-time full-year.

In this section, the primary findings that differ from the previous analyses can be summarized as: first, the effect of living in Quebec on female full-time full-year work status becomes significant for Canadian-born women. Second, the full-time full-year work status of married women depends not only on the presence of pre-school aged children, but also on the presence of older children. Third, other family income still has an insignificant effect on Asian women's full-time full-year work status, but it largely affects the work status of the other three groups of women. Fourth, some education variables become insignificant on immigrant women's full-time full-year work status.

5. Conclusion

This paper has analysed the Canadian labour market outcomes and their determinants for native-born and immigrant married women aged 30 to 50. Three

labour market outcomes are examined in this study: the labour force participation, the employment status and the full-time full-year work status. The data is drawn from the 2006 Census of Canada public use microdata and a binary choice model is employed. The empirical results can be summarized as follows.

There exist differences between the labour market outcomes of Canadian-born women and those of immigrant women. The native-born Canadian women have better labour market outcomes than their foreign-born counterparts. To be specific, immigrant women participate less in the Canadian labour market and have a lower probability of being employed and of working full-time full-year. Among the immigrant married women, those born in Asia have the lowest labour force participation rate and employment rate, although they account for the majority of the immigrants.

As for the determinants of these labour market outcomes, the primary findings are the following:

First, for married women aged 30-50, their labour force participation, probability of employment and of working full-time full-year increases with age, although this effect is sometimes statistically insignificant.

Second, the crucial factors that have an effect on the labour market outcomes for both Canadian-born and immigrant women include the presence of children, other family income and educational attainment. The presence of pre-school aged children considerably decreases a married woman's probability of participating in the labour market and of being employed. In addition, not only having pre-school aged children,

but also having older children significantly decreases a mother's probability of working full-time full-year. Moreover, the negative effect of the presence of children is larger among immigrant women than among Canadian-born women.

Other family income has a negative effect on female labour market outcomes, especially for the Canadian-born women and women born in the U.S./Europe. However, other family income does not have a statistically significant effect on Asian women's labour market outcomes.

Educational attainment is positively associated with female labour force outcomes. In particular, Canadian-born women's labour market outcomes benefit more from higher education level than those of their foreign-born counterparts.

Third, the factors that play an important role in immigrant women's labour market outcomes include the years since migration, location of study and knowledge of Canadian official languages. Immigrants integrate better in the labour market and have more satisfying labour market outcomes as they live longer in Canada.

With respect to the location of study, generally speaking, possessing a post-secondary certificate obtained in Canada increases immigrants' labour market outcomes, but this effect is not always statistically significant for women from different regions.

As for the knowledge of Canadian official languages, immigrant women have to improve their proficiency of either English or French and overcome the language barrier, if they want to have better outcomes in the Canadian labour market.

Finally, it is worthwhile to mention that although female's performance in the

Canadian labour market varies across the provinces; living in Quebec always has a negative effect on immigrant women's labour market outcomes. This negative effect even becomes statistically significant on the probability of working full-time full-year for Canadian-born women.

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