

**The Labour Market Performance of Immigrant and Canadian-born
Workers by Level of Education**

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Abstract

With 2006 Census data, this paper uses wages and salaries and employment status as labour market outcomes to examine the relative economic performances of low-educated, intermediate-educated and high-educated immigrants in Canada. The aim is to identify the elements that can influence individuals' labour market behaviour, as well as any differences in labour market outcomes between immigrants and Canadian-born citizens. Geographical, socio-demographic, immigration and educational characteristics are taken into account in the models. Males and females are studied separately in order to see if the influences on outcomes differ by gender. This study finds that because low-educated individuals tend to earn lower wages than high-educated ones, immigrants with low level of education tend to face fewer disadvantages than immigrants with a high level of education. Also, for the employment status, the inequality between immigrants and Canadian-born citizens is lower than for wages. This perhaps indicates that many immigrants are being compelled to take jobs that do not match their education and skill levels.

1. Introduction

Canada is known for its broad immigration policy and hospitable environment for people from other countries hoping to start a new life. According to 2006 Census data, immigrants accounted for 19.8 percent of the total population, the highest proportion of foreign-born up to that year. Statistics Canada reported that between 2001 and 2006, there was a 13.6 percent increase in Canada's foreign-born population, and that the increase was four times greater than the natural increase in Canadian-born population during the same period (Statistics Canada 2007). There are two main classes of immigrants: assessed and non-assessed. The assessed classes include the skilled worker class and the business class. The non-assessed classes include the family class and the refugee class.

The largest proportion of immigrants is in the skilled worker class because of the "Point System". According to Canada Immigration and Citizenship Service, the Canada Skilled Worker Visa points selection system requires a pass mark of 67 out of 100 points and is assessed on six main factors including age, education, work experience, language ability, arranged employment and adaptability. A large amount of the recent research was done on the skilled workers and on their difficulties in the Canadian labour market. The non-assessed classes, that is, the family and refugee classes, have drawn less attention probably because they were not the main component of the immigrant labour market. Many of those immigrants work at a low wage and at jobs that require a low level of educational background. This paper focuses both on immigrants with high levels of education and on immigrants with low levels of education and compares their labour

market outcomes to those of the Canadian-born workers with similar education levels.

The distribution of immigration by education level has changed substantially during the last 25 years. According to a Statistics Canada's report on immigrants' education and required job skills by Galarneau and Morissette (2008), more than half of the university degrees in science, technology, engineering, and mathematics in Canada are held by immigrants. Also, the proportion of immigrants who hold a bachelor or higher degree among immigrants reached 55 percent in 2006. Since immigrants account for a significant percentage of the workers in the Canadian labour market, the re-structuring of immigrants' composition heavily influences the overall configuration of the Canadian labour force. Thus, the study of immigrants' current employment and wage conditions by education level is important for accurate policy suggestions.

Despite the increasing level of educational attainment of immigrants, the gap between immigrants and average Canadian earnings still grows. Consequently, simply studying the employment situations of immigrants alone is not sufficient to reveal the whole story. In order to support their basic needs, new immigrants often have to find a low-paying job that does not necessarily match their education and skills. From this prospect, highly educated immigrants often have to compete with intermediate and low educated immigrants for an entry-level job.

In my study, I conduct regression analyses on the cross-sectional differentials in employment opportunities and real wages between immigrants and their Canadian-born counterparts. I present results based on the respondents' education level and gender. Following this approach, I am able

to construct a comparative analysis of the returns to the various socio-economic and demographic characteristics among different education groups, as well as any existing discrimination towards immigrants in terms of employment opportunities and earnings.

Using micro data from the 2006 Canadian Census, the sample of this study includes respondents aged between 25 and 64 years old. Two regression analyses are presented. The first one is an ordinary least squares regression on the variables that influence a respondent's earnings level, while the other regression examines such influence on a respondent's access to employment. I study six subgroups based on three education levels and the two genders. The regressors include geographic variables, family and family composition variables, socio-demographic characteristics, immigration situation, language ability, labour market activities, and education variables.

Some of the key findings are as follows. 1) Immigrants are subject to much fewer differentials in terms of employment opportunities than in terms of real income, indicating that a significant portion of immigrants may be compelled to choose jobs that do not match their education and skills; 2) Job opportunities vary by region; in other words, the location where the immigrants choose to reside to some extent influences the possibility of being hired in the labour market. 3) Immigrants from large developing countries that have a different social and economic background, like China and India, face more disadvantages in terms of both access to employment and income than immigrants who come from more developed western countries. 4) Having a young child in the household may discourage a mother's ambition to get a good job,

though this effect is smaller for the high-educated parents. 5) Early and old immigrants do not necessarily earn higher income compared to recent immigrants. Indeed, new immigrants may be equipped with better knowledge in specific areas that guarantees them a nice job.

The rest of this paper is organized as follows. Section 2 presents the review of this topic based on the recent literature. Section 3 presents the methodology and dataset. Section 4 provides regression results and detailed discussions. Section 5 concludes the study.

2. Literature Review

Chiswick (1978) is a pioneer in the research of immigrants' labour market activities. He found that, compared to natives who have roughly similar years of schooling and experience, new immigrants tend to have relatively low starting earnings but a steeper experience-earnings profile.

Bloom and Gunderson (1991) tested not only the usefulness and accuracy of cross-sectional analysis on the immigrant "profile", but also the implications of different immigration policies based on prospective entrants' work skills and ability to assimilate to local labour market during different periods of time. The paper replicated Chiswick's simple wage equations analysis but applied it to both cross-sectional and pseudo-longitudinal data for Canadian immigrants with the 1971 and 1981 Canadian censuses. The overall result does moderately support Chiswick's finding of lower relative entry wage for immigrants but suggests a much longer period for the

catch-up effect. It also addresses the deterioration in the unobservable quality of working skills among immigrants as the Canadian government introduced a family-tie based immigration policy. An interesting result is that the analysis reveals immigrants' duration of stay in Canada is only weakly related to wage.

Another result was found by Chiswick and Miller (1994). They repeated that the international transferability of education is one significant element that affects post-immigration condition. The international transferability of education is not perfect, and immigrants' education and skills often depreciate when entering the destination country. Chiswick and Miller found that the adjustment and the assimilation processes depend in part on the investment in specific skills related to their adopted country. A good command of the official language of the destination country and job training are the skills that immigrant should possess for job search. They established that pre-immigration conditions could affect the international transferability of skills as well. For example, the age at arrival is a crucial determinant of the success of the immigrant in the labour market. Elderly immigrants will generally have higher opportunity costs of schooling. Another pattern is that immigrants with high skills before immigration will generally bring a decline in immigrants' occupational status if the qualification are destination-specific. Chiswick and Miller also found that human capital often depreciates in the destination country's labour market; therefore immigrants have incentives for post-immigration investment in education. Moreover, year since immigration is a crucial factor influencing the decision as to obtain new

credentials in the adopted country; their results showed that the longer they stay, the more likely they will obtain specific qualifications of the country (Chiswick and Miller, 1994).

A notable extension to Chiswick (1978) and Bloom and Gunderson (1991) was conducted by Green (1999) who looked at the difference between immigrants and native-born male occupational distributions in Canada in the 1980s. The pivotal discussion is from the perspective of occupational distributions. Moreover, the author examined the immigration selection process based on results from a comparison of the mobility status of immigrants and native-born workers. A multinomial logit model of occupational choice was used with data from the 1981, 1986, and 1991 Canadian censuses. The overall results clearly reflect Canada's immigration point system, which screens for more skilled and more educated immigrants since immigrants are dominant in professional occupations and are underrepresented in the less skilled factors. The study also shows that immigrants are very mobile in the labour market, which could be explained by the aggressiveness and ambitiousness of new immigrants when they entered a new economy.

Ferrer and Riddell (2004), using the 1981, 1986, 1991 and 1996 Censuses, found that, compared to Canadian-born workers, immigrants' work experience in their original country tends to have lower value. By estimating the "sheepskin" effect, which is "the gain in earning associated with receipt of a degree or diploma, controlling for years of schooling" (Ferrer & Riddell, 2004, page 186), they surprisingly found that the discounting of immigrants' human capital was not applicable to those immigrants with diplomas and degrees in their own country.

On the contrary, immigrants' credentials were valued the same as their Canadian-born counterparts in the labour market. More specifically, they found that the earnings are almost the same for those immigrants with high school diplomas and bachelor's degrees and native-born Canadians with corresponding backgrounds. The trends are the same for educational level as well. Both native-born Canadians and immigrants would earn 15-20 percent more than comparable individuals if they had a university degree or higher.

In terms of the incidence of unemployment of immigrants and the Canadian born in the labour market, McDonald and Worswick (1997) used the microdata of the Surveys of Consumer Finances through 1982 to 1993 to examine unemployment, and found that the discrepancy in employment opportunities between immigrants and Canadian citizens by birth is found to be much larger in recessionary periods than in expansionary periods. They argued that immigrants tend to experience insurmountable difficulties to find new jobs or to stay employed during economic downturns. However, when the economy recovers from recessions, this kind of discrimination towards immigrants progressively diminish.

It has also been found that the location in which the immigrants entered Canadian labour market also plays an important role in determining the differences in the wage gap between Canadian-born and immigrant workers. Nadeau and Seckin (2010) find that; compared to those who enter in Quebec, immigrants who enter the labour market of other provinces across Canada have consistently and increasingly faced better wages and employment opportunities. Surprisingly, the results in that study suggest that the difference in terms of discrimination

against immigrants is not due to the emphasize on the French language; rather, it reflects a drop in the citizenship premium in Quebec over the last few decades which suggests further support for the idea that teaching French should be subsidized by provincial government.

In summary, different studies have addressed Canadian immigrants' labour market outcomes from various points of view. However, not much evidence has been proposed to discuss the differential in immigrants' labour market successfulness based on their education level. In my paper, I want to emphasize three issues: First, I want to study the degree of discrimination that an immigrant with particular socio-economic background faced compared to Canadian-born citizens. Second, I want to study whether low educated immigrants face the same level of inequity in the job market as highly educated immigrants. Third, I want to study the estimated effects of other socio-demographic variables on individual's employment opportunity and real wages.

3. Data and Methodology

For studies on immigration in Canada, the Longitudinal Survey of Immigrants to Canada (LSIC), the Longitudinal Immigration Databases (IMDB) and the Canadian Census are the three major sources of data. The LSIC examines the first four years of settlement during which immigrants establish economic, social and cultural ties to Canadian society. The target population is limited to immigrants who arrived in Canada between October 1, 2000 and September 30, 2001 and who were aged 15 years or more at the time of landing. The IMDB is an administrative database that combines immigration and taxation records. It provides different characteristics of

the immigrants such as their education background or knowledge of the official language. The Canadian Census is frequently used in the study of Canadian immigration as well. The advantage of the Census is that it that the sample size is large enough to include both the Canadian born and immigrants. This paper uses the 2006 Canadian Census Public Use micro data. Although the Census Data does not specify immigrants by classes like the other databases do, the crucial elements of education and location of study are available.

The research sample focused on individuals with the following characteristics:

- 1) Aged between 25 and 64, which is usually considered as the working age population.
 - 2) Individuals are divided into three categories based on their education: low, intermediate, and high level of education. I define individuals with high school graduation certificate or less, trades certificate or registered apprenticeship certificate as low-education workers. Individuals with Intermediate-education workers are individuals with college, university certificate or diploma below bachelor. High-education workers are individual with Bachelor's degree or higher
- Appendix 1 provides the details.

3.1 Sample

The purpose of this paper is to examine the wage and employment differences in the Canadian labour market between immigrants and native-born Canadians among education levels. There are two outcomes: wages and salaries, and employment status, to be defined precisely in the next section. The total sample that satisfies the criteria aged from 25 to 64 includes 469,532

individuals. From the total sample, 354,627 individuals are native-born Canadians, and 79,782 individuals are immigrants. Males account for 49 percent of the total sample size, and females account for 51 percent of the total sample size. The sample for the regressions is different for each outcome. The first analysis studies wage and salary and excludes the individuals who did not work, which narrows the sample size to 376,754 individuals. The second analysis studies the employment status; this regression includes individuals who either work part time or full time job, and it also includes the respondent who did not work.

3.2 Variables

Two outcomes are used to detect the labour force performance of individuals in three education levels. I will cross analyze the differences and similarities not only based on education level, but also on immigration status. For instance, I will compare the differences between low-education Canadian-born individuals and low-education immigrants, and compare the discrepancy between low-education immigrants and high-education immigrants as well.

The first outcome variable is the respondents' wages and salaries during the year prior to the census, i.e. 2005. To eliminate outliers, wages lower than \$500 and greater than \$200,000 a year are removed. The respondents are divided into three categories, low-education, intermediate-education and high-education individuals as earlier defined.

The second outcome variable is employment status, defined as one for people who were working during the week prior to the census, and as zero for those who were not working. I

included all individuals that fit the initial requirements regardless of whether they are in the labour force or not.

Table 1 shows some descriptive statistics about those outcomes. The outcome variables are presented in the way that separates Canadian-born and immigrants. The population wage median is calculated based on the total population in my sample. It includes all individuals that were employed and I also conduct another descriptive statistic with a different wage median based for the three educational levels.

Table 1. Descriptive statistics for the outcome variables #1 and 2 used in the model

	High-skilled individuals		Intermediate-skilled individuals		Low-skilled individuals	
Outcome variables	Canadian born	Immigrants	Canadian born	Immigrants	Canadian born	Immigrants
N: number of individuals	$N_c=56,250$	$N_i=23,675$	$N_c=72,893$	$N_i=19,022$	$N_c=135,226$	$N_i=30,357$
N': number of individuals with wage greater than the population median	$N'_c=38,678$	$N'_i=13,234$	$N'_c=39,198$	$N'_i=9,132$	$N'_c=57,290$	$N'_i=10,186$
Percentage with wages greater than the population median	68.7%	55.9%	53.8%	48.0%	42.4%	35.6%
Difference	12.8%		5.8%		6.7%	
N'': number of individuals with wage greater than the group median	$N''_c=30,056$	$N''_i=9,697$	$N''_c=36,841$	$N''_i=8,499$	$N''_c=69,023$	$N''_i=13,461$
Percentage with wages greater than	53.4%	41.0%	50.5%	44.7%	51.0%	44.3%

the group median						
Median wage within group	\$48,000		\$37,000		\$30,000	
Difference	12.5%		5.9%		6.7%	
Employment rate	91.3%	89.1%	90.6%	89.3%	86.8%	85.6%
Difference	2.3%		1.3%		1.1%	

I first compare the various groups to the median wage of the population. Sixty-eight point seven percent of the Canadian-born high-education individuals have a wage that is higher than the population median wage (which includes all education levels). In contrast, only 55.9 percent of the high-education immigrants have a wage that is higher than the population median wage. The difference between the two groups is 12.8 percentage points. The same difference is 5.8 percentage points in the intermediate-education individuals and 6.7 percentage points in the low-education individuals. Individuals with a lower educational level tend to receive a lower wage than people with intermediate and high level of education, but the gap between the Canadian-born and the immigrants is larger when the educational level increases. This suggests that it is easier for immigrants with low levels of education to receive a wage that is closer to the one of the Canadian-born.

By analyzing the statistics with specific median wage within groups, we reach similar conclusions. There is still a smaller gap for individuals with lower education level than for

individuals with high-education level

For the second outcome, I examine the differences in the employment rate for Canadian-born and immigrants with high, intermediate or low education, respectively. We can see that the employment rate follows the same pattern as the distribution of educational level. We can conclude that a higher level of education has a positive impact on individual employment condition, and it applies to both Canadian born and immigrants. The employment rate is 91.3 percent for Canadian born individuals with a high level of education, compared to 86.8 percent of the Canadian born individuals with a low level of education. The employment rate is 89.1 percent for immigrants with high level of education compare to 85.6 percent of the immigrants with low level of education. However, the gap between Canadian born and immigrants is smaller for the low educated. The difference between high-education Canadian born individuals and immigrants is 2.3 percentage points; it is 1.3 percentage points for intermediate education, and it is 1.1 percentage points for low education individuals.

For the regression analysis that follows, the potential regressors can be categorized into seven major groups from the Census of Canada (2006) individual public use microdata file: geographic, family and family composition, socio-demographic, immigration, language ability, labour market activity, and education.

There are two independent variables in the geographic group: province/regions (pr), and census metropolitan area (cma). I pay special attention to the major immigration metropolitan areas that include Toronto, Vancouver, and Montreal. I group the provinces into seven different

categories based on where the respondents are living. Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Northwest Territories, Yukon and Nunavut are classified as Eastern and Northern Canada. Manitoba and Saskatchewan are defined as Middle Canada. Quebec, Ontario, Alberta and British Columbia are defined individually and Ontario is treated as the reference group. Following the same logic, since the three major metropolitan areas of Toronto, Montreal and Vancouver are the places of residence of over 80 percent of the immigration population, I re-define these three areas as binary variables, and I compact all the other less important immigration areas into a dummy variables named as `cma_small` and treat it as the reference group.

In the family composition group, the presence of children and their ages may somehow influence their parents' desire and ability to participate in the labour market, especially female workers. Thus, I create two dummy variables namely `pkid0_5` and `pkid6plus`, which can be explained as whether a household have presence of kids of age less than five years old or more than 6 years old.

There are three regressors that I want to include in the study that belong to the category of socio-demographic factors: marital status, age, and age squared. For the age variable, I use the mid-point of each five-year group in the codebook of the public use data. In addition, the relevant variable "age squared" is introduced to examine the marginal effect of age on individual's earnings and employment over time. The variable marital status is defined as married and not married.

The immigration variables are classified into three: immigration status, immigration length, and place of birth. I use the difference between the census year, 2005, and the year when the respondent immigrated to Canada to define the new variable “years”. A reasonable ex ante expectation has been developed by Chiswick (1978) which states that it is relatively easier for immigrants who have longer immigration history to obtain experience and skills that are more compatible with the local job market in order to narrow down the gap of wage between themselves and their native-born counterparts.

It is rational to isolate several countries that have a substantial number of immigrants in Canada. Binary variables are created for China, India, United Kingdom, United States, Western Central and Middle East (WCME), Other American Countries, Europe, Africa, Asia or Oceania. The reference group is individuals who born in Canada.

The next important variable is respondent’ language ability. A prospective individual’s ability to conduct conversations in one or both official languages in Canada is pivotal in determining her/his successfulness in the labour market, regardless of the social occupation group of the respondent. So I define two sub-categories of language ability as English or French, and neither English nor French. This study uses neither English nor French as the reference group.

Regarding the labour market activities, I include the natural logarithm of weeks worked in the previous year and whether the respondent was enrolled in full-time or part-time job for the regression analyses related to real earnings.

The educational variables and location of study are very important components in this study. I encompass two variables: highest certificate, diploma or degree, and location of study. This paper will focus on different groups of immigrants' labour market behaviour. Furthermore, location of study is a dummy variable consisting in categories that are Canada and other countries. Note that the 2006 Census asked a question on the location of study for those who received a post-secondary education. For the low educated individuals without post-secondary education, for which the question was not asked, some assumptions had to be made. If the respondent were born in Canada, I assume that he/she also received education in Canada. For immigrants that arrived in Canada at less than 14 years old, I also assume that they receive their education in Canada. Other immigrants with low education who come to Canada at older ages are assumed to have received their education outside Canada. The main purpose of introducing this location variable is to specify if the location of the education institutions where the respondents acquired their degrees or certificates has an influence on the different groups of immigrants' performance in the Canadian labour market.

3.3 Model

The model can be written as:

$$\text{Outcome}_i = \beta_0 + \beta_1 (\text{geographic variables})_i + \beta_2 (\text{family and family composition})_i + \beta_3 (\text{socio-demographic variables})_i + \beta_4 (\text{immigration variables})_i + \beta_5 (\text{language ability})_i + \beta_6 (\text{labour activities})_i + \beta_7 (\text{education variables})_i + \theta_i$$

Since I want to analyze the difference in income and the probability of being employed in the labour market between immigrants and Canadian born citizens, the two dependent variables in this model are respectively the natural logarithm of annual wages and salary and the status of employment. The independent variables slightly differ in each regression analysis but generally can be categorized within one of the seven groups in the equation. Specifically, the first set of regressions examine all the respondents who already have jobs and get paid, so two additional labour activity variables “weeks worked in last year” and “full-time or part-time job” are included in the analysis.

In the first set of regressions, I examine the discrepancy of real wages between immigrants and their counterpart citizens. Thus, I use the natural logarithm of annual wages as the dependent variable. In the second set of regressions, I use ordinary least squares with employment as the dummy dependent variable. A binary choice model (probit/logit) could also be used to perform this particular study and would yield similar results.

4. Regression Analysis

I focus my regression analysis on two outcome variables: Inwages and access to employment. The first one is a continuous variable and the second one is a binary variable taking value “1” for individuals currently employed and “0” for individuals who are not employed. I will present my results in two sub-sections with respect to the two different outcome variables. I will further divide my regression analysis into three educational subgroups and do the analysis for each gender. I carry out the analyses using ordinary least squared estimation.

4.1 Wage regressions

Table 2 and 3 present the ordinary linear regression result on real wages, divided by education levels, for males and females respectively.

Table 2. Regression on Inwage for female respondents

	Low-education		Intermediate-education		High-education	
	Coff.	T value	Coff.	T value	Coff.	T value
Wages and salaries per year (log value)						
Geographic variables						
Province/regions (Reference: Ontario)						
Atlantic	-0.2139	-19.46	-0.1606	-12.72	-0.1292	-8,01
Quebec	-0.1349	-15.01	-0.1468	-13.00	-0.0703	-5.10
Prairies	-0.0992	-9.00	-0.0584	-4.36	-0.0715	-4.38

Alberta	0.0466	4.92	0.0241	2.21	0.0510	3.89
British Columbia	0.0277	2.43	-0.0592	-4.37	-0.0854	-4.76
Large Census Metropolitan Area <i>(Reference: Small CMA areas)</i>						
CMA: Montreal	0.1717	16.39	0.1416	10.60	0.0295	1.90
CMA: Toronto	0.2435	23.38	0.1457	12.50	0.0781	5.82
CMA: Vancouver	0.2042	13.72	0.1586	9.30	0.0801	3.90
CMA: Others	0.1235	18.80	0.1009	13.08	0.0144	1.42
Socio-demographic variables						
Age	0.0567	24.57	0.0648	23.71	0.0894	27.43
Age ²	-0.0006	-21.79	-0.0007	-20.53	-0.0009	-23.52
Marital Status <i>(Reference: not married)</i>						
Married	0.0263	4.28	0.0535	7.40	0.0394	4.80
Presence of children <i>(Reference: no kids between 0-14)</i>						
Have kids between 0-5	-0.0935	-9.96	-0.0669	-7.22	0.0331	3.45
Have kids between 6-14	-0.0364	-5.66	-0.0329	-4.48	-0.0053	-0.59
Immigration variables						
Years since immigration	0.0043	9.25	0.0068	12.90	0.0090	16.61
Place of birth <i>Reference: Canada</i>						
China	-0.3945	-13.73	-0.4219	-13.07	-0.3750	-15.45
India	-0.2577	-10.51	-0.2912	-8.89	-0.4015	-16.04
UK	-0.1000	-4.04	-0.1223	-4.89	-0.2220	-7.75
US	-0.1082	-3.36	-0.1947	-5.52	-0.1747	-6.19

West Central and Middle East	-0.2747	-8.35	-0.3480	-9.81	-0.2835	-9.57
Other countries from America	-0.1886	-9.81	-0.2142	-10.81	-0.2793	-11.28
Europe	-0.1359	-7.26	-0.2335	-12.16	-0.2810	-15.14
Africa	-0.1420	-4.81	-0.1688	-5.99	-0.2436	-9.10
Asia or Oceania	-0.2316	-12.44	-0.3068	-16.90	-0.3243	-18.63
Language ability						
Knowledge of official Language						
<i>(Reference: Neither English or French)</i>						
English or French	0.1335	5.35	0.2456	3.91	0.2750	3.73
Labour activity						
Ln weeks worked	0.7503	142.69	0.7949	122.11	0.8015	108.33
Full/part time work	-0.6995	-111.81	-0.6713	-86.85	-0.8220	-89.30
Location of study						
Canada	0.0859	6.56	0.1735	12.65	0.2281	18.56
Constant term	5.5503	93.55	5.2958	60.64	5.0631	49.87
R-squared		0.4303		0.4177		0.4538
Number of observations		69928		50580		41589

Table 3. Regression on lnwage for male respondents

	Low-education		Intermediate-education		High-education	
	Coff.	T value	Coff.	T value	Coff.	T value
Wages and salaries per year (log value)						
Geographic variables						
Province/regions <i>(Reference: Ontario)</i>						
Atlantic	-0.2119	-21.88	-0.1698	-11.67	-0.1403	-7.21
Quebec	-0.1608	-20.67	-0.1480	-11.87	-0.1093	-6.82
Prairies	-0.1409	-14.35	-0.1463	-9.09	-0.1520	-8.01
Alberta	0.1076	13.06	0.0637	5.25	0.0374	2.53
British Columbia	0.0173	1.71	-0.0821	-5.15	-0.1236	-5.91
Large Census Metropolitan Area <i>(Reference: Small CMA areas)</i>						
CMA: Montreal	0.0722	7.81	0.0869	5.89	0.0687	3.79
CMA: Toronto	0.0853	9.07	0.0614	4.72	0.0929	5.87
CMA: Vancouver	0.0275	2.06	0.1208	6.11	0.1232	5.27
CMA: Others	0.0437	7.59	0.0628	7.10	0.0886	7.28
Socio-demographic variables						
Age	0.0605	30.91	0.0667	22.00	0.0869	23.99
Age ²	-0.0006	-27.53	-0.0007	-19.44	-0.0009	-21.55
Marital Status <i>(Reference: not married)</i>						
Married	0.1878	31.69	0.1849	20.42	0.1673	15.92
Presence of children <i>(Reference: no kids between 0-14)</i>						

Have kids between 0-5	0.0177	2.39	0.0220	2.22	0.0665	6.24
Have kids between 6-14	0.0214	3.56	0.0572	6.65	0.0171	1.72
Immigration variables						
Years since immigration	0.0039	8.96	0.0050	9.08	0.0077	13.71
Place of birth (Reference: Canada)						
China	-0.5526	-18.62	-0.4903	-11.96	-0.4461	-18.72
India	-0.3552	-14.68	-0.3551	-11.27	-0.3515	-14.27
UK	-0.0616	-2.65	-0.0779	-3.00	-0.0863	-2.96
US	-0.0845	-2.64	-0.1513	-3.73	-0.1471	-4.58
West Central and Middle East	-0.3591	-12.98	-0.4396	-12.90	-0.3486	-12.18
Other countries from America	-0.2709	-15.18	-0.2651	-11.64	-0.3225	-11.78
Europe	-0.1150	-6.51	-0.1761	-8.41	-0.2149	-10.67
Africa	-0.2799	-9.85	-0.3327	-11.88	-0.3154	-12.74
Asia or Oceania	-0.2870	-16.57	-0.3160	-16.08	-0.3516	-19.14
Language ability						
Knowledge of official Language (Reference: Neither English nor French)						
English or French	0.1555	5.93	0.2308	3.27	0.2734	3.08
Labour market activity						
Ln weeks worked	0.7517	132.02	0.7859	83.70	0.8689	82.18
Full/part time work	-0.8713	-86.52	-0.9611	-61.77	-1.0167	-61.83
Location of study						
Canada	0.1019	8.21	0.1164	7.94	0.1324	10.48
Constant term	5.7358	107.63	5.6099	56.36	4.9873	41.18
R-squared	0.3446		0.3420		0.3712	

Number of observations	91208	40007	38016
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I begin with the regression results of each variable for the low educated individuals. In terms of geographic variables, compared to the small census metropolitan areas, females in the three major immigration cities in Canada, namely: Vancouver, Toronto and Montreal earn relatively higher level of wages. One noteworthy finding is that population concentrated in Toronto earns roughly 24 percent higher income than the population in the reference regions, while respondents in Montreal earn only 17 percent higher income. A possible explanation is that the labour market in Montreal and nearby cities in Quebec requires special language and communication skills than the multi-cultural working environments in cities like Toronto. However, for male respondents, this geographic effect on earnings is much smaller, less than 8.5 percent for all major cities with an associate decline in the statistical significance, which suggests an increasing mobility in labour market for male workers. If we take a deeper look for the effect of provinces on wages, we can see that there is no such significant gender difference within the group of low education workers. Compared to respondents whose residence is Ontario, residents in Quebec, the Atlantic Provinces and Prairies Provinces earn lower wages with a maximum deduction in wages of around 21.4 percent in Atlantic Provinces. The estimated coefficients for British Columbia are relatively small and tend to be statistically insignificant. However, the result suggests that females in Alberta earn around 4.7 percent more than residents in Ontario while the difference in the male group reaches 10.8 percent. One possible explanation can be

characterized as the economic boom in energy related sectors in Alberta over the last decades.

With respect to the family and family composition variables, having a pre-school child has a negative effect on the earnings of low educated mothers, but a positive effect on the earnings of fathers. The important result is that having children less than 5 years old tend to decrease mother's real wage by 9.3 percent, but this negative effect becomes smaller when the children grew up to older ages. Budig (2001) found a wage penalty for motherhood of approximately 7 percent per child among young American women. My estimated result is slightly higher compared to previous literature in general. The positive effect on the earnings of fathers is not significant thus can be neglect. The intuition supports the result since having a young child will likely distorts females' activities in labour market because mothers usually put more energy on family cares than fathers.

For the socio-demographic variables, age has significant and similar effects on wages for both genders. Generally speaking, age is positively correlated with wages because of the importance of experience. However, the marginal effect of age on real wages decrease slightly over time since the coefficient of the variable age square is negative. Intuitively, we should expect an increase in a respondent's earnings in the early years, a peak around middle age, and a decline thereafter. My findings confirm this pattern and consistent with the U-shaped age-earnings profiles estimated using various cross-sectional census dataset.

To highlight the difference in wages of immigrants and their Canadian-born citizen counterparts, I examine whether place of birth of a typical respondent will have a strong effect on

the wages of the low educated workers. The result is quite striking. It implies that there is a strong negative gap for immigrants who arrive from developing countries at a young age. This gap can be due to discrimination towards immigrants by employers. However, there are also other demographic factors that could reduce the real earnings of immigrants, such as social class, race, and marital status. I only focus on the discrimination effect in this discussion. Specifically, female immigrants from developing countries with large population like China, India, West Central and Middle East Asia, and other Asia Oceania regions, bear substantial lower wages than their Canadian born counterparts. The numbers are 39.4 percent, 25.8 percent, and 23.1 percent respectively.

Immigrants from the United States, the United Kingdom and other Western European areas bear a lower decrease in wages compared to Canadian-born workers. One interesting result is that females who came from African countries perform much better than those from other developing countries' immigrants, with only a decline of around 14.2 percent. For the subgroup of male interviewees, the story is different. Immigrants who have similar social and education background as Canadian workers have less friction in obtaining a same earning level job. For immigrants from the United Kingdom and the United States, the decreases in real wages compared to Canadian workers are only 6.1 percent and 8.5 percent respectively and these estimated coefficients are not strongly statistically significant at 1 percent confidence level. Immigrants from the European area face a lower wages of around 11.5 percent compared to Canadian workers. On the contrary, male immigrants from developing countries face even more

prejudices in the Canadian labour market. Male workers from China have to bear a 55.3 percent decreased in real wages while male workers from African countries also face higher decline in real wages compared to female workers, the negative effect increases to 28.7 percent. It could be argued that, due to differences in professional, communication skills and the divisions of labour market activities across gender, it is harder for male immigrants who have large deficiencies in social, language, and education backgrounds to acquire a similar level of real income as their counterparts citizens. However, low educated female immigrants arguably work more in the service and consulting sectors and thus bear a lower entry level and face less discrimination. However, it looks like that long time immigrants do not earn much more higher than recent immigrants based on the small coefficient of years since migration. This could be explained by the fact that newly arrived low educated immigrant workers tend to be more skillful and knowledgeable compared to older immigrants who arrived in the previous decades and consequently are more successfully in the labour market.

In terms of language ability, low educated people who know English or French, or both of these official languages in Canada, earn 15.5 percent and 13.3 percent higher wages than immigrants who enter the job market with no language ability suitable for Canadian employers for both genders respectively. The result is statistically significant which emphasizes the importance positive relationship between communication skills and real wages in Canadian job market.

Labour market activity variables “fptwk” and the natural logarithm of weeks worked in 2005

are introduced in this subgroup of regressions. The results clearly follow the intuitive explanation that full-time workers earn much higher real income than part-time workers and as people works during a given year, their wage increases progressively.

It is noteworthy that for low educated respondents, receiving education in Canada, or at least some formal schooling in Canada for immigrants, will have a strong positive effect on the wage of the individual. Female respondents earn 8.6 percent higher income than immigrants who receive education outside Canada. The effect for male respondents follows the similar trend and is around 10.2 percent.

Differences in the effect of gender are revealed in the results associated with the respondents' marital status. Compared to individuals who have no family responsibilities, low educated married male workers earn 18.8 percent higher income while female workers only earn a negligible 2.8 percent higher wages. It seems like males bear more family financial burdens than females. This is not very surprising since low educated male workers usually face higher pressure in terms of supporting their family and thus, will work hard to be better paid.

To summarize, the key findings of this analysis for the low educated workers are: 1) Geographic effects have important influences on respondents' real incomes within the low education group, while residents in Western Canada regions and Toronto generally earning higher income than residents in Quebec and Atlantic provinces. 2) The existence of any pre-school children in a family discourages females from working and encourages males to work harder and receive a higher wages. 3) Immigrants from major developing countries like China

and India experience heavy wage gaps compared to immigrants from the United States, the United Kingdom and Western Europe regions, regardless of gender; however, receiving formal education in Canada may partially offset this problem. 4) Immigrants who have been in Canada for a long time do not earn much more than new immigrants. 5) Language ability plays a pivotal role in determining the wages of the low educated workers. 6) Having family responsibilities largely increase males' motivation in searching for higher earnings jobs.

I will discuss next the regression results for the individuals with an intermediate education level. I will follow the same logic as the last discussion regarding to the low education group and only address the important differences in the results.

Geographic variables have similar effects within the group of intermediate education respondents. Residents in major cities like Vancouver, Toronto and Montreal still earn around 10 percent higher real income than residents in minority locations. However, the estimated coefficients of Quebec and the Atlantic provinces become smaller and less statistically significant, perhaps indicating a higher mobility for this group.

In terms of the family and family composition variables, the influence of the existence of any pre-school children on the real income of female respondents decreases compared to the low education group individuals. This effect decreases as well for male respondents. A possible explanation is that individuals with more education tend to be more cautious about job selections and tend to more carefully and smoothly shift energy from work to taking care of their children.

Regarding the immigration variables, intermediate educated female immigrants from China,

India, WCME region, and other Asian and Oceania regions face most severe gaps in earnings. They bear a 42.2 percent, 29.1 percent, 32.8 percent and 30.7 percent decline in real wages compared to Canadian-born citizens. Female immigrants from Europe, the United States and the United Kingdom perform better in the labour market but still earn less. Surprisingly, female immigrants coming from Africa do not perform too badly in the Canadian labour market compared to women that come from other developing countries, the relative decrease in average earnings being only 16.9 percent. However, intermediate educated male immigrants face approximately the same gap as female immigrants. Particularly, male immigrants from Africa do not perform as well as female ones, the decrease in real wages compared to Canadian-born citizens changing to 33.3 percent. One group of immigrants that performs relatively well is the group coming from the United Kingdom; they only suffer from 7.8 percent decline in earnings which is considerably weak.

I then compare the effect of increasing years since immigration on respondents' real earnings. Compared to immigrants with low education, the marginal benefit of staying one more year in Canada on real wages goes from 0.4 percent and 0.3 percent and to 0.7 percent and 0.5 percent for intermediate educated female and male immigrants respectively. Intuitively, experience and skills do not improve much with time for low educated immigrants compared to more educated individuals. Thus, an increase in the marginal benefit with respect to increase of years since immigration is understandable. The other socio-demographic variables, language variables, and labour force activity variables show similar results to those of the low education group.

In the last step, I turn to the regression results for the highly educated respondents. Again, compared to minor regions, the highly educated individuals earn more in major cities like Vancouver, Toronto, and Montreal but this discrepancy is bigger among male workers than among female workers. Moreover, the estimated coefficients slightly shrink compared to the results for the low education and intermediate education group. For example, in the high education group, a male worker earns 12.3 percent more in Vancouver than in the reference group while a worker in the low education group earns 15.8 percent more. With respect to the provinces of residence, one crucial finding is that, unlike low-educated and intermediate-educated individuals, respondents who have a Bachelor or higher degree will encounter difficulties finding a high salary job in British Columbia. Male workers earn 12.4 percent less real income in BC compared to Ontario while female workers earn 8.5 percent less real income. This seemingly ambiguous finding can be explained by the specific job market classification in BC and Ontario. Ontario's economy concentrates more heavily on financial business and technology related sectors which requires a large amount of highly educated and specially trained professionals, while British Columbia's economy relies more on service and natural resource sectors which requires more low educated and intermediate educated employees.

Another noteworthy result is that unlike in the previous discussions, having a pre-school child in the family does not have any impact on the real wages of female respondents. Highly educated female workers even have a higher real income of 3.3 percent than those who do not currently have any pre-school kids. This estimated coefficient is mildly significant. It suggests

that highly educated females might have more financial ability to acquire family care services and are unlikely to sacrifice their own high-paid job in order to take care of family and children.

It is normally rational to assume that people with a higher education background usually have higher occupational jobs. The ability to communicate using one of the official languages becomes even more important among highly-educated individuals than for low-educated individuals for both genders. If the respondents can speak either language, her/his earnings would be 27.4% higher than respondents who cannot speak English or French. The estimated difference within the group of low education individuals is 13.3 percent for females and 15.5 percent for males.

Place of birth is still the key variable that distinguishes the earnings between immigrants and Canadian born citizens. Immigrants from major developing countries in Asia and America face widespread gaps compared to immigrants who came from the United States or the United Kingdom. Among highly educated individuals, this gap is even greater, with the only exception for immigrants coming from China. The decrease in real wages drops from 39.5 percent to 37.5 percent and from 55.3 percent to 44.6 percent for Chinese immigrants. This change demonstrates serious polarization of Chinese labour based on the difference in education and working experience and the significant contributions of highly educated Chinese workers in the Canadian labour market. Highly educated immigrants from other developing countries face slightly heavier gaps compared to low educated and intermediate educated immigrants, the further decrease in real wages reaching 14.7 percent for females and 6.6 percent for males. It is important to

understand that highly educated female immigrants may face heavier discrimination in earnings than highly educated male immigrants. One possible explanation is that females with higher education background from countries outside Canada are not treated and respected equally in the Canadian labour market. One exception from the above argument is that female immigrants from United Kingdom bear 22.2 percent lower real wages compared to native workers in Canada, which cannot be thoroughly explained by my discussion. However, the noticeable upsurge in the return of local education on real return, which can reach a maximum of 22.8 percent, might offset this effect, especially for female workers. Marital status, years since immigration and age have the similar corresponding effects on real income across different education subgroups.

I want to summarize the key findings here to compare the regression results in the above three education groups. 1) I find that different geographic locations in Canada attract different groups of potential worker with various education backgrounds. For instance, the areas in Eastern Canada like Toronto open more opportunities for highly educated individuals while the areas in Western Canada like Vancouver are more suitable for low educated and intermediate educated individuals. 2) The presence of pre-school children has a greater negative effect on the real income of low educated mothers than on those of high educated mothers. 3) Language ability is very important in getting well-paid jobs, especially for high skill industries which requires high level communication and writing skills. 4) Consistently with the findings in the descriptive data section, highly educated immigrants from most of countries face greater gaps than low educated individuals. Also, immigrants from countries that have entirely different

political and socio-economic background, such as China and India, tend to assimilate with difficulty to the local job market. Moreover, highly educated female immigrants bear substantially heavier gaps than highly educated male immigrants. 5) For immigrants, receiving formal education in Canada increases their real wages. 6) Consistently with the traditional logic, more experienced workers receive higher income and married males work harder to support their families. Moreover, this positive income effect of experience is higher among highly educated immigrants.

4.2 Employment regressions

Table 4 and 5 present the ordinary linear regression results on the employment outcome for respondents, males and females, again divided by education levels. The table includes the estimated coefficients and the t values.

Table 4. Regression on employment for female respondents

	Low-education		Intermediate-education		High-education	
	Coff.	T value	Coff.	T value	Coff.	T value
Employed						
Geographic variables						
Province/regions (Reference: Ontario)						
Atlantic	-0.0515	-14.08	-0.0293	-8.26	-0.0109	-2.55
Quebec	-0.0062	-2.09	0.00007	0.02	0.0048	1.30

Prairies	0.0102	2.78	0.0035	0.93	0.0023	0.52
Alberta	0.0134	4.25	-0.0005	-0.18	0.0039	1.11
British Columbia	0.0026	0.67	-0.0053	-1.38	-0.0064	-1.34
Large Census Metropolitan Area						
<i>(Reference: Small CMA areas)</i>						
CMA: Montreal	0.0212	6.11	0.0057	1.53	-0.0097	-2.36
CMA: Toronto	0.0179	5.18	0.0058	1.78	-0.0052	-1.45
CMA: Vancouver	0.0165	3.31	0.0149	3.08	-0.0029	-0.53
CMA: Others	0.0212	9.68	0.0105	4.85	-0.0017	-0.65
Socio-demographic variables						
Age	0.0052	6.66	0.0048	6.22	-0.0025	2.88
Age ²	-0.0001	-6.23	-0.00005	-5.85	-0.00002	-2.40
Marital Status						
<i>(Reference: not married)</i>						
Married	0.0081	3.97	0.0085	4.21	0.0103	4.73
Presence of children						
<i>(Reference: no kids between 0-14)</i>						
Have kids between 0-5	-0.0328	-10.40	-0.0277	-10.59	-0.0294	-11.59
Have kids between 6-14	-0.0029	-1.34	0.0072	3.52	0.0062	2.65
Immigration variables						
Years since immigration	0.0004	2.67	0.0005	3.59	0.0007	4.96
Place of birth						
<i>(Reference: Canada)</i>						
China	-0.0267	2.78	-0.0392	-4.28	-0.0204	-3.13
India	-0.0497	-6.03	-0.0126	-1.37	-0.0467	-6.99
UK	-0.0116	-1.41	-0.0206	-2.91	-0.0108	-1.41

US	-0.0123	1.15	-0.0239	-2.40	-0.0058	-0.77
West Central and Middle East	-0.0446	-4.04	-0.0474	-4.73	-0.0493	-6.19
Other countries from America	-0.0308	-4.81	-0.0229	-4.12	-0.0254	-3.85
Europe	-0.0093	-1.50	-0.0119	-2.20	-0.0191	-3.85
Africa	-0.0376	-3.79	-0.0398	-5.03	-0.0211	-2.92
Asia or Oceania	-0.0219	-3.53	-0.0105	-2.05	-0.0128	-2.75
Language ability						
Knowledge of official Language						
<i>(Reference: Neither English or French)</i>						
English or French	0.0183	2.16	0.0356	1.98	0.0277	1.40
Location of study						
Canada	-0.0059	-1.34	0.0052	1.35	0.0041	1.25
Constant term	0.7946	41.89	0.8103	33.61	0.8810	33.23
R-Squared	0.0152		0.0103		0.0107	
Number of observations	64912		47824		39204	

Table 5. Regression on employment for male respondents

	Low-education	Intermediate-education	High-education
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	Coff.	T value	Coff.	T value	Coff.	T value
Employed						
Geographic variables						
Province/regions (Reference: Ontario)						
Atlantic	-0.0853	-26.23	-0.0362	-9.06	-0.0161	-3.66
Quebec	-0.0159	-6.10	0.0009	0.27	0.0039	1.09
Prairies	0.0010	0.31	0.0061	1.37	0.0044	1.04
Alberta	0.0102	3.72	0.0109	3.29	0.0067	2.01
British Columbia	-0.0068	-2.02	-0.0048	-1.10	0.0075	1.59
Large Census Metropolitan Area (Reference: Small CMA areas)						
CMA: Montreal	0.0293	9.46	0.0073	1.81	-0.0118	-2.90
CMA: Toronto	0.0282	8.93	0.0105	2.94	0.0011	0.31
CMA: Vancouver	0.0450	10.04	0.0202	3.72	-0.0014	-0.27
CMA: Others	0.0294	15.21	0.0096	3.95	0.0027	0.97
Socio-demographic variables						
Age	0.0039	5.89	0.0029	3.52	0.0028	3.42
Age ²	-0.00004	-5.84	-0.00003	-3.80	-0.00003	-3.29
Marital Status (Reference: not married)						
Married	0.0299	15.05	0.0268	10.86	0.0189	8.03
Presence of children (Reference: no kids between 0-14)						
Have kids between 0-5	-0.0040	-1.64	0.0006	0.24	0.0036	1.50

Have kids between 6-14	0.0039	1.98	0.0020	0.86	0.0029	1.33
Immigration variables						
Years since immigration	0.0001	0.97	0.0005	3.51	0.0006	4.96
Place of birth (<i>Reference: Canada</i>)						
China	-0.0143	-1.42	-0.0168	-1.49	-0.0352	-6.55
India	-0.0153	-1.88	-0.0172	-1.99	-0.0121	-2.20
UK	-0.0004	-0.05	-0.0091	-1.28	-0.0144	-2.19
US	-0.0164	-1.52	-0.0201	-1.81	-0.0155	-2.16
West Central and Middle East	-0.0183	-1.97	-0.0252	-2.70	-0.0299	-4.66
Other countries from America	-0.0138	-2.29	-0.0118	-1.90	-0.0109	-1.77
Europe	0.0065	1.09	-0.0082	-1.43	-0.0163	-3.60
Africa	-0.0217	-2.27	-0.0445	-5.84	-0.0326	-5.87
Asia or Oceania	-0.0119	-2.03	-0.0193	-3.59	-0.0182	-4.43
Language ability						
Knowledge of official Language (<i>Reference: Neither English or French</i>)						
English or French	0.0127	1.44	0.0702	3.58	0.0032	0.15
Location of study						
Canada	0.0006	0.15	0.0016	0.39	0.0061	2.13
Constant term	0.8041	47.93	0.8121	31.00	0.8903	33.58
R-squared	0.0238		0.0107		0.0089	
Number of observations	87053		38622		36457	

The location of the respondent greatly affects the opportunity to have a job. Specifically, for

male respondents, compared to the reference province of Ontario, the Atlantic region and Quebec residents experience a relatively lower employment rate; they suffer from an 8.5 percentage points and a 1.6 percentage points decrease in employment rate and the estimated coefficients are statistically significant at the 1 percentage points confidence level. Residents in the Prairie Provinces, Alberta, and British Columbia have almost the same employment rate as Ontario residents. Also, the empirical results suggest that residence in large cities give more opportunities to work. Compared to small census metropolitan area, residents in Vancouver have 4.5 percentage points more chance to be employed, and residents in Toronto and other regions have around 2.8 percentage points to 2.9 percent higher chance to be employed. However, perhaps due to the bilingual nature of the Montreal labour market, the coefficient for this area is not statistically significant. The results for female respondents follow the same trend. Compared to Ontario, female workers in the Atlantic regions suffer from a 5.2 percentage points drop in the employment rate. One surprising result is that females in Alberta have 1.3 percentage points more opportunity to get a job than Ontario residents; The results for Quebec, the Prairies Provinces, and BC are relative small and not statistically significant. Again, compared to the small census metropolitan area, female workers in large cities also have more chance to find a job, the increase in the employment rate is from 1.7 percentage points to 2.1 percentage points and all the estimates are significant at least at 5 percent confidence level. This result is consistent with previous literature on this topic.

With respect to the family and family composition variables, having a pre-school age kid in

the household does not influence the opportunity of getting a job for low-educated fathers. However, having a kid between 0 to 5 years old will somehow discourage low-educated mothers to engage in the labour market, the decrease in the employment rate for this category being 3.3 percentage points. When the kids grow up, the labour market behaviour of mothers would likely return to a normal level.

In terms of socio-demographic variables, an increase in age can be normalized as an increase in experience as well as job-related skills. Thus, one-year increase in age significantly increases the employment opportunity by 0.5 and 0.4 percentage points for females and males respectively. Also, the diminishing marginal return effect of age on employment opportunity is significant but not considerably strong, the decrease are 0.1 and 0.04 percentage points for females and males.

I also test whether the place of birth of a typical respondent will have a comparative strong effect on employment opportunity. None of the estimated coefficients reveals a strong decrease in employment opportunities for male immigrants compared to Canadian born individuals. There is almost an identical small drop in access to employment for male immigrants coming from China, India, the US, Western Central and Middle East Asia, other American countries, Africa and Asia and Oceania regions, ranging from 1.2 to 2.2 percentage points. Male workers from the United Kingdom and Europe are as competitive as Canadian-born workers in terms of finding jobs. For female immigrants, the gap is exacerbated in certain areas concentrated in Eastern Asia and Africa. Female Immigrants from India and the Western Central and Middle East Asia regions are most disadvantaged. They face 5.0 and 4.5 percentage point lower employment chances

respectively. Also, female immigrants from the developing world like China, Africa, and American countries other than the United States face smaller but significant inequality towards employment opportunity. However, I want to readdress the issue that although a gap against immigrants from poor developing countries exists in terms of employment opportunities, the magnitude of such a gap is not as large as in the case in real wages. Increases in years since immigration does not significantly increase the chance of getting jobs for low educated male immigrants. The marginal return of increasing the length of stay on employment opportunity in Canada is only 0.04 and 0.01 percentage points for low educated female and male immigrants, but the estimated coefficient is statistically significant for female respondents.

Surprisingly, having skills in one of Canada's official languages does not improve respondent's chance of getting a job among low-educated workers. I argue that, due to the diverse and multicultural social environment in Canada, immigrants who have no language ability can still survive by finding a low-education entry-level job using their native language.

The regression results suggest that marriage puts more economic pressure on males than females. Again, the estimated results are consistent with previous findings. Particularly, married males on average are 3.0 percentage points more likely to be employed than unmarried males. However, the number for female workers is only 0.8 percentage points.

Next, I discuss the results for intermediated-educated individuals. The geographic variables in general display a smaller importance in determining the employment opportunity for the respondent. For example, Atlantic region workers bear a 3.6 and 2.9 percentage points decrease

in chance of getting jobs for males and females compared to the 8.5 percentage points lower employment opportunity within the low-educated group. Compared to small census metropolitan area, residents from larger cities have some marginal benefits in terms of job opportunity but neither of these estimated coefficients is convincing in magnitude and statistically significant.

The effect of having a pre-school kid in the household still have negligible effect on fathers' chance of getting employed. However, having a young child aged smaller than five years old imposes similar negative influence on mothers' job market behavior.

Increasing in the age of the respondent still have a small positive effect on the individual's performance in the job market. The estimations decrease a little bit from 0.4 to 0.3 percentage points and from 0.52 to 0.48 percentage points for males and females respectively. The diminishing marginal return of age is again, ignorable.

Workers from China, India, United States, Western Central and Middle East region and American countries all face lower employment opportunity compared to those who are Canadian born. The decrease in the chance of being employed ranges from 1.2 to 2.5 percentage points and is only significant at the 10 percent confidence level. Immigrants from the UK and Europe with similar social and economic background perform better in Canadian labour market. African male workers perform worst and bear a 4.45 percent drop in employment opportunity relative to workers coming from other major immigrant countries. For female immigrants, similar results follow as for male workers. One exception is that India intermediate-educated female immigrants perform well in the Canadian labour market even compared to immigrants from the developed

world. Compared to low educated immigrants, the marginal return of increasing length of stay in Canada on employment opportunity improves for the intermediate educated immigrants. The estimated coefficients are 0.05 percent for both genders and statistically significant at the 5 percent confidence level. In general, compared to low educated immigrants, intermediate educated immigrants perform slightly worse in the Canadian labour market.

The estimated results also suggest that knowledge of an official language tends to increase the employment opportunity for both male and female workers within the group of intermediate-educated respondents. It is important to emphasize that the influence of language ability on worker's employment opportunity is most significant among the group of intermediate-educated respondents. This result is reasonable since most middle class jobs require adequate level of language abilities.

Turning now to the regression results for high-educated group respondents, I will discuss the notable differences in the estimated coefficients compared to the low-educated group. Geographic variables become even less significant for the highly educated group. Compared to Ontario residents, people in Quebec, the Prairies region, Alberta, and BC have a slight advantage in job opportunities but none of these estimated coefficients is greater than 1 percentage points or significant at 5 percent confidence level.

In terms of family and family composition variables, increase in age has a small negative effect on the employment rate of high-educated female workers. Intuitively, I can argue that female workers only account for a small portion of high-skill workers despite the decrease in

gender inequality. Marital status and other socio-demographic variables have a similar effect on high-educated individuals as low-educated individuals for both genders.

The gap in access to employment towards high-educated immigrants tends to be spread evenly across the various immigration countries, except for some large immigration export countries like China, West Central and Middle East regions, and Africa. One can argue that high-skill jobs require more specific education and training in a certain field and thus impose fewer barriers in terms of immigration status. However, immigrants from China, Africa, and other Asian countries may suffer from inadequate language abilities. Again, compared to the other education groups, the marginal return of years since immigration on employment opportunities increases for the highly educated immigrants for both genders. Highly educated immigrants are often equipped with better skills. Thus, they can adjust to local labour market faster when they obtain enough experience, which helps them finding better jobs. The language ability variable and “location of study” variable are both insignificant and negligible.

5. Summary and conclusion

In this paper, the 2006 Census public use microdata is used to analyze factors that could influence immigrants and Canadian-born citizens’ labour market outcomes. Individuals included in the sample set are divided into three education groups. Two different indicators are used to measure immigrants’ success in the Canadian labour market. The two outcomes are the wage and salaries and employment status; they are both indicators of individual’s positive performance.

Here are some key findings of my paper:

1. Geographic location has more impact on individuals with low level of education in terms of wage and employment. However, this effect diminishes once the individual's education level gets higher.
2. Immigrants face much lower gaps in terms of employment opportunities than in real income. This shows that it is hard for immigrants to reach the same level of salary as their domestic born counterparts; however, it is relatively easy for immigrants to be employed in a low level job. This phenomenon suggests that a significant portion of the immigrants are forced to choose a job that does not match the education and skills of themselves.
3. The presence of children in the household may discourage a mother's ambition to get a good job; however, parents with a higher level of education tend to be affected less by the presence of children.
4. The gap between immigrants and Canadian-born citizens are larger in terms of wages and salaries than in terms of access to employment. However, the income gap between immigrants and Canadian-born citizens within the low educated group is much smaller than the income gap within the intermediate and highly educated groups. However, there is no such substantial employment gap in either of three education groups compared to Canadian-born citizens.
5. Immigrants from China and India face more inequality in both employment opportunity and income than immigrants from more developed western countries.

6. Length of immigration does not necessarily have a strong positive impact on immigrants'

incomes. New immigrants may benefit from their better language skills and particular specialties. Therefore, new immigrants do not necessarily earn lower wages or have less employment opportunities in Canadian labour market compared to elder immigrants

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Appendix 1 Definition of the education levels

Code for Highest certificate, diploma or degree (hdgree)	Label for hdgree	Education level
hdgree=1,2,3,4	1=None. 2=High school graduation certificate or equivalency certificate. 3=Other trades certificate or diploma. 4=Registered apprenticeship certificate.	Low education level
hdgree=5,6,7,8	5 =College, CEGEP or other non-university certificate or diploma from a program of 3 months to less than 1 year. 6 =College, CEGEP or other non-university certificate or diploma from a program of 1 year to 2 years. 7 =College, CEGEP or other non-university certificate or diploma from a program of more than 2 years. 8 =University certificate or diploma below bachelor level.	Intermediate education level
hdgree=9,10,11,12,13	9= Bachelor's degree. 10= University certificate or diploma above bachelor level. 11=Degree in medicine, dentistry, veterinary medicine or optometry. 12= Master's degree 13= Earned doctorate degree	High education level