

Investigation of Earnings differentials between Visible Minorities and Whites
and ethnic groups: from Canadian evidence

By Hao LIN

(7449442)

Major Paper presented to the
Department of Economics of the University of Ottawa
in partial fulfillment of the requirements of the M.A. Degree
Supervisor: Professor David Gray

ECO 6999

Ottawa, Ontario

April 2015

Abstract

This study carries out a sequential analysis of the earnings differentials between visible minorities and whites, as well as ethnic origins which are interacted with immigrant status for both men and women by using the data of the 2011 National Household Survey (NHS). The results show that immigrants earn less than Canadian-born workers for both genders, the earnings gap is larger for men than it is the case for women. Female immigrant visible minorities earn less than female immigrant whites, and all male visible minorities earn less compared with their white counterparts for both immigrants and non-immigrants. These differences can be mainly explained by the variables of the years since migration and the occupations of immigrants, and the educational attainments, the potential labour market experience of Canadian-born workers. Overall, almost all non-European origins earn substantially less than those immigrants of European origin and native-born workers after controlling for the effect of education, potential labour market experience, marital status, etc.

Key words: earnings differentials, visible minorities, wage discrimination, NHS, Canada

Content

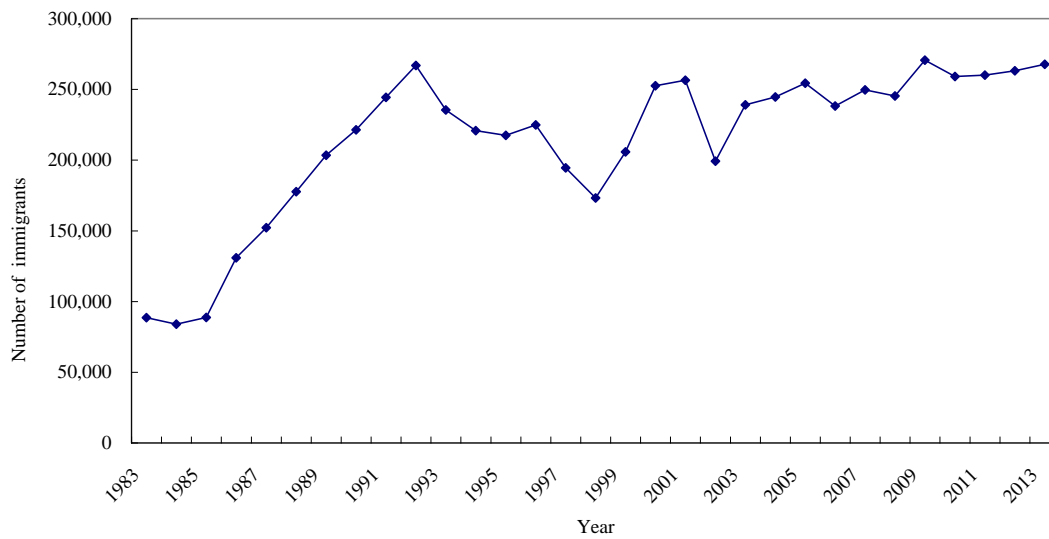
1. Introduction.....	3
2. Literature review.....	6
2.1 Global phenomenon on ethnic earnings differentials.....	6
2.2 Canadian evidence of ethnic earnings differentials.....	8
3. Data.....	14
3.1 Sample Restrictions	15
3.2 Variables.....	15
3.3 Summary statistics	22
4. Econometric model.....	24
4.1 Oaxaca Decomposition	25
5. Empirical results	27
5.1 Three specifications on earnings differentials of immigrants	27
5.2 Earnings differentials between visible minorities and whites by immigrant status	31
5.3 Log wage regression results by visible minority and immigrant status and decomposition	32
5.4 Earnings differentials among ethnic groups.....	36
6. Conclusion	38
References:	40
Appendices:	43

1. Introduction

Since the era of British and French colonization, many Europeans have immigrated to Canada, which is still deemed to be one of the young countries in the world. Today, it still receives well over 250,000 immigrants from different countries all over the world. As shown in Figure 1, there has been a gradual overall increase in the annual inflows of immigrants into Canada from 1983 to 2013. According to Statistics Canada, there were 88,592 new immigrants in Canada in 1983, and this figure tripled to an inflow of 260,115 in 2011, of which over 62% were visible minorities.

There is no doubt that the immigration provides a positive function in militating against the potential problems of negative growth of population and an aging society, but it also promotes the development of many urban areas and economic growth in Canada. Besides the skills and wealth that are brought in by immigrants, which could save large amounts of educational and training expenditures for the government, natives can benefit from multiculturalism in society in the form of enriched cultural heritage and racial diversity. Since immigrants tend to settle down in cities in Canada, together with local residents they shaped the development of cities. For example, Vancouver has the third largest immigrant population in Canada after Toronto and Montreal. The arrival of immigrants accelerates the building and development of infrastructures and facilities in Vancouver, including schools, healthcare, transportation, and so on.

Figure 1: Annual inflows of immigrants to Canada



Source: Statistics Canada. Table 051-0004

Despite these benefits, however, the earnings differential issue is a concern for policy makers in Canada, because it indicates that although there has been a rising trend in the education level of immigrants in Canada over recent decades, they still face challenging labour market conditions. It is widely believed that the role of highly skilled immigrants is to provide rich labour sources so as to enhance the economic growth, rather than to strain government transfer programs. With the introduction of the Employment Equity Act 1985, the labour market disadvantages suffered by visible minorities relative to whites were addressed to some extent. As Howland and Sakellariou (1993) reported in their study, South Asian and Black males earned respectively 97% and 84% of white male wages in the machining and processing occupations, and South East Asian and Black women managers could earn 95% and 92% respectively of the wages of white women. Nevertheless, there are many research studies that reveal that nonwhite immigrant minorities experience lower levels of wages compared with the immigrants from Europe and with the native-born labour forces

in the job market, such as Pendakur and Pendakur (1998), and Hum and Simson (1999). These facts raise the question of what could explain the wages gap between visible minorities and whites, and to what extent there is wage discrimination against those visible minorities in Canadian labour market.

In this paper, I draw from the data contained in the 2011 National Household Survey (NHS) Public Use Microdata File to investigate empirically the earnings differentials between 20 to 64 year-old employed visible minorities and whites in the aggregate using Oaxaca decomposition, as well as differentials among ethnic groups crossed with immigration status for both genders.

Generally, the results indicate that overall immigrant men earn 24.8% less than Canadian-born workers, and this wage gap is smaller for women than for men (at 16.2%). For females, immigrant visible minorities earn 6.5% less than white immigrants, while Canadian-born visible minorities received only 3.6% less than their white counterparts. For males, both immigrant and Canadian-born visible-minorities face a larger wage gap than females. These earnings differentials are 16% and 8.6% less respectively than those of their white counterparts. Furthermore, I decompose the differences in mean log earnings between whites and visible minorities into the explained and unexplained components using three major groups of variables controlling for differences in observed characteristics. The explained component refers to the element that can be attributable to productivity-related characteristics, and the unexplained component often reflects wage discrimination and other unobserved factors influencing earnings. Overall, the wage differentials between visible

minorities and whites are explained less in the case of males than females, while a larger component of this differential is explained for native-born individuals than for immigrants. This is true for both genders. Finally, in examining the wage differentials among ethnic groups, almost all workers with non-European origins earn substantially less than those immigrants of European origins and native-born workers after controlling for the variables of education, language, work experience, and job-related variables.

This paper is organized as follows. Section 2 briefly reviews some relevant literature. In section 3, I introduce the dataset that is used in this empirical analysis. Section 4 presents the econometric models. Section 5 describes the empirical results of regressions. Finally, section 6 concludes by summarizing the main findings and directions for future research.

2. Literature review

In the literature, there is a growing number of studies that focus on the earnings differentials between ethnic groups such as whites, visible minorities, and aboriginals. Many of them use the Blinder (1973) and Oaxaca (1973) decomposition method to decompose the earnings differentials into explained and unexplained components. The evidence on the earnings differentials both in Canada and other countries are reviewed below.

2.1 Global phenomenon on ethnic earnings differentials

Blackaby *et al* (2002) analyzed the earnings differentials for members of native ethnic minorities in the British labour market based on a human capital approach and estimated earnings equations. The data used is from the Office for National Statistics' Labour Force

Survey (LFS), which includes 14 quarters drawn from the LFS between 1993Q3 to 1996Q4. This study shows that British ethnic minorities experience both lower earnings levels and higher unemployment rates compared with British whites. Black, Pakistani and East Indian groups experience lower employment rates of 62.7%, 63.8% and 78.2% in comparison with whites, whose rate is 80.5%. For instance, whites earn the highest hourly wages (in 1997 prices) from 1993 to 1996, followed by East Indians, Blacks and Pakistanis. These differentials can be partially explained by a lack of knowledge of British customs and institutions in the labour market. The authors suggest that with the increase of the proportion born of ethnic minority in the UK, their employment and earnings could improve from generation to generation.

Coulon (2001) used data from the 1995 Swiss Labour Force Survey to examine the wage differentials between groups of immigrants and Swiss workers. The main results show that education is a substantial factor that affects the wage differential for various ethnic groups, and the wage gaps narrowed for the second generation immigrants in the Swiss labour market.

Neuman and Silber (1996) investigated wage differentials among ethnic groups in Israel by using the data from the 1983 Census of Population and Housing conducted by the Israel Central Bureau of Statistics. Following the wage decomposition process, they found that 74% the wage differentials can be largely attributed to occupational segregation and human capital differences. The 26% of difference that can not be explained can be attributed to wage

discrimination¹.

Kidd (1993) used the data from the 1982 Australian Bureau of Statistics Special Supplementary Survey to examine earnings differentials between natives and immigrants in Australia. He found that immigrants from non-English-speaking countries earn less given the same level of experience, and the earnings differentials for them are almost the same whether they are employed in the labour market or self-employed. For immigrants from English-Speaking countries, holding personal determinants constant, natives earn more than immigrants in the self-employment sector, whereas immigrants earn more in the paid employment sector.

Coppin and Olsen (1998) investigated the pattern of earnings among three ethnic groups, including Africans, Indians, and other ethnicities, based on the data from the 1993 Continuous Sample Survey of the Population (CSSP) data in Trinidad and Tobago. This study reveals that Africans and Indians earn less than other ethnic groups in general. Differences in characteristics across ethnic groups can explain the larger part of this wage gap, as Africans and Indians would receive the same rate of remuneration if they had the same education level as other ethnic individuals in Trinidad and Tobago labour market. However, Africans are more likely to be discriminated against.

2.2 Canadian evidence of ethnic earnings differentials

For evidence of earnings differentials in Canada, some studies examine wage gaps

¹ As the authors explained, occupational segregation can also be deemed as a source of labour market discrimination. It is discrepancies between ethnic groups or immigrants and native born in the rate of return to variables and attributes that give rise to the potential existence of wage discrimination.

without distinguishing between the Canadian-born and immigrants. Kuo (1976) investigated the pattern of earnings differentials between ethnic minorities, such as North American Indian, Eskimo and Métis and whites in the Mackenzie District of northern Canada. He used regression analysis drawing data from the 1969-1970 survey conducted by the Department of Indian Affairs and Northern Development in the District of Mackenzie. He found that former education, marital status, and weeks worked are important factors driving these earnings differentials. Overall, the gross earnings gaps between North American Indian, Eskimo, Métis and whites are 84%, 66% and 53% respectively. Over 80% of observed differentials can be attributed to productivity-related factors. Only 13% to 16% of difference in earnings can not be explained by unobservable factors in this study.

Christofides and Swidinsky (1994) relied on data from the 1989 Labour Market Activity Survey (LMAS) in order to investigate the gender wage differentials in various visible minority groups. The results of this analysis suggested that visible minorities earned less than whites for both genders, and minority males earned 11% more than minority females because of the differences in productivity-related variables, such as education, age and job training. The authors found that more than 70% of those differentials between white males-minority females, white males-white females, and white males-minority males can not be explained by productivity related factors, and differentials between minority males-white females and white females-minority females can be attributed to pure wage discrimination.

George and Kuhn (1994) examined the labour market behaviour of aboriginals by discerning empirical regularities in the wages in Canada. They used the 1986 Census Public

Use data from the Statistics Canada to decompose the wage gaps between whites and aboriginals and between men and women. The results show that there is relatively small wage gap between white Canadians and aboriginals compared with the wage gap between white Canadians and visible minorities in North America. They also found that women experience a relatively smaller gap than men, and that 50% of the overall wage gap between them can be explained by observable characteristics such as education, language and region.

Wannell and Caron (1994) draw their data for the year of 1990 from the 1992 National Graduates Survey to investigate the wage differentials for whites, visible minorities, aboriginals among those who graduated from universities and community colleges. They also broke it down by gender. They reveal that the earnings of these three groups are similar, and generally that such visible minority individuals of these groups are less likely to be employed and less likely to participate in the labour market compared with other non-visible minority classmates (except Aboriginal university graduates). The decomposition of those minor wage gaps suggests that there is a small possibility of discrimination in their earnings in the labour market. Because their sample of interest includes recently graduated candidates at that time, it is not surprising that these three groups face similar level of wages.

DeSilva (1999) examined gender-specific wage differentials between whites and aboriginals working both full-time and part-time using the 1991 census data. He found that the potential discrimination is relatively minor because the wage differential between whites and aboriginals resulted primarily from endowment differences related to variables such as age and education. In other words, the age and education variables account for 68% to 84%

of the contribution to productivity-related factors, and they perfectly explain the wage gap. It also suggests that those aboriginal workers living on reserves earn 14% less than those living off-reserves. Finally, men with multiple ethnic origins encounter less discrimination than those with single ethnic origins.

There are other studies that consist of similar analyses that include a native versus immigrant dimension. Pendakur and Pendakur (1998) examined wage gaps among both ethnic groups and between whites and visible minorities based on data from the 1991 Public Use Census Microdata File. They found that there are substantial wage differentials between and within whites and visible minority groups for both males and females. In comparison with native-born white men, visible minority and Aboriginal men experience a wage gap of 8% and 12.5% among Canadian-born individuals. Immigrant white men and visible minority men encounter wage disadvantages of 2% and 16% respectively. In contrast, Canadian-born, visible minority women face no wage gap, with the exception of aboriginal women with a 7% gap. There are 1.4% and 9% differentials for immigrant white and visible minority women in comparison with native-born white women. By examining the wage differentials for all ethnic groups, whether they are whites or visible minorities, the results also suggest that the visible minority category might be misleading as an indicator of economic discrimination because of the complexity of ethnical earnings differentials.

Hum and Simpson (1999) carried out an analysis of wage differentials for visible minority groups whose members belonged to both immigration and non-immigration categories in Canada based on data from the 1993 Survey of Labour and Income Dynamics.

Specifically, ethnic groups are classified into Blacks, Indo-Pakistanis, Chinese, Non-Chinese Orientals, Arabs, and Latinos based on gender subgroups. The results show that compared with the reference group of white men, these groups face larger shortfalls than women, and the wage disadvantages for Blacks, non-Chinese Orientals, Indo-Pakistanis and the Chinese are 19%, 16%, 13%, and 12% respectively. They repeated the structure of this analysis for non-immigrants and immigrants, and the results indicate that visible minorities who are also immigrants experience similar effects on earnings relative to Canadian-born individuals, with the exception of Black men. For immigrants, only non-Chinese Orientals, Blacks, Indo-Chinese, and Pakistanis experienced wage disadvantages of 23%, 21% 16% and 15% respectively.

Swidinsky and Swidinsky (2002) carried out an analysis of wage differentials to assess the wage discrimination against visible minorities in Canada by employing the wage-gap decomposition method. This study relies on data from the 1996 Public Use Census Microdata File on individuals, conducting the analysis for ethnic minorities both on the individual and aggregate level according to immigrant status and age. They revealed that visible minority males who are also immigrants face significant labour market disadvantages, particularly for those who are older when they landed in Canada. There are smaller gaps in earnings for immigrant visible minority females and Canadian-born men and women who are visible minorities. However, among Blacks the wage differentials are persistent for both those who are native-born as well as immigrants, although this is less true for women.

Pendakur and Pendakur (2002) used five microdata files from the 1971, 1981, 1986,

1991 and 1996 Censuses of Canada to estimate wage equations and examine the gender earnings differentials between whites, Aboriginals, and visible minorities who are Canadian-born and immigrants in Canada in eight large Canadian Metropolitan Areas (CMAs). The authors also assess the birth-cohort effects on earnings across subgroups for whites and visible minority categories. They found that wage inequality among these Aboriginal and ethnic subgroups narrowed through the 1970s, stabilized through the 1980s, and widened from 1991 to 1996 for both males and females. From a public policy perspective, the authors also inferred that Canadian labour market would not likely achieve employment equity as larger cohorts of Canadian-born minorities entered in the labour market after the introduction of the Employment Equity Act in 1980s.

While many studies are based on the public use census, Skuterud (2010) used the master files from the 2001 and 2006 Canadian Censuses data to analyze the earnings gaps among visible minorities in Canada. He asserted that without considering the ancestry of visible minorities, one risks overestimating the degree of wage discrimination in the Canadian labour market if the assimilation process is intergenerational in nature. In this study, birthplace, weekly wages, and a set of job and personal characteristics are compared among the first generation immigrants to older and earlier generation immigrants. The results indicate that earnings of visible minorities rise across the generations, except for the case of white men. The earnings gaps tend to be large, although these gaps continued to decline for future generations for Black men. This empirical pattern was discerned for the third and higher generation for most Canadian-born visible minorities.

Therefore, based on both global and Canadian evidence, it illustrates that there is a general consensus about the wage disadvantages experienced by visible minorities or particular ethnic groups in the job market. In the next section, the data of this study will be introduced, and some variables are explained in detail.

3. Data

In this paper, I use data in order the 2011 National Household Survey (NHS) Public Use Microdata File (PUMF) to examine earnings differentials between visible-minorities and whites at the aggregate level. I also carry out two-way cross tabulations according to ethnic group and immigrant status. Within the multi-variate framework, I estimate specific effects according to ethnic group which are interacted with immigrant status. The NHS is conducted by Statistics Canada; it is deemed to be a substitute for the long form census questionnaire, since it has similar content as the census despite some parts having changed. Unlike the long-form census prior to 2011, the NHS is not mandatory, and so most analysts do not consider it to be representative of the underlying population. The objective of 2011 NHS is to provide comprehensive social and economic data on the features of the population in Canada, such as gender and education, incomes, immigration status, ethnic status, marital status, language, and other household attributes. The sample of the 2011 NHS Individuals File represents 2.7% of the underlying population. It contains 887,012 individuals, including people who live in the provinces and territories as well as on Indian reserves, permanent and temporary residents, work or study permit holders. Also covered are their families situated in Canada. However, it excludes representatives of foreign governments, short-term visitors, individuals who are institutionalized or living outside Canada, and offshore full-time members of the Canadian Armed Forces.

3.1 Sample Restrictions

The sample is restricted to the prime working-age (between 20 and 64 years old) population who are working at full-time and part-time jobs in the labour market and earning positive incomes, including both immigrants and native-born individuals but excluding permanent residents. I dropped those individuals who are unemployed and those who are not in the labour force in 2010, self-employed and unpaid family workers, and those who are engaged in schooling. All these restrictions result in the deletion of 577,853 observations (about 65% of the original sample). Secondly, I dropped 18,058 individuals who reported with less than \$1000 in annual earnings, as well as those who did not report annual incomes. Third, to simplify the analysis, I focus on both immigrants and the native-born population and exclude Aboriginal people and individuals with unavailable classification for ethnicities, which lead to 13,969 further observations being deleted. Furthermore, since educational attainment, year of immigration, industry and occupation are key variables which will be re-coded later in this study, I dropped those 11,288 observations with missing data. Finally, I focus only on CMA² residents, and so 75,499 non-CMA residents are ignored. After restricting the sample and dropping observations with missing values, a total of 696,667 observations were deleted. This leaves a total sample size of 190,345 with 93,348 (49.1%) females and 96,997 (50.9%) males.

3.2 Variables

The dependent variable for the regression analysis is the natural logarithm of wages and salaries in 2010. The logarithm allows one to interpret the estimated coefficients as the percentage change on annual earnings resulting from a one unit change in a given explanatory variable. The independent variables are organized into two sets of variables of interest,

² CMA refers to the census metropolitan area (CMA) of current residence in 2011.

including population group and ethnic origins, and three other groups of variables consisting of personal control variables, job-related control variables, and geographic variables (as shown in Table A1).

Table 1
Sample size and annual wages by immigration status and population groups

	Immigrants		Canadian-born	
	Visible minority	White	Visible-minority	White
	(1)	(2)	(1)	(2)
Females				
Average wages \$	39,840	48,335	44,738	47,241
Differentials: (1)/(2) %	0.82	-	0.95	-
Average log wages	10.28	10.48	10.40	10.49
Relative differentials: (1)-(2)	-0.20	-	-0.09	-
Sample size	17730	7690	3126	64802
Males				
Average wages \$	53,685	74,653	55,079	67,881
Differentials: (1)/(2) %	0.72	-	0.81	-
Average log wages	10.57	10.88	10.55	10.82
Relative differentials: (1)-(2)	-0.32	-	-0.26	-
Sample size	18652	8391	3421	66533

Note: All values are weighted by NHS provided weights. The average wages are rounded to the nearest dollar.

Population groups are divided into whites and visible minorities, which is specified by one binary dummy variable regarding immigrant status. Table 1 shows the sample size and annual wages of visible minorities and whites by immigrant status for males and females. It indicates that the average earnings of visible minorities are \$39,840, which accounts for 82% of whites' annual earnings for female immigrants. For female Canadian-born workers, the wages of visible minorities are 95% of those earned by whites. However, the gap in average wages between them is wider and these two numbers fall to 72% for male immigrants and 81% for male non-immigrants respectively.

Pendakur and Pendakur (1998) mention that broad groupings such as this one may fail to reveal the heterogeneity among specific ethnic origins, which means that not all white groups are economically advantaged, and not all visible minority groups are economically disadvantaged. To address this issue in my work, 31 detailed ethnic groups are aggregated into 12 ethnic origins and broken down by white and visible minority levels, as presented in Table 2. The detailed sample sizes and average annual wages of these 12 ethnic groups are illustrated in Table A2; panel A is for males and B is for females.

Table 2
Re-classifications and concordances of ethnic origins

North American	Canadian, Other North American origins
British	English, Irish, Scottish, Other British Isles origins, British Isles origins only
Continental European	French origins, French origins only, Dutch, German, Hungarian, Polish, Other Western European origins, other Northern European origins, other Southern European origins, other European origins, Italian, Greek, Portuguese, Spanish
Eastern European	Russian, Ukrainian, other Eastern European origins,
Caribbean and LCS American	Jamaican, Other Caribbean origins, Latin, Central and South American origins
African	African origins
West Central Asian and Middle	West Central Asian and Middle Eastern origins
Indian	East Indian
Chinese	Chinese
Asia and Pacific origins	Other South Asian origins, Other East and Southeast Asian origins, Filipino, Oceania origins
British, French, Canadian and others multiple (BFC multiple)	British Isles origins and French origins, British Isles origins and Canadian, French origins and Canadian, British Isles origins French origins and Canadian, British Isles origins and other, British Isles origins Canadian and other, French origins and other, French origins Canadian and other, Canadian and other, British Isles origins French origins and other, British Isles origins French origins Canadian and other
Other multiple	Other multiple origins

Regarding the personal attributes, Table 3 shown that there are 13 educational attainment levels that are re-coded and aggregated into five dummy variables: **No certificate**, **High school diploma**, **Postsecondary below Bachelor degree**, **Bachelor degree** and **Postsecondary above Bachelor degree**. The specific number of years of study that is

required is also assigned to each educational attainment category ranging from 9 to 22 years.

The potential labour market work experience is calculated according to the Mincer proxy for experience as $(age - year\ of\ schooling - 6)$. In this dataset, due to the fact that there is no precise age given for individuals, the mid-point age measure is used to calculate the level of potential market labour experience.

Table 3
Education classification and estimated years of study

Education	Highest certificate, degree or diploma	Years of study
No certificate, diploma or degree	No certificate, diploma or degree	9
High school diploma	High school diploma or equivalent	12
	Trades certificate or diploma (other than apprenticeship)	13
	Registered Apprenticeship certificate	13
	College, CEGEP or other non-university certificate or diploma from a program of 3 months to less than 1 year	13
	College, CEGEP or other non-university certificate or diploma from a program of 1 year to 2 years	14
Postsecondary below Bachelor degree	College, CEGEP or other non-university certificate or diploma from a program of more than 2 years	15
	University certificate or diploma below bachelor level	15
	Bachelor degree	16
Postsecondary above Bachelor degree	University certificate or diploma above bachelor level	17
	Degree in medicine, dentistry, veterinary, medicine or optometry	17
	Master's degree	18
	Earned doctorate degree	22

This is the mean of each age category of each individual belonging to it, although it should be noted that this proxy leads to measurement error, which in turn results in an attenuation bias, the implications of which are an underestimate (towards to zero) of the coefficient of the variable whose measurement is subject to error. Additionally, schooling starts at 6 in Canada and the United State, which is not the case in all countries. In this case,

the calculated work experience will not reflect the true experience of each individual; it only provides a certain range for each individual. In addition, the potential labour market experience squared is included in all regressions in order to allow for diminishing returns to experience. However, since it is believed that women tend to have different work experience patterns compared with men, this measure could overestimate the actual work experience of women. In order to account for the impact of fertility and child raising, four variables pertaining to age of children (from 0 to 24 year-old) are included in the regressions for females.

Marital status is included in all regressions equations. It is specified by four dummy variables: **Married**, **Single**, **Living in Common Law**, and **Separated-divorced-widowed**, with **Married** serving as the reference group. In general, married employees could have lower workloads, since they might have families or households to take care of, although it might not affect male employees too much. Therefore, marital status is one of the control variables which is thought to influence the productivity for both genders, but with different impacts for men and women.

The years since migration (**YSM**) variable is used to control for the effect of the immigrant status, which is calculated as the difference between 2010 (the reference year of the survey) and the exact year of migration. Coulombe *et al.* (2014) suggested that the quality of human capital varies across countries. That means that immigrants from poor countries experience lower rate of return to education obtained in their countries of origin than those from rich countries, because the skills acquired may be less transferable between poor to rich countries. Their results also support the conjecture that the quality of work experience outside the host country is perceived to be lower than that acquired in the host country. The **YSM** variable is commonly included as a measure of the length of the adjustment period that

immigrants experience, because their country-specific skills, and experience are often not initially valued by Canadian employers when they first enter the Canadian labour market. Thus, **YSM** represents the period of assimilation into the culture and economy in Canada. It may be an important element of explaining earnings differentials between visible minorities and whites across immigration status. The years since migration squared is used to capture the diminishing returns effect on earnings. I also include four language dummy variables in order to capture language effects: English, French, Both official languages and neither of them. English is the reference group. With regards to job-related control variables, dummy variables of full-time or part-time work status and number of weeks worked in 2010 are created to reflect the level of work activity and work volumes for all workers in the sample.

In addition, industry and occupations are taken into consideration to reflect productivity levels and the nature of jobs held by employees, in order to estimate the wage effects specific to different occupations and industries. There is an on-going debate regarding how to interpret their roles in estimated wage equations, however, as they might be choice variables. There are 10 occupation dummy variables that correspond to broad categories based on the NOC-S 2006 classification scheme³. I also include a set of dummies for industry effects. Based on Canada Revenue Agency, occupations can be generalized as 7 industry codes, namely **Natural Resources, Construction, Manufacturing, Wholesale-Distributors, Sales, Professions** and **Services**, as listed in Table 4.

In regards to the geographic variables category, I use the Census Metropolitan Area (CMA) indicator of the current residence in my regressions as a location fixed effect rather than including indicators for provinces and territories. This is because there are higher proportions of immigrants and native-born individuals in certain CMAs, which is useful for

³ NOC-S 2006 refers to the National Occupational Classification for Statistics 2006.

statistically identifying the effects of immigrant status interacted with geographical location. Specifically, as shown in Table A1, these CMAs are re-coded into 13 relatively larger cities, including Quebec City, Montreal, Ottawa-Gatineau, Toronto, Hamilton, Kitchener-Cambridge-Waterloo, London, Brantford-Guelph-Barrie, Winnipeg, Regina-Saskatoon, Calgary, Edmonton, Vancouver and a residual category called other CMAs. Toronto is the reference group.

Table 4
Classification of industry into aggregated sectors and concordances

Industries	Aggregated sectors
Agriculture, Forestry, Fishing and Hunting (NAICS ⁴ 11)	
Mining and Oil and Gas Extraction (NAICS 21)	Natural resources
Utilities (NAICS 22)	
Construction (NAICS 23)	Construction
Manufacturing (NAICS 31-33)	Manufacturing
Wholesale Trade (NAICS 41)	Wholesale-Distributors
Retail Trade (NAICS 44-45)	Sales
Transportation and Warehousing (NAICS 48-49)	
Information and Cultural Industries (NAICS 51)	
Finance and Insurance (NAICS 52)	
Real Estate and Rental and Leasing (NAICS 53)	
Management of Companies and Enterprises (NAICS 55)	
Administrative and Support, Waste Management and Remediation Services (NAICS 56)	Services
Educational Services (NAICS 61)	
Health Care and Social Assistance (NAICS 62)	
Arts, Entertainment and Recreation (NAICS 71)	
Accommodation and Food Services (NAICS 72)	
Other Services - except Public Administration (NAICS 81)	
Public Administration (NAICS 91)	
Professional, Scientific and Technical Services (NAICS 54)	Professional services

Source: Statistics Canada, Canada Revenue Agency, Industry Code.

⁴ NAICS refers to the North American Industry Classification System.

3.3 Summary statistics

Table A1 provides mean values and standard deviations of wages, the natural log of wages, and the three groups of explanatory variables: personal trait variables, job-related variables and geographic variables. They are cross-tabulated by immigrant status and gender. In order to avoid estimation biases, weights are included in the estimation procedures. It shows that the average earnings for female immigrants are \$42,443 and Canadian-born people earn \$47,125, which is 11% higher for the value for immigrant women. Immigrant men earn \$60,254, which is only 89.6% of the earnings of Canadian-born men. Overall, there are 25,420 female and 27,043 male immigrants (52,463) and 67,928 female and 69,954 male Canadian-born residents (137,882) in the sample of interest.

Educational attainment can be interpreted as one indicator of individual productivity. For immigrant women, the proportion of subjects acquiring a high school diploma or equivalent is 20%. 34% of them obtained post-secondary education below the Bachelors' degree level, and only 9% of them have no certificate, diploma, or degree. There are 23.4% and 13.4% of subjects who report Bachelors' degrees and degrees above the Bachelors' degree level, respectively. A higher proportion of Canadian-born women has educational attainment of high school diploma and below a Bachelor's degree (23.1%, 39.1%), and a lower proportion of them has a Bachelor's degree and a degree above the Bachelor's level (22.4%, 9.6%). For men, the pattern of educational attainment is much more apparent. 21.7% and 17.4% of immigrants have a bachelor's degree and above a bachelor's degree, while only 17.8% and 8% of Canadian-born people have similar education levels. The overall education level of immigrants is higher than the level of Canadian-born residents.

In general, immigrants have more years of potential labour market experience than do the Canadian-born males and females have 24 and 21 years respectively, and on average they arrived in Canada 19 years earlier. English is still a major language for immigrants in Canada; about 85% of them speak English, and only 7% of them speak French. However, over 98% of Canadian-born people speak either English or French. Over two-thirds of immigrants have families; nearly 15% of them are not married. Over 22% of the Canadian-born people are single, and under 50% of them are married. In regards to the age of children variable, there are more immigrant families (33.4%) with teenaged children than is the case for Canadian families (25.4%), and the percentage having toddlers is quite similar for both immigrant and Canadian-born families, which is around 10%.

Women are more likely to have part-time jobs than men, and this is true for both immigrants and Canadian-born residents. The proportion of men who work in full-time jobs is 94%; for women that figure is 10% points lower. For both genders, a greater proportion of the Canadian-born work from 49 to 52 weeks annually compared to immigrant workers, and 10% of them work fewer than 39 weeks per year. A greater proportion of immigrants work from 40 to 48 weeks than is the case for Canadian-born workers.

The figures regarding the industrial and occupational distributions for both immigrants and Canadian-born workers show that a greater proportion of men are likely to work in natural resources, construction, manufacturing, and the wholesale and distribution sectors. 75% to 80% of women work in sales and services sectors, but only around 56% of men are employed in these two sectors. Moreover, there is not much difference between the proportions of immigrants and Canadian-born employees working in the various occupations, except for processing, manufacturing and utilities. However, women tend to work in business,

finance and administration, health, education and government areas. Occupations like management, trades, transport and equipment operators are likely to be occupied by men.

Regarding the geographical variables, nearly half of immigrants reside in Toronto, and about 30% of them live in Montreal and Vancouver. In contrast, 16% of the Canadian-born reside in Montreal, 18% reside in Toronto, while the remainder live in 11 other larger and smaller CMAs.

4. Econometric model

The estimation of wage differentials between visible-minorities and whites will be conducted separately for females and males. Separate equations are also estimated for the immigrants and non-immigrants. Typically, the standard earnings equation, which is called the Mincer equation, is used to examine the white and visible-minority earnings differentials by immigration status. I then apply the earnings gap decomposition method developed in Oaxaca (1973) in order to discern potential discrimination. The natural log earnings equations take the following form:

$$\ln wages = \beta_0 + \beta_1 X + \varepsilon \quad (1)$$

where $\ln(wages)$ is natural log annual wages and salaries, and X is a matrix of independent variables, including personal attributes, job-related variables, and geographical variables. β is a vector of corresponding coefficients, and ε is an error term⁵. Specifically, the earnings model controls for the effects of education, potential labour market experience, language, marital status, age of children (for females only), years since migration (for immigrants only),

⁵ In this equation, the disturbance term is assumed to be well behaved.

full-time or part-time employment status, annual weeks worked, industry, occupation and CMA locations.

In the first part of this study, three specifications are estimated in order to investigate the earnings differentials between immigrants and non-immigrants for both males and females. The first specification controls for personal attributes only. The second specification controls for personal attributes and job-related variables together. The third specification controls for above two groups of variables as well as for geographical variables. These three specifications will serve as my starting point from which I might gain some insights in understanding the wage gaps between groups. In the second part, I estimate the wage gap between whites and visible-minorities by immigration status for both genders based on the wage equation presented above. In the third part of my paper, further investigation will be carried out by visible minority status across the two groups of immigrants and non-immigrants for both genders based on the fullest specification, and corresponding Oaxaca decompositions by visible minority and white categories are carried out. In the final part, similar regressions by ethnic origins are estimated across the two groups of immigrant and non-immigrant men and women. Finally, I will investigate the wage gap among those ethnic origins in the first 3 largest CMAs: Toronto, Montreal and Vancouver.

4.1 Oaxaca Decomposition

To examine the wage gap between whites and visible minorities through the Oaxaca decomposition, the wage equations for white and visible-minority are estimated separately, and the corresponding equations can be written as follows.

$$\ln wage_w = \alpha_w + \beta_w X_w + \varepsilon_w \quad (2)$$

$$\ln wage_v = \alpha_v + \beta_v X_v + \varepsilon_v \quad (3)$$

where X_w is the matrix of explanatory variables which is included in equation (1), and the subscript w denotes whites. X_v is the matrix of explanatory variables for visible minorities.

Estimating equations (2) and (3) by OLS and taking the sample means generates the following equations:

$$\overline{\ln wage_w} = \hat{\alpha}_w + \hat{\beta}_w \overline{X_w} \quad (4)$$

$$\overline{\ln wage_v} = \hat{\alpha}_v + \hat{\beta}_v \overline{X_v} \quad (5)$$

The average wage gap between whites and visible minorities is obtained by subtracting equation (5) from equation (4), in order to obtain equation (6).

$$\overline{\ln wage_w} - \overline{\ln wage_v} = \hat{\alpha}_w - \hat{\alpha}_v + \hat{\beta}_w \overline{X_w} - \hat{\beta}_v \overline{X_v} \quad (6)$$

By adding and subtracting the term of $\hat{\beta}_w \overline{X_v}$ to equation (6), it becomes:

$$\overline{\ln wage_w} - \overline{\ln wage_v} = \hat{\alpha}_w - \hat{\alpha}_v + \hat{\beta}_w \overline{X_w} - \hat{\beta}_v \overline{X_v} + \hat{\beta}_w \overline{X_v} - \hat{\beta}_w \overline{X_v} \quad (7)$$

Re-arranging the equation, we have:

$$\overline{\ln wage_w} - \overline{\ln wage_v} = [(\hat{\alpha}_w - \hat{\alpha}_v) + (\hat{\beta}_w - \hat{\beta}_v) \overline{X_v}] + \hat{\beta}_w (\overline{X_w} - \overline{X_v}) \quad (8)$$

The wage gap between whites and visible minorities can be interpreted as the unexplained component $[(\hat{\alpha}_w - \hat{\alpha}_v) + (\hat{\beta}_w - \hat{\beta}_v) \overline{X_v}]$ and the explained component $\hat{\beta}_w (\overline{X_w} - \overline{X_v})$. The unexplained component sometimes is interpreted by some as indicative of discrimination, which includes the differences in the returns to worker characteristics $(\hat{\beta}_w - \hat{\beta}_v)$, and evaluated endowments of wage-determining characteristics for whites $\overline{X_w}$. The prior is that,

the wage discrimination is directed only against visible minorities. The explained component includes differences in characteristics between population groups $(\bar{X}_w - \bar{X}_v)$, which is evaluated according to the wage structure parameters for visible minorities $\hat{\beta}_w$. Detailed results pertaining to these three parts of study will be presented in the following section.

5. Empirical results

In this section, the empirical results of the four parts that I outlined above will be presented and discussed⁶. Using equation (1) and the cross-sectional data discussed in section 3 and 4, I obtained four sequential estimations of the earnings differentials in terms of immigration status, visible-minority status, and ethnic origins for males and females, respectively.

5.1 Three specifications on earnings differentials of immigrants

The OLS regression results for three specifications of immigrant earnings differentials for females and males are presented in Table A3. Specification (1) provides a preliminary indication on immigrant earnings differentials; it controls for personal attributes only for the regression of log annual wages. Specification (2) controls for personal attributes and job-related variables. Specification (3) takes specification (2) and adds the geographical variables. According to specification (1) for females in Panel A, immigrants earn 19.4% less

⁶ For the empirical results, when the % Δ (percentage change) in the wage or earnings is fairly large (i.e. above 30%), I have to transform $\hat{\beta}$ (the estimated coefficient) into $Exp(\hat{\beta}) - 1$. The coefficients are transformed when the approximation (i.e. $\ln(1+r) \cong r$) breaks down. The untransformed coefficients are lifted directly from tables. For example, for smaller values of r , when $r = 0.05$, $\ln(1+r) \cong r$. However, for larger values of r , such as when $r = 0.5$, that approximation breaks down. In these cases, the correct estimate is calculated as $1+r \cong e^r$, or $r \cong e^r - 1$. Therefore, the impacts that are large in magnitude will actually be a bit smaller than the value of what is reported in the table.

than people who are Canadian-born, all other factors held constant. When adding job-related variables, such as the number of weeks worked, industry, and occupation, the immigrant earnings differentials decreases to 13.5%, and this figure rises back to 16.2% as geographical fixed effects are taken into consideration. For males in Panel B, these wage differentials exhibit a similar pattern across the three specifications, with earnings gaps of 30.5%(transformed to 26.6%) , 23.5%, and 24.8%. All coefficients in the three specifications are statistically and economically significant at the 95% confidence interval. The estimated coefficients seem to be sensible. For instance, the education-related variables have the expected signs and significance levels, as do the potential labour market experience variables. This set of results is consistent with the literature. The coefficients in specifications (2) and (3) are quite close to each other in both signs and magnitudes. The estimated coefficient for the immigrant variable is pretty robust to the inclusion of the job-related and the geographical variables. Because immigrants are heavily concentrated in certain CMAs, the geographical indicators are relevant explanatory variables. Therefore, my preferred specification is the fullest one (listed in columns three in Table A3), which will be explained in depth in this part, and thus most of my discussion is centered on it.

By looking at the coefficients in specification (3) for females, an individual who has post-secondary education below the bachelors' level earns 11% more than those with only a high-school diploma (reference group). Furthermore, an individual with a bachelor's degree and those with more than a bachelor's education have premiums of 37% and 50% (transformed to 31.5% and 40.5% respectively), while people without any diploma or degree perform poorly. In the case of males, those whose educational attainment is below the

bachelor's level, at the bachelor's level, and above the bachelor's level earn 13.5%, 33.2% (transformed to 28.7%) and 46% (transformed to 37.8%) more, respectively, than those with only a high-school diploma. For the official language indicator, people who speak French receive 1.52% more than English only speakers, and those who speak both official languages and do not speak either language receive 6.2% and 17.5% less than English-only speakers. It reveals that the language spoken is another essential factor of determining wage differentials, especially for men, as presented in Panel B. English is dominant language in the Canadian labour market. People who speak neither of the official languages receive 25.5% less than English-only speakers.

The age of children is an extra control variable in the equation for women. Taking care of children is time-consuming and energy-consuming, so some women may leave their jobs or take part-time jobs. Those who have a 0-1 year-old child receive 17.8% less than women without 0-1 year-old child. As children grow older, women may have some time to return to the labour market. However, they earn slightly less as their children reach the age of school attendance. There are 2.75%-3.2% earnings disadvantages compared with those without children falling into this age group.

For the job-related variables, all employees working full-time earn 60%-80% (transformed to 47%-58.8%) more than those working part-time for both females and males. Meanwhile, there is a positive relationship between the number of weeks worked and earnings, with 30-39 weeks worked per year serving as the omitted category. Generally, employees who work 40-48 weeks and 49-52 weeks per year earn 30%-40% (transformed to

26.2%-33.6%) more than those in the reference category, and those who work 10-19 weeks and below 9 weeks annually earn 60%-80% (transformed to 47%-58.8%) less.

Women and men who work in the natural resources industry earn 36.1% (transformed to 30.8%) and 40% (transformed to 33.6%) more than those who work in services sector (reference group), and those who work in construction, manufacturing, wholesalers-distributors and professional services receive 5%-10% more than employees in the reference group, except for those who work in the sales industry earn 12%-14% less for both genders. In addition, women who work in management, natural and applied sciences, and health occupations receive around 50% (transformed to 40.5%) more than those who work in the sales and services occupations⁷ (reference group). Women who work in business, finance and administration, social sciences, education, government, religion and art, culture, recreation and sport occupations receive 26.7%, 34.7% (transformed to 29.8%) and 20.1% more respectively than the reference category. Occupations unique to primary industry⁸ have the lowest wage rate; women working in this occupational category earn 26.5% less than people in sales and services. For men, people working in management earn the highest earnings: 44.5% (transformed to 36.8%) more than those in sales and services. Men working in the occupations of business, finance and administration, natural and applied sciences, health, social sciences, education, government and religion receive earnings premiums of 12%, 26.7%, 24.4% and 18.6% respectively relative to workers in sales and services.

⁷ Occupations in this occupational category include mainly selling goods and services and providing personal, protective, and household, tourism and hospitality services.

⁸ Occupations in this occupational category include mainly operating farms and supervising or doing farm work, operating fishing vessels and doing specialized fishing work, and in doing supervision and production work in oil and gas production and forestry and logging.

Regarding geographical area, women in the regions of Ottawa-Gatineau, Calgary and Edmonton have higher earnings than those in Toronto (reference city), and men living in the regions of Hamilton, Regina, Calgary and Edmonton receive relatively higher earnings. Overall, the earnings gap between immigrants and native-born men is 8.6% points more than women in the fullest specification, derived from estimates of 24.8% for males and 16.2% for females. Up to this point, the results reported in this part are consistent with Abbott and Beach's (1993) results for Canada, who found that the cross-sectional earnings differentials of immigrant men relative to native-born Canadians have been greater than is the case among women since the late 1960s.

5.2 Earnings differentials between visible minorities and whites by immigrant status

In this part of my paper, the earnings gap between visible minorities and whites for both immigrants and the non-immigrant population across genders will be estimated, and the fullest specification is used for the regression of log wages. As shown in Table A4 for females, immigrant visible minorities earn 6.47% less than immigrant whites, while for non-immigrant visible minorities, earnings are 3.55% lower than their counterparts. For males, immigrant visible minorities receive 16% less than immigrant whites, and native-born visible minorities earn 8.6% less than native-born whites. Overall, for immigrants, male visible minorities face larger earnings gaps than female visible minorities. The difference between them is about 10% points. In the case of native-born individuals, this figure decreases to about 5% points (8.6%-3.55%).

Similar to the results that I reported above, people who have educational attainment above the bachelor's level receive nearly 40% more than those who have only high-school educations, and this is true for both immigrant men and women. This pattern is even more apparent for non-immigrant men and women, for whom the wage gaps are 52.4% and 55.9% relative to high-school diploma holders. Importantly, the years since immigration (YSM) is a key determinant for immigrant wage differentials. A one-year increase in YSM generates 2% growth of earnings averaged over all immigrants. For the potential labour market experience variable, the effect on earnings is twice as high for native-born workers relative to immigrants. Looking at the coefficients of children's age, native-born women experience larger wage disadvantages when they have 0-1 year-old children (19% less) and 15-24 year-old children (3.6% less) compared with women who are not classified into these categories. In regards to job-related variables and CMAs, the regression results tend to dovetail with the previous results for both immigrant and non-immigrant men and women. The pattern of the results is similar and consistent to the results reported in Hum and Simpson (1999). They found that the wage gap between visible minorities and whites is not significant for Canadian-born population: it exists primarily among immigrants. The wage gap between visible minorities and whites is greater among immigrants than is the case for native-born workers.

5.3 Log wage regression results by visible minority and immigrant status and decomposition

The OLS regression results of the wage equation for visible minorities and for whites crossed with immigrant status are provided in Table A5, panels A and B, for both genders.

Overall, the coefficients generally have the expected signs and magnitudes and are statistically significant at the 5% significance level. For males, the higher the level of educational attainment, the higher the wage. The magnitude of this effect is sharper for non-immigrant visible minorities; bachelor's degree holders and workers with more than a bachelor's degree educational level receive 46% (transformed to 37.8%) and 70% (transformed to 53.1%) more than individuals having only high-school diplomas. The variables of years since migration and potential labour market experience both have a positive relationship with the log wage in all equations. In particular, a one-year increase in the years since migration variable would result in a 1.75% raise in earnings for immigrant visible minorities and whites, and an additional year of potential labour market experience leads to more than a 2% increase in earnings for this group, which is doubled for non-immigrant visible minorities and whites. The variables of speaking English and French are always estimated to be an essential wage determinant for visible minorities, especially for immigrants, which would generate a 2% to 4% raise in their earnings. Individuals who are married or living in common law status earn higher earnings than those who are either single or separated, divorced or widowed. For white males, a transition from a part-time job to a full-time job corresponds to an over 80% increase in their annual earnings, but for visible minorities, the increase is only 65%.

The statistical pattern is that longer working weeks generate higher earnings for all workers. With respect to the industry of employment, earnings are higher in the natural resources industry relative to the service industry (reference group). With respect to the occupation of employment, for immigrant visible minorities, management, natural and

applied sciences and health and social science, education and government are high-wage occupations relative to the sales and service (reference group) occupation. However, the effects of these same occupations on earnings are fairly low for non-immigrant visible minorities. Note that immigrant whites receive slightly higher earnings than Canadian-born whites working in similar occupations. With respect to city of employment, relative to Toronto, Calgary and Edmonton are likely to offer higher earnings for immigrant visible minorities and whites. Kitchener-Cambridge-Waterloo and Brantford-Guelph-Barrie are relatively high-wage earning cities for immigrant visible minorities. Both native-born visible minorities and whites who work in Edmonton earn relatively higher earnings than their peers living in other CMAs.

The regression results for females exhibit a similar pattern, except for the coefficients of the age of the children, whose variables are excluded from the male equation. Female visible minorities whose child is 0 to 1 years old have a 16.4% earnings disadvantage relative to women without this situation. Native-born whites encounter an even greater wage disadvantage of 20%.

After examining the effects of personal attributes, job-related variables and geographical variables on the wage equations for both visible minorities and whites, the earnings differentials decomposition results are listed by immigrant status and genders in panel A, B, C and D of Table A6. This method decomposes the earnings differentials into the portion which can be explained by differences in the values of the exogenous variables and the portion which cannot be explained by those characteristics. This latter part is sometimes

interpreted as indicative of discrimination in the labour market. A negative sign for this component suggests that the characteristic in question tends to favour visible minorities and thereby reduce the earnings differentials. On the other hand, a positive sign favours whites and thereby increases the earnings differentials. For immigrant females (Panel A), 85.9% of the total wage gap can be explained, and 14.14% cannot be explained. The largest contributor is the years since migration variable (52.32% out of the 85.9%), followed by the occupation variable (20.38%), and the number of weeks worked annually variable (13%).

For non-immigrant females (Panel B), 88.1% of the earnings gap can be explained by productivity characteristics, and 11.9% can not be explained. In the explained component, potential labour market experience is the major contributor (226.11%) followed by educational attainment (-85.57%) and CMA (-93.93%).

For immigrant males (listed in Panel C), 71.7% of the earnings gap is explained, and 28.33% of it is not unexplained. Similarly, the variables of years since migration (40.67%), the number of weeks worked (10.07%), and the occupation (8.37%) are main contributors for the explained part.

For non-immigrant males (listed in Panel D), 83.3% of the earnings gap can be explained, and 16.73% of it can not be explained. The variables of potential labour market experience (63.09%), marital status (24.20%), and educational attainment (-15.35) are major contributors for the explained component.

Table 5

Explained and unexplained decomposition of earnings differentials between whites and visible minorities

	Female		Male	
	Immigrants	Non-immigrants	Immigrants	Non-immigrants
Explained	85.9%	88.1%	71.7%	83.3%
Unexplained	14.1%	11.9%	28.3%	16.7%

Overall, as Table 5 indicated that less of the earnings differentials between visible minorities and whites are explained for males than females for immigrants as opposed to natives, while more of this differential is explained for non-immigrants than immigrants for both genders. These results are consistent with the decomposition results of Swidinsky and Swidinsky (2002), which is that the explained component of the observed mean log-earnings differentials is greater for women than for men, and that there is a larger percentage explained for native-born individuals than for immigrants. These findings suggest that the labour market earnings disadvantage is particularly marked among immigrant visible minority men, and that non-immigrant visible minority women experience this earnings disadvantage to a lesser degree.

5.4 Earnings differentials among ethnic groups

To delve more deeply into the labour market earnings disadvantage faced by visible minorities, I further re-classify the whites and visible minorities into 12 ethnic groups and estimate the earnings differentials between these ethnic groups by immigration status and by gender. The results are presented in Table A7. It shows that coefficients of these ethnic groups are generally significant at the 95% confidence level. Overall, compared to the reference category of those workers of North American origin, female British, continental

Europeans and British French and Canadian multiple origins receive premiums of 3.6%, 2.24% and 2.73% respectively. By contrast, female African, West Central Asian and Middle Eastern, and Asian Pacific workers earn 20.8%, 17.0%, and 19.8% less respectively than North American women. For male workers, there is a similar earnings pattern for all ethnic groups, but these earnings gaps tend to be larger than is the case for female workers. The earnings disadvantages are over 20% for the categories of Caribbean and Latin, central and South American, African, West Central Asian and Middle Eastern, Indian, Asian Pacific, and Chinese workers.

All female immigrant ethnic groups receive less than the reference category of female immigrant North Americans, especially for visible minority ethnic groups such as Caribbean LCS Americans, Africans, West Central Asians and Middle Easterners, and Chinese workers. For native-born females, the earnings differentials between ethnic groups decrease in magnitude dramatically. Remarkably, native-born Chinese and other multiple-origin females earn 5.83% and 4.55% more than native-born North American females. For immigrant males, there is a similar earnings structure between ethnic groups, except that the British receive 7.44% more than their North American counterparts. For native-born males, all ethnic groups and the group with other multiple origins earn higher earnings than their North American counterparts, and all visible-minority ethnic groups experience earnings disadvantages, although the earnings gap is smaller between native male workers. This is consistent with the finding of Reitz and Breton (1994), who showed that workers of non-European origin earn substantially less than those immigrants of European origin as well as the native-born workforce after controlling for the effect of education, language, work experience, etc.

Table A8 presents the regression results of wage differentials among ethnic groups in the three largest Canadian cities of Toronto, Montreal, and Vancouver. It reveals the same earnings structure as the prior results for ethnic groups obtained for both genders. Generally, the British and continental Europeans earn a premium in the three cities, except for the cases of female British and male continental Europeans residing in Montreal and female continental Europeans in Vancouver. The group with British French and Canadian multiple origins receive 5% more than the reference group for both men and women in Toronto and Vancouver. It is interesting that all visible minority ethnic groups experience earnings disadvantages in all three cities, and men face larger earnings gaps than women. Male Africans earn 12% less than the reference group, and this earnings disadvantage is smaller than it is for female Africans (28%) in Vancouver.

6. Conclusion

In this paper, I use data drawn from the 2011 National Household Survey to analyze the earnings differentials between immigrants and non-immigrants separated into visible minorities and whites. I also analyze earnings differentials across ethnic groups by immigrant status for both genders. The estimating sample is restricted to workers aged 20-64 years excluding self-employed workers, unpaid family workers, and students. I include those who have full-time and part-time jobs, and both immigrants and native-born excluding permanent residents. Additionally, the Oaxaca decomposition method is used to decompose the wage differentials between whites and visible minorities.

In general, the immigrants earn less than the Canadian-born labour force for both men

and women, and this earnings gap is larger for men than for women. For women, immigrant visible minorities receive less than immigrant whites, and there is a smaller gap between Canadian-born visible minorities and their white counterparts. For men, both immigrant and Canadian-born visible minorities receive less than their white counterparts. Furthermore, the decomposition of the difference in mean log earnings suggests that the explained component is generated mainly by the variables of years since migration and the occupation for immigrants. For native-born workers, the explained component is generated mostly by educational attainment, geographical location, potential labour market experience, and marital status. Overall, the earnings differentials between visible minorities and whites are explained to a lower degree for males than females, and there is a higher proportion explained for non-immigrants than immigrants for both genders. With respect to earnings differentials between ethnic groups, almost all immigrants of non-European origin earn substantially less than those immigrants of European origin and native-born workers, after controlling for a large number of characteristics. The evidence militates toward a conclusion that visible minority status may be a sign of experiencing economic disadvantage in the Canadian job market. For further research, I would choose data before and after 1985, which is the year of implementation of the Employment Equity Act, in order to investigate the effect of the 1985 Employment Equity Act on earnings differentials among ethnic groups.

References:

- Abbott, M. G., and Beach, C. M. (1993). Immigrant earnings differentials and birth-year effects for men in Canada: post-war-1972. *Canadian Journal of Economics*, 505-524.
- Aydemir, A., and Skuterud, M. (2008). The immigrant wage differential within and across establishments. *Industrial and Labor Relations Review*, 334-352.
- Blackaby, D. H., Leslie, D. G., Murphy, P. D., and O'Leary, N. C. (2002). White/ethnic minority earnings and employment differentials in Britain: evidence from the LFS. *Oxford Economic Papers*, 270-297.
- Blinder, A. S. (1973). Wage Discrimination: Reduced Form and Structural Estimates. *Journal of Human Resources*, 436-465.
- Coppin, A., and Olsen, R. N. (1998). Earnings and ethnicity in Trinidad and Tobago. *The Journal of Development Studies*, 116-134.
- Coulombe, S., Grenier, G., and Nadeau, S. (2014). Quality of Work Experience and Economic Development: Estimates Using Canadian Immigrant Data. *Journal of Human Capital*, 199-234.
- Christofides, L. N., and Swidinsky, R. (1994). Wage determination by gender and visible minority status: Evidence from the 1989 LMAS. *Canadian Public Policy/Analyse de politiques*, 34-51.
- Darity, W., and Nembhard, J. G. (2000). Racial and ethnic economic inequality: The international record. *American Economic Review*, 308-311.
- De Coulon, A. (2001). Wage differentials between ethnic groups in Switzerland. *Labour*, 111-132.
- DeSilva, A. (1999). Wage Discrimination against Natives. *Canadian Public Policy/Analyse de politiques*, 66-85.
- George, P., and Kuhn, P. (1994). The Size and Structure of Native-Wage Differentials in Canada. *Canadian Journal of Economics*, 20-42.
- Green, D. A., and Worswick, C. (2004). Immigrant earnings profiles in the presence of human capital investment: Measuring cohort and macro effects (No. W04/13). IFS Working Papers.

- Howland, J., and Sakellariou, C. (1993). Wage discrimination, occupational segregation and visible minorities in Canada. *Applied Economics*, 1413-1422.
- Hum, D., and Simpson, W. (1999). Wage Opportunities for Visible Minorities in Canada, *Canadian Public Policy/Analyse de politiques*, 381-394.
- Industry Canada, Canadian Industry Statistics (CIS), the North American Classification System, http://www.ic.gc.ca/eic/site/cis-sic.nsf/eng/h_00004.html
- Kidd, M. P. (1993). Immigrant Wage Differentials and the Role of Self-employment in Australia. *Australian Economic Papers*, 92-115.
- Kimmel, J. (1997). Rural wages and returns to education: Differences between whites, blacks, and American Indians. *Economics of Education Review*, 81-96.
- Kuo, C-Y. (1976). The Effect of Education on the Earnings of Indian, Eskimo, Métis, and Workers in the Mackenzie District of Northern Canada, *Economic Development and Cultural Change*, 387-398.
- Neuman, S., and Silber, J. G. (1996). Wage discrimination across ethnic groups: evidence from Israel. *Economic Inquiry*, 648-661.
- Oaxaca, R. (1973). Male-Female Wage Differentials in Urban Labor Markets, *International Economic Review*, 693-709.
- Pendakur, K., and Pendakur, R. (2002). Colour my world: Have earnings gaps for Canadian-born ethnic minorities changed over time? *Canadian Public Policy/Analyse de politiques*, 489-512.
- Pendakur, K., and Pendakur, R. (1998). The Colour of Money: Earnings Differentials among Ethnic Groups in Canada. *Canadian Journal of Economics*, 518-548.
- Reitz, J. G., and Breton, R. (1994). The illusion of difference: Realities of ethnicity in Canada and the United States (Vol. 37). CD Howe Institute.
- Statistics Canada, Table 051-0004, Components of population growth, Canada, provinces and territories, annual (persons), CANSIM (database)
<http://www5.statcan.gc.ca/cansim/a05?lang=eng&id=0510004>
- Statistics Canada, Canada Revenue Agency, Industry Code,
<http://www.cra-arc.gc.ca/tx/bsnss/tpcs/slprtnr/rprtng/ndstry/menu-eng.html>
- Skuterud, M. (2010). The visible minority earnings gap across generations of Canadians. *Canadian Journal of Economics*, 860-881.

Sweetman, A., and Warman, C. (2012). The structure of Canada's immigration system and Canadian labour market outcomes (No. 1292). Queen's Economics Department Working Paper.

Swidinsky, R., and Swidinsky, M. (2002). The relative earnings of visible minorities in Canada: New evidence from the 1996 census. *Industrial Relations*, 630-659.

Wannell, T., and Caron, N. (1994). A Look at Employment Equity Among Recent Postsecondary Graduates: Visible Minorities, Aboriginal Peoples and the Activity Limited, Ottawa: Statistics Canada, Analytic Studies Branch, Research Paper Series No. 69.

Appendices:

Table A1

Means and standard deviations of the variables for both genders crossed with immigration status measured during reference year

	Female		Male	
	Immigrant	Canadian-born	Immigrant	Canadian-born
Summary statistics:				
A. Earnings				
Wages \$	42,443 (35180.30)	47,125 (35354.74)	60,254 (66391.56)	67,264 (72590.71)
Lnwages	10.34 (0.8862)	10.48 (0.8403)	10.67 (0.8851)	10.80 (0.8355)
Person-related variables				
B. Educational attainment				
No certificate, diploma or degree	0.0895 (0.2855)	0.0578 (0.2334)	0.0997 (0.2996)	0.0906 (0.2871)
High school diploma or equivalent	0.2015 (0.4012)	0.2313 (0.4217)	0.2006 (0.4005)	0.2486 (0.4322)
Post-secondary below bachelor level	0.3406 (0.4739)	0.3910 (0.4880)	0.3092 (0.4622)	0.4026 (0.4904)
Bachelor	0.2343 (0.4236)	0.2241 (0.4170)	0.2170 (0.4122)	0.1784 (0.3829)
Post-secondary above bachelor level	0.1341 (0.3407)	0.0958 (0.2943)	0.1735 (0.3787)	0.0797 (0.2708)
C. Potential labour market experience				
Exp	24.1911 (11.2030)	21.9276 (11.9436)	24.2371 (11.1510)	21.6137 (11.7555)
Exp sq	710.7098 (548.0276)	623.4671 (541.6397)	711.7774 (550.8357)	605.3391 (537.3083)
D. Language				
English	0.8610 (0.3459)	0.7261 (0.4460)	0.8495 (0.3576)	0.7319 (0.4430)
French	0.0721 (0.2586)	0.2713 (0.4446)	0.0782 (0.2685)	0.2656 (0.4417)
Both	0.0324 (0.1772)	0.0025 (0.0501)	0.0409 (0.1981)	0.0023 (0.0483)
Neither	0.0345 (0.1824)	0.0001 (0.0097)	0.0314 (0.1745)	0.0002 (0.0123)
E. Marital status				

Single	0.1426 (0.3496)	0.2280 (0.4195)	0.1482 (0.3553)	0.2773 (0.4477)
Married	0.6721 (0.4695)	0.4640 (0.4987)	0.7337 (0.4420)	0.4684 (0.4990)
Living in Common law	0.0564 (0.2307)	0.1810 (0.3850)	0.0581 (0.2340)	0.1824 (0.3862)
Separated/divorced/widowed	0.1290 (0.3352)	0.1271 (0.3331)	0.0600 (0.2374)	0.0719 (0.2584)
F. Age of Children				
Child age 0-1	0.0474 (0.2124)	0.0569 (0.2316)	- -	- -
Child age 2-5	0.1094 (0.3122)	0.1035 (0.3047)	- -	- -
Child age 6-14	0.2637 (0.4407)	0.2058 (0.4043)	- -	- -
Child age 15-24	0.3345 (0.4718)	0.2546 (0.4356)	- -	- -
G. Years since migration (YSM)				
YSM	19.7365 (13.2869)	- -	19.2730 (13.4986)	- -
YSM sq	566.0631 (667.8452)	- -	553.6531 (676.7317)	- -
Job-related variables				
H. Labour FT/PT				
Full-time	0.8336 (0.3724)	0.8327 (0.3732)	0.9410 (0.2357)	0.9436 (0.2308)
I. No. of weeks worked				
01-09 weeks	0.0228 (0.1494)	0.0152 (0.1225)	0.0154 (0.1231)	0.0101 (0.0999)
10-19 weeks	0.0330 (0.1785)	0.0280 (0.1650)	0.0247 (0.1551)	0.0174 (0.1307)
20-29 weeks	0.0502 (0.2183)	0.0387 (0.1930)	0.0394 (0.1946)	0.0344 (0.1823)
30-39 weeks	0.0450 (0.2072)	0.0395 (0.1947)	0.0394 (0.1946)	0.0393 (0.1944)
40-48 weeks	0.1814 (0.3854)	0.1534 (0.3603)	0.1689 (0.3746)	0.1406 (0.3476)
49-52 weeks	0.6677 (0.4711)	0.7252 (0.4464)	0.7122 (0.4527)	0.7582 (0.4282)
J. Industry				
Natural resources	0.0097 (0.0979)	0.0158 (0.1248)	0.0196 (0.1387)	0.0350 (0.1838)

Construction	0.0104	0.0172	0.0684	0.0978
	(0.1015)	(0.1300)	(0.2524)	(0.2970)
Manufacturing	0.0957	0.0471	0.1926	0.1361
	(0.2942)	(0.2120)	(0.3944)	(0.3429)
Wholesalers-Distributors	0.0457	0.0360	0.0716	0.0705
	(0.2088)	(0.1862)	(0.2578)	(0.2560)
Sales	0.1090	0.1081	0.0865	0.0955
	(0.3117)	(0.3105)	(0.2811)	(0.2939)
Services	0.6577	0.7071	0.4661	0.4889
	(0.4745)	(0.4551)	(0.4989)	(0.4999)
Professional services	0.0718	0.0687	0.0953	0.0762
	(0.2582)	(0.2529)	(0.2936)	(0.2653)
K. Occupation				
Management	0.0761	0.1047	0.1216	0.1445
	(0.2651)	(0.3061)	(0.3269)	(0.3516)
Business, finance and administration	0.2814	0.3165	0.1240	0.1243
	(0.4497)	(0.4651)	(0.3296)	(0.3300)
Natural and applied sciences	0.0524	0.0376	0.1804	0.1302
	(0.2228)	(0.1903)	(0.3845)	(0.3365)
Health	0.1225	0.1119	0.0252	0.0191
	(0.3279)	(0.3153)	(0.1567)	(0.1369)
So science, educe, government and religion	0.1072	0.1628	0.0488	0.0634
	(0.3094)	(0.3692)	(0.2154)	(0.2436)
Art, culture, recreation and sport	0.0196	0.0340	0.0150	0.0262
	(0.1385)	(0.1813)	(0.1214)	(0.1598)
Sales and service	0.2551	0.1985	0.1845	0.1815
	(0.4359)	(0.3989)	(0.3879)	(0.3854)
Trades, transport and equipment operators	0.0145	0.0158	0.2027	0.2446
	(0.1196)	(0.1247)	(0.4020)	(0.4298)
Primary industry	0.0035	0.0029	0.0065	0.0152
	(0.0593)	(0.0533)	(0.0804)	(0.1225)
Processing, manufacturing and utilities	0.0677	0.0152	0.0913	0.0510
	(0.2512)	(0.1225)	(0.2880)	(0.2199)
Geographical variables				
L. CMA				
Quebec city	0.0016	0.0510	0.0021	0.0514
	(0.0396)	(0.2201)	(0.0461)	(0.2207)
Montreal	0.1222	0.1864	0.1390	0.1815
	(0.3275)	(0.3894)	(0.3460)	(0.3854)
Ottawa-Gatineau	0.0276	0.0640	0.0279	0.0637
	(0.1638)	(0.2448)	(0.1648)	(0.2443)
Toronto	0.4942	0.1687	0.4728	0.1647

	(0.5000)	(0.3745)	(0.4993)	(0.3709)
Hamilton	0.0193	0.0350	0.0192	0.0325
	(0.1377)	(0.1837)	(0.1371)	(0.1774)
Kitchener-Cambridge-Waterloo	0.0110	0.0213	0.0124	0.0233
	(0.1044)	(0.1445)	(0.1108)	(0.1507)
London	0.0072	0.0249	0.0073	0.0232
	(0.0843)	(0.1557)	(0.0851)	(0.1506)
Brantford-Guelph-Barrie	0.0059	0.0232	0.0065	0.0242
	(0.0766)	(0.1507)	(0.0801)	(0.1537)
Winnipeg	0.0204	0.0335	0.0217	0.0341
	(0.1415)	(0.1800)	(0.1458)	(0.1816)
Regina-Saskatoon	0.0045	0.0270	0.0061	0.0275
	(0.0668)	(0.1622)	(0.0778)	(0.1635)
Calgary	0.0520	0.0563	0.0608	0.0620
	(0.2219)	(0.2304)	(0.2389)	(0.2412)
Edmonton	0.0395	0.0561	0.0411	0.0616
	(0.1948)	(0.2301)	(0.1986)	(0.2405)
Vancouver	0.1618	0.0766	0.1512	0.0783
	(0.3683)	(0.2660)	(0.3583)	(0.2687)
Other CMAs	0.0329	0.1760	0.0318	0.1719
	(0.1783)	(0.3808)	(0.1755)	(0.3773)
M. Observations	25420	67928	27043	69954
Female/Male		93348		96997

Note: Standard deviations are in brackets underneath. All values are weighted by NHS provided weights.

Table A2**Panel A. Sample size and average log wages by immigration status of ethnic groups for females**

	Immigrants		Canadian-born	
	Average wages	Sample size	Average wages	Sample size
North American	49,894.91	65	41,912.15	14745
British	54,376.19	1432	50,733.31	10758
Continental European	45,481.16	3385	48,838.86	9646
Eastern European	45,859.72	823	52,970.23	945
Caribbean and LCS American	38,428.26	1954	38,658.12	348
African	37,563.26	941	41,719.54	60
West Central Asian and Middle Eastern	38,008.27	981	40,470.24	126
Indian	39,734.44	2852	44,556.20	450
Asia and Pacific origins	36,222.53	4517	45,356.23	409
Chinese	43,693.64	4252	53,349.37	699
British, French, Canadian and others multiple origin	50,300.28	1315	47,465.40	26045
Other multiple origin	44,598.49	2903	49,904.94	3690
Observations		25420		67921

Panel B. Sample size and average log wages by immigration status of ethnic groups for males

	Immigrants		Canadian-born	
	Average log wages	Sample size	Average log wages	Sample size
North American	66,841.07	65	57,603.67	15422
British	95,307.32	1657	75,393.39	11476
Continental European	64,635.38	3796	70,228.87	10254
Eastern European	61,690.82	860	79,929.77	999
Caribbean and LCS American	47,106.89	1778	41,415.21	401
African	51,168.81	1312	45,317.07	80
West Central Asian and Middle Eastern	59,668.83	1411	57,697.98	157
Indian	58,574.46	3293	57,883.01	445
Asia and Pacific origins	47,602.31	4464	60,087.16	480
Chinese	58,214.03	4218	65,457.41	797
British, French, Canadian and others multiple origin	78,858.41	1294	67,931.31	25826
Other multiple origin	62,490.50	2895	72,618.72	3613
Observations		27043		69950

Table A3

Panel A. OLS results of three specifications on immigrant earnings differentials for females			
Dependent variable	(1)	(2)	(3)
A. Immigrant	-0.1936*** (0.0070)	-0.1354*** (0.0058)	-0.1620*** (0.0062)
Person-related variables			
B. Educational attainment			
No certificate, diploma or degree	-0.2055*** (0.0132)	-0.1263*** (0.0109)	-0.1271*** (0.0109)
Post-secondary below bachelor level	0.1981*** (0.0077)	0.1088*** (0.0065)	0.1113*** (0.0065)
Bachelor	0.5597*** (0.0089)	0.3744*** (0.0078)	0.3699*** (0.0078)
Post-secondary above bachelor level	0.7128*** (0.0112)	0.4999*** (0.0099)	0.4961*** (0.0099)
C. Potential labour market experience			
Exp	0.0592*** (0.0011)	0.0367*** (0.0009)	0.0370*** (0.0009)
Exp sq	-0.0010*** (0.0000)	-0.0006*** (0.0000)	-0.0006*** (0.0000)
D. Language			
French	-0.0583*** (0.0067)	-0.0844*** (0.0055)	0.0152** (0.0082)
Both	-0.1347*** (0.0307)	-0.1521*** (0.0243)	-0.0621*** (0.0250)
Neither	-0.2743*** (0.0311)	-0.1699*** (0.0270)	-0.1705*** (0.0271)
E. Marital status			
Single	-0.0541*** (0.0084)	-0.0347*** (0.0068)	-0.0349*** (0.0068)
Living in Common Law	0.0141* (0.0086)	-0.0158*** (0.0071)	-0.0095* (0.0071)
Separated divorced widowed	-0.0092 (0.0091)	-0.0231*** (0.0073)	-0.0247*** (0.0072)
F. Age of Children			
Child age 0-1	-0.4263*** (0.0154)	-0.1794*** (0.0140)	-0.1779*** (0.0139)
Child age 2-5	-0.0588*** (0.0112)	-0.0029 (0.0092)	-0.0017 (0.0092)
Child age 6-14	-0.1034*** (0.0080)	-0.0295*** (0.0063)	-0.0275*** (0.0063)

Child age 15-24	-0.0748***	-0.0327***	-0.0324***
	(0.0067)	(0.0054)	(0.0053)
Job-related variables			
H. Labour FT/PT			
Full-time	-	0.6994***	0.6965
	-	(0.0080)	(0.0080)
I. No. of weeks worked			
01-09 weeks	-	-0.8628***	-0.8667***
	-	(0.0343)	(0.0344)
10-19 weeks	-	-0.6023***	-0.6048***
	-	(0.0232)	(0.0231)
20-29 weeks	-	-0.2125***	-0.2137***
	-	(0.0202)	(0.0201)
40-48 weeks	-	0.3134***	0.3121***
	-	(0.0151)	(0.0151)
49-52 weeks	-	0.4112***	0.4104***
	-	(0.0143)	(0.0143)
J. Industry			
Natural resources	-	0.3925***	0.3614***
	-	(0.0204)	(0.0204)
Construction	-	0.0576***	0.0468***
	-	(0.0195)	(0.0193)
Manufacturing	-	0.0651***	0.0734***
	-	(0.0110)	(0.0110)
Wholesalers-Distributors	-	0.0986***	0.0985***
	-	(0.0120)	(0.0120)
Sales	-	-0.1269***	-0.1236***
	-	(0.0081)	(0.0081)
Professional services	-	0.0537***	0.0501***
	-	(0.0098)	(0.0098)
K. Occupation			
Management	-	0.5719***	0.5633***
	-	(0.0099)	(0.0099)
Business, finance and administration	-	0.2733***	0.2676***
	-	(0.0075)	(0.0074)
Natural and applied sciences	-	0.4970***	0.4872***
	-	(0.0122)	(0.0121)
Health	-	0.5000***	0.5027***
	-	(0.0096)	(0.0095)
Social science, education, government, religion	-	0.3504***	0.3473***
	-	(0.0095)	(0.0095)

Art, culture, recreation and sport	-	0.2174***	0.2067***
	-	(0.0157)	(0.0156)
Trades, transport and equipment operators	-	0.1551***	0.1474***
	-	(0.0196)	(0.0195)
Primary industry	-	-0.2917***	-0.2645***
	-	(0.0506)	(0.0502)
Processing, manufacturing and utilities	-	0.0023	0.0022
	-	(0.0167)	(0.0167)
Geographical variables			
L. CMA			
Quebec city	-	-	-0.2010***
	-	-	(0.0149)
Montreal	-	-	-0.1665***
	-	-	(0.0096)
Ottawa-Gatineau	-	-	0.0173**
	-	-	(0.0105)
Hamilton	-	-	-0.0508***
	-	-	(0.0145)
Kitchener-Cambridge-Waterloo	-	-	-0.0723***
	-	-	(0.0199)
London	-	-	-0.1036***
	-	-	(0.0180)
Brantford-Guelph-Barrie	-	-	-0.1100***
	-	-	(0.0174)
Winnipeg	-	-	-0.1406***
	-	-	(0.0138)
Regina-Saskatoon	-	-	-0.0392***
	-	-	(0.0155)
Calgary	-	-	0.0574***
	-	-	(0.0116)
Edmonton	-	-	0.0331***
	-	-	(0.0110)
Vancouver	-	-	-0.0361***
	-	-	(0.0092)
Other CMAs	-	-	-0.1307***
	-	-	(0.0083)
Constant	9.6694***	8.7446***	8.7929***
	(0.0138)	(0.0184)	(0.0192)
R Squared	0.1586	0.4607	0.4661
Observations	93348	93348	93348

Notes: Standard errors are in brackets underneath. *significant at 10%, **significant at 5%, ***significant at 1%.

Panel B. OLS results of three specifications on immigrant earnings differentials for males			
Dependent variable	(1)	(2)	(3)
A. Immigrant	-0.3048*** (0.0067)	-0.2352*** (0.0058)	-0.2479*** (0.0062)
Person-related variables			
B. Educational attainment			
No certificate, diploma or degree	-0.1514*** (0.0111)	-0.1045*** (0.0097)	-0.1060*** (0.0096)
Post-secondary below bachelor level	0.1985*** (0.0069)	0.1338*** (0.0061)	0.1346*** (0.0061)
Bachelor	0.5011*** (0.0085)	0.3355*** (0.0080)	0.3324*** (0.0080)
Post-secondary above bachelor level	0.6379*** (0.0104)	0.4598*** (0.0099)	0.4603*** (0.0098)
C. Potential labour market experience			
Exp	0.0563*** (0.0010)	0.0378*** (0.0009)	0.0381*** (0.0009)
Exp sq	-0.0010*** (0.0000)	-0.0006*** (0.0000)	-0.0006*** (0.0000)
D. Language			
French	-0.1179*** (0.0064)	-0.1043*** (0.0055)	-0.0046 (0.0084)
Both	-0.2241*** (0.0247)	-0.1847*** (0.0206)	-0.0949*** (0.0216)
Neither	-0.3669*** (0.0317)	-0.2573*** (0.0274)	-0.2547*** (0.0274)
E. Marital status			
Single	-0.3561*** (0.0076)	-0.2270*** (0.0065)	-0.2286*** (0.0065)
Living in Common Law	-0.1076*** (0.0081)	-0.0840*** (0.0070)	-0.0779*** (0.0070)
Separated divorced widowed	-0.1811*** (0.0110)	-0.1181*** (0.0095)	-0.1188*** (0.0094)
F. Age of Children			
Child age 0-1	-	-	-
Child age 2-5	-	-	-
Child age 6-14	-	-	-

Child age 15-24	-	-	-
	-	-	-
Job-related variables			
H. Labour FT/PT			
Full-time	-	0.8108***	0.8046***
	-	(0.0137)	(0.0137)
I. No. of weeks worked			
01-09 weeks	-	-0.7273***	-0.7331***
	-	(0.0431)	(0.0430)
10-19 weeks	-	-0.6215***	-0.6248***
	-	(0.0258)	(0.0258)
20-29 weeks	-	-0.2215***	-0.2252***
	-	(0.0209)	(0.0208)
40-48 weeks	-	0.3734***	0.3682***
	-	(0.0148)	(0.0147)
49-52 weeks	-	0.4764***	0.4723***
	-	(0.0138)	(0.0137)
J. Industry			
Natural resources	-	0.4409***	0.4079***
	-	(0.0136)	(0.0134)
Construction	-	0.0893***	0.0804***
	-	(0.0095)	(0.0094)
Manufacturing	-	0.0872***	0.0924***
	-	(0.0074)	(0.0074)
Wholesalers-Distributors	-	0.0559***	0.0516***
	-	(0.0099)	(0.0098)
Sales	-	-0.1466***	-0.1448***
	-	(0.0083)	(0.0083)
Professional services	-	0.0874***	0.0832***
	-	(0.0094)	(0.0093)
K. Occupation			
Management	-	0.4510***	0.4448***
	-	(0.0093)	(0.0092)
Business, finance and administration	-	0.1219***	0.1204***
	-	(0.0090)	(0.0090)
Natural and applied sciences	-	0.2718***	0.2676***
	-	(0.0089)	(0.0088)
Health	-	0.2447***	0.2442***
	-	(0.0192)	(0.0192)
Social science, education, government, religion	-	0.1891***	0.1864***
	-	(0.0117)	(0.0117)

Art, culture, recreation and sport	-	0.0471***	0.0455***
	-	(0.0175)	(0.0175)
Trades, transport and equipment operators	-	0.0664***	0.0625***
	-	(0.0082)	(0.0082)
Primary industry	-	-0.1637***	-0.1593***
	-	(0.0267)	(0.0262)
Processing, manufacturing and utilities	-	-0.0392***	-0.0344***
	-	(0.0123)	(0.0122)

Geographical variables

L. CMA

Quebec city	-	-	-0.1649***
	-	-	(0.0135)
Montreal	-	-	-0.1262***
	-	-	(0.0100)
Ottawa-Gatineau	-	-	-0.0044
	-	-	(0.0105)
Hamilton	-	-	0.0017
	-	-	(0.0145)
Kitchener-Cambridge-Waterloo	-	-	-0.0277**
	-	-	(0.0152)
London	-	-	-0.0985***
	-	-	(0.0177)
Brantford-Guelph-Barrie	-	-	-0.0157
	-	-	(0.0168)
Winnipeg	-	-	-0.1327***
	-	-	(0.0131)
Regina-Saskatoon	-	-	0.0265**
	-	-	(0.0149)
Calgary	-	-	0.1023***
	-	-	(0.0118)
Edmonton	-	-	0.1422***
	-	-	(0.0111)
Vancouver	-	-	-0.0032
	-	-	(0.0092)
Other CMAs	-	-	-0.0949***
	-	-	(0.0084)
Constant	10.1307***	8.9931***	9.0158***
	(0.0129)	(0.0210)	(0.0215)
R Squared	0.2076	0.4203	0.4264
Observations	96997	96997	96997

Notes: Standard errors are in brackets underneath. *significant at 10%, **significant at 5%, ***significant at 1%.

Table A4

OLS results of earnings differentials by immigration status for females and males

Dependent variable	Females		Males	
	Immigrant	Non-immigrant	Immigrant	Non-immigrant
Visible-minority	-0.0647*** (0.0118)	-0.0355*** (0.0138)	-0.1600*** (0.0108)	-0.0860*** (0.0139)
Person-related variables				
Educational attainment				
No certificate, diploma or degree	-0.0790*** (0.0185)	-0.1512*** (0.0134)	-0.0514*** (0.0186)	-0.1207*** (0.0111)
Post-secondary below bachelor level	0.0943*** (0.0133)	0.1168*** (0.0074)	0.1075*** (0.0129)	0.1348*** (0.0069)
Bachelor	0.2916*** (0.0152)	0.4102*** (0.0091)	0.2565*** (0.0153)	0.3821*** (0.0093)
Post-secondary above bachelor level	0.3899*** (0.0178)	0.5587*** (0.0117)	0.3935*** (0.0166)	0.5238*** (0.0123)
Immigration years				
YSM	0.0197*** (0.0012)	- -	0.0207*** (0.0011)	- -
YSM sq	-0.0002*** (0.0000)	- -	-0.0002*** (0.0000)	- -
Potential labour market experience				
Exp	0.0242*** (0.0018)	0.0400*** (0.0010)	0.0221*** (0.0018)	0.0422*** (0.0010)
Exp sq	-0.0004*** (0.0000)	-0.0006*** (0.0000)	-0.0004*** (0.0000)	-0.0007*** (0.0000)
Language				
French	0.0285 (0.0231)	0.0229*** (0.0088)	0.0347* (0.0214)	-0.0004 (0.0092)
Both	-0.0385 (0.0302)	0.0049 (0.0467)	-0.0436** (0.0258)	-0.0827* (0.0512)
Neither	-0.0908*** (0.0284)	0.0324 (0.2748)	-0.1219*** (0.0281)	-0.3231 (0.2156)
Marital status				
Single	0.0128 (0.0141)	-0.0681*** (0.0078)	-0.1451*** (0.0147)	-0.2818*** (0.0072)
Living in Common Law	0.0248 (0.0205)	-0.0346*** (0.0076)	-0.0206 (0.0191)	-0.1200*** (0.0075)
Separated divorced widowed	0.0037 (0.0138)	-0.0435*** (0.0085)	-0.0840*** (0.0187)	-0.1513*** (0.0108)
Age of Children				

Child age 0-1	-0.1532***	-0.1905***	-	-
	(0.0265)	(0.0162)	-	-
Child age 2-5	0.0185	-0.0108	-	-
	(0.0165)	(0.0109)	-	-
Child age 6-14	-0.0304***	-0.0272***	-	-
	(0.0114)	(0.0075)	-	-
Child age 15-24	-0.0201**	-0.0368***	-	-
	(0.0099)	(0.0063)	-	-
Job-related variables				
Labour FT/PT				
Full-time	0.6512***	0.7117***	0.7628***	0.8091***
	(0.0150)	(0.0094)	(0.0258)	(0.0162)
No. of weeks worked				
01-09 weeks	-0.7944***	-0.9002***	-0.8042***	-0.6628***
	(0.0583)	(0.0424)	(0.0668)	(0.0547)
10-19 weeks	-0.6461***	-0.5825***	-0.6065***	-0.6122***
	(0.0410)	(0.0277)	(0.0423)	(0.0318)
20-29 weeks	-0.1753***	-0.2292***	-0.2304***	-0.2171***
	(0.0369)	(0.0237)	(0.0359)	(0.0251)
40-48 weeks	0.3468***	0.2919***	0.3764***	0.3538***
	(0.0294)	(0.0172)	(0.0255)	(0.0177)
49-52 weeks	0.4191***	0.3954***	0.4888***	0.4447***
	(0.0284)	(0.0161)	(0.0239)	(0.0165)
Industry				
Natural resources	0.3292***	0.3603***	0.4209***	0.3924***
	(0.0458)	(0.0224)	(0.0307)	(0.0148)
Construction	0.0417	0.0459**	0.0758***	0.0690***
	(0.0520)	(0.0206)	(0.0220)	(0.0104)
Manufacturing	0.0471***	0.0868***	0.0832***	0.0968***
	(0.0187)	(0.0134)	(0.0140)	(0.0086)
Wholesalers-Distributors	0.0777***	0.1113***	0.0612***	0.0456***
	(0.0214)	(0.0143)	(0.0187)	(0.0115)
Sales	-0.1066***	-0.1228***	-0.0829***	-0.1547***
	(0.0152)	(0.0095)	(0.0167)	(0.0094)
Professional services	0.0618***	0.0485***	0.1069***	0.0609***
	(0.0185)	(0.0114)	(0.0164)	(0.0111)
Occupation				
Management	0.5736***	0.5245***	0.4951***	0.3870***
	(0.0203)	(0.0115)	(0.0191)	(0.0104)
Business, finance and administration	0.2886***	0.2425***	0.2194***	0.0721***
	(0.0137)	(0.0089)	(0.0170)	(0.0104)

Natural and applied sciences	0.5822*** (0.0215)	0.4366*** (0.0145)	0.4029*** (0.0168)	0.2083*** (0.0101)
Health	0.5534*** (0.0173)	0.4659*** (0.0113)	0.4286*** (0.0346)	0.1528*** (0.0223)
Social science, education, government, religion	0.3594*** (0.0189)	0.3030*** (0.0112)	0.3652*** (0.0244)	0.0739*** (0.0131)
Art, culture, recreation and sport	0.1339*** (0.0388)	0.1878*** (0.0171)	0.1319*** (0.0402)	-0.0113 (0.0194)
Trades, transport and equipment operators	0.0818*** (0.0353)	0.1623*** (0.0231)	0.1222*** (0.0166)	0.0370*** (0.0093)
Primary industry	-0.2536*** (0.0842)	-0.2648*** (0.0620)	-0.1319*** (0.0524)	-0.1842*** (0.0292)
Processing, manufacturing and utilities	0.0163 (0.0240)	0.0450** (0.0252)	0.0550*** (0.0201)	-0.0439*** (0.0152)
Geographical variables				
CMA				
Quebec city	-0.1166 (0.1323)	-0.2146*** (0.0158)	-0.1353* (0.0841)	-0.1914*** (0.0147)
Montreal	-0.1983*** (0.0197)	-0.1732*** (0.0114)	-0.1711*** (0.0190)	-0.1415*** (0.0120)
Ottawa-Gatineau	0.0270 (0.0238)	-0.0018 (0.0121)	0.0319 (0.0261)	-0.0450*** (0.0120)
Hamilton	-0.0101 (0.0309)	-0.0839*** (0.0166)	0.0235 (0.0351)	-0.0565*** (0.0163)
Kitchener-Cambridge-Waterloo	-0.0784 (0.0665)	-0.0951*** (0.0204)	0.0753*** (0.0284)	-0.0956*** (0.0176)
London	-0.0475 (0.0488)	-0.1308*** (0.0196)	-0.0262 (0.0476)	-0.1536*** (0.0191)
Brantford-Guelph-Barrie	-0.0195 (0.0536)	-0.1398*** (0.0187)	0.0871** (0.0513)	-0.0727*** (0.0180)
Winnipeg	-0.1297*** (0.0330)	-0.1489*** (0.0153)	-0.0897*** (0.0266)	-0.1616*** (0.0151)
Regina-Saskatoon	-0.0063 (0.0509)	-0.0479*** (0.0166)	0.1166** (0.0509)	-0.0050 (0.0159)
Calgary	0.0844*** (0.0198)	0.0517*** (0.0141)	0.1389*** (0.0201)	0.0795*** (0.0145)
Edmonton	0.0319* (0.0239)	0.0296*** (0.0126)	0.1442*** (0.0245)	0.1269*** (0.0126)
Vancouver	-0.0249** (0.0130)	-0.0339*** (0.0126)	0.0153 (0.0131)	-0.0103 (0.0126)
Other CMAs	-0.0581***	-0.1527***	0.0165	-0.1422***

	(0.0233)	(0.0095)	(0.0265)	(0.0096)
Constant	8.6300***	8.8148***	8.7928***	9.0959***
	(0.0402)	(0.0220)	(0.0417)	(0.0256)
R Squared	0.4526	0.4801	0.4126	0.4498
Observations	25420	67928	27043	69954

Notes: Standard errors are in brackets underneath. *significant at 10%, **significant at 5%, ***significant at 1%.

Table A5

Panel A. OLS results of earnings differentials by visible-minority and immigration status for females				
Dependent variable	Immigrants		Non-immigrants	
	Visible minorities	Whites	Visible minorities	Whites
Person-related variables				
Educational attainment				
No certificate, diploma or degree	-0.0642*** (0.0219)	-0.1189*** (0.0359)	-0.1664* (0.1063)	-0.1509*** (0.0134)
Post-secondary below bachelor level	0.1060*** (0.0162)	0.0613*** (0.0236)	0.2090*** (0.0420)	0.1136*** (0.0075)
Bachelor	0.2877*** (0.0178)	0.2946*** (0.0294)	0.4860*** (0.0409)	0.4065*** (0.0093)
Post-secondary above bachelor level	0.3676*** (0.0218)	0.4160*** (0.0320)	0.6521*** (0.0523)	0.5546*** (0.0121)
Immigration years				
YSM	0.0211*** (0.0018)	0.0188*** (0.0023)	- -	- -
YSM sq	-0.0003*** (0.0000)	-0.0002*** (0.0000)	- -	- -
Potential labour market experience				
Exp	0.0229*** (0.0021)	0.0265*** (0.0037)	0.0450*** (0.0051)	0.0394*** (0.0010)
Exp sq	-0.0004*** (0.0000)	-0.0005*** (0.0001)	-0.0007*** (0.0001)	-0.0006*** (0.0000)
Language				
French	0.0244 (0.0299)	0.0294 (0.0361)	0.0019 (0.0733)	0.0221*** (0.0089)
Both	0.0060 (0.0438)	-0.0985*** (0.0408)	0.0071 (0.1344)	0.0175 (0.0479)
Neither	-0.1010*** (0.0305)	-0.0518 (0.0793)	0.1357 (0.4086)	0.0042 (0.3542)
Marital status				
Single	0.0143 (0.0163)	-0.0121 (0.0281)	-0.1180*** (0.0341)	-0.0638*** (0.0080)
Living in Common Law	0.0194 (0.0288)	0.0274 (0.0287)	-0.0191 (0.0429)	-0.0346*** (0.0077)
Separated divorced widowed	0.0086 (0.0176)	-0.0072 (0.0220)	-0.1068** (0.0546)	-0.0414*** (0.0086)
Age of Children				
Child age 0-1	-0.1637***	-0.1301**	-0.0884*	-0.1990***

	(0.0291)	(0.0620)	(0.0593)	(0.0168)
Child age 2-5	0.0006	0.0716**	-0.1168***	-0.0040
	(0.0181)	(0.0377)	(0.0469)	(0.0111)
Child age 6-14	-0.0376***	-0.0119	0.0003	-0.0280***
	(0.0129)	(0.0241)	(0.0385)	(0.0076)
Child age 15-24	-0.0169*	-0.0345**	-0.0608**	-0.0340***
	(0.0115)	(0.0197)	(0.0346)	(0.0064)
Job-related variables				
Labour Full-Time/Part-Time				
Full-time	0.6317***	0.6910***	0.6515***	0.7139***
	(0.0179)	(0.0273)	(0.0455)	(0.0096)
No. of weeks worked				
01-09 weeks	-0.8273***	-0.7035***	-1.2110***	-0.8815***
	(0.0647)	(0.1265)	(0.1820)	(0.0433)
10-19 weeks	-0.6817***	-0.5604***	-0.6540***	-0.5778***
	(0.0438)	(0.0943)	(0.1209)	(0.0285)
20-29 weeks	-0.1950***	-0.1180*	-0.2624***	-0.2283***
	(0.0384)	(0.0879)	(0.1048)	(0.0244)
40-48 weeks	0.3158***	0.4212***	0.2524***	0.2935***
	(0.0293)	(0.0743)	(0.0929)	(0.0173)
49-52 weeks	0.3835***	0.5070***	0.3680***	0.3969***
	(0.0279)	(0.0720)	(0.0886)	(0.0162)
Industry				
Natural resources	0.2699***	0.5167***	0.2087**	0.3657***
	(0.0537)	(0.0812)	(0.0992)	(0.0229)
Construction	0.0326	0.0735	0.0747	0.0454**
	(0.0618)	(0.0909)	(0.1043)	(0.0210)
Manufacturing	0.0592***	0.0139	0.1119	0.0861***
	(0.0228)	(0.0330)	(0.0991)	(0.0132)
Wholesalers-Distributors	0.0533***	0.1335***	0.1055**	0.1118***
	(0.0257)	(0.0384)	(0.0602)	(0.0147)
Sales	-0.0792***	-0.1779***	-0.0068	-0.1293***
	(0.0181)	(0.0280)	(0.0416)	(0.0098)
Professional services	0.0695***	0.0540**	0.0659**	0.0476***
	(0.0235)	(0.0297)	(0.0402)	(0.0119)
Occupation				
Management	0.5749***	0.5521***	0.4221***	0.5297***
	(0.0254)	(0.0343)	(0.0575)	(0.0117)
Business, finance and administration	0.3131***	0.2341***	0.1924***	0.2452***
	(0.0160)	(0.0263)	(0.0424)	(0.0091)
Natural and applied sciences	0.6117***	0.5178***	0.4613***	0.4346***

	(0.0257)	(0.0406)	(0.0564)	(0.0151)
Health	0.5748***	0.5009***	0.4357***	0.4668***
	(0.0194)	(0.0367)	(0.0506)	(0.0116)
Social science, education, government, religion	0.3598***	0.3342***	0.2391***	0.3060***
	(0.0238)	(0.0327)	(0.0503)	(0.0115)
Art, culture, recreation and sport	0.1058**	0.1494***	0.2186***	0.1828***
	(0.0515)	(0.0596)	(0.0686)	(0.0177)
Trades, transport and equipment operators	0.0809**	0.0959*	0.2345*	0.1603***
	(0.0408)	(0.0702)	(0.1519)	(0.0234)
Primary industry	-0.2616***	-0.0097	-1.3497***	-0.2524***
	(0.0902)	(0.2243)	(0.2099)	(0.0622)
Processing, manufacturing and utilities	0.0111	0.0643*	0.1856	0.0398*
	(0.0275)	(0.0522)	(0.1804)	(0.0252)
Geographical variables				
CMA				
Quebec city	-0.3123	-0.0495	-0.2877*	-0.2115***
	(0.2762)	(0.1490)	(0.2090)	(0.0160)
Montreal	-0.2300***	-0.1483***	-0.2629***	-0.1685***
	(0.0257)	(0.0306)	(0.0608)	(0.0117)
Ottawa-Gatineau	0.0374*	0.0031	-0.0629	0.0010
	(0.0291)	(0.0420)	(0.0608)	(0.0125)
Hamilton	-0.0455	0.0141	-0.2049*	-0.0791***
	(0.0529)	(0.0391)	(0.1433)	(0.0165)
Kitchener-Cambridge-Waterloo	-0.1062	-0.0691	-0.2916	-0.0907***
	(0.1686)	(0.0597)	(0.3612)	(0.0201)
London	-0.0812	-0.0228	-0.1551	-0.1290***
	(0.1261)	(0.0491)	(0.1461)	(0.0198)
Brantford-Guelph-Barrie	-0.0461	-0.0035	-0.6754**	-0.1363***
	(0.1122)	(0.0603)	(0.4037)	(0.0188)
Winnipeg	-0.0956***	-0.2230***	-0.2199**	-0.1457***
	(0.0364)	(0.0707)	(0.1322)	(0.0153)
Regina-Saskatoon	-0.0447	0.0598	-0.0120	-0.0471***
	(0.0743)	(0.0660)	(0.1561)	(0.0168)
Calgary	0.0838***	0.0892**	0.1207***	0.0490***
	(0.0225)	(0.0413)	(0.0447)	(0.0148)
Edmonton	0.0738***	-0.0608*	0.0388	0.0292**
	(0.0279)	(0.0450)	(0.0783)	(0.0129)
Vancouver	-0.0237**	-0.0224	-0.0312	-0.0358***
	(0.0144)	(0.0305)	(0.0369)	(0.0134)
Other CMAs	0.0005	-0.0741***	-0.0813**	-0.1517***
	(0.0396)	(0.0300)	(0.0501)	(0.0098)
Constant	8.6075***	8.5350***	8.8202***	8.8149***
	(0.0410)	(0.0901)	(0.1095)	(0.0223)

R Squared	0.4497	0.4474	0.5057	0.4794
Observations	17730	7690	3126	64802

Notes: Standard errors are in brackets underneath. *significant at 10%, **significant at 5%, ***significant at 1%.

Panel B. OLS results of earnings differentials by visible-minority and immigration status for males

Dependent variable	Immigrants		Non-immigrants	
	Visible minorities	Whites	Visible minorities	Whites
Person-related variables				
Educational attainment				
No certificate, diploma or degree	-0.0545*** (0.0214)	-0.0558* (0.0365)	-0.0128 (0.0618)	-0.1249*** (0.0113)
Post-secondary below bachelor level	0.1038*** (0.0153)	0.1079*** (0.0237)	0.1995*** (0.0356)	0.1319*** (0.0070)
Bachelor	0.2399*** (0.0174)	0.2973*** (0.0307)	0.4602*** (0.0432)	0.3780*** (0.0095)
Post-secondary above bachelor level	0.3710*** (0.0196)	0.4306*** (0.0313)	0.7003*** (0.0566)	0.5136*** (0.0126)
Immigration years				
YSM	0.0176*** (0.0017)	0.0175*** (0.0021)	- -	- -
YSM sq	-0.0001*** (0.0000)	-0.0002*** (0.0000)	- -	- -
Potential labour market experience				
Exp	0.0210*** (0.0022)	0.0275*** (0.0034)	0.0501*** (0.0053)	0.0420*** (0.0010)
Exp sq	-0.0004*** (0.0000)	-0.0005*** (0.0001)	-0.0009*** (0.0001)	-0.0007*** (0.0000)
Language				
French	0.0236 (0.0262)	0.0444 (0.0362)	-0.0417 (0.0892)	0.0004 (0.0092)
Both	-0.0156 (0.0326)	-0.1055*** (0.0422)	0.1160* (0.0839)	-0.1604*** (0.0624)
Neither	-0.1356*** (0.0302)	0.0287 (0.0702)	-0.4281* (0.2857)	-0.2576 (0.3013)
Marital status				
Single	-0.1163***	-0.2195***	-0.2327***	-0.2844***

	(0.0172)	(0.0280)	(0.0323)	(0.0074)
Living in Common Law	-0.0050	-0.0425*	-0.0711*	-0.1216***
	(0.0231)	(0.0307)	(0.0437)	(0.0076)
Separated divorced widowed	-0.0620***	-0.1301***	-0.2246***	-0.1495***
	(0.0230)	(0.0309)	(0.0929)	(0.0109)
Age of Children				
Child age 0-1	-	-	-	-
	-	-	-	-
Child age 2-5	-	-	-	-
	-	-	-	-
Child age 6-14	-	-	-	-
	-	-	-	-
Child age 15-24	-	-	-	-
	-	-	-	-
Job-related variables				
Labour Full-Time/Part-Time				
Full-time	0.6789***	0.9889***	0.6679***	0.8204***
	(0.0281)	(0.0558)	(0.0587)	(0.0169)
No. of weeks worked				
01-09 weeks	-0.8308***	-0.7320***	-0.9017***	-0.6450***
	(0.0738)	(0.1596)	(0.2134)	(0.0564)
10-19 weeks	-0.6381***	-0.4849***	-0.6022***	-0.6123***
	(0.0480)	(0.0884)	(0.1132)	(0.0331)
20-29 weeks	-0.2625***	-0.1311**	-0.1837**	-0.2192***
	(0.0404)	(0.0718)	(0.0999)	(0.0259)
40-48 weeks	0.3655***	0.4190***	0.3780***	0.3528***
	(0.0301)	(0.0471)	(0.0764)	(0.0182)
49-52 weeks	0.4929***	0.4864***	0.4639***	0.4440***
	(0.0284)	(0.0438)	(0.0708)	(0.0169)
Industry				
Natural resources	0.3822***	0.4930***	0.3582***	0.3922***
	(0.0393)	(0.0475)	(0.1016)	(0.0150)
Construction	0.0596**	0.0916***	0.1208**	0.0661***
	(0.0283)	(0.0353)	(0.0622)	(0.0105)
Manufacturing	0.0849***	0.0753***	0.0099	0.0989***
	(0.0165)	(0.0257)	(0.0476)	(0.0088)
Wholesalers-Distributors	0.0645***	0.0550*	0.0643*	0.0444***
	(0.0213)	(0.0367)	(0.0477)	(0.0118)
Sales	-0.0742***	-0.1070***	-0.0444	-0.1619***
	(0.0199)	(0.0301)	(0.0411)	(0.0096)
Professional services	0.0934***	0.1284***	0.0875**	0.0583***

	(0.0197)	(0.0297)	(0.0432)	(0.0115)
Occupation				
Management	0.4863***	0.4757***	0.3075***	0.3903***
	(0.0238)	(0.0326)	(0.0515)	(0.0106)
Business, finance and administration	0.2413***	0.1501***	0.1414***	0.0679***
	(0.0193)	(0.0355)	(0.0424)	(0.0108)
Natural and applied sciences	0.4350***	0.3112***	0.2380***	0.2064***
	(0.0199)	(0.0318)	(0.0456)	(0.0103)
Health	0.4247***	0.3967***	0.2467**	0.1442***
	(0.0410)	(0.0614)	(0.1172)	(0.0223)
Social science, education, government, religion	0.3403***	0.3601***	0.0514	0.0756***
	(0.0320)	(0.0393)	(0.0678)	(0.0133)
Art, culture, recreation and sport	0.1481***	0.0779	-0.0821	-0.0054
	(0.0510)	(0.0651)	(0.0825)	(0.0200)
Trades, transport and equipment operators	0.1428***	0.0599**	0.0653*	0.0354***
	(0.0194)	(0.0318)	(0.0499)	(0.0094)
Primary industry	-0.1525**	-0.1122*	-0.3163**	-0.1823***
	(0.0733)	(0.0727)	(0.1608)	(0.0297)
Processing, manufacturing and utilities	0.0668***	0.0197	0.0454	-0.0470***
	(0.0230)	(0.0412)	(0.0890)	(0.0155)

Geographical variables

CMA

Quebec city	-0.2350	-0.1213**	-0.2910	-0.1935***
	(0.1918)	(0.0635)	(0.2384)	(0.0149)
Montreal	-0.1579***	-0.1980***	-0.1458**	-0.1427***
	(0.0226)	(0.0341)	(0.0639)	(0.0124)
Ottawa-Gatineau	0.0849***	-0.0587*	0.0097	-0.0485***
	(0.0334)	(0.0417)	(0.0979)	(0.0122)
Hamilton	0.1006**	-0.0104	-0.0100	-0.0607***
	(0.0464)	(0.0436)	(0.1206)	(0.0165)
Kitchener-Cambridge-Waterloo	0.1347***	0.0397	0.1690**	-0.1020***
	(0.0470)	(0.0358)	(0.0789)	(0.0178)
London	-0.0055	-0.0432	-0.1258	-0.1565***
	(0.0857)	(0.0576)	(0.1962)	(0.0193)
Brantford-Guelph-Barrie	0.2335***	0.0447	-0.0381	-0.0761***
	(0.0725)	(0.0643)	(0.2136)	(0.0182)
Winnipeg	-0.1069***	-0.0573	-0.1163*	-0.1649***
	(0.0312)	(0.0502)	(0.0717)	(0.0155)
Regina-Saskatoon	0.1045*	0.1397**	0.1247	-0.0092
	(0.0679)	(0.0725)	(0.1710)	(0.0161)
Calgary	0.1336***	0.1488***	-0.0045	0.0825***
	(0.0229)	(0.0400)	(0.0668)	(0.0149)

Edmonton	0.1534*** (0.0290)	0.1159*** (0.0455)	0.2222*** (0.0623)	0.1214*** (0.0129)
Vancouver	0.0026 (0.0149)	0.0671*** (0.0279)	0.0226 (0.0332)	-0.0146 (0.0136)
Other CMAs	0.1296*** (0.0413)	-0.0301 (0.0340)	-0.0331 (0.0660)	-0.1454*** (0.0099)
Constant	8.7293*** (0.0464)	8.5871*** (0.0820)	8.9246*** (0.0999)	9.0966*** (0.0265)
R Squared	0.4078	0.3843	0.47	0.45
Observations	18652	8391	3421	66533

Notes: Standard errors are in brackets underneath. *significant at 10%, **significant at 5%, ***significant at 1%.

Table A6

Panel A Decomposition of mean log earnings differentials for immigrant female whites versus visible minorities		
	Explained	Unexplained
Person-related variables		
Education attainment	0.2%	-1.7%
Potential labour market experience	9.0%	-11.7%
Years since migration	52.3%	-38.4%
Language	2.3%	-2.8%
Marital status	0.7%	-2.4%
Age of Children	1.4%	7.8%
Job-related variables		
Full-Time/Part-Time	-4.8%	26.6%
No. of weeks worked	13.0%	60.8%
Industry	-0.5%	-5.6%
Occupation	20.4%	-19.0%
Geographical variables		
CMA	-8.2%	3.9%
Constant	-	-3.1%
Total	85.9%	14.1%
Observations		25420

Panel B Decomposition of mean log earnings differentials for non-immigrant female whites versus visible minorities		
	Explained	Unexplained
Person-related variables		
Education attainment	-85.6%	-64.4%
Potential labour market experience	226.1%	-193.4%
Years since migration	-	-
Language	-2.3%	10.3%
Marital status	29.6%	19.3%
Age of Children	4.4%	35.0%
Job-related variables		
Full-Time/Part-Time	-7.7%	64.6%
No. of weeks worked	27.9%	45.2%
Industry	0.8%	-16.3%
Occupation	-11.2%	53.0%
Geographical variables		
CMA	-93.9%	48.7%
Constant	-	9.9%
Total	88.1%	11.9%
Observations		67928

Panel C Decomposition of mean log earnings differentials for immigrant male whites versus visible minorities

	Explained	Unexplained
Person-related variables		
Education attainment	-0.3%	6.4%
Potential labour market experience	2.9%	12.4%
Years since migration	40.7%	-58.3%
Language	1.6%	-0.5%
Marital status	0.9%	-6.6%
Age of Children	-	-
Job-related variables		
Full-Time/Part-Time	2.8%	100.2%
No. of weeks worked	10.0%	1.2%
Industry	1.6%	1.3%
Occupation	8.4%	-17.8%
Geographical variables		
CMA	3.1%	-8.4%
Constant	-	-1.7%
Total	71.7%	28.3%
Observations		27043

Panel D Decomposition of mean log earnings differentials for non-immigrant male whites versus visible minorities

	Explained	Unexplained
Person-related variables		
Education attainment	-15.4%	-19.7%
Potential labour market experience	63.1%	-69.9%
Years since migration	-	-
Language	-4.8%	5.9%
Marital status	24.2%	-6.9%
Age of Children	-	-
Job-related variables		
Full-Time/Part-Time	13.8%	57.3%
No. of weeks worked	11.1%	-0.9%
Industry	4.0%	-2.3%
Occupation	-3.9%	-0.8%
Geographical variables		
CMA	-8.9%	-16.8%
Constant	-	70.8%
Total	83.3%	16.7%
Observations		69954

Table A7

Selected OLS results of earnings differentials between ethnic groups by immigration status for female and male

	Female			Male		
	All residence	Immigrants	Non-immigrants	All residence	Immigrants	Non-immigrants
British	0.04*** (0.0096)	0.00 (0.0796)	0.03*** (0.0100)	0.05*** (0.0093)	0.07 (0.0803)	0.04*** (0.0097)
Continental European	0.02*** (0.0086)	-0.07 (0.0783)	0.03*** (0.0092)	0.00 (0.0085)	-0.07 (0.0788)	0.03*** (0.0090)
East European	-0.06*** (0.0204)	-0.10 (0.0840)	0.05** (0.0226)	-0.08*** (0.0179)	-0.15** (0.0815)	0.07*** (0.0223)
Caribbean LCS American	-0.12*** (0.0162)	-0.13** (0.0790)	-0.07** (0.0388)	-0.21*** (0.0172)	-0.19*** (0.0796)	-0.13*** (0.0405)
African	-0.21*** (0.0244)	-0.15** (0.0813)	-0.05 (0.0677)	-0.29*** (0.0215)	-0.19** (0.0806)	-0.04 (0.0777)
West Central Asian and Middle Eastern	-0.17*** (0.0278)	-0.16** (0.0825)	0.00 (0.0661)	-0.27*** (0.0236)	-0.21*** (0.0813)	0.00 (0.0629)
Indian	-0.14*** (0.0142)	-0.11* (0.0786)	0.00 (0.0302)	-0.26*** (0.0149)	-0.19*** (0.0790)	-0.05* (0.0399)
Asia-Pacific	-0.20*** (0.0132)	-0.15** (0.0785)	-0.02 (0.0462)	-0.33*** (0.0129)	-0.25*** (0.0785)	-0.07** (0.0352)
Chinese	-0.12*** (0.0129)	-0.13* (0.0784)	0.06** (0.0279)	-0.25*** (0.0130)	-0.23*** (0.0786)	0.00 (0.0233)
BFC multiple origin	0.03*** (0.0075)	-0.06 (0.0798)	0.03*** (0.0076)	0.01** (0.0075)	-0.05 (0.0801)	0.02* (0.0077)
Other multiple origin	-0.02** (0.0115)	-0.09 (0.0786)	0.05*** (0.0143)	-0.08*** (0.0116)	-0.14** (0.0790)	0.00 (0.0143)
R squared	0.4664	0.4533	0.4804	0.4282	0.4146	0.4499

Observations	93348	25420	67928	96997	27043	69954
--------------	-------	-------	-------	-------	-------	-------

Notes: Standard errors are in brackets underneath. *significant at 10%, **significant at 5%, ***significant at 1%.

Table A8

Selected OLS results of earnings differentials between ethnic groups by gender in Toronto, Montreal and Vancouver						
	Toronto		Montreal		Vancouver	
	Female	Male	Female	Male	Female	Male
British	0.06*** (0.0271)	0.09*** (0.0258)	-0.03 (0.0332)	0.05** (0.0293)	0.09*** (0.0377)	0.13*** (0.0412)
Continental European	0.02 (0.0256)	0.02 (0.0249)	0.00 (0.0143)	-0.03** (0.0155)	-0.01 (0.0400)	0.11*** (0.0436)
East European	-0.15*** (0.0473)	-0.12*** (0.0395)	-0.11*** (0.0427)	-0.30*** (0.0465)	-0.19** (0.0848)	-0.04 (0.0658)
Caribbean LCS American	-0.08*** (0.0299)	-0.18*** (0.0304)	-0.18*** (0.0293)	-0.25*** (0.0280)	-0.02 (0.0789)	-0.20** (0.1172)
African	-0.14*** (0.0425)	-0.25*** (0.0444)	-0.37*** (0.0441)	-0.37*** (0.0298)	-0.28** (0.1358)	-0.12 (0.1066)
West Central Asian and Middle Eastern	-0.13*** (0.0436)	-0.30*** (0.0441)	-0.23*** (0.0489)	-0.27*** (0.0413)	-0.15** (0.0826)	-0.23*** (0.0788)
Indian	-0.14*** (0.0280)	-0.26*** (0.0277)	-0.17** (0.0759)	-0.21*** (0.0570)	-0.07** (0.0401)	-0.17*** (0.0468)
Asia-Pacific	-0.19*** (0.0277)	-0.30*** (0.0266)	-0.28*** (0.0386)	-0.31*** (0.0361)	-0.16*** (0.0398)	-0.27*** (0.0444)
Chinese	-0.10*** (0.0276)	-0.24*** (0.0270)	-0.20*** (0.0455)	-0.39*** (0.0463)	-0.13*** (0.0371)	-0.21*** (0.0414)
BFC multiple origin	0.06** (0.0255)	0.05** (0.0244)	0.00 (0.0127)	-0.01 (0.0132)	0.04 (0.0336)	0.09** (0.0390)
Other multiple origin	-0.03 (0.0274)	-0.10*** (0.0264)	-0.15*** (0.0335)	-0.19*** (0.0312)	-0.05 (0.0435)	-0.05 (0.0501)

R squared	0.4562	0.4116	0.4620	0.4345	0.4448	0.4255
Observations	23883	24340	16173	16908	9298	9526

Notes: Standard errors are in brackets underneath. *significant at 10%, **significant at 5%, ***significant at 1%.