

Immigrant Wages in Canada: An Analysis of Generational Differences

By: Tanjana Islam

An essay submitted to the Department of Economics in partial fulfilment of requirements for the
Master of Arts

Queen's University

Kingston Ontario, Canada

August 2017

ACKNOWLEDGEMENTS

I would like to thank professor Robert Clark, my supervisor, for his helpful feedback and support throughout this essay. I would also like to thank my family and friends for their unending support and patience this year. Lastly, I would like to express my gratitude to my MA classmates for laughing and crying with me through this year– thank you for all the memories.

Table of Contents

Introduction.....	3
Literature Review	5
Educational Outcomes.....	5
Labour Market Outcomes.....	11
Data and Methodology	18
Data	18
Methodology	20
Descriptive Statistics.....	23
Results	28
Conclusion	36
Works Cited.....	39

SECTION 1- INTRODUCTION:

“Human Capital Theory” can be broadly defined as any characteristic that contributes to the labour productivity of an individual. This concept has been long studied in labour economics, with differences in approaches proposed throughout history. For example, through the Spence view of human capital, higher education may be deemed as a form of signalling. Certain educational pursuits signal to employers that an individual has the necessary skills to contribute to their organization. The Gardner view looks at humans as multidimensional and recognizes that capabilities go beyond just physical factors: for example there are mental capabilities as well, which reflect many dimensions of skills. This report analyzes the Human Capital Theory through the lens of Becker and Mincer, who define human capital as the years of school completed and work experience gained. They propose these factors have positive returns on the productivity of an individual, and as a result on the economy overall (LSE, n.d.).

Investments in human capital are central to building and maintaining our labour force. The government’s duty is to provide opportunities for the skill growth of the population. Among the various ways this can be conducted, one primary method is facilitating the entry of skilled migrants, and fostering their growth in the economy. However, developing a policy that best maximizes the outcomes of this population is a considerable task. Especially in the case of immigration policies, the government is often caught between preserving Canada’s skilled-based immigration program and expanding entry based on humanitarian grounds.

Many policies are implemented in pursuit of easily integrating the immigrant population. The Canada Immigrant Integration Program (CIIP) is an example of this as it was put into action

with the intention of providing a network of support to immigrants both prior and subsequent to entry. For example, the program puts an individual who is in their final stages of the immigration process in contact with job-seeking agencies that largely focus on immigrant job matches. Another policy is the Canada Student Loans Program (CSLP), which specifically aims to promote the educational growth of the *entire* population. Under the CSLP, the Canadian government provides non-repayable assistance to students that demonstrate high levels of need. In the case of immigrant students, the incidence of loans is higher due to the initial downward mobility upon entry (Hum & Simpson, 2005). The first and second-generations face an immediate decrease in wage relative to the average Canadian income. As a result financing education is generally more difficult for this group.

This work is set out to determine the economic integration for first and second-generation immigrants. Furthermore, differences in ethnic backgrounds are also analyzed to determine the level of progress among these different groups. The particular measure of integration will be labour market outcomes, specifically in terms of wages. Canada provides a favourable environment for the assessment of immigrant populations, given that as of 2011, the National Household Survey found that 20.6% of the population is foreign born (Statistics Canada, 2011). Among the G8 countries, Canada ranks second after Australia in terms of the foreign-born population as a percentage of the total population. Under the point-based immigration program, individuals are granted entry on the basis of their education, age, work experience, and language skills, among other things. Given the processes behind this program, one would assume that the immigrant population that enter through this system would not face great lags in socio-economic status when arriving in Canada— however, this assumption is mistaken as wages often decrease for newcomers. Immigrants also enter through other agencies,

such as through refugee status or through family reunification programs.

Differences in entry leads to a corresponding ability bias, and to account for this I will use the Ethnic Diversity Survey to conduct an OLS regression as well as a 2-stage least squares regression. The 2-stage least squares approach will be taken by instrumenting the education variable, as it plays a large role as a channel through which income increases. As a result, this paper is divided into the following sections. Section two covers a review of the literature on immigrant outcomes. Section three outlines the data and methodology I have used. Section four provides summary statistics and cross tabulations. Section five provides results. Section six concludes.

SECTION 2- LITERATURE REVIEW:

The review of the literature is partitioned into the following categories: The first subsection discusses immigrant educational decisions. Among the various types of human capital that can be the primary focus, education is chosen as the value of schooling has historically been found to generate positive returns. It also acts as a building block in the development of other human capital skills. The second subsection discusses job matching and wage outcomes, which is central to the analysis that will later be conducted.

Subsection 2.1- Educational Outcomes:

Papademetriou et al. (2009) recognize that first generation immigrants often increase rapidly in their social mobility despite the initial barriers they face. These barriers include

language unfamiliarity, variations in the education attained, and low social capital in their new country. For second-generation immigrants, these factors are either not an issue or are far less heightened for them, as they start at a higher baseline developed by their parents. Thus they quickly reach parity with their native born counterparts and often surpass them. Given the barriers proposed by Papademetriou et al. this section analyzes the likelihood of education attainment, across both generations. This specific focus is taken because higher exposure to education within the host country allows for country specific language and skills development (Bleakley and Chin, 2004). Thus other forms of human capital are fostered through the choice to invest in education.

Considering the potential for skills development, education and wealth accumulation are tightly linked, making education a primary channel of interest. Especially in terms of post-secondary education, Baum et al. (2013) report a large gap in wages in the United States depending on degree types. For example, for individuals age 25 to 29 the earnings gap between those with a bachelor's degree and those with a high school diploma is 54%. Furthermore, Bachelor's level attainment produces a larger number of full-time workers in the labour force. For the same age range, 71% of graduates with a Bachelor's degree were part of the labour force whereas that number was only 60% of high school graduates. Similarly Caponi and Plesca (2009) study ability bias in returns to degree attainments. In this study, the authors account for unobserved factors through using instruments such as parental education and birth order in determining the returns to different types of education. They find that even when accounting for genetic ability, men experience a wage increase of about 20% when obtaining a university degree rather than a degree in the trades.

The initial educational investment decision for immigrants is highly dependent on

intergenerational transfers and geographic barriers. Given the fact that most immigrant populations in Canada are largely situated in major metropolitan cities— Toronto, Montreal and Vancouver (Statistics Canada, 2011)— we can reject the notion that distance to school plays a major role in the years of schooling for these groups. Further, in terms of the wealth transfer, previous studies have found large declines in the wealth of immigrant groups. For example, Maroto and Aylsworth (2016) use the Canadian Survey of Financial Security to estimate linear and logit regression models to find disparities in wealth accumulation. They ultimately conclude that there are large gaps in wealth experienced by immigrants of Asian, African and Middle Eastern descent. Given the general reports of reduced wealth, the assumption here is that intergenerational wealth either has very little or negative impacts on schooling decisions. Thus the remainder of this subsection primarily focuses on educational and value transfers.

Governmental decisions regarding who enters the country may be one factor that mitigates the issue of steeper declines in social mobility. Feliciano (2005) uses the United States Census and Current Population Survey data to find variations in educational outcomes for 32 different immigration groups. Her results indicate that among all groups, higher education rates for parents are correlated with higher education rates for children. She also measures selectivity among the 32 countries, determining which country's individuals face higher selection criteria prior to entry. Cohorts that face higher selection criteria often witness an increase in education rates among the second-generation and immigrant children of the first generation— referred to as generation 1.5. As such, this paper rejects the idea of an intrinsic educational value being attributable to the beliefs of an entire nationality. A higher educational transfer is more closely focused on the individuals that enter through skilled-based means. Therefore, it is likely more contingent on the immigration policies outlined by the government of the hosting nation.

Alternatively, Turcotte (2011) also analyzes student educational decisions in Canada, but with an emphasis on the conjecture that students whose parents went to university are more likely to do so themselves. Although the author finds that the relationship holds to be true, he also finds that between 1986 and 2009 the difference between a university graduate with parents who were also graduates, versus one whose parents were not, had become smaller. However, the author claims that explaining why was beyond the scope of available data. Potential reasons outlined in the paper include an increase in enrolment of female students, as well as increased enrolment for first and second-generation immigrant students.

This suggests the educational transfer may be weaker for immigrants, and is supported by the findings of Abdurrahman et al. (2013). Using the Census of Canada and the Ethnic Diversity Survey, these authors investigate the impacts of intergenerational educational transfers among second-generation Canadians, comparing it to the third generation or more. Their basic specification is given by:

$$Y_{i,t} = a_t + \beta Y_{i,t-1} + \varepsilon_{i,t}$$

In which $Y_{i,t}$ is the child's years of education in family i and t is an index of generations, $Y_{i,t-1}$ is the parents years of education, and $\varepsilon_{i,t}$ are other influences. This is the basic model given by most works that analyze the intergenerational education transfer. For the results of their primary model, their findings conclude that the years of education more are strongly reflective one's parent's education for minimum third generation Canadians. Nonetheless they also find that second generation Canadians on average obtain more years of education than those who are third generation or more. Specifically, men receive about 4 and women receive 2.5 additional years.

Regardless of this result, they fail to provide definitive reasons for this pattern. Although both studies conclude that degree pursuits of immigrant children are less dependent on parent's education, Feliciano's (2005) findings suggest there is still varying degrees of the intergenerational education transfer based on the entry circumstances of the immigrant.

Cobb-Clark and Nguyen (2010) analyze intergenerational education mobility in Australia between two cohorts: native-born Australian students and immigrant Australian students. These children are further separated into "English speaking background" versus "Non-English Speaking Background". In terms of their findings, they conclude that intergenerational transfer of education when both parents are highly educated is stronger for those from an English speaking background than from a Non-English speaking background. With regards to a family's wealth, they conclude that children of lower income families—measured by the amount of welfare cheques received over the study period—are less likely to attend post secondary education regardless of immigrant status. However, the censuses these authors use within their study also include parent's valuation of education. When mothers value education more, they find the correlation between lower wealth and fewer years of education decrease. Due to factors such as value transfers, those from a non-English speaking background household have an overall advantage in educational attainment when compared with their English-speaking background and native-born peers.

Given trends in upward social mobility of the second generation, Hagy and Staniec (2002) use a multinomial logit model to determine educational choice among different races of immigrant students in the United States. They assess whether the trend of increased enrolment holds true in different types of immigrants. They split immigrant groups into four categories: Asians, Blacks, Whites and Hispanics. They also look at outcomes among categories of

generations—first, second, and third, and account for family characteristics and secondary school characteristics. They find that with the exception of private four-year institutions, first generation immigrants are much more likely to attend all other post-secondary education than their native-born—third generation or more— counterparts in the sample. They also find that this effect diminishes by the second generation. In other words, while the second generation is more likely to attend post-secondary education than the third, this probability is not as strong as it is for the first generation. However, Asian immigrants largely carry this pattern. At the second generation they are more likely than any other group to attend a four-year college. In contrast, for the most part, first generation Hispanic students are just as unlikely to attend post-secondary schooling as their native-born counterparts.

Although the literatures mentioned possess similar results, one shortcoming of the studies on educational attainment of immigrant students is that most fail to account for genetic ability. Previous studies that do correct for this endogeneity problem, in the intergenerational educational, wealth, and value framework, often instrument for ability through compulsory schooling laws. For example, Oreopoulos et al. (2006) looks at the relationship between parent and child education. The authors use a basic specification similar to that outlined by Abdurrahman et al.:

$$Y_{if} = \alpha + \beta_1 FathEd_f + \beta_2 MothEd_f + \beta_3 X_f + \varepsilon_{if}$$

Where Y_{if} is the educational outcome of a child in family f , $FathEd_f$, $MothEd_f$ are the mother and father's education, and X_f is a vector of family background characteristics. They separate genetic ability, by looking at a period with many changes in schooling laws throughout the

United States. By accounting for variations in the minimum years of schooling for parents, the authors assess patterns in a child's long run success—by determining whether or not they repeated a grade. Their standard ordinary least squares regression finds that an additional year of parent's schooling reduces a child's likelihood of repeating a grade by 1% to 3%. To account for the endogeneity problem they use instrumental variables, and their instrumental variable estimates find that it reduces the likelihood by 2% to 4%. Havari and Savegnago (2013) also measure ability bias in Europe, using both parental birth order and compulsory schooling laws as instruments. They too find that parental education affects the child's education. The issue with conducting a similar analysis in the context of immigrant transfers is that data limitations make it generally difficult to find suitable instruments, such as compulsory schooling laws, in the parent's country of origin.

Subsection 2.2- Labour Market Outcomes:

This subsection discusses employment and wage outcomes for immigrants. For first generation immigrants, Hum and Simpson (2004) conclude that the initial gap toward integration that immigrants face upon entry is increasing throughout the decades. It should be noted here that “integration” refers to the point at which an immigrant's economic status converges with that of the native population. In terms of economic status, they specifically focus on labour market performance and outcomes. Although in the early years of immigration entrants begin catching up quickly, it is becoming more difficult to reach parity with their native counterparts.

Frank et al. (2013) use the Canadian Ethnic Diversity Survey (EDS) to understand earnings differentials between Canadian immigrants and the Canadian born. They use OLS

estimators and a regression decomposition technique to further explain how demographic, human capital, and ethnic variables explain the gaps in wages between the two groups. The decomposition technique is presented as:

$$(\bar{Y}_n - \bar{Y}_i) = \hat{\beta}_n(\bar{X}_n - \bar{X}_i) + \hat{\gamma} \bar{Z} + \hat{X}_i(\bar{\beta}_n - \bar{\beta}_i)$$

Where \bar{Y} is the mean log income, \bar{X} is a vector of all the determining variables, and the subscripts n and i indicate non-immigrant and immigrant. They find that Canadian born individuals experience an increase in wage of approximately \$8,000, and men experience more wage increases than women across both groups. However, they also find that immigrants on average receive more education, which helps diminish the gap.

Breunig et al. (2013) examine the wage gap between immigrants and natives in Australia. However, they use a Hausman-Taylor test in order to account for unobserved heterogeneity. They restrict their sample to the working age population, and drop any observations in which the individual is unemployed or self-employed. The authors estimate 4 models: pooled Heckman, fixed effects, random effect and Hausman-Taylor (IV). They find that controlling for unobserved heterogeneity impacts men more than women. For men in a non-English speaking background, the wage gap increases from 19% in the Heckman model to 23% in the Hausman-Taylor model. They also look at cohorts of immigrants based on arrival time, and find that those who arrive more recently have small gaps in their wages. Frenette and Morissette (2005) discuss what outcomes are needed so that immigrants reach parity with their native-born counterparts. The authors use different periods of cross-sectional data and conduct several OLS regression analysis. Over successive periods, they find that the factors that affect wage convergence, such

as education and experience, are valued less if they are attained in the home country.

Picot (2004) explores reasons why the economic well being of immigrants is decreasing in Canada over time. The author outlines several potential attributes. Firstly, in a 20-year time span (1981 to 2001), the composition of immigrant groups that entered had greatly changed. The proportion of immigrants that arrived from South, East and West Asia, Eastern Europe and Africa increased from 35% to 72%. Meanwhile the proportion of immigrants that originated from places such as Northern Europe and the Caribbean, where English or French are more likely to be spoken and cultures are more similar, had decreased at the same time. It could be assumed that as a result, newer cohorts of immigrants have more trouble understanding the language and cultural practices. Another probable cause for the deterioration in welfare is the fact that there is increased competition from Canadian-born individuals, especially as more people in general are attaining degrees and more women are entering the labour force. This suggests there is a decrease in the return of an extra year of education or work. This also suggests that education and experiences attained abroad by older immigrants are heavily discounted in the host country.

Støren and Weirs-Jenssen (2010) support this by looking at labour market outcomes in Norway. They compare job prospects of students who study abroad and return to Norway with those who choose to study domestically. They also compare immigrants versus natives of Norway. They hypothesize that degrees attained within Norway will result in lower unemployment risks in the following order: ethnic Norwegians with domestic degrees, immigrants with domestic degrees, Norwegians with international degrees, immigrants with international degrees. Their multinomial logit model finds this hypothesis to be true, and also determine that that non-Western immigrants graduated abroad have the highest risk of over-

qualification. Likewise, Rollin (2011) looks at individuals over an 8-year time span, comparing the labour market outcomes of recent immigrants that pursue post-secondary education in Canada against those who have not. The respondents in this sample may however, have attained a post-secondary degree in their host country before deciding whether they pursued a Canadian degree. The data used for her models have large differences in the characteristics and findings between genders. For example, men are much more likely to be selected through the point system, whereas females are likely to be selected for immigration through a spousal basis. Thus when female immigrants enrol in post-secondary education, they are more likely to partake in the labour market. Additionally, her logit model finds that both males and females witness an increase in income during the 8-year period, but the increase is intensely heightened for female immigrants. The growth rate for women is 61% for those who do not have post secondary education in Canada; in contrast the growth rate is 125% for those who do.

As discussed, language is also an example of a form of human capital. Bleakley and Chin (2004) assess how language skills affect the quality of jobs immigrants attain. They restrict their sample to 1.5-generation immigrants that could participate in the labour force in 1990. They also identify three language categories: countries without English as the official language, countries that have English as the official language, and countries that have English as the official *and* dominant language. Due to the fact that the age at arrival affects factors other than language—factors that can correspondingly affect other outcomes— they take an instrumental variable approach. They interact age at arrival with a dummy for non-English speaking countries. Their two-stage least squares regression results find that past age 11, every extra year before arrival is associated with deteriorating language skills. In terms of the effects of language skills on wages, they find that speaking English well relative to speaking English poorly accounts for a 33%

increase in wages. Furthermore speaking English *very* well relative to poorly accounts for a 67% increase in wages. They also find that more time in the education system in the United States fosters these language skills.

Taking into account that the opportunities to foster skill growth held by 1.5-generation and second-generation immigrants are not the same for first generation immigrants, the role of government selection processes is important to individual success. Mata and Pendakur (2016) study labour market success of immigrants that arrive on the basis of different grounds. Among these grounds include the skilled-based immigration, family reunification, and refugee status. As expected, those who arrived through the point system witness higher earning trajectories than the other groups. This finding holds true across both genders. Skuterud (2009) analyzes weekly earnings among generations of immigrants in Canada, using the 2001 and 2002 Canadian census. He finds that for all groups, other than those who can be categorized as “white” witnessed increases in wages across each successive generation. However, the author addresses the issue that despite progress among generations, there is still a wage gap among visible minorities, and there are differences in wages among the *types* of minorities. For example, the decrease in wage gaps is the most substantial across generations of Black and Chinese immigrants, and is much smaller for South Asian immigrants. Once again, this can be explained by the fact that different groups of minorities arrive on different grounds.

In terms of the second generation, Boyd and Tian (2016) use the 2011 National Household Survey to analyze labour market outcomes among six groups of East Asian 1.5 and second-generation immigrants. Labour market achievement is measured by the attainment of professional occupations. They find that higher degree attainments in specialized fields are more correlated with landing a professional occupation. Among these are STEM (science, technology,

engineering and mathematics) majors and business studies majors. They find that the children of East Asian immigrants are more drawn toward these fields, increasing their probabilities of holding a professional occupation. However, unless these degrees are attained, they perform on par in the labour force with their third generation white counterparts. Additionally, with data from the Survey of Labour and Income Dynamics, Hum and Simpson (2007) conduct econometric analysis to look at differences in economic activity between second-generation Canadians and third generation or more Canadians. They restrict their sample to the working age population that are likely out of school (25-70) and differentiate between those who have one immigrant parent and those who have both parents as immigrants. They find that in Canada, financial parity in the sense of wages can be reached by the second generation. Second-generation immigrants are never significantly below native-born Canadians in terms of hourly wages and income. Furthermore, in terms of men, earnings are higher for those with immigrant fathers—by about 7%.

Borjas (2006) analyzes social mobility among the immigrant population. The author presents a theory of “regression towards the mean”, implying that regardless of a parent’s socioeconomic status a child’s financial and educational outcomes usually move towards the mean of the population. This theory suggests that immigrant parents who start off in poor socioeconomic conditions witness their children experience high levels of social mobility as they move toward the mean. While immigrant children do seem to be catching up to their native counterparts—at least among the second generation— this is not entirely true among variations of ethnic backgrounds as suggested by the works mentioned.

The idea of intergenerational transfers rejects the notion of this phenomenon, attributing a child’s experiences to that of their parents rather than suggesting a naturally occurring outcome.

For example, although his study does not directly address immigrants, Maluccio (1998) assesses the returns of education on wages in rural Philippines. Among several models with different instruments, Maluccio uses household resources, including parental education as instruments to account for endogeneity issues. He finds in his first-stage ordinary least square regression that parental education influences a child's education at the 5% level. When education is endogenized, the author witnesses an increase in wages.

The objective of my paper is to partially examine this phenomenon by determining wages of first and second-generation immigrants, using a standard OLS regression. Given the variations across ethnicities, one my intentions is to determine "immigrant success" differences between backgrounds. There are several goals in the empirical analysis. One is to determine whether there are consistencies with previously conducted studies of the heightened potential for second-generation immigrants compared to the first. A second goal is to determine which ethnic groups display more successful economic performance. Lastly, these results are also analyzed according to gender, as it would be interesting to determine differences in success between males and females. However, because entry circumstances for different groups vary, I intend to still account for endogeneity through a 2-staged least squares regressions. This paper contributes to the literature as few studies have accounted for genetic ability when assessing wage outcomes of immigrants. Failure to do so is problematic given that it generates results that lead to solutions for immigrant integration that are not maximized to their full prescriptive capabilities. Variations in the immigrant experience do exist among cohorts and it is important in determining them for future policy development.

SECTION 3- DATA AND METHODOLOGY:

Subsection 3.1- Data:

The data used for this analysis is the 2002 Ethnic Diversity Survey (EDS). This survey was jointly conducted by the Department of Canadian Heritage and Statistics Canada (Statistics Canada, 2003). It provides insight into both the history and the current lives of respondents. For example, it allows researchers to gain insight into social issues faced by minorities, their involvement in their ethnic community, and their feelings towards Canada. Although immigrant integration encompasses a multitude of factors, the response this paper will be focussing on is the socioeconomic outcomes for the participants of the survey— specifically, wages. Unfortunately, this data does not come without limitations. Firstly, many previous studies on immigrant integration are longitudinal; they typically follow an individual over a period of time. The Ethnic Diversity Survey was conducted only one time and contains information that pertains only to the cohort that responded during the survey period. Further, one aspect that remains unknown is the entry status of the respondents. In other words, the survey does not indicate whether they arrived under skills based objectives, public or private refugee status, or through family reunification. Another issue is that this survey is dated. Given only one cycle of the EDS was conducted, the survey is now almost 16 years old and the landscape for immigration has changed. For example, Canada has witness a large influx of Syrian refugees, with an intake of 46,700 refugees in 2016 alone (Puzic, 2016). As a result, the composition of immigrant entry status, which continues to remain unknown to us, was likely very different in 2002 than in current times. However, despite these shortcomings, we are still given insight into schooling decisions and labour market outcomes of the respondents, which is of greater significance to this study.

The dependent variable, measuring immigrant success, will be the log of the annual income reported by respondents. There are 5 income categories that respondents can fall under: Less than \$20,000, \$20,000 to less than \$40,000, \$40,000 to less than \$60,000, \$60,000 to less than \$80,000, and \$80,000 or more. Respondents who report zero or negative incomes are dropped from the sample given that working individuals who are not self-employed should not be reporting such an income. In terms of educational attainment, the potential categories are: Bachelor's degree, some university— which includes enrolment at university or a degree certificate that is below a Bachelor's degree—, college programs outside the trades, trade or technical diploma and high school diploma. Education restrictions follow Caponi and Plesca's (2009) work regarding ability bias and degree pursuits, dropping any observation less than a high school diploma. This is conducted for several reasons. The first is due to the fact that those who drop out of high school have better labour market outcomes than those with a high school diploma but perform worse than individuals with college level education, or higher. If it is not dropped, then the returns will report lower wage benefits of college education. The second is to maintain that this is an analysis of post-secondary outcomes, with “high-school diploma” indicating that no post-secondary education was pursued. Furthermore, respondents that report education above the bachelor's degree are dropped as the response only indicates the receipt of a medical, veterinary medicine or optometry degree. This is not an accurate representation of all post-graduate degrees and could largely skew the results of wages in their favour. The sample was also meant to be restricted to the working age population, following Caponi and Plesca (2009) and Breunig et al. (2013). However it is further restricted to the population age 30-65 as a result of the age composition of immigrants— this will be discussed in section four.

Immigrant background variables are described through ethnicity and generational status.

Given the strong upward mobility between first and second-generation immigrants, it is important to assess both outcomes relative to third generation or more. Ancestral background is included due to the patterns of success among different ethnic groups. This variable is grouped into 15 categories: Canadians, British Isles, Western European, Northern European, Eastern European, Southern European, Jewish, African, Middle Eastern, South Asian, East and Southeast Asian, West Indian, Latin American, American, or other. This is based on the first ethnicity the individual strongly identifies with. This method is chosen because although respondents could have several ancestries, and I am making the assumption that the one they indicate as their first response most likely reflects their home upbringing and values as well as the social capital gained from that ethnic community. As outlined by Frank et al. (2013), those who identify with the ethnicity of the dominant group “may not experience the same level or type of economic penalties for their immigrant status as those who preserve their “foreignness”” (Frank et al., 2013, pg. 43). The one issue with the methodology I have chosen to determine one’s background is that some first generation immigrants indicate their main ancestry as Canadian. Regardless, we would expect their wages to decrease.

Subsection 3.2- Methodology:

The standard ordinary least squares model is given by a mixture of human capital and demographic variables. These variables are chosen due to their impact on wages. For instance, it can be hypothesized that belonging to an older age cohort or being proficient in a national language are factors that would have a positive impact on wages. The equation is shown below:

$$\begin{aligned} \text{Log Wage} = & \beta_0 + \beta_1 \text{Education} + \beta_2 \text{Age} + \beta_3 \text{Generation} + \beta_4 \text{Ethnicity} \\ & + \beta_5 \text{MaritalStatus} + \beta_6 \text{Gender} + \beta_7 \text{FirstLanguage} + \varepsilon \end{aligned}$$

Where ε is the error term. The issue here is that if the unobserved ability that is correlated with education is ignored, it may then be included in the error term. As a result a 2-Stage Least Squares (henceforth, 2SLS) regression is also employed to account for genetic ability. This paper seeks to use an instrumental variable, z , which has a correlation with education in this case, but is assumed not to be correlated with income. In our case, the instrumental variables would be an individual's mother's and father's level of education. Following the work of Maluccio (1998) as well as Caponi and Plesca (2009) this is chosen for several reasons. The first is that a parent with a higher education level would increase the likelihood that the child comes from a richer background, influencing their post-secondary education enrolment—although the effects of this is expectedly lower for 1.5-generation immigrants. The second is that higher parental education indicates a value transfer that could potentially incentivize the child to attend school. There are however, concerns that there does exist a correlation between parental education and child wages, for example access to a broader job network, and this poses a limitation to this work.

Rewriting the original equation in a general format,

$$Y = \beta_0 + \beta_1 X + u$$

And given that there is zero correlation between our instrument, z and the error term, the coefficient of the IV estimate is given by:

$$\beta_{IV} = Cov(y, z) / Cov(x, z) = \sum (y_i - \bar{y})(Z_i - \bar{Z}) / \sum (x_i - \bar{x})(Z_i - \bar{Z})$$

Where \bar{y} is the mean of the log of income and \bar{x} is the mean of the education attained. Parental education is the chosen instrument given the strong impact of the intergenerational education transfer previously discussed. The ultimate goal of the 2SLS regression is to produce unbiased estimates of the coefficients. Further, the Hausman test for endogeneity is performed on the instrumental variables in order to ensure that there does exist an ability bias and a 2SLS approach would be suitable in addressing that bias.

Second and third specifications are also run, to analyze the wage impacts on females and males separately. Essentially, genders typically face very different immigrant experience, especially as many females arrive under spousal means (Rollin, 2011). As increasing numbers of females are participating in the labour force, it is important to determine if there are variations in their wages based on their human capital accumulation. This is especially true in the case of female immigrants given that if they were typically less skilled than their male counterparts, it would be of use to see the value of the returns to their skills attainment. One human capital variable is added to the gender specific regressions. This variable is the occupational industry in which one works, given that males and females are generally assumed to occupy different fields of work (Ferrao, 2009). There are 11 categories for occupational industry: management, business and finance, applied sciences, healthcare, social science and education, arts, sales and service, trades, primary industry jobs (such as farming), manufacturing, and other. This variable is excluded from the original specification due to the fact that almost all industries report higher wages, and only the gender variations are of interest here.

SECTION 4- DESCRIPTIVE STATISTICS:

Subsequent to applying the restrictions and dropping all missing variable, the sample size is reduced to 11,015 observations. Due to differences in ethnic groups in terms of the timing of their immigration, language, the cultural norms, there is much variation in terms of the basic demographics and economic activities within the cohorts. This section will look at these differences across ethnicities. However, these raw percentages merely provide an overview and fail to contribute reasons for these patterns.

Table 1 indicates wage variations across generations of immigrants. These are perhaps the most surprising of the descriptive results. Second generation immigrants are proportionally greater in lower-income categories than first generation immigrants. For example, first generation immigrants comprise about 26.5% of the lowest income bracket (less than \$20,000), whereas second-generation immigrants account for about 31.8%. When looking across generations for the highest income bracket (greater than \$80,000), proportions in that category also seem to be decreasing with each successive generation. However, succeeding generations tend to report higher rates of middle-income earnings. One reason for these trends could largely be because of the varying age compositions of the generations. This is supported by Table 2, showing wages across a more specified age range—30 to 64. Second-generation respondents were typically younger than first-generation respondents, which heavily skewed the results given that younger populations are only at the beginning of their careers and have less experience. Thus the sample is further restricted to this age range to ensure results are reflective of the respondent characteristics outside of their age distribution. The patterns in age are shown in table 3, in which we can see that despite the slightly higher percentage of respondents in the oldest cohort and the

lower percentage of respondents in the youngest cohort for first generation immigrants, the results are much more balanced.

Table 1: Income Categories Across Generations

	<\$20,000	\$20,000 to \$40,000	\$40,000 to \$60,000	\$60,000 to \$80,000	>\$80,000
1 st Generation	26.5%	34.9%	21.1%	11.0%	6.5%
2 nd Generation	31.8%	31.1%	22.2%	9.2%	5.7%
3 rd Generation	27.9%	32.7%	23.3%	10.5%	5.6%

Table 2: Income Categories Across Generations (Age Range 30-65)

	<\$20,000	\$20,000 to \$40,000	\$40,000 to \$60,000	\$60,000 to \$80,000	>\$80,000
1 st Generation	20.6%	35.7%	23.4%	12.6%	7.7%
2 nd Generation	15.8%	31.8%	29.5%	13.8%	9.1%
3 rd Generation	17.2%	33.1%	28.4%	13.7%	7.7%

Table 3: Age Distributions Across Generations

	30-34	35-44	45-54	55-64
1 st Generation	13.9%	33.9%	32.3%	19.8%
2 nd Generation	21.2%	35.7%	28.3%	14.8%
3 rd Generation	17.4%	38.1%	31.3%	13.1%

In terms of general demographics, age structure varies greatly in ethnicities. Respondents who identified as from the United States, and United Kingdom and Canada were among the older cohorts. Specifically, 54.1%, 53.1% and 47.6% of individuals from these 3 countries, respectively, indicate that they were between 45 to 64 years old. In terms of the middle age cohorts, West Indian, Latin/South/Central American and South Asian respondents had the highest proportion of respondents age 30 to 44. While this may influence wage outcomes across ethnicities, considering older age groups would potentially acquire more human capital in

regards to experience, and thus witness larger wages, I attempt to mitigate this concern through the elimination of respondents aged 18 to 29. With regards to gender, across all ages there is a higher fraction of female respondents. Higher proportions of female respondents also hold true across most ethnicities as well, with the exception of those from a South Asian and American background. Given male-female wage differentials, this may be a cause for decreased wages for some ethnicities.

Among the 14 ethnicities, the backgrounds that report the highest proportions of first generation immigrants are from South Asia, Southeast Asia, and South/Latin/Central America, comprising of 84.9%, 70.0% and 77.6%, respectively. Although these 3 backgrounds account for about 10% of the total sample, these findings are still compatible with the patterns of immigration in Canada. For example, the National Household Survey asserted that approximately 59% of recent immigrants between 2006 and 2011 arrived from Asia (Statistics Canada, 2011). Given that the EDS was conducted only 4 years prior to this report, patterns would not be expected to be significantly different. This is especially true, because when looking at the proportions of immigrants that arrived in more recent times, 34.9% of South American, 33.9% of Southeast Asian and 30.9% of South Asian respondents indicated they arrived recently. In this study a “recent newcomer” would be considered arriving after 1991.

In contrast, 74.4% of Canadians, 53.6% of Western Europeans and 57.6% of Northern Europeans (mostly comprised of Scandinavian nations) indicate they are third generation or more. Once again, the remaining 25.6% of Canadian respondents are split between the second and third generation, and while this raises some issues in the study, it is what they identify as through naturalization. These third generation compositions are also consistent with historical

immigration patterns given that prior to the 1970s most immigrants originated from countries within these regions, for example Germany and England (Statistics Canada, 2011).

Geographically, the majority of recent newcomers are settled in central metropolitan areas, predominantly in Toronto, Montreal and Vancouver. This is important to wages in general as they increase in more dense areas. For example, in 2000, wages in census metropolitan areas were 8% above the national average (Beckstead et al., 2010, pg.7). Given these findings, it is clearly advantageous for newcomers to settle within these areas. Table 4 displays that first generation immigrants are more likely to settle in CMAs, whereas second and third-generation have higher numbers of respondents residing outside CMAs. Of those that arrived after 1991, 71.3% declare their area of residence in one of these 3 cities. Among the remaining newcomer respondents, 23.0% indicate living in other metropolitan areas, for example Ottawa and Calgary, and 5.7% claim to live outside any census metropolitan areas. Throughout ethnic backgrounds, the largest percentages of respondents that lived in non-census metropolitan areas (non-CMA) were from the United States and Northern Europe. Furthermore, the largest percentages of respondents that lived in the top three CMAs were from the West Indies (75.5%), Southeast Asia (69.2%) and South Asia (72.1%).

Table 4: Generations by Area

	Toronto	Montreal	Vancouver	Other CMA	Non-CMAs
1 st Generation	36.6%	8.1%	13.9%	27.4%	14.0%
2 nd Generation	18.6%	7.3%	8.6%	35.6%	29.9%
3 rd Generation	8.6%	10.2%	5.2%	36.6%	39.4%

Table 5 displays educational attainment among different ethnic backgrounds, in percentages. Individuals that identified as Jewish— leading by 38.4%, Southeast Asian, and South Asian were among those that indicated bachelor’s degrees as their highest level of education.

The highest incidence of college diploma attainment is among African students at 12.9% closely followed by West Indian students at 12.7%. Among those that have the lowest level of education, which in this study is a high school diploma, are individuals from Western Europe, the United Kingdom, Latin America, and Canada. These raw percentages are partially consistent with Hagy and Farley (2002) whose raw data indicate that “White” and “Hispanic” students are most commonly groups whose educational course ends after a high school diploma.

Regarding where one’s education was obtained, Southeast Asians and South Asians had the highest proportion of individuals who received their degrees outside of Canada– 38.0% and 44.6% of respondents, respectively. Thus their human capital could be discounted heavily given they were educated elsewhere (Picot, 2004). With regards to parental education, Jewish (39.9%), African (39.3%) and South Asian (39.9%) respondents report the highest rates of one’s father receiving a university degree. The highest reported rates of one’s mother receiving a university degree resulted in similar outcomes, suggesting women often marry someone with education levels similar to their own (Oreopoulos et al., 2006).

Table 5: Highest Level of Education Across Ethnic Backgrounds:

	High School Diploma	Trade or Vocational School	College	Some University	Bachelors
Canadian	31.4%	29.0%	9.3%	7.8%	22.4%
United Kingdom	32.2%	26.1%	9.0%	9.3%	23.4%
Western Eur.	31.1%	30.0%	9.7%	8.5%	20.6%
Northern Eur.	28.6%	28.6%	11.7%	9.8%	21.3%
Eastern Eur.	28.8%	27.5%	8.4%	9.7%	25.5%
Southern Eur.	29.8%	28.3%	11.8%	8.0%	22.1%
Jewish & Other Eur.	22.1%	21.4%	6.6%	11.5%	38.4%
African	21.3%	28.2%	12.9%	13.8%	23.9%
Middle East.	22.8%	21.7%	8.9%	13.5%	33.1%
South Asian	26.8%	16.3%	8.9%	11.7%	36.3%

Southeast Asian	25.5%	20.9%	8.0%	11.6%	33.9%
West Indian	27.8%	28.6%	12.7%	10.9%	20.0%
Latin American	31.0%	23.1%	9.7%	13.0%	23.1%
American	29.5%	23.5%	10.2%	7.2%	29.5%

Given these cross tabulations and summary statistics, I employ a statistical model to digest how these factors impact wages outcomes. The succeeding section discusses the outcomes of our standard OLS model, as well as the 2SLS model with parental education as instruments. The idea here is not that certain ethnicities are more capable, this study is accounting for the fact that certain entry circumstances may result in certain groups in Canada having a higher genetic ability.

SECTION 5- RESULTS:

In my regressions, the log of the average of each income category gives the dependent variable. Table 6 below presents the estimates of the OLS and the instrumental variable regressions, as well as an OLS specification that omits the education variable so that we can later see the effects of education on wages. The standard errors are reported below the coefficients. Without the education variable, the coefficient of the second-generation wage increase is higher, and that of the first generation decrease is slightly higher. However, the coefficients on almost all the demographic variables are smaller than in the OLS. This shows that greater increases in wages are linked with higher education. Given how important education is as a human capital input through which individuals obtain larger incomes, the addition of this variable shows that belonging to certain groups *and* having higher education have a more positive impact on wages.

The OLS model that includes education finds that wages decrease by about 0.026 points for first generation immigrants, and increase by about 0.029 points for second-generation immigrants. These results are statistically significant at the 1% level and are consistent with previous empirical works. The second generation are typically expected to have higher wage increases because of the second generation's human capital opportunities. Being born in Canada allows for stronger language skills, and exposure to skills and education that are applicable to Canada. The same missed opportunities are why first-generation immigrant wages decline.

As expected, the returns to an extra year of education are about 0.072 points. Few ethnicities display significant effects on wages except for those that come from an American and South/Central/Latin American background. Basic demographic characteristics appear to have significant effects, however, as being male as well as married (or common-law) are associated with higher wages. The coefficient on the male indicator is particularly large at 0.344 points and could signify that there exists a male-female wage gap. Furthermore, increasing in age reflect an increase in wage, except in the case of 55-64 year olds. This is not surprising as older respondents accumulate more human capital through experience, and are more likely to be married than younger respondents. There is also a significant effect of speaking a national language (English or French) on wages, showing an increase in wages with the knowledge of one of the official languages, consistent with previous works.

Employing the instrumental variable approach finds a larger decrease in first generation wages. Significant at the 5% level, first generation immigrants experience a decrease by 0.033 points. Meanwhile, second-generation immigrants experience a wage increase of 0.020, smaller than the results of the OLS. We can infer that there is a larger intergenerational education transfer among immigrant groups. Thus instrumenting would reduce these coefficients as the

education transfer is now accounted for. The coefficients on ethnic backgrounds are also smaller and the wage decreases are statistically significant for the earlier mentioned ethnicities, but also for Africans, once again at the 10% level. The coefficient on the American immigrants is especially surprising given the size, which shows a decrease by 0.140 points. The United States is Canada's closest geographic neighbour and is similar in education, language, and experiences so a negative wage to that degree would not be expected. Marital status and being a male continue to increase wages, as first language continues to decrease wages. The first language variable is significant at the 1% level under the IV approach and the coefficient indicates a larger increase in wages than the OLS.

The Wu-Hausman test for endogeneity is employed to determine if the IV estimates are a better fit for this model than the OLS estimates. To begin, a reduced form regression is conducted in which education is regressed on the mother's level of education, the father's level of education, and the remaining variables—age, ethnicities, generation, marital status, dependent children and language. Taking the residual from the reduced form equation, I add it to the original structural equation to determine whether the coefficient on the residual is statistically significant. After obtaining the p-value, I conclude that the 2SLS approach is in fact a better fit than the OLS.

Table 6: Original Specification Results:

	OLS RESULTS- EDUCATION OMMITTED	OLS RESULTS	IV RESULTS
Intercept	10.229*** (0.066)	10.121*** (0.058)	10.042*** (0.071)
Education	OMMITTED	0.072*** (0.002)	0.110*** (0.010)
GENERATION			
First	-0.023* (0.014)	-0.026*** (0.013)	-0.033** (0.014)

	Second	0.036*** (0.010)	0.029*** (0.009)	0.020*** (0.010)
AGE				
	35-44	0.057*** (0.012)	0.078*** (0.012)	0.091*** (0.013)
	45-54	0.083*** (0.013)	0.106*** (0.012)	0.123*** (0.013)
	55-64	-0.045*** (0.015)	-0.018 (0.014)	0.006 (0.016)
BACKGROUND				
	Canadian	0.035 (0.064)	0.004 (0.061)	-0.010 (0.065)
	United Kingdom	0.053 (0.063)	0.021 (0.061)	0.012 (0.064)
	Western Eur.	0.024 (0.064)	-0.004 (0.061)	-0.009 (0.064)
	Northern Eur.	0.019 (0.067)	-0.019 (0.064)	-0.046 (0.068)
	Eastern Eur.	0.035 (0.064)	0.001 (0.062)	-0.018 (0.065)
	Southern Eur.	0.048 (0.065)	0.022 (0.062)	0.031 (0.066)
	Jewish & Other Eur.	0.162** (0.072)	0.078 (0.072)	0.035 (0.075)
	African	-0.074 (0.075)	-0.110 (0.072)	-0.145* (0.077)
	Middle East.	0.096 (0.078)	0.046 (0.074)	0.026 (0.080)
	South Asian	0.021 (0.070)	-0.029 (0.067)	-0.027 (0.071)
	Southeast Asian	0.023 (0.066)	-0.037 (0.063)	-0.057 (0.067)
	West Indian	0.030 (0.070)	-0.001 (0.068)	0.002 (0.072)
	Latin American	-0.070 (0.080)	-0.129* (0.077)	-0.149* (0.081)
	American	-0.076 (0.079)	-0.130* (0.076)	-0.140* (0.081)
	Male	0.342*** (0.008)	0.344*** (0.009)	0.347*** (0.008)
	Married	0.096*** (0.010)	0.099*** (0.010)	0.091*** (0.010)
	First Language- Official	0.039** (0.015)	0.033** (0.015)	0.045*** (0.016)
	Dependent Chr.	-0.008	-0.008*	-0.006

	(0.004)	(0.004)	(0.005)
Hausman Residual			-0.042*** (0.011)
(* =10% significance level, **=5% significance level, ***=1% significance level)			

In terms of the additional specifications, the results are included below. When comparing effects of male and female wages under the OLS, it is clear that an additional year of schooling has a larger effect on female wages than male. It is also apparent that first generation male immigrants experience a greater loss in wage than first generation females, but that the increase in wage is almost equal for both genders of the second generation. Further, increasing age—and thus likely increases in experience— have larger impacts for male respondents. Occupational variations between the genders reflect that males witness larger wage increases in most occupational sectors, with the exception of the healthcare sector in which females experience larger wage impacts. This is foreseen as a 2009 Statistics Canada report indicates that women are most prevalent in health fields. However, they are also more concentrated in areas such as social sciences, administrative work, and teaching and it is interesting to see that the male coefficients are higher than the female (Ferrao, 2009).

The results suggest no significance in belonging to different ethnicities for female respondents. However, the opposite is true for males and the results are slightly reflective of the original specification. Being of African, South/Central/Latin American, and American background indicate that the individual typically experience a wage loss, however for males being of Southeast Asian descent also display a decrease in income. Furthermore, the coefficient on the South/Central/Latin American and African variables are significant at the 5% level while the remaining 2 are only significant at the 10% level. In terms of marital status, being married or common law only seems to impact male income, increasing wages by 0.158 points. This might

be because of the fact that men take on the financial role more often when starting a family than females do, although this trend is slowly changing in favour of women (Milligan, 2013). This is also supported by the fact that increases in the number of dependent children reflect a wage increase for males by 0.020 points, but a wage decrease for females by 0.016 points. A recent Statistics Canada report reveals that in places with higher day-care fees, women are less likely to work. Further, because they report spending time with their children, they work fewer hours per week than men (Moyser, 2017). These factors could explain why the number of dependent children works in opposite directions for male and female wages.

When applying the instruments, which are the same as the original specification, the results provide similar insights for both genders. It should be noted that the Wu-Hausman test is once again conducted and the 2SLS approach is determined to be a better fit for both genders. Under the OLS, the effects of an extra year of education appear to be stronger for females. However, once instrumenting for education it is found that while the coefficient is larger for both genders, it is also nearly the same between the genders— by 0.102 points for males and 0.099 points for females. Under the IV results, first generation immigrant males seem to experience a stronger decline in wages, however there are no significant impacts for the second generation. Alternatively, for first generation females, the wage decrease is similar to the decrease for females under the OLS, and once again only significant at the 10% level. There also seems to be no significant impact on wages for second-generation females. For both the OLS and the IV results, across all age categories males have larger income increases. This might be because of different experiences faced by females, for example the case of starting a family. This is validated by the consistent decrease in wages for females when they have increasing numbers of dependent children, opposite to the increase in wages for males.

Under the IV estimates, ethnic differences for males only show significant results for South/Central/Latin American, Southeast Asian, and African. The first three ethnicities were also found to have a significant impact on wages in the OLS model, however the results under the IV find that the coefficients are larger. This indicates that the wage disparities faced by these groups are stronger under the instrumental variable model. Once again, there is no significant impact of ethnicities among female respondents. However, these findings are inconsistent with previous economic research. For example, the aforementioned Sketurud (2009) finds differences in wage gaps among ethnic groups. Lastly, males generally appear to make higher wages across almost all occupational industries, except for healthcare and education. Unsurprisingly, the biggest differences appear in areas such as manufacturing and the trades, which are typically male dominated fields (Ferrao, 2009). First language skills only appear to be significant for males in the IV estimate, at the 10% level. This is interesting given the strong significance of increases in first language that are found in the regressions with the total sample.

Table 7: Gender Specific Regression Results

	OLS -MALE	IV -MALE	OLS -FEMALE	IV- FEMALE
Intercept	10.126*** (0.122)	9.986*** (0.134)	9.916*** (0.064)	9.842*** (0.079)
Education	0.050*** (0.004)	0.102*** (0.018)	0.066*** (0.003)	0.099*** (0.014)
GENERATION				
First	-0.037** (0.018)	-0.055*** (0.019)	-0.030* (0.016)	-0.031* (0.017)
Second	0.026** (0.013)	0.018 (0.014)	0.028** (0.011)	0.019 (0.012)
AGE				
35-44	0.080*** (0.015)	0.101*** (0.017)	0.040*** (0.014)	0.046*** (0.019)
45-54	0.134*** (0.016)	0.160*** (0.018)	0.056*** (0.015)	0.065*** (0.016)
55-64	0.167***	0.207***	0.036**	0.047**

	(0.020)	(0.023)	(0.018)	(0.021)
OCCUPATION				
INDUSTRY				
Management	0.676*** (0.023)	0.645*** (0.026)	0.614*** (0.022)	0.597*** (0.024)
Business and Finance	0.455*** (0.023)	0.454*** (0.024)	0.342*** (0.012)	0.354*** (0.016)
Applied Sciences	0.626*** (0.022)	0.612*** (0.024)	0.618*** (0.031)	0.591*** (0.034)
Healthcare	0.350*** (0.047)	0.358*** (0.052)	0.451*** (0.018)	0.457*** (0.020)
Social Science & Education	0.448*** (0.030)	0.358*** (0.042)	0.440*** (0.019)	0.400*** (0.029)
Arts and Culture	0.434*** (0.045)	0.395*** (0.050)	0.283*** (0.040)	0.266*** (0.044)
Sales and Service	0.369*** (0.021)	0.389 (0.023)	0.170*** (0.016)	0.194*** (0.019)
Trades and Transportation	0.461*** (0.020)	0.507*** (0.026)	0.285*** (0.044)	0.326*** (0.050)
Primary Industry	0.353*** (0.019)	0.378*** (0.050)	0.059 (0.084)	0.063 (0.091)
Manufacturing	0.444*** (0.024)	0.484*** (0.029)	0.305*** (0.032)	0.334*** (0.037)
BACKGROUND				
Canadian	-0.153 (0.119)	-0.154 (0.121)	0.040 (0.061)	0.030 (0.065)
United Kingdom	-0.114 (0.117)	-0.113 (0.121)	0.051 (0.060)	0.048 (0.064)
Western Eur.	-0.124 (0.119)	-0.112 (0.120)	0.015 (0.060)	0.017 (0.065)
Northern Eur.	-0.072 (0.122)	-0.084 (0.124)	-0.045 (0.065)	-0.063 (0.070)
Eastern Eur.	-0.102 (0.119)	-0.107 (0.122)	0.004 (0.062)	-0.001 (0.066)
Southern Eur.	-0.108 (0.120)	-0.078 (0.122)	0.048 (0.063)	0.056 (0.067)
Jewish & Other Eur.	-0.095 (0.128)	-0.108 (0.130)	0.119 (0.077)	0.092 (0.082)
African	-0.287** (0.128)	-0.311** (0.132)	-0.059 (0.076)	-0.066 (0.083)
Middle East.	-0.147 (0.134)	-0.177 (0.138)	0.128 (0.077)	0.136 (0.084)
South Asian	-0.184 (0.124)	-0.168 (0.127)	0.027 (0.071)	0.024 (0.076)
Southeast Asian	-0.223* (0.120)	-0.225* (0.123)	0.025 (0.064)	0.022 (0.069)

West Indian	-0.167 (0.126)	-0.138 (0.129)	0.024 (0.068)	0.034 (0.074)
Latin American	-0.307** (0.133)	-0.311** (0.136)	-0.092 (0.083)	-0.103 (0.088)
American	-0.219* (0.131)	-0.196 (0.135)	-0.058 (0.084)	-0.072 (0.091)
Married	0.158*** (0.014)	0.145*** (0.015)	0.010 (0.011)	0.010 (0.011)
Dependent Children	0.020*** (0.006)	0.025*** (0.007)	-0.016*** (0.005)	-0.015*** (0.006)
First Language	0.024 (0.019)	0.039* (0.021)	0.016 (0.018)	0.031 (0.020)
Hausman Residual		-0.055*** (0.017)		-0.040*** (0.015)

(* =10% significance level, **=5% significance level, ***=1% significance level)

SECTION 6- CONCLUSION:

Using the Ethnic Diversity Survey (EDS) of 2002, I assessed human capital accumulation and outcomes for immigrant groups. I conducted a basic OLS regression of wages based on demographic characteristics. The objective of this was to see wage effects of belonging to certain groups or attaining specific socioeconomic characteristics. In order to further account for the ability bias that can potentially arise from entry conditions, I use instrumental variables. These differences are also analyzed by male and female patterns to account for gendered differences in the immigrant experience. Lastly, due to the fact that second and third generation respondents in this survey are largely comprised by younger cohorts, I analyzed a sample including older cohorts: 30-34, 35-44, 45-54, and 55-64. By taking this step I ensured that age distributions are more evenly split across generations. This allows for a more even playing field, as the similar proportions should hypothetically allow for common experience attainment.

Immigrant integration is important to foster, as it delivers stronger economic growth in a community. Given the results suggested by the regressions, it is clear that programs and benefits that target immigrants should ideally address certain types or groups of immigrants rather than the population as a whole. Specifically in the case of women, it is important to foster their integration given the social benefits associated with increased female migration. Larger numbers of females in skilled-based economies increases the overall workforce and thus a countries economic success (Sijapati, 2015). Immigrant integration programs could as a result be focussing on providing benefits for this group. One example of this would be English language classes that provide child care facilities so that mothers, and in some cases fathers, are more inclined to attend.

Another key issue is education. For younger cohorts of immigrants, the risk of leaving school at an earlier age should be mitigated. One way of achieving this goal is providing more funding for public schools in immigrant neighbourhoods. Latif (2017) assesses educational attainment across different types of neighbourhoods. Those that witnessed higher rates of government educational spending also witnessed higher rates of education among their students. This pattern is consistent with other parts of the world; higher schooling quality, for example, a lower student to teacher ratio, impacts a student's success (Bratsberg and Terrell, 2002). It is clear that investments in the schooling qualities of immigrant-dense communities would be favourable for their long-term success.

For future papers, it would be beneficial to create a longitudinal study of immigrant outcomes while accounting for ability bias. Many works analyze the gaps between immigrant wages and native-born populations, and they do assess the differences in ethnic backgrounds. However, controlling for ability bias allows policy makers to target specific groups with higher

needs. Variations in entry indicate that certain groups will achieve higher rates of social mobility than others. As a result it is important that policies are set in maximizing the outcomes of all entrants to Canada.

WORKS CITED:

The Association of Universities and Colleges in Canada. (2011). Trends in Higher Education. Retrieved from <https://www.univcan.ca/wp-content/uploads/2015/11/trends-vol1-enrolment-june-2011.pdf>

Aydemir, A., Chen, W., & Corak, M. (2013). Intergenerational Education Mobility among the Children of Canadian Immigrants. *Canadian Public Policy/ Analyse De Politiques*, 39, S107-S122. Retrieved from <http://www.jstor.org/stable/23594760>

Baum, S., Ma, J., Payea, K. (2013). Education Pays 2013: The Benefits of Higher Education for Individuals and Society. *The College Board*. Retrieved from <https://trends.collegeboard.org/sites/default/files/education-pays-2013-full-report.pdf>

Beckstead, S., Brown, M., Guo, Y., & Newbold, B. (2010). Cities and Growth: Earnings Levels Across Urban and Rural Areas: The Role of Human Capital. *Statistics Canada*. Retrieved from <http://www.statcan.gc.ca/pub/11-622-m/11-622-m2010020-eng.pdf>

Berger, J., Motte, A., Parkin, A. (2009). *The Price of Knowledge: Access and Student Finance in Canada*. The Canada Millennium Scholarship Foundation. Retrieved from https://library.carleton.ca/sites/default/files/find/data/surveys/pdf_files/Price-of-Knowledge_3rd-edition_2007-09_book_en.pdf

Bleakley, H. & Chin, A. (2004). Language Skills and Earnings: Evidence from Childhood Immigrants. *The Review of Economics and Statistics*, 86(2), 481-496. Retrieved from <http://www.jstor.org/stable/3211642>

Borjas, G. (2006). Making it in America: Social Mobility in the Immigrant Population. *The Future of Children*, 16(2), 55-71. Retrieved from <http://www.jstor.org/stable/3844791>

Boyd, M. & Tian, S. (2016). Educational and Labour Market Attainments of the 1.5- and Second Generation Immigrants in Canada. *American Behavioural Scientist*, 60(5-6), 705-729. DOI: 10.1177/0002764216632830

Bratsberg, B. & Terrell, D. (2002). School Quality and Returns to Education of U.S. Immigrants. *Economic Inquiry*, 40(2), 177-198. DOI: 10.1093/ei/40.2.177

Breunig, R., Hasan, S., Salehin, M. (2013). The Immigrant Wage Gap and Assimilation in Australia: Does Unobserved Heterogeneity Matter? *Economic Society of Australia*, 89(287), 490-507. DOI: 10.1111/1475-4932.12075

Canadavisa. (2017). Canadian Immigration: Federal Skilled Worker Category. Retrieved from <http://www.canadavisa.com/canadian-skilled-worker-immigration.html>

Caponi, V. & Plesca, M. (2009). Post-Secondary Education in Canada: Can Ability Bias Explain the Earnings Gap between College and University Graduates? *Canadian Journal of Economics*, 42(3), 1100-1131. Retrieved from <http://www.jstor.org/stable/40389500>

Cobb-Clark, D.A. & Nguyen, T. (2010). Immigration Background and the Intergenerational Correlation in Education. *Economic Record*, 88 (283), 554-575. Retrieved from <http://ftp.iza.org/dp4985.pdf>

Feliciano, C. (2005). Does Selective Migration Matter? Explaining Ethnic Disparities in Educational Attainment among Immigrants' Children. *International Migration Review*, 39(4), 841-871. DIO: 10.1111/j.1747-7379.2005.tb00291.x

Ferrao, V. (2009). Paid Work. Ottawa, ON. *Statistics Canada*. Retrieved from <http://www.statcan.gc.ca/pub/89-503-x/2010001/article/11387-eng.htm#a11>

Frank, K., Phythian, K., Walters, D., Anisef, P. (2013). Understanding the Economic Integration of Immigrants: A Wage Decomposition of the Earnings Disparities between Native-Born Canadians and Recent Immigrant Cohorts. *Social Sciences*, 2, 40-61. DOI: 10.3390/socsci2020040

Frenette, M. & Morissette, R. (2005). Will they ever Converge? Earnings of Immigrant and Canadian Born Workers over the Last Two Decades. *International Migration Review*, 39(3), 228-258. DOI: 10.1111/j.1747-7379.2005.tb00261.x

Hagy, A.P. & Staniec, J. (2002). Immigrant Status, Race, and Institutional Choice in Higher Education. *Economics of Education Review*, 21, 381-392. DOI: 10.1016/S0272-7757(01)00033-4

Havari, E. & Savegnago, M. (2013). The Casual Effect of Parent's Schooling on Children's Schooling in Europe: A New Instrumental Variable Approach. *CEIS Research Paper*. Retrieved from https://irvapp.fbk.eu/sites/irvapp.fbk.eu/files/versione_wp-_havari_savegnago_december2013_1.pdf

Hum, D. & Simpson, W. (2004). Economic Integration of Immigrants to Canada: A Short Survey. *Canadian Journal of Urban Research*, 13(1), 46-61. Retrieved from <https://search.proquest.com/docview/208716206?accountid=6180>

Hum, D. & Simpson, W. (2007). The Legacy of Immigration: Labour Market Performance and Education in the Second Generation. *Applied Economics*, 39, 1985-2009. DOI: 10.1080/00036840600690223

Latif, E. (2017). The Relationship between Intergenerational Educational Mobility and Public Spending: Evidence from Canada. *The Economic Society of Australia*, 1-16. DOI: 10.1111/1759-3441.12177

London School of Economics. (n.d.). "The Basic Theory of Human Capital." Retrieved from

<http://econ.lse.ac.uk/staff/spischke/ec533/Acemoglu%20Autor%20chapter%201.pdf>

Maluccio, J. (1998). Endogeneity of Schooling in the Wage Function: Evidence from Rural Philippines. *FCND Discussion Paper*. Retrieved from <http://www.ifpri.org/publication/endogeneity-schooling-wage-function>

Maroto, M. & Aylsworth, L. (2016). Catching Up or Falling Behind? Continuing Wealth Disparities for Immigrants to Canada by Region of Origin and Cohort. *Canadian Review of Sociology*, 53(4), 374-408. DOI: 10.1111/cars.12124

Mata, F. & Pendakur, R. (2016). Of Intake and Outcomes: Wage Trajectories of Immigrant Classes in Canada. *Journal of International Migration and Integration*, 18(3), 829-844. DOI: 10.1007/s12134-016-0501-1

Milligan, K. (2013, June 10). What the Data Shows About Female Breadwinners in Canada. *Maclean's Magazine*. Retrieved from <http://www.macleans.ca/economy/business/what-the-data-shows-about-female-breadwinners-in-canada/>

Moyser, M. (2017). Women and Paid Work. Ottawa, ON. Statistics Canada. Retrieved from <http://www.statcan.gc.ca/pub/89-503-x/2015001/article/14694-eng.htm>

Nagler, J. (1999). Notes on Simultaneous Equations and Two Stage Least Squares Estimates. *NYU Lecture Notes*. Retrieved from http://www.nyu.edu/classes/nagler/quant2/notes/2slsnotes_oh.pdf

Oreopoulos, P., Page, M. E., Stevens, A.H. (2006). The Intergenerational Effects of Compulsory Schooling. *Journal of Labour Economics*, 24(4), 729-760. Retrieved from <http://www.jstor.org/stable/10.1086/506484>

Papademetriou, D.G. (2009). The Social Mobility of Immigrants and their Children. *Migration Policy Institute*, 1-22. Retrieved from <http://www.migrationpolicy.org/research/social-mobility-immigrants-and-their-children>

Picot, G. (2004). The Deteriorating Economic Welfare of Canadian Immigrants. *Canadian Journal of Urban Research*, 13(1), 25-45. Retrieved from <https://search.proquest.com/docview/1468379853?accountid=6180>

Puzic, S. (2017, April 24). Record Number of Refugees Admitted to Canada in 2016, Highest since 1980. *CTV News*. Retrieved from <http://www.ctvnews.ca/canada/record-number-of-refugees-admitted-to-canada-in-2016-highest-since-1980-1.3382444>

Rollin, A. (2011). The Income of Immigrants who Pursue Post-Secondary Education in Canada. *Perspectives on Labour and Income*, 23(3), 3-14. Retrieved from <http://www.statcan.gc.ca/pub/75-001-x/2011003/article/11505-eng.pdf>

Sijapati, B. (2015). Women's Labour Migration from Asia and the Pacific: Opportunities and

Challenges. *International Organization for Migration*, 12. Retrieved from <http://www.migrationpolicy.org/research/womens-labour-migration-asia-and-pacific-opportunities-and-challenges>

Skuterud, M. (2009). The Visible Minority Earnings Gap Across Generations of Canadians. *Canadian Journal of Economics*, 43(3), 860-881. Retrieved from <http://www.jstor.org/stable/40800720>

Statistics Canada (2002). *Ethnic Diversity Survey*. Available from <http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=4508>

Statistics Canada. (2003). *Ethnic Diversity Survey: Portrait of a Multicultural Society*. Ottawa, ON. Ethnic Diversity Survey, 2011.

Statistics Canada. (2011). *Immigration and Ethnocultural Diversity in Canada*. Ottawa, ON. National Household Survey, 2011.

Støren, L.A., Wiers-Jenssen, J. (2010). Foreign Diploma Versus Immigrant Background: Determinants of Labour Market Success or Failure? *Journal of Studies in International Education*, 14(1), 29-49. DOI: 10.1177/1028315308327951

Turcotte, M. (2011). Intergenerational Education Mobility: University Completion in Relation to Parents' Education Level. *Statistics Canada, Canadian Social Trends*, 92, 37-43. Retrieved from <http://www.statcan.gc.ca/pub/11-008-x/2011002/article/11536-eng.pdf>