A QUANTILE ANALYSIS OF COGNITIVE SKILLS OF IMMIGRANTS AND THE IMPACT ON EARNINGS WITHIN CANADA

by

Laura Swan

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Contents

1. Introduction

Immigrants in many developed countries have experienced difficulty in terms of economic integration. As documented in the economic literature for the United States by Borjas (1985, 1995) and Lubotsky (2007) and for Canada by Baker and Benjamin (1994) and Aydemir and Skuterud (2005), the entry earnings of new immigrants have fallen for recent cohorts over the past few decades. In addition to other reasons for the decline, differences in the quality of human capital between immigrant and native-born workers have been found to be an important factor in explaining the negative earnings differentials experienced by immigrants.

Important recent contributions have been made in explaining the negative earnings differentials experienced by immigrants. Alboim, Finnie and Meng (2005) use the 1989 Literacy Skills Used in Daily Activities (LSUDA) survey to examine the economic returns to foreign education and experience, using literacy skills as a control variable. From their analysis, they find that the gap in income between immigrants and native-born Canadians is fully explained by immigrants receiving low returns to foreign human capital. Ferrer, Green and Riddell (2006) use the 1994 International Adult Literacy Survey (IALS) and the 1998 Ontario Immigrant Literacy Survey (OILS) to examine the effect of literacy skills on immigrant earnings. They find that a 100 point increase in an individual's literacy score has an equivalent impact on earnings as would moving from not having finished high school to becoming a university graduate. For highly-educated immigrants, literacy skills do not explain earnings differentials as well as where an individual's education was acquired and the lack of returns to foreign experience do. By contrast, the authors find that for less educated immigrants, literacy skills explain as much of the earnings gap as is explained by low returns to foreign experience. Bonikowska, Green and Riddell (2008) expand on the previous findings and use the International Adult Literacy and Skills Survey (IALSS) to examine the immigrant earnings gap in Canada as a whole. They conclude that Canadian-born skill distributions first-order stochastically dominate those of immigrants. This research shows that immigrant skill levels should be considered when examining the persistent immigrant earnings gap.

Using the Unconditional Quantile Regression (UQR) method developed by Firpo, Fortin and Lemieux (2009), this paper will build on the work by Ferrer, Green and Riddell (2006) and Bonikowska, Green and Riddell (2008) by examining the differences in cognitive ability between immigrants and the native-born population at different quantiles of the skill level distribution. As well, the earnings differential between immigrants and native-born workers at different quantiles of the distribution will also be examined as will the role that the differences in cognitive ability account for the earnings differential across the earnings distribution.

A second contribution is made by examining the results of Quebec and English Canada separately. Quebec has a different immigrant experience relative to the rest of Canada. With an extremely low birth rate, Quebec has become increasingly reliant on immigrants to maintain its French-speaking population and unique culture. Quebec immigration policy allots more points towards French language ability and the perceived adaptability of applicants than is done by the federal point system. Today, immigrants to English Canada are predominantly from less-developed non-English speaking countries.

Quebec, on the other hand, receives a plurality of its immigrants from former French colonial interests such as Haiti, Vietnam, Algeria and Morocco. As a result, immigrants to Quebec are more likely to have come from less-developed French-speaking regions.

There is not much research on Quebec separately. However, given that language ability has been determined to be a main contributing factor to the poor economic integration of immigrants, it is important to determine whether the experiences of Quebec, given the different language and culture, is similar to those of English Canada and other countries. This will complement the works of Ferrer, Green and Riddell (2006), which focuses only on Ontario, and Bonikowska, Green and Riddell (2008), which examines Canada as a whole.

We find that there are important differences in the immigrant and native-born cognitive skill scores across the distribution. The difference appears to be much larger at the lower quantiles of the distribution and the difference declines monotonically as we estimate the higher quantiles. Moreover, we determine that immigrants with some Canadian education are more similar to native-born workers than foreign educated immigrants. Furthermore, education affects both cognitive skills and earnings at different quantiles of the distribution. The returns to all levels of education are higher at the low end of the distribution and decline monotonically across the distribution.

The remainder of the paper begins with an outline of the relevant literature relating to the immigrant earnings gap, immigrant cognitive skills, Quebec immigration policy and unconditional quantile regressions. In the third section, we discuss the data employed in our analysis and present the statistical framework that we use to examine the relationship between cognitive skills and immigrant earnings. The fourth section contains the results from our analysis as well as an interpretation of these results. The final section presents a summary and concluding remarks.

2. Literature Review

*2.1 **Immigrant/Native Earning Differences***

The decline in immigrant earnings relative to those of native-born workers is a phenomenon experienced by many developed, immigrant-receiving countries in the past several decades. As a result, there has been extensive research devoted to explaining the decline in earnings. Borjas (1985, 1995) examines the assimilation of immigrant earnings within the United States using a cohort analysis. From his results, a rather pessimistic conclusion is reached. That is, immigrants may never reach wage parity with their US-born counterparts. He attributes this to a decline in quality of immigrants coming to the US since the 1950s. Lubotsky (2007) calculates immigrant assimilation rates using longitudinal data. His analysis returns the same results, albeit slightly less pessimistic than those of Borjas.

Friedberg (2000) finds that, in Israel, the negative earnings differential experienced by immigrants can be explained through a distinction between where an individual's human capital was acquired. This is because domestic and foreign human capital may not be direct substitutes, and human capital may not be portable across countries.

These conclusions may not apply uniformly to all countries. Antecol, Kuhn and Trejo (2006) compare assimilation rates of immigrants within the US, Australia and

Canada. They find that the degree of wage inequality within a country as well as its social policies for the unemployed significantly affect the size and persistence of the wage gap between immigrant and native-born workers. With the least progressive policies, earnings assimilation is greatest for immigrants to the US. By contrast, Australian policy is most progressive with immigrants experiencing a positive wage premium upon arrival and converging downwards over time towards native-born workers. Canada falls in between the two countries. The authors find that the destination country matters in determining the wage gap and assimilation rate.

With such a large immigrant population, the phenomenon of falling immigrant earnings is an important topic in Canadian economic literature. Baker and Benjamin (1994) and Bloom, Grenier and Gunderson (1995) examine assimilation rates for Canadian immigrants in the 1980s by examining cohort effects. Both articles demonstrate that successive cohorts of male immigrants have taken increasing amounts of time to assimilate. The gap persisted throughout the 1980s and immigrant earnings continued to fall throughout the 1990s (Warman and Worswick 2004; Aydemir and Skuterud 2005; Frenette and Morissette 2005) and the first half of the 2000s (Picot, Hou and Coulombe 2008).[1]

*2.2 **Research on Reasons for the Economic Decline of Immigrants***

Although there are many reasons for the poor economic outcomes of recent immigrant cohorts, a few reasons have been determined to be particularly important to

[1] By contrast, Grant (1999) finds a small bounce back in earnings for the late 1980s cohort. Warman and Worswick (2004) also note a small increase between 1995 and 1999 in terms of unconditional earnings which they attribute to the increased emphasis placed on education in the Canadian point system.

Canada.[2] The period of time in which the immigrant arrived may play a role in determining his or her future earnings. As a result, macroeconomic conditions must be taken into account when comparing immigrants and native-born workers or comparing the economic outcomes across immigrant cohorts. Green and Worswick (2004) compare native-born individuals who are new entrants into the labour market with recent immigrants of all working ages and find the pattern of earnings for new native-born workers explains a large portion of the pattern of earnings of immigrant cohorts. This suggests that a large part of the fall in entry earnings of recent immigrant cohorts is a phenomenon experienced by all new recent entrants to the Canadian labour market.

Much of the Canadian literature points to the lack of transferability of skills of immigrants as attributing to falling immigrant earnings. Green and Worswick (2004) note that for immigrants from non-English speaking, non-European countries, the returns to their foreign experience is negligible. Schaafsma and Sweetman (2001) find similar returns to foreign experience, but extend their paper to examine the effect of age at arrival on immigrant earnings. For immigrants, the return to education is inversely related to age at immigration. However, for those immigrants arriving between the ages of fifteen and eighteen, educational attainment is lower than those cohorts arriving at both earlier and later ages. This implies that age at arrival is important in determining the immigrant earnings gap.

Similarly, Aydemir and Skuterud (2005) find declining returns to foreign experience for immigrants. They note that the magnitude of the decline is in large part

[2] See Warman (2007) for a more complete discussion.

explained by the origin and language abilities of immigrants. Canada traditionally drew immigrants from Europe and Great Britain. However, a shift towards immigrants from less-developed areas provides a partial explanation for less recognized foreign skills, which, in turn, explains the decline in immigrant earnings. As well, immigrants with the ability to speak English or French tend to have higher earnings than immigrants unable to speak a Canadian official language; thus the shift away from the traditional European countries has come at a cost of reducing fluency in the languages used in the Canadian labour market.

The immigration point system in Canada is meant to accept economically-viable immigrants. Immigrants that enter the country as members of a family or as refugees are subject to different entry criteria. However, Picot, Hou and Coulombe (2008) find that immigrants in the skilled economic class are more likely to be in the low-income bracket within society than their counterparts that enter in the family class. This phenomenon is troubling as these individuals are admitted based on their perceived ability to assimilate into the Canadian labour market.

*2.3 **Research on Ability***

Little is known about the skill differences between immigrants and the native-born as well as to what extent the differences in the quality of immigrant human capital contribute to the lower earnings immigrants receive in the Canadian labour market. One study that examines the potential differences in human capital quality is Sweetman (2004), which employs country-level test scores as a proxy for the quality of source country education for those immigrants educated prior to migrating. He finds that once the aggregate test scores are controlled for, much of the difference in the returns to education can be explained.

However, it is not known how successful the aggregate source country test scores are as a proxy for the skills of immigrants who choose to migrate to Canada. Important progress has been made in identifying the effect that the quality of human capital and skill differences have on the earnings gap between immigrants and the native-born. This was done by Ferrer, Green and Riddell (2006) and Bonikowska, Green and Riddell (2008). Both works demonstrate that immigrants lag behind the Canadian-born in terms of the cognitive skill scores. It is also determined that where an individual's education is attained affects his or her skill level. Immigrants who received all their education abroad have significantly lower skill levels and earnings, while immigrants with Canadian education resemble Canadian-born individuals more closely than their foreign-educated counterparts. From these results, it is determined that skills and cognitive abilities should be considered when explaining the immigrant earnings gap.

The literature neglects to examine Quebec as a separate region. While Bonikowska, Green and Riddell (2008) analyse Canada as a whole, the authors do not differentiate between the provinces. However, since 1971, Quebec has had control of its own immigration policy. This will be briefly outlined in Section 2.5. Under Quebec's separate point system, French language ability and the perceived ability to adapt to Quebec culture are the most important characteristics. It may result that in exchange for these characteristics, the province is receiving less economically viable immigrants. Grenier (2001) compares immigrants and native-born workers in Ontario and Quebec between

1970 and 1995. He examines the relationship between language ability and earnings. He finds a widening earnings gap between immigrants and native-born workers in both provinces. For anglophone immigrants, the gap is diminishing slightly towards the end of his period of analysis. For francophones and allophones, it is also closing for those from traditional source countries, but greatly increasing for those from Africa, Asia and the Americas.

The case of Quebec is an interesting one in studying immigrant earnings. The province has been neglected by previous studies that have examined the returns to foreign experience as well as those analysing the impact of cognitive skills on immigrant earnings. Grenier (2001) examines the earnings gap in Quebec by language cohorts. However, he does not explain reasons for the gap. Moreover, he uses Canadian Census data to classify individuals by language ability. These variables are self-reported which may not provide an accurate indication of an individual's actual language ability level.

2.4 ***Unconditional Quantile Regression***

This paper also contributes to the literature by examining the differences in cognitive skill scores and earnings between immigrants and native-born workers at different parts of the cognitive test score and earnings distributions using the Unconditional Quantile Regression (UQR) technique. Previous studies have focused on differences in mean earnings between immigrants and the native-born. However, it is important for us to determine if high skilled immigrants in the upper quantiles of the immigrant earnings distribution also experience an earnings disadvantage or if the earnings distribution is exclusive to the lower tail of the earnings distribution.

Pendakur and Pendakur (2007) use quantile regressions to examine conditional earnings differences for native-born ethnic minorities. They find that, for many minority groups, the earnings gap differs at different quantiles of the conditional distribution. Employing a quantile regression technique picks up subtleties in the earnings of individuals that a traditional conditional mean regression technique would not. We use the UQR technique that was recently developed by Firpo, Fortin and Lemieux (2009) which has the advantage over the previous conditional quantile regression technique in that it allows us to estimate the marginal effects of the explanatory variables at specific quantiles. In our case, the dependent variables are the cognitive test scores and earnings.

2.5 ***Quebec Immigration Policy***

In 1968, Quebec became the first province involved in its own immigration affairs by establishing a Department of Immigration. In 1969, Bill 63, *La Loi pour promouvoir la langue française*, was passed. This legislation, among other things, stated that children whose mother tongue was not English were to be educated in French schools. This led to most immigrant children being educated in French rather than English, as had previously been the trend. Furthermore, three immigration agreements were forged between the federal government and Quebec in the 1970s – Lang-Cloutier (1971), Andras-Bienvenue (1975) and Cullen-Couture (1978).

Under the 1967 Canadian Point System for immigration, potential migrants to Canada, entering under the skilled worker class, were assessed quantitatively according to their skills, age, education and language ability, among other things. If the applicant was assigned an amount of points that reached a certain threshold, he or she was allowed entry into Canada.[3] However, policymakers in Quebec still yearned for more control over the selection of immigrants to their province. The 1978 Cullen-Couture Agreement gave Quebec the ability to assess potential Quebec immigrants according to its own point scale. The province could admit individuals to Quebec if they met the province's standards. These migrants, however, did not need to exceed the federal government's minimum standards. Similarly, Quebec could veto immigrants that met Canada's standards, but failed to meet those of the province.

Both point systems operate with a maximum possible score of 100 points. The major difference lies in the discretionary points that can be awarded. Most of the points for the systems are quantifiable.[4] However, there are discretionary points that are awarded by the evaluating officer. For the federal system, a maximum of ten points are awarded according to the suitability of the potential migrant for life in Canada. By contrast, the Quebec system allows for twenty-two points to be awarded at the discretion of the immigration officer. These include the adaptability of the principal applicant and his or her spouse for life in Quebec as well as the applicant's motivation for migrating to the province. Moreover, the Quebec system awards a disproportionate number of points for knowledge of French, while the Canadian system awards for knowledge of either official language.

While the province had gained control over which immigrants were selected to settle in Quebec, the federal government retained control over the reception and settlement

[3] Only the Principal Applicant entering under the economic class is assessed directly under the point system. The spouse and dependents, which make up a large fraction of the economic class, are not assessed.
[4] See Beach, Green and Worswick (2006) for a detailed discussion of Canadian immigration policy.

services, such as the number of immigrants and the supply of programs to assist in immigrant integration into Canadian society. During the negotiations of the Meech Lake Accord in 1988, Quebec pushed for control over such services. The 1991 Canada-Quebec Accord gave Quebec control over the number of immigrants admitted to the province annually. Quebec could also admit individuals from within Canada as refugees, even if the federal government had not yet approved their claim. Moreover, the province gained control over all reception and settlement services. With its unique policy, there are potentially differences in the immigrants selected by Quebec. This may have implications for how well immigrants to Quebec integrate into their new society.

3. Data and Methodology

3.1 Data

We use the International Adult Literacy and Skills Survey (IALSS), which was conducted in 2003 by Statistics Canada. It is a cross-sectional survey that provides demographic information on people over sixteen years of age living in Canada. It contains data on both native-born Canadians and immigrants. The survey participants were also administered tests meant to quantify their skill abilities. These tests focused on prose and document literacy and on problem-solving and numeracy skills.

The tasks performed in each test involved using and analysing situations that could occur in daily life. For instance, a prose task could involve locating dosage instructions on a medicine label, while a numeracy task could require a participant to determine the differences in the daily temperatures of two cities by using a newspaper weather report. The participants were given the choice of completing their tasks in either official language.

An individual who did not complete all tasks, because of language difficulties or other reasons, had his or her scores imputed by Statistics Canada's imputation software. These imputed scores are controlled for in the regression analysis. As well, we reran all of the analysis to examine the sensitivity of the results to the inclusion of individuals who did not complete all tasks.

In the analysis, our sample is restricted to those individuals between the ages of 25 and 59. This eliminates individuals who are making educational decisions and retirement decisions.[5] The small number of respondents who were not born in Canada but are not immigrants are also dropped. For the earnings regressions, the sample is restricted to contain only individuals who were employed. Self-employed workers are dropped from the sample, as are individuals who report weekly earnings below $50 or above $20,000. This controls for earnings outliers within the sample. Moreover, males and females are estimated separately within this analysis. This is because, on average, the two genders have very different labour force participation patterns. For ease of interpretation within our results, the age and education variables have been defined in such a way that the immigrant coefficients stand on their own. That is, the coefficients are not defined relative to the native-born coefficients.

The IALSS is valuable as it provides information on where a respondent's experience and education were acquired. We generate our experience variables using the standard Mincer measure of experience, which is [age – years of education – 6]. We can

[5] Ferrer, Green and Riddell (2006) restrict their analysis to ages 16 to 65, while Bonikowska, Green and Riddell (2008) use individuals aged 16 and over for their work.

then differentiate between foreign and Canadian experience as we know the individual's age upon entry into Canada. We divide education into four categories – less than high school education (omitted category), high school graduate, non-university post-secondary education and university education. Using information on where the respondents received their highest level of education, we can also determine whether an individual received his or her highest level of education within Canada. These are valuable additions to our study as we can determine the effect of foreign skills and education on immigrants entering the Canadian labour market.

3.2 Methodology

We began by estimating the results using Ordinary Least Squares (OLS) regressions with models similar to those used in the immigration literature.[6] We start by only including a dummy to indicate an immigrant and do not differentiate between the source of the experience and education of the individual.

$$(1) \qquad Y = \beta_0 + \beta_1 edn + \beta_2 \exp + \beta_3 \exp^2 + \beta_4 imm + \theta X + \varepsilon$$

where *Y* is the log of weekly earnings, *edn* is a vector of dummies for the highest level of education and exp is experience with a quadratic term as well. Finally, *imm* represents the immigrant dummy, while *X* is a vector of additional controls for the number of children, rural status and province of residence and ε is the error term.

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[6] The standard errors for the OLS regressions are estimated using Jackknife replicate weights. Sample weights are used in all regressions.

Next, in order to differentiate between immigrants who acquired their highest level of education abroad and immigrants who received their highest level of education within Canada, an additional interaction is added to the immigrant dummy with the reference category remaining native-born Canadians.

$$(2) \qquad Y = \beta_0 + \beta_1 edn + \beta_2 \exp + \beta_3 \exp^2 + \delta\, imm_C + \phi\, imm_f + \theta X + \varepsilon$$

where immigrants who received their highest level of education in Canada are represented by the subscript *c* and immigrants who obtained their highest level of education abroad are represented by the subscript *f*.

Finally, in order to differentiate between the sources of an individual's experience and education, we included a separate experience variable and education dummies for native-born individuals, for immigrants who received their highest level of education within Canada and for immigrants who received their highest level of education outside of Canada.

$$(3) \qquad \begin{aligned} Y &= \beta_0 + \beta_1 edn_n + \beta_2 \exp_n + \beta_3 \exp_n^2 + \delta_1 imm_c + \delta_2 edn_c \\ &+ \delta_3 \exp_c + \delta_4 \exp_c^2 + \phi_1 imm_f + \phi_2 edn_f + \phi_3 \exp_f + \phi_4 \exp_f^2 + \theta X + \varepsilon \end{aligned}$$

We re-estimate these equations using the UQR method proposed by Firpo, Fortin and Lemieux (2009). Linear regression models, such as OLS, have the classical property of a conditional mean, as evidenced by $E(Y \mid X) = X\beta$ which is analogous to $E(Y \mid X) = E(X)\beta$. However, this property is contingent on a linearity assumption and cannot be used to estimate quantiles, which are non-linear. Thus, the regressions are then re-estimated at different points of the earnings distribution using the quantile regression method developed by Firpo, Fortin and Lemieux (2009). While regular quantile regressions return conditional quantile estimates, this method uses a recentred influence function (RIF) which creates unconditional quantile estimates. This method allows for the estimation of the marginal effects of the explanatory variables at specific unconditional quantiles.

Using the RIF, we can determine the average effects that each explanatory variable has on each quantile of the dependent variable's distribution. This is done by running a regression in which the dependent variable is replaced by the RIF. For a specific quantile, q_τ, the RIF takes the form:

$$RIF(Y, q_\tau) = q_\tau + \frac{\tau - I(Y \leq q_\tau)}{f_Y(q_\tau)} \qquad (4)$$

where f_Y is the marginal density function of Y and *I* is an indicator function. From Firpo, Fortin and Lemieux (2009), we see that the RIF is analogous to the simple linear regression model. That is, $E[RIF(Y, q_\tau) \mid X] = X\beta$. Thus, the coefficients return results that measure the mean marginal effects of each explanatory variable at its given quantile.

First, we estimate equations (1), (2) and (3) with cognitive ability as the dependent variable. Next, the earnings differential between immigrant and native-born workers is examined, and the earnings regressions are re-estimated to include controls for the cognitive test scores in order to determine the extent to which differences in cognitive skills explain the earnings gap. Finally, we examine whether immigrant workers receive the same return for their cognitive abilities as do native-born workers.

We begin the analysis by examining the earnings differential between immigrants and Canadian-born workers first only controlling for the differences in years of experience and years of schooling. We then run the OLS regressions as well as the unconditional quantile regressions at the 10^{th}, 25^{th}, 50^{th}, 75^{th} and 90^{th} quantiles. Next, variables are included in order to differentiate between immigrants who received their highest level of education in Canada and those who obtained their highest degree prior to immigrating to Canada.

4. Results

4.1 Differences between Native-Born and Immigrant Cognitive Skills

Both male and female immigrants to Canada experience average cognitive test scores approximately 13 percent lower than those of native-born Canadians (see Tables 1a and 1b).[7] We find similar and important differences across the skill distribution for both males and females. The negative cognitive test score differential is much larger in the lower tail of the distribution and declines monotonically across the distribution. Given that those individuals who did not complete all the tasks are assigned an imputed score, we re-estimated the regressions in Tables 1a and 1b, excluding those who did not complete all the tasks, and find very similar results. We also re-estimated the regressions for only those respondents who had positive earnings and were not self-employed (the same sample that is used in the earnings regressions discussed below). Again, we obtain similar results.

[7] This is calculated from the first column of Tables 1a and 1b, respectively. The calculation is done using [exp(b) – 1]*100%.

We also find important differences in the cognitive test score gap between the levels of highest education at different parts of the distribution. Relative to the sample with less than high school education, the gap is much larger at the 10th percentile, with test scores around 70, 54 and 43 percent higher for males with a university degree, non-university post-secondary degree and high school degree respectively. For females, the gap is even larger with test scores around 81, 75 and 60 percent higher for females with a university degree, non-university post-secondary degree and high school degree respectively. The gap relative to the people without high school education declines monotonically and in the 90th percentile, the cognitive ability advantage of high school graduates disappears. For people with post-secondary education, the advantage is still statistically significant at the one percent level, but the advantage is only around 2.5 percent for people with non-university post secondary education and around 13 percent (males) or 14 percent (females) for people with a university degree. The gap in cognitive test scores between people with a university degree and with non-university post secondary is fairly stable across the distribution for males where the gap is around 10 to 15 percentage points higher for the university educated.[8] For females, the gap is actually smallest at the lower part of the distribution, with the gap being around 6 percentage points at the 10th percentile and increasing to around 11 percentage points at the 75th percentile.

Ferrer, Green and Riddell (2006) and Bonikowska, Green and Riddell (2008) find that it is important to distinguish between immigrants who received some of their education in Canada and immigrants for whom all of their education is foreign. In Table 2,

[8] This is calculated using $[(\exp(b^{uni})-1) - (\exp(b^{non\text{-}uni})-1)]*100\%$.

we use separate dummy variables for immigrants who obtained their highest level of education within Canada and for immigrants whose highest degree is from a foreign country. Again, we constrain the returns to experience and education to be the same. Since the coefficients for the experience and education variables are very similar to those in Tables 1a and 1b, we only show the immigrant coefficients. Male immigrants who received their highest degree within Canada score around eight percent lower on their cognitive skill tests relative to Canadian-born individuals. By contrast, immigrants with their highest degree from a foreign country, have scores that are around 18 percent lower than Canadian-born respondents. The largest difference in cognitive test scores between male immigrants who received their highest degree within Canada and immigrants who obtained their highest degree from a foreign country occurs at the 10th quantile, with the difference around 24 percentage points. This skill gap differential decreases and in the 90th quantile, the difference is only around four percentage points.

Next, we control for where both education and experience were obtained. This is done by differentiating between where experience was obtained and whether Canadian experience was obtained by an immigrant with a Canadian education or only foreign education. We find that male immigrants who receive their highest education in Canada achieve cognitive skill scores approximately 11 percent lower than Canadian-born individuals (see Table 3a). This figure is around eight percent for the corresponding female cohort (Table 3b). For those who received their highest level of education abroad, the male immigrants achieve scores 18 percent lower, while females achieve scores 19 percent lower.

When we examine the effect that education has on cognitive skills, we find that immigrants with foreign educations achieve higher scores than their Canadian-educated counterparts. Male immigrants with a university degree, non-university post-secondary degree or high school degree with some Canadian education experience around 38, 22 and 16 percent higher cognitive tests respectively. Similarly, the gap is around 33, 22 and 14 percent higher for females with a university degree, non-university post-secondary degree and high school degree respectively. For immigrants whose highest education is foreign, males achieve scores 43, 33, and 22 percent higher respectively, while females achieve scores 42, 34 and 21 percent higher. These results are not consistent across the distribution. At the 90th quantile, the returns to foreign education become negative. This implies that at the lower end of the distribution, any education is important in increasing cognitive test score, but at the higher end, other factors play a role. The experience variables, however, are always slightly negative, but the coefficients for Canadian experience are not significant at the 10 percent level across the distribution. Foreign experience lowers cognitive skills by a little less than one percent for both genders and is fairly consistent across the distribution.[9]

We next examine the above results separately for English Canada and Quebec. As mentioned earlier, Quebec has a separate immigration policy from that of the rest of Canada. The Quebec immigration policy places specific emphasis on French language ability and perceived adaptability to Quebec culture. Not surprisingly, given that English Canada makes up the majority of the sample, these results are very similar to those

[9] For example, increasing foreign experience from five years to six years for males reduces mean cognitive scores by around 0.6 percent. This is calculated as (-0.007 x 6 + 0.00007 x 36) – (-0.007 x 5 + 0.00007 x 25).

presented in Tables 1a and 1b, with immigrants living in English Canada experiencing around 14 percent lower cognitive test scores.[10] By contrast, in Quebec, male and female immigrants obtain cognitive test scores that are approximately nine and eight percent lower than the native-born in Quebec respectively (see Tables 4a and 4b). The relative immigrant/native-born skill gap is slightly larger in English Canada than in Quebec. This includes the lower and middle of the distribution, but again we see that the cognitive skills gap declines monotonically across the distribution. Male immigrants in Quebec experience a decline until the 90th quantile, when the gap widens slightly.

The apparent skills gap between immigrants and native-born individuals across the two regions may be accounted for by Quebec's immigration policy. As mentioned previously, Quebec's policy emphasizes French language ability. The tests administered through the IALSS are only available in French and English. Immigrants to Quebec, who are selected more heavily from French-speaking countries, may be able to more easily comprehend the test questions than immigrants in English Canada who originate from a non-English or non-French speaking country. Thus, the smaller skills gap that exists in Quebec may not necessarily be indicative of more skilled immigrants; it may merely reflect better proficiency in an official language. However, this might suggest that these immigrants may be better able to integrate economically, given language ability is not a barrier for them.

[10] Given that the results for English Canada are very similar to the results for the full sample, we do not show these results due to length considerations.

Although French is the language of the majority in Quebec, around 40 percent of the respondents took their cognitive skill tests in English. This suggests that the test scores may not accurately measure how transferable the skills of these individuals are to the Quebec labour market. The same problem does not appear to exist in the rest of the country where almost 99 percent of the respondents took their tests in English – the dominant language. We now re-estimate the results from equations (1) and (2) and differentiate whether the tests were written in English or in French within Quebec. However, we do not re-estimate equation (3) since the sample size will not support the number of interactions involved.

From examining the OLS results, we see that those male immigrants to Quebec that choose to write the tests in French obtain scores approximately 6 percent lower than native-born individuals writing the tests in French, while those who write in English receive scores approximately 13 percent lower. These results are fairly similar for female immigrants (see Table 7). These scores may also be indicative of language ability. We assume that those individuals writing in French are from the French-speaking regions. Those individuals writing in English may be more likely to have a non-official language as their mother tongue and only have an understanding of English. Chiswick and Miller (2007) argue that there is a trend for immigrants from Romance-language countries, such as Italy and Portugal, and former French colonies to have a greater propensity to settle in Quebec than in other parts of Canada. Thus, we may posit that the individuals writing their tests in English would have less ability to speak an official language than those writing in French. As a result, the ability to interpret the questions asked of them may be hindered not by skill level but by language comprehension.

4.2 Differences between Native-Born and Immigrant Earnings

The earnings differentials for male and female immigrants are somewhat contrasting. In Canada, male immigrants earn approximately 23 percent less than their native-born counterparts, while female immigrant earn only around 13.5 percent lower (see Tables 8a and 8b, respectively). For males, the gap is around 20 percent at the 10th percentile but is higher in the 25th and then decreases monotonically at the higher end of the earnings distribution. At the 90th percentile, the earnings disadvantage is only around 9 percent and is only statistically significant at the 10 percent level. For women, the gap is not statistically significant at the 10th quantile, while it increases to around 14 percent in the 25th percentile and then is around 19 percent for the other quantiles.

Education affects individuals differently at different levels of the earnings distribution. Males earn 38, 33 and 19 percent higher at the 10th quantile with a university degree, non-university post secondary degree and high school degree respectively. This is relative to someone who has less than a high school degree. For females, education has a larger impact on earnings, with women earning 94, 72 and 35 percent higher with the respective degrees. For males, the gap increases across the 25th and 50th quantiles. At the 90th quantile, a high school degree increases earnings by only 9 percent whereas a non-university post secondary degree increases earnings by 28 percent and a university degree has the effect of increasing earnings by approximately 80 percent. The trend is similar for females.

We next examine the extent to which the location an immigrant received his or her education affects the magnitude of the earnings gap (see Table 9). For a male immigrant who received his highest level of education within Canada, the earnings gap is small in magnitude and not statistically significantly. This is true of female immigrants as well. By contrast, those immigrants educated abroad experience earnings that are approximately 36 percent lower for males and 25 percent lower for females.[11]

For those male immigrants with some Canadian education, the earnings gap is largest at the 25th and 50th quantiles, at around 17 and 15 percent lower than a native-born worker respectively. At the 90th quantile, a male immigrant with Canadian education experiences a positive return to earnings of approximately 5 percent higher. However, this is not statistically significant at the 10 percent level. For male immigrants with foreign education, the earnings gap is larger. The gap is largest at the 25th and 50th quantiles, at 43 and 40 percent lower respectively. This gap decreases to 20 percent lower at the 90th quantile.

For female immigrants with Canadian education, the gap is positive and significant at the 10th quantile, with female immigrants earning approximately 16 percent higher than their Canadian-born counterparts. There is no earnings gap across the rest of the distribution except at the 75th quantile, where these female immigrants experience an earnings disadvantage of around 8 percent. For females with foreign education, the gap is fairly consistent across the distribution. It is smallest at the 10th quantile, with a gap of approximately 18 percent lower. However, this is not statistically significant at

[11] When we re-estimate the results restricting the sample to people who completed the cognitive tests, we find that the earnings disadvantage for the immigrants who obtained their highest level of education outside of Canada to be larger.

conventional levels. The gap then ranges between 26 and 29 percent levels between the 25^{th} and 90^{th} quantiles, respectively.

The results may be a reflection of employers not recognizing foreign credentials or a difference in the level of usable cognitive ability. We examine these issues first by differentiating between the source of the education and potential work experience and then re-estimate all of the results controlling for the cognitive test score to examine the latter possibility.

For native-born workers and immigrants with both Canadian and foreign education, the returns to high school are similar and positive (see Tables 10a and 10b). For native-born workers, the returns to a university education increase earnings by 76 percent, while a non-university post secondary education increases earnings by 36 percent. The returns to a non-university post secondary education are 28 and 30 percent for immigrants with Canadian and foreign education respectively, whereas a university education increases earnings by 99 and 40 percent respectively. For native-born workers, these results are fairly consistent across the distribution, although the returns to a high school or non-university education are highest in the lower and middle part of the distribution and are higher at the 90^{th} quantile than at the 75^{th} quantile. For immigrants with Canadian education, the earnings gap increases monotonically across the distribution. By contrast, immigrants with foreign education experience a different pattern of returns to education. For those with high school education, the earnings gap is approximately 17 percent higher at the 10^{th} quantile, but not statistically significant and close to zero in magnitude at the other quantiles. For non-university post secondary degrees, the return is highest at the 10^{th}

and 25th quantiles, with an earnings gap of 38 and 54 percent respectively. The returns decrease across the distribution to a gap of approximately 11 percent at the 90th quantile. However, this is not statistically significant at the 10 percent level. For an immigrant with a foreign university education, the gap is largest between the 25th and 75th quantiles. These results are fairly similar for females.

We move on to examine English Canada and Quebec separately in order to determine if Quebec's unique immigration policy leads to a lesser earnings differential between immigrant and native-born workers. For males in both regions, the earnings gap at the mean is the same. Male immigrants earn approximately 22 percent less than native-born males (see Table 11a for Quebec; English Canada not shown). Female immigrants in English Canada earn 13 percent less, while female immigrants in Quebec earn around 17 percent less than native-born women (see Table 11b). For males in English Canada, the gap is large and significant between the 10th and 75th quantile, with a differential ranging between 17 and 34 percent. At the 90th quantile, male immigrants earn approximately nine percent less than native-born males. However, this difference is not statistically significant. Males in Quebec experience a different pattern. Between the 25th and 75th quantile, the gap decreases from around 33 percent to 16 percent. At the 10th and 90th quantile, the gap is 16 and 2 percent respectively. However, these results are not statistically significant.

When we adjust for where the immigrants received their highest level of education, the results for males across the two regions are fairly similar (see Table 12). Males in English Canada who received some education in Canada earn approximately 6 percent less whereas those who received all their education abroad earn around 36 percent less. In

Quebec, the male immigrants with Canadian education earn around 10 percent less while those educated abroad earn approximately 34 percent less.

For females, the results are different. Females in English Canada who hold their highest degree from a Canadian institution earn only 1 percent less than their native-born counterparts, while those educated abroad earn around 26 percent less. For immigrant women in Quebec, it appears that where their education was obtained does not have a great impact on earnings. Women with some Canadian education receive earnings approximately 16 percent less than native-born women, while those who obtained all their education abroad earn 19 percent less. Despite the large magnitude of several of the coefficients, some of the coefficients are not statistically significant, likely because of low power due to the smaller sample size when we break up the sample of immigrants living in Quebec by place of highest education. These results suggest that where an individual received his or her education is important in determining his or her earnings. Thus, for those who obtained their highest level of education in Canada, the earnings differential is lessened.

There is not a large difference between males in the two regions when adjusting for where education and experience were obtained (see Tables 13a and 13b). Canadian experience yields greater returns to earnings than foreign experience. Foreign experience has a negative effect on earnings in Quebec. Increasing foreign experience from five to six years reduces earnings by 1.6 percent at the 75th quantile and 3.7 percent at the 90th quantile. For females, foreign experience also has a negative impact on earnings. At the median, increasing foreign experience from five to six years reduces earnings by around 4.6 percent. These results suggest a lack of skill transferability between countries.

In English Canada, the returns to foreign experience are not statistically significant at the 10 percent level, except for the male coefficient in the 25th quantile. By contrast, for Quebec, the statistically significant and negative returns at the 75th and 90th quantiles imply that, at higher levels of the distribution, foreign experience yields a significant disadvantage. This may reflect the conclusions of Schaafsma and Sweetman (2001) who find that age at arrival matters. That is, the more foreign experience an individual has, the more likely he or she is to be at a more advanced age, which may prove difficult in adapting to the technologies and skills valued by the Canadian labour market.

We next examine how the language in which the skill tests were written affects the earnings of immigrants within Quebec. We use these as a proxy for official language ability. Although there is a question regarding language ability within the IALSS, the respondent self-reports his or her abilities. Thus, there may be some reporting error. We assume that the respondent would write his or her cognitive skill test in the official language of which he or she is most knowledgeable.

For males, there is a statistically significant difference in the earnings differentials depending on the language in which the immigrant is more proficient (see Table 14). Immigrants who wrote in French earn approximately 19 percent less than French-speaking native-born workers in Quebec, while immigrants who wrote in English earn around 28 percent less. Above, we hypothesized that individuals who wrote in English may be allophones.[12] If this is the case, these results are consistent with those found by Vaillancourt, Lemay and Vaillancourt (2007) that allophones are the lowest paid language group within Quebec.

Female immigrants in Quebec do not experience a large earnings differential based on what language they chose to write their cognitive skill tests in. Women who wrote in French earn approximately 18 percent less than French-speaking native-born women, while women who wrote in English earn around 15 percent less. All of the coefficients related to the language of tests are statistically significant at the 10 percent level.

4.3 Differences between Native-Born and Immigrant Earnings with Controls for Cognitive Skills

We re-estimate the earnings regression controlling for the average cognitive test score. We estimate slightly different regressions than before. The first regression uses just average cognitive skill score with the full regression specification seen in equation (3). This will help us determine whether controlling for differences in cognitive ability can account for the differences in returns to experience and education. We then adjust the average skill score variable to reflect whether an individual is an immigrant and where the individual obtained his or her highest level of education. In this specification, we do not differentiate between where education and experience were obtained. Finally, we allow for separate returns for test scores, experience and education for the native-born, immigrants with some Canadian education and immigrants with only foreign education.

[12] Allophones are individuals with neither English nor French as their mother tongue.

The average cognitive test score positively and significantly affects an individual's weekly earnings (see Table 15). For males, a one percent increase in the average cognitive skill score raises his earnings by approximately 0.3 percent, while the same change raises female earnings by 0.35 percent. For males, the increase in earnings is greatest around the median, but is greater in lower tail of the earnings distribution relative to the upper part of the distribution. For females, the effect of cognitive test scores appear to be greatest around the median, and unlike for men, the impact on earnings is greater in the upper part of the distribution relative the lower part of the earnings distribution.

When we differentiate the cognitive test scores to distinguish where a respondent obtained his or her highest level of education, we find that cognitive skills have a larger, more positive effect for individuals with a Canadian education (see Table 16). For native-born males, a one percent increase in cognitive test scores raises earnings by around 0.33 percent, while for male immigrants with some Canadian education and immigrants with only foreign education, a one percent increase in cognitive test scores raises earnings by around 0.47 and 0.20 respectively. For native-born males and immigrants with foreign education, the returns to cognitive ability are largest at the lower part of the earnings distribution and decline monotonically across the distribution. For immigrants with Canadian education, the returns to cognitive ability are smallest at the 10th quantile and highest at the 25th quantile and then decline monotonically across the distribution. However, the returns to cognitive skills for Canadian educated immigrants are higher than that of native-born males at the high end of the distribution.

For females, the native-born respondents experience the largest return to cognitive test scores. For immigrants, a one percent increase in the cognitive test score raises earnings by around 0.3 percent for Canadian educated females and around 0.2 percent for immigrants educated abroad. For native-born females, the gap is consistently large. However, it is largest at the 50^{th} and 75^{th} quantiles, with a one percent increase in cognitive test scores raising earnings by almost a half a percent. For immigrant females, regardless of where education was obtained, cognitive test scores actually reduce earnings at the 10^{th} quantile. For those with Canadian education, the gap increases monotonically across the distribution and is higher than that of the native-born at the high end of the distribution. For those with foreign education, the gap increases up until the 50^{th} quantile and then decreases monotonically.

This is further evidence that there may not be perfect skill transferability between regions. That is, the individuals who have received some education in Canada have obtained some country-specific skills, which, in turn, have a positive effect on their earnings. By contrast, those who obtained all their education abroad have acquired skills that do not transfer perfectly across international borders. Thus, we can determine that lower skills and the lack of transferability of skills appear to play an important role in explaining the immigrant earnings differential.

Furthermore, we would expect that individuals would receive the same returns to cognitive ability. However, this does not appear to be the case. There are several possible explanations for this phenomenon. Immigrants, especially those who received all their education abroad, receive lower returns to cognitive ability than native-born individuals.

This may be accounted for by the fact that the tests are written. Thus, the tests do not capture foreign accents that immigrants might have when speaking English or French. Accents may hinder the ability for employers to understand the worker, which could impact how usable an immigrant's skills are deemed to be in the Canadian labour market. Another possible explanation is that the differences in returns between the groups could be indicative of differences in the effort exerted between the groups. This may explain why immigrants with some Canadian education experience higher returns to cognitive skills than their native-born counterparts. There is much literature to suggest that the children of immigrants are pushed harder by their parents to attain high levels in education.[13] It is more likely that the individuals with some Canadian education arrived at a young age, with their parents, and would experience this influence.

Finally, the lower returns to cognitive skills for immigrants, especially those with foreign education, may be an indication of discrimination within the labour market. However, we cannot conclude this as there is not enough evidence. According to Becker's theorem of discrimination, discrimination involves unequal pay for equally productive workers. The cognitive skills measured by the IALSS do not provide us with enough information to fully ascertain whether discrimination is at play.

When we estimate the separate regions, we return similar results (see Tables 17 and 18). For male immigrants in English Canada, the magnitude of the coefficient on average cognitive test scores for an immigrant with some Canadian education is more than double that of a foreign education immigrant. The effect for a Canadian educated immigrant is

[13] For example, see Gang and Zimmerman (2000).

fairly consistent across the distribution, while for a foreign educated immigrant, at the 90th quantile of the earnings distribution, the effect is not significantly different from zero. This suggests that at the higher end of the distribution other characteristics contribute to the earnings gap. For females in English Canada, the results are different. Female immigrants educated abroad experience a higher return to earnings from an increase in average cognitive test score than their Canadian educated immigrant counterparts.

The same pattern is seen for males in Quebec as in English Canada. Those individuals in the 25th and 50th quantiles receive the largest return to average cognitive scores, regardless of where their education was obtained. For females in Quebec, neither score is statistically significant at the 10 percent level. Moreover, the returns are fairly similar even if education was received in Canada. From dividing up the results by region, we can see that the average cognitive test score results have a greater effect on male immigrants in explaining some of the earnings gap.

5. Conclusions

We add to the current literature by employing both OLS regressions and using unconditional quantile regressions. While most of the literature examines the skills and earnings gap at the mean, we find that the size of the gap varies across the distribution. By employing the UQR method developed by Firpo, Fortin and Lemieux (2009), this paper shows that cognitive skills significantly impact individuals across the earnings distribution, albeit in different magnitudes.

For Canada as a whole, we find that a Canadian educated immigrant, *ceteris paribus*, earns more than a foreign educated immigrant. Moreover, we have found that there are differences in both the skills and earnings gap between English Canada and Quebec. While immigrants to Quebec appear to experience less of a skills gap than immigrants to English Canada, this may merely be a reflection of language proficiency. As the tests are only available in English and French, higher scores may not be entirely attributable to greater cognitive skill levels, but may be indicative of superior language comprehension among immigrants to Quebec, who are selected more heavily due to French language ability.

As expected from the literature, immigrants in Canada earn significantly less than native-born workers. When we adjust for where education was obtained, immigrants who received some education in Canada experience a smaller gap than immigrants who received all of their education abroad. This result may be attributable to a lack of recognition of foreign credentials and a lack of usable foreign skills that immigrants educated abroad may possess. For male immigrants educated in Canada, the earnings gap declines monotonically across the distribution. Moreover, immigrants within Quebec experience a larger earnings gap than similar immigrants in the rest of Canada. This gap persists regardless of where the immigrant received his or her education.

When we examine how cognitive skills affect earnings, we find that where skills were acquired is very important in explaining the magnitude of the earnings gap. Our results are fairly consistent with much of the literature. We can conclude, as done by Ferrer, Green and Riddell (2006) and Bonikowska, Green and Riddell (2008), that cognitive skills have an important effect on earnings. As well, our results also show that where an immigrant obtained his or her human capital is valuable in understanding the immigrant earnings gap. From the data, we can see that, although there remains an earnings gap, immigrants with some Canadian education more closely resemble native-born individuals than foreign educated immigrants. This has to do with the fact that skills acquired abroad may not fully transfer to become usable and to meet the demands of the Canadian labour market. As a result, these skills may yield lower economic returns. Other reasons may include that the written tests are not able to fully quantify the skill set of immigrant workers. Problems like foreign accents, exertion of effort and discrimination which may affect earnings should also be considered when examining the earnings gap.

Moreover, we can determine that Quebec's unique immigration policy is not detrimental in terms of the quality of immigrants it attracts to the province. While the province prefers French-speaking immigrants and selects its immigrants more heavily based upon this characteristic, it appears that Quebec does not experience a trade off that, in return for French-speaking immigrants, they also receive less skilled individuals.

The results discussed in the above paper are important indicators that there is a problem in the gap that exists between immigrant and native-born workers' earnings. Canada is heavily reliant on immigration in order to reproduce its slow-growing population. By analysing individuals across the distribution, we are able to pinpoint which earnings levels require the most attention. This is valuable in focusing potential policy initiatives.

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7. Appendix

Table 1a: OLS and Quantile Regressions with log of average cognitive skill score as the dependent variable, males

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Immigrant	-0.140**	-0.313**	-0.195**	-0.099**	-0.072**	-0.058**
	[0.010]	[0.037]	[0.016]	[0.009]	[0.010]	[0.011]
Experience	0.001	0.011*	0.001	-0.003*	-0.004**	-0.004*
	[0.002]	[0.005]	[0.002]	[0.001]	[0.001]	[0.002]
Experience squared/100	-0.009+	-0.035**	-0.008+	0.001	0.005+	0.005
	[0.004]	[0.012]	[0.004]	[0.003]	[0.003]	[0.003]
Highest Level of Education						
High School	0.141**	0.357**	0.219**	0.106**	0.033**	0.009
	[0.011]	[0.050]	[0.019]	[0.010]	[0.006]	[0.005]
Non-university post-secondary	0.179**	0.434**	0.275**	0.136**	0.066**	0.026**
	[0.011]	[0.052]	[0.022]	[0.011]	[0.009]	[0.008]
University	0.266**	0.529**	0.349**	0.236**	0.153**	0.124**
	[0.013]	[0.054]	[0.023]	[0.011]	[0.011]	[0.014]
Observations	5672	5672	5672	5672	5672	5672
R-squared	0.44	0.23	0.28	0.27	0.2	0.14

Notes: Sample aged 25 to 59 who are not in school. Results include controls for number of children, province of residence and rural status. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 1b: OLS and Quantile Regressions with log of average cognitive skill score as the dependent variable, females

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Immigrant	-0.144**	-0.379**	-0.164**	-0.104**	-0.078**	-0.054**
	[0.010]	[0.034]	[0.015]	[0.010]	[0.008]	[0.008]
Experience	0.001	0.015**	0.001	-0.004**	-0.003*	-0.001
	[0.001]	[0.004]	[0.002]	[0.001]	[0.001]	[0.001]
Experience squared/100	-0.008**	-0.043**	-0.008+	0.005*	0.004	0
	[0.002]	[0.009]	[0.004]	[0.003]	[0.003]	[0.003]
Highest Level of Education						
High School	0.146**	0.469**	0.234**	0.081**	0.021**	-0.004
	[0.011]	[0.050]	[0.019]	[0.010]	[0.006]	[0.005]
Non-university post-	0.197**	0.560**	0.297**	0.136**	0.062**	0.025**
secondary	[0.012]	[0.049]	[0.019]	[0.011]	[0.008]	[0.007]
University	0.273**	0.596**	0.361**	0.215**	0.163**	0.133**
	[0.011]	[0.049]	[0.019]	[0.012]	[0.010]	[0.012]
Observations	6793	6793	6793	6793	6793	6793
R-squared	0.45	0.27	0.29	0.27	0.23	0.14

Notes: Sample aged 25 to 59 who are not in school. Results include controls for number of children, province of residence and rural status. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 2: OLS and Quantile Regressions with log of average cognitive skill score as the dependent variable with adjustment for where education obtained

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Males						
Immigrant Canadian Educ.	-0.081**	-0.143**	-0.146**	-0.075**	-0.040**	-0.037**
	[0.010]	[0.039]	[0.021]	[0.013]	[0.013]	[0.014]
Immigrant Foreign Educ.	-0.197**	-0.474**	-0.242**	-0.122**	-0.102**	-0.078**
	[0.017]	[0.057]	[0.021]	[0.012]	[0.010]	[0.011]
Observations	5672	5672	5672	5672	5672	5672
R-squared	0.45	0.25	0.29	0.28	0.2	0.14
Females						
Immigrant Canadian Educ.	-0.094**	-0.226**	-0.121**	-0.070**	-0.062**	-0.040**
	[0.010]	[0.045]	[0.020]	[0.012]	[0.009]	[0.010]
Immigrant Foreign Educ.	-0.192**	-0.528**	-0.206**	-0.138**	-0.093**	-0.069**
	[0.014]	[0.048]	[0.019]	[0.012]	[0.009]	[0.009]
Observations	6793	6793	6793	6793	6793	6793
R-squared	0.47	0.28	0.29	0.27	0.23	0.14

Notes: Sample aged 25 to 59 who are not in school. Results include controls for number of children, province of residence, rural status, levels of education and experience. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 3a: OLS and Quantile Regressions with log of average cognitive skill score as the dependent variable with adjustment for where education obtained, males

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Immigrant Canadian Educ.	-0.120**	-0.384+	-0.193**	-0.07	-0.033	-0.044
	[0.037]	[0.210]	[0.068]	[0.045]	[0.044]	[0.045]
Immigrant Foreign Educ.	-0.195**	-0.852**	-0.085	0.013	-0.021	0
	[0.055]	[0.215]	[0.080]	[0.044]	[0.037]	[0.036]
Experience (Native-born)	0.001	0.008	0.002	-0.001	-0.003+	-0.003
	[0.002]	[0.005]	[0.002]	[0.001]	[0.002]	[0.002]
Experience squared/100	-0.008+	-0.030*	-0.012**	-0.003	0.001	0.003
(Native-born)	[0.005]	[0.013]	[0.005]	[0.003]	[0.003]	[0.004]
Canadian Experience	-0.001	0.005	-0.003	0.002	-0.002	0.001
(Canadian educ., imm.)	[0.004]	[0.010]	[0.005]	[0.004]	[0.004]	[0.003]
Canadian Experience squared/100 (Canadian	0.003	0.003	0.007	-0.004	0.002	-0.005
educ., imm.)	[0.010]	[0.023]	[0.015]	[0.008]	[0.008]	[0.007]
Canadian Experience	-0.008*	-0.017	-0.011	-0.005	0	-0.002
(foreign educ., imm.)	[0.004]	[0.017]	[0.007]	[0.004]	[0.002]	[0.002]
Canadian Experience squared/100 (foreign educ.,	0.018	0.049	0.019	0.008	0	0.002
imm.)	[0.012]	[0.048]	[0.018]	[0.010]	[0.006]	[0.005]
Foreign Experience	-0.007*	-0.014	-0.010*	-0.007**	-0.006**	-0.004*
	[0.003]	[0.009]	[0.004]	[0.002]	[0.002]	[0.002]
Foreign Experience	0.007	0.015	0.019	0.012+	0.012*	0.006
squared/100	[0.013]	[0.029]	[0.012]	[0.006]	[0.005]	[0.004]
Highest Level of Education						
High School	0.131**	0.312**	0.230**	0.113**	0.030**	0.011
(Native-born)	[0.012]	[0.052]	[0.025]	[0.012]	[0.009]	[0.008]
Non-university post-	0.165**	0.352**	0.265**	0.145**	0.076**	0.032**
secondary (Native-born)	[0.010]	[0.050]	[0.025]	[0.012]	[0.011]	[0.010]
University	0.246**	0.391**	0.324**	0.251**	0.175**	0.149**
(Native-born)	[0.014]	[0.050]	[0.026]	[0.012]	[0.014]	[0.018]
High School (Canadian	0.152**	0.358+	0.217**	0.089**	0.047+	-0.005
educ., imm.)	[0.043]	[0.187]	[0.056]	[0.027]	[0.024]	[0.012]
Non-university post-secondary (Canadian	0.199**	0.601**	0.352**	0.091**	0.022	-0.013
educ., imm.)	[0.035]	[0.178]	[0.051]	[0.026]	[0.019]	[0.012]
University (Canadian	0.325**	0.756**	0.506**	0.217**	0.142**	0.109**
educ., imm.)	[0.038]	[0.173]	[0.046]	[0.025]	[0.024]	[0.024]
High School (foreign	0.199**	0.732**	0.117*	0.013	-0.003	-0.026**
educ., imm.)	[0.053]	[0.183]	[0.053]	[0.018]	[0.014]	[0.008]
Non-university post-secondary (foreign educ.,	0.284**	1.013**	0.294**	0.048*	-0.027*	-0.029**
imm.)	[0.047]	[0.162]	[0.054]	[0.023]	[0.012]	[0.008]

Table 3a: cont'd.

University (foreign educ., imm.)	0.357**	1.257**	0.337**	0.130**	0.027	-0.014
	[0.041]	[0.157]	[0.051]	[0.023]	[0.017]	[0.010]
Observations	5672	5672	5672	5672	5672	5672
R-squared	0.47	0.28	0.3	0.29	0.22	0.15

Notes: Sample aged 25 to 59 who are not in school. Results include controls for number of children, province of residence and rural status. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 3b: OLS and Quantile Regressions with log of average cognitive skill score as the dependent variable with adjustment for where education obtained, females

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Immigrant Canadian Educ.	-0.079+	-0.262	-0.08	-0.043	-0.064*	0.015
	[0.039]	[0.201]	[0.076]	[0.048]	[0.030]	[0.034]
Immigrant Foreign Educ.	-0.207**	-0.821**	-0.147*	-0.023	-0.024	0.028
	[0.050]	[0.171]	[0.063]	[0.037]	[0.030]	[0.031]
Experience (Native-born)	0.001	0.007*	0.002	-0.003*	-0.002	0.001
	[0.001]	[0.003]	[0.002]	[0.001]	[0.002]	[0.002]
Experience squared/100 (Native-born)	-0.007*	-0.024**	-0.010*	0.003	0.001	-0.005
	[0.003]	[0.009]	[0.005]	[0.003]	[0.003]	[0.004]
Canadian Experience (Canadian educ., imm.)	-0.001	-0.008	-0.004	0	0.002	-0.001
	[0.003]	[0.013]	[0.006]	[0.004]	[0.002]	[0.002]
Canadian Experience squared/100 (Canadian educ., imm.)	0.001	0.036	0.013	-0.003	-0.007+	-0.001
	[0.009]	[0.031]	[0.014]	[0.009]	[0.004]	[0.005]
Canadian Experience (foreign educ., imm.)	0.001	0.016	0	-0.003	-0.002	-0.001
	[0.003]	[0.013]	[0.005]	[0.003]	[0.002]	[0.002]
Canadian Experience squared/100 (foreign educ., imm.)	-0.003	-0.045	0.003	0.008	0.006	0.001
	[0.009]	[0.034]	[0.013]	[0.008]	[0.006]	[0.004]
Foreign Experience	-0.010**	-0.033**	-0.013**	-0.009**	-0.004**	-0.003*
	[0.002]	[0.010]	[0.004]	[0.002]	[0.001]	[0.001]
Foreign Experience squared/100	0.009	0.033	0.019*	0.019**	0.009**	0.006*
	[0.007]	[0.028]	[0.009]	[0.006]	[0.003]	[0.003]
Highest Level of Education						
High School (Native-born)	0.136**	0.404**	0.242**	0.094**	0.031**	-0.004
	[0.009]	[0.049]	[0.022]	[0.012]	[0.008]	[0.006]
Non-university post-secondary (Native-born)	0.177**	0.444**	0.286**	0.151**	0.075**	0.032**
	[0.011]	[0.047]	[0.022]	[0.013]	[0.010]	[0.009]
University (Native-born)	0.256**	0.445**	0.340**	0.239**	0.197**	0.169**
	[0.010]	[0.048]	[0.022]	[0.013]	[0.012]	[0.015]
High School (Canadian educ., imm.)	0.128**	0.474**	0.182**	0.053+	0.018+	0.018
	[0.034]	[0.159]	[0.053]	[0.027]	[0.011]	[0.012]
Non-university post-secondary (Canadian educ., imm.)	0.196**	0.677**	0.332**	0.106**	0.031*	0.007
	[0.033]	[0.161]	[0.051]	[0.030]	[0.014]	[0.011]

Table 3b: cont'd.

University (Canadian educ., imm.)	0.283**	0.749**	0.412**	0.217**	0.128**	0.064**
	[0.036]	[0.160]	[0.050]	[0.030]	[0.022]	[0.023]
High School (foreign educ., imm.)	0.189**	0.708**	0.189**	0.024	-0.017*	-0.019**
	[0.035]	[0.127]	[0.036]	[0.018]	[0.008]	[0.006]
Non-university post-secondary (foreign educ., imm.)	0.295**	1.102**	0.315**	0.061**	0.015	-0.005
	[0.036]	[0.130]	[0.046]	[0.021]	[0.015]	[0.010]
University (foreign educ., imm.)	0.353**	1.289**	0.438**	0.084**	0.019	-0.01
	[0.037]	[0.123]	[0.045]	[0.025]	[0.017]	[0.011]
Observations	6793	6793	6793	6793	6793	6793
R-squared	0.49	0.33	0.31	0.29	0.25	0.16

Notes: Sample aged 25 to 59 who are not in school. Results include controls for number of children, province of residence and rural status. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 4a: OLS and Quantile Regressions with log of average cognitive skill score as the dependent variable, males, Quebec

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Immigrant	-0.096**	-0.178**	-0.151**	-0.046**	-0.040*	-0.061**
	[0.024]	[0.059]	[0.027]	[0.017]	[0.016]	[0.022]
Experience	-0.004**	0.003	0	-0.005*	-0.006**	-0.010**
	[0.001]	[0.005]	[0.003]	[0.002]	[0.002]	[0.003]
Experience squared/100	0.002	-0.016	-0.008	0.002	0.007+	0.015**
	[0.003]	[0.013]	[0.006]	[0.004]	[0.004]	[0.005]
Highest Level of Education						
High School	0.136**	0.308**	0.206**	0.104**	0.040**	0.008
	[0.016]	[0.059]	[0.029]	[0.015]	[0.009]	[0.007]
Non-university post-secondary	0.174**	0.385**	0.258**	0.142**	0.059**	0.025*
	[0.014]	[0.056]	[0.028]	[0.016]	[0.011]	[0.011]
University	0.264**	0.425**	0.330**	0.229**	0.177**	0.149**
	[0.021]	[0.057]	[0.027]	[0.018]	[0.017]	[0.029]
Observations	1204	1204	1204	1204	1204	1204
R-squared	0.4	0.17	0.28	0.27	0.22	0.16

Notes: Sample aged 25 to 59 who are not in school. Results include controls for number of children, province of residence and rural status. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 4b: OLS and Quantile Regressions with log of average cognitive skill score as the dependent variable, females, Quebec

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Immigrant	-0.087**	-0.201**	-0.115**	-0.049**	-0.050**	-0.041*
	[0.016]	[0.052]	[0.024]	[0.018]	[0.015]	[0.018]
Experience	-0.001	0.011*	0.003	-0.004*	-0.007**	-0.007*
	[0.002]	[0.005]	[0.002]	[0.002]	[0.002]	[0.003]
Experience squared/100	-0.004	-0.033**	-0.011*	0.003	0.009*	0.009
	[0.004]	[0.012]	[0.005]	[0.004]	[0.004]	[0.006]
Highest Level of Education						
High School	0.175**	0.472**	0.282**	0.126**	0.036**	0.017+
	[0.011]	[0.059]	[0.025]	[0.014]	[0.009]	[0.009]
Non-university post-secondary	0.217**	0.529**	0.331**	0.178**	0.094**	0.047**
	[0.011]	[0.058]	[0.025]	[0.015]	[0.013]	[0.013]
University	0.295**	0.537**	0.381**	0.255**	0.200**	0.186**
	[0.010]	[0.059]	[0.024]	[0.015]	[0.016]	[0.023]
Observations	1431	1431	1431	1431	1431	1431
R-squared	0.44	0.24	0.3	0.28	0.25	0.15

Notes: Sample aged 25 to 59 who are not in school. Results include controls for number of children, province of residence and rural status. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 5: OLS and Quantile Regressions with log of average cognitive skill score as the dependent variable with adjustment for where education obtained, Quebec

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Males						
Immigrant Canadian Educ.	-0.095**	-0.138	-0.170**	-0.047*	-0.036	-0.066*
	[0.030]	[0.085]	[0.040]	[0.024]	[0.022]	[0.030]
Immigrant Foreign Educ.	-0.097**	-0.220**	-0.131**	-0.045+	-0.044*	-0.056*
	[0.033]	[0.079]	[0.033]	[0.023]	[0.020]	[0.024]
Observations	1204	1204	1204	1204	1204	1204
R-squared	0.4	0.17	0.29	0.27	0.22	0.16
Females						
Immigrant Canadian Educ.	-0.049*	-0.043	-0.079*	-0.022	-0.054*	-0.047+
	[0.022]	[0.041]	[0.033]	[0.026]	[0.023]	[0.027]
Immigrant Foreign Educ.	-0.126**	-0.360**	-0.152**	-0.075**	-0.046*	-0.035
	[0.024]	[0.087]	[0.032]	[0.022]	[0.018]	[0.022]
Observations	1431	1431	1431	1431	1431	1431
R-squared	0.45	0.25	0.3	0.28	0.25	0.15

Notes: Sample aged 25 to 59 who are not in school. Results include controls for number of children, province of residence, rural status, levels of education and experience. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 6a: OLS and Quantile Regressions with log of average cognitive skill score as the dependent variable with adjustment for where education obtained, males

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Immigrant Canadian Educ.	-0.12	-0.281	-0.223	-0.072	0.056	-0.078
	[0.101]	[0.268]	[0.149]	[0.091]	[0.080]	[0.074]
Immigrant Foreign Educ.	-0.256	-0.906*	-0.294*	-0.073	0.006	-0.029
	[0.158]	[0.372]	[0.138]	[0.094]	[0.081]	[0.092]
Experience (Native-born)	-0.006**	0.001	-0.003	-0.006**	-0.006**	-0.009**
	[0.001]	[0.005]	[0.003]	[0.002]	[0.002]	[0.003]
Experience squared/100	0.003	-0.014	-0.004	0.003	0.007+	0.014*
(Native-born)	[0.003]	[0.013]	[0.006]	[0.004]	[0.004]	[0.006]
Canadian Experience	-0.001	-0.009	0.001	-0.001	0.004	0.003
(Canadian educ., imm.)	[0.006]	[0.017]	[0.008]	[0.005]	[0.006]	[0.003]
Canadian Experience squared/100 (Canadian	0.004	0.052	0.002	0.002	-0.02	-0.012
educ., imm.)	[0.016]	[0.040]	[0.023]	[0.015]	[0.013]	[0.009]
Canadian Experience	0.003	0.027	0.005	-0.002	-0.001	0
(foreign educ., imm.)	[0.008]	[0.023]	[0.009]	[0.007]	[0.007]	[0.005]
Canadian Experience squared/100 (foreign educ.,	-0.002	-0.034	-0.015	0.007	0.005	0.002
imm.)	[0.022]	[0.062]	[0.022]	[0.018]	[0.017]	[0.013]
Foreign Experience	-0.005	-0.005	0.001	-0.004	-0.011*	-0.011*
	[0.007]	[0.018]	[0.008]	[0.005]	[0.005]	[0.005]
Foreign Experience	0.013	0.025	-0.008	0.005	0.026+	0.030*
squared/100	[0.020]	[0.047]	[0.020]	[0.013]	[0.014]	[0.015]
Highest Level of Education						
High School	0.144**	0.324**	0.223**	0.112**	0.044**	0.009
(Native-born)	[0.016]	[0.059]	[0.030]	[0.015]	[0.009]	[0.008]
Non-university post-secondary (Native-born)	0.171**	0.356**	0.259**	0.141**	0.065**	0.027*
	[0.015]	[0.057]	[0.029]	[0.017]	[0.012]	[0.012]
University	0.255**	0.381**	0.308**	0.232**	0.183**	0.160**
(Native-born)	[0.022]	[0.057]	[0.028]	[0.019]	[0.019]	[0.033]
High School (Canadian	0.004	0.026	0.049	0.025	-0.101+	-0.03
educ., imm.)	[0.097]	[0.272]	[0.145]	[0.086]	[0.059]	[0.038]
Non-university post-secondary (Canadian	0.092	0.472+	0.132	0.072	-0.074	-0.046
educ., imm.)	[0.085]	[0.241]	[0.143]	[0.082]	[0.062]	[0.036]
University (Canadian	0.245*	0.549*	0.414**	0.192*	0.028	0.042
educ., imm.)	[0.091]	[0.246]	[0.133]	[0.080]	[0.068]	[0.042]
High School (foreign	0.086	0.342	0.086	0.002	-0.029	-0.094
educ., imm.)	[0.096]	[0.292]	[0.088]	[0.055]	[0.056]	[0.061]
Non-university post-secondary (foreign	0.274*	0.914**	0.395**	0.185**	-0.027	-0.062
education, immigrant)	[0.118]	[0.234]	[0.088]	[0.060]	[0.049]	[0.067]

Table 6a: cont'd.

University (foreign education, immigrant)	0.335**	0.947**	0.465**	0.170**	0.098+	0.009
	[0.097]	[0.235]	[0.075]	[0.059]	[0.057]	[0.071]
Observations	1204	1204	1204	1204	1204	1204
R-squared	0.42	0.21	0.31	0.28	0.23	0.17

Notes: Sample aged 25 to 59 who are not in school. Results include controls for number of children, province of residence and rural status. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 6b: OLS and Quantile Regressions with log of average cognitive skill score as the dependent variable with adjustment for where education obtained, females

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Immigrant Canadian Educ.	-0.037	-0.174	-0.052	0.003	-0.138*	-0.046
	[0.082]	[0.344]	[0.101]	[0.082]	[0.056]	[0.062]
Immigrant Foreign Educ.	-0.210+	-0.834**	-0.1	-0.052	-0.014	-0.024
	[0.116]	[0.315]	[0.110]	[0.061]	[0.058]	[0.069]
Experience (Native-born)	-0.001	0.008+	0.004+	-0.004+	-0.007**	-0.007*
	[0.002]	[0.005]	[0.002]	[0.002]	[0.002]	[0.003]
Experience squared/100 (Native-born)	-0.004	-0.029*	-0.013*	0.002	0.009*	0.009
	[0.004]	[0.012]	[0.005]	[0.004]	[0.004]	[0.006]
Canadian Experience (Canadian educ., imm.)	-0.005	-0.001	-0.009	-0.005	0.006	-0.001
	[0.008]	[0.015]	[0.009]	[0.007]	[0.004]	[0.005]
Canadian Experience squared/100 (Canadian educ., imm.)	0.008	0.004	0.021	-0.001	-0.017	-0.002
	[0.016]	[0.040]	[0.022]	[0.017]	[0.011]	[0.013]
Canadian Experience (foreign educ., imm.)	-0.002	0.01	0.001	0.002	-0.007	0.004
	[0.011]	[0.031]	[0.011]	[0.006]	[0.007]	[0.008]
Canadian Experience squared/100 (foreign educ., imm.)	0.011	-0.009	0.008	-0.005	0.016	-0.009
	[0.029]	[0.080]	[0.029]	[0.015]	[0.017]	[0.020]
Foreign Experience	-0.004	0.005	-0.011	-0.004	-0.003	-0.010*
	[0.006]	[0.015]	[0.007]	[0.005]	[0.004]	[0.005]
Foreign Experience squared/100	0	-0.015	0.014	0.003	0.004	0.024+
	[0.021]	[0.044]	[0.024]	[0.016]	[0.013]	[0.013]
Highest Level of Education						
High School (Native-born)	0.170**	0.449**	0.277**	0.130**	0.041**	0.022*
	[0.010]	[0.061]	[0.027]	[0.015]	[0.010]	[0.010]
Non-university post-secondary (Native-born)	0.205**	0.482**	0.325**	0.177**	0.093**	0.051**
	[0.013]	[0.060]	[0.027]	[0.016]	[0.013]	[0.014]
University (Native-born)	0.290**	0.487**	0.373**	0.268**	0.216**	0.205**
	[0.012]	[0.060]	[0.026]	[0.016]	[0.017]	[0.026]
High School (Canadian educ., imm.)	0.177**	0.550+	0.419**	0.153**	0.016	-0.007
	[0.049]	[0.294]	[0.058]	[0.042]	[0.019]	[0.025]
Non-university post-secondary (Canadian educ., imm.)	0.250**	0.665*	0.401**	0.193**	0.162**	0.035
	[0.040]	[0.281]	[0.068]	[0.052]	[0.049]	[0.040]

Table 6b: cont'd.

University (Canadian educ., imm.)	0.292**	0.671*	0.497**	0.240**	0.129**	0.127+
	[0.044]	[0.287]	[0.053]	[0.047]	[0.048]	[0.071]
High School (foreign educ., imm.)	0.184*	0.582*	0.171*	0.01	0.002	-0.022
	[0.079]	[0.249]	[0.076]	[0.027]	[0.028]	[0.036]
Non-university post-secondary (foreign educ., imm.)	0.368**	1.123**	0.405**	0.188**	0.036	0.008
	[0.082]	[0.208]	[0.078]	[0.052]	[0.043]	[0.051]
University (foreign educ., imm.)	0.367**	1.000**	0.443**	0.114**	0.069+	0.002
	[0.067]	[0.233]	[0.076]	[0.039]	[0.036]	[0.037]
Observations	1431	1431	1431	1431	1431	1431
R-squared	0.46	0.27	0.31	0.29	0.27	0.16

Notes: Sample aged 25 to 59 who are not in school. Results include controls for number of children, province of residence and rural status. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 7: OLS and Quantile Regressions with log of average cognitive skill score as the dependent variable with control for language of test, Quebec

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Males						
Immigrant, Test in French.	-0.066*	-0.119+	-0.130**	-0.02	-0.011	-0.037
	[0.031]	[0.068]	[0.034]	[0.021]	[0.020]	[0.024]
Immigrant, Test in English	-0.137**	-0.292**	-0.187**	-0.086**	-0.079**	-0.080**
	[0.028]	[0.104]	[0.041]	[0.027]	[0.020]	[0.021]
Test Written in English	0.043	0.008	0.014	0.032+	0.043*	0.073
	[0.026]	[0.030]	[0.020]	[0.017]	[0.021]	[0.051]
Observations	1204	1204	1204	1204	1204	1204
R-squared	0.41	0.18	0.29	0.28	0.23	0.17
Females						
Immigrant, Test in French	-0.070**	-0.164**	-0.087**	-0.025	-0.043*	-0.051*
	[0.020]	[0.059]	[0.028]	[0.023]	[0.020]	[0.022]
Immigrant, Test in English	-0.109**	-0.260**	-0.157**	-0.082**	-0.050*	-0.016
	[0.027]	[0.092]	[0.040]	[0.025]	[0.020]	[0.029]
Test Written in English	0.019+	-0.015	0	0.014	0.039*	0.039
	[0.011]	[0.029]	[0.020]	[0.015]	[0.018]	[0.025]
Observations	1431	1431	1431	1431	1431	1431
R-squared	0.45	0.24	0.3	0.28	0.26	0.15

Notes: Sample aged 25 to 59 who are not in school. Results include controls for number of children, province of residence, rural status, levels of education and experience. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 8a: OLS and Quantile Regressions with log of weekly earnings as the dependent variable, males

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Immigrant	-0.261**	-0.224**	-0.377**	-0.341**	-0.214**	-0.091+
	[0.045]	[0.075]	[0.050]	[0.042]	[0.040]	[0.053]
Experience	0.029**	0.030*	0.025**	0.036**	0.024**	0.022**
	[0.006]	[0.014]	[0.007]	[0.006]	[0.005]	[0.007]
Experience squared/100	-0.044**	-0.056+	-0.038*	-0.055**	-0.034**	-0.026+
	[0.013]	[0.033]	[0.016]	[0.014]	[0.012]	[0.014]
Highest Level of Education						
High School	0.151**	0.173+	0.190**	0.192**	0.045	0.082*
	[0.038]	[0.104]	[0.062]	[0.053]	[0.048]	[0.037]
Non-university post-	0.301**	0.287**	0.366**	0.307**	0.144**	0.244**
secondary	[0.041]	[0.093]	[0.060]	[0.054]	[0.049]	[0.050]
University	0.522**	0.322**	0.490**	0.600**	0.469**	0.587**
	[0.047]	[0.102]	[0.062]	[0.056]	[0.055]	[0.071]
Observations	4201	4201	4201	4201	4201	4201
R-squared	0.15	0.04	0.11	0.15	0.14	0.09

Notes: Sample aged 25 to 59 who are not in school and not self-employed. Results include controls for number of children, province of residence and rural status. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 8b: OLS and Quantile Regressions with log of average cognitive skill score as the dependent variable, females

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Immigrant	-0.145**	-0.025	-0.147**	-0.193**	-0.206**	-0.194**
	[0.041]	[0.089]	[0.054]	[0.043]	[0.041]	[0.054]
Experience	0.030**	0.031*	0.021**	0.030**	0.035**	0.041**
	[0.006]	[0.012]	[0.008]	[0.006]	[0.007]	[0.008]
Experience squared/100	-0.051**	-0.063*	-0.037*	-0.051**	-0.059**	-0.068**
	[0.013]	[0.029]	[0.018]	[0.015]	[0.016]	[0.018]
Highest Level of Education						
High School	0.205**	0.299*	0.316**	0.269**	0.091*	-0.005
	[0.051]	[0.150]	[0.079]	[0.051]	[0.040]	[0.037]
Non-university post-	0.419**	0.540**	0.564**	0.477**	0.283**	0.217**
secondary	[0.051]	[0.150]	[0.079]	[0.054]	[0.046]	[0.048]
University	0.781**	0.661**	0.783**	0.855**	0.762**	0.867**
	[0.063]	[0.155]	[0.080]	[0.054]	[0.053]	[0.075]
Observations	5034	5034	5034	5034	5034	5034
R-squared	0.19	0.04	0.1	0.17	0.17	0.15

Notes: Sample aged 25 to 59 who are not in school and not self-employed. Results include controls for number of children, province of residence and rural status. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 9: OLS and Quantile Regressions with log of weekly earnings as the dependent variable with adjustment for where education obtained

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Males						
Immigrant Canadian Educ.	-0.07	-0.014	-0.190**	-0.160**	-0.064	0.048
	[0.052]	[0.077]	[0.066]	[0.055]	[0.051]	[0.067]
Immigrant Foreign Educ.	-0.446**	-0.427**	-0.558**	-0.515**	-0.358**	-0.225**
	[0.054]	[0.110]	[0.066]	[0.051]	[0.045]	[0.065]
Observations	4201	4201	4201	4201	4201	4201
R-squared	0.18	0.04	0.12	0.17	0.15	0.09
Females						
Immigrant Canadian Educ.	-0.008	0.146+	0.007	-0.049	-0.085+	-0.05
	[0.046]	[0.088]	[0.064]	[0.053]	[0.050]	[0.067]
Immigrant Foreign Educ.	-0.287**	-0.203	-0.305**	-0.342**	-0.331**	-0.343**
	[0.047]	[0.136]	[0.075]	[0.057]	[0.050]	[0.063]
Observations	5034	5034	5034	5034	5034	5034
R-squared	0.2	0.04	0.1	0.17	0.17	0.16

Notes: Sample aged 25 to 59 who are not in school and not self-employed. Results include controls for number of children, province of residence, rural status, levels of education and experience. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 10a: OLS and Quantile Regressions with log of weekly earnings as the dependent variable with adjustment for where education obtained, males

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Immigrant Canadian Educ.	-0.109	0.306	-0.166	-0.081	-0.022	-0.419+
	[0.204]	[0.318]	[0.252]	[0.197]	[0.173]	[0.219]
Immigrant Foreign Educ.	-0.175	-0.403	-0.335	0.153	-0.002	0.184
	[0.147]	[0.494]	[0.279]	[0.188]	[0.145]	[0.211]
Experience (Native-born)	0.033**	0.032*	0.023**	0.043**	0.030**	0.028**
	[0.006]	[0.015]	[0.008]	[0.007]	[0.006]	[0.007]
Experience squared/100	-0.053**	-0.062+	-0.033+	-0.071**	-0.049**	-0.041**
(Native-born)	[0.014]	[0.034]	[0.018]	[0.015]	[0.013]	[0.015]
Canadian Experience	0.039**	0.014	0.030+	0.048**	0.027*	0.053**
(Canadian educ., imm.)	[0.012]	[0.019]	[0.018]	[0.015]	[0.013]	[0.020]
Canadian Experience squared/100 (Canadian	-0.055+	0	-0.031	-0.084*	-0.031	-0.082+
educ., imm.)	[0.030]	[0.040]	[0.044]	[0.039]	[0.035]	[0.049]
Canadian Experience	0.032**	0.031	0.033	0.015	0.008	-0.009
(foreign educ., imm.)	[0.012]	[0.037]	[0.023]	[0.014]	[0.011]	[0.019]
Canadian Experience squared/100 (foreign educ.,	-0.02	-0.009	-0.031	0.027	0.036	0.118+
imm.)	[0.035]	[0.093]	[0.063]	[0.038]	[0.034]	[0.070]

Table 10a: cont'd.

Foreign Experience	-0.006	0.018	-0.015	-0.013	-0.012	-0.002
	[0.010]	[0.028]	[0.015]	[0.010]	[0.008]	[0.014]
Foreign Experience	0.013	-0.069	0.028	0.028	0.033	0.013
squared/100	[0.033]	[0.113]	[0.047]	[0.028]	[0.023]	[0.038]
Highest Level of Education						
High School	0.155**	0.193	0.219**	0.206**	0.035	0.067+
(Native-born)	[0.044]	[0.117]	[0.066]	[0.060]	[0.055]	[0.041]
Non-university post-secondary (Native-born)	0.304**	0.317**	0.366**	0.315**	0.126*	0.227**
	[0.045]	[0.104]	[0.065]	[0.061]	[0.055]	[0.054]
University	0.565**	0.376**	0.533**	0.664**	0.509**	0.601**
(Native-born)	[0.056]	[0.115]	[0.066]	[0.062]	[0.066]	[0.087]
High School (Canadian	0.119	-0.096	0.075	0.185	0.058	0.247*
educ., imm.)	[0.123]	[0.147]	[0.207]	[0.157]	[0.127]	[0.114]
Non-university post-secondary (Canadian	0.250+	-0.155	0.276	0.295*	0.129	0.444**
educ., imm.)	[0.129]	[0.167]	[0.178]	[0.139]	[0.128]	[0.163]
University (Canadian	0.687**	0.209	0.549**	0.656**	0.551**	1.025**
educ., imm.)	[0.141]	[0.157]	[0.179]	[0.145]	[0.131]	[0.167]
High School (foreign	0.1	0.159	0.027	-0.022	0.043	0.001
educ., imm.)	[0.086]	[0.340]	[0.201]	[0.117]	[0.074]	[0.135]
Non-university post-secondary (foreign educ.,	0.264**	0.32	0.433*	0.142	0.241*	0.108
imm.)	[0.092]	[0.317]	[0.187]	[0.133]	[0.097]	[0.165]
University (foreign	0.337**	0.251	0.376+	0.279*	0.307**	0.275+
educ., imm.)	[0.118]	[0.341]	[0.197]	[0.131]	[0.093]	[0.159]
Observations	4201	4201	4201	4201	4201	4201
R-squared	0.21	0.05	0.14	0.19	0.17	0.11

Notes: Sample aged 25 to 59 who are not in school and not self-employed. Results include controls for number of children, province of residence and rural status. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 10b: OLS and Quantile Regressions with log of weekly earnings as the dependent variable with adjustment for where education obtained, females

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Immigrant Canadian Educ.	0.039	0.901*	-0.335	-0.31	0.059	-0.037
	[0.128]	[0.388]	[0.292]	[0.189]	[0.187]	[0.199]
Immigrant Foreign Educ.	0.184	0.755	-0.047	0.088	0.243	0.342+
	[0.158]	[0.479]	[0.285]	[0.201]	[0.159]	[0.178]
Experience (Native-born)	0.035**	0.045**	0.024**	0.034**	0.040**	0.047**
	[0.006]	[0.014]	[0.009]	[0.007]	[0.008]	[0.009]
Experience squared/100	-0.067**	-0.098**	-0.051*	-0.064**	-0.069**	-0.078**
(Native-born)	[0.014]	[0.034]	[0.021]	[0.017]	[0.019]	[0.021]
Canadian Experience	0.045**	0.018	0.075**	0.056**	0.043**	0.044**
(Canadian educ., imm.)	[0.008]	[0.022]	[0.018]	[0.012]	[0.013]	[0.016]
Canadian Experience	-0.082**	-0.039	-0.140**	-0.101**	-0.080*	-0.073+

Table 10b: cont'd.

squared/100 (Canadian						
educ., imm.)	[0.019]	[0.055]	[0.046]	[0.031]	[0.033]	[0.039]
Canadian Experience	0.023	0.01	0.014	0.013	0.021+	0.004
(foreign educ., imm.)	[0.018]	[0.048]	[0.025]	[0.019]	[0.012]	[0.013]
Canadian Experience	-0.036	-0.028	0.004	0.004	-0.044	0.004
squared/100 (foreign educ.,						
imm.)	[0.044]	[0.127]	[0.065]	[0.048]	[0.030]	[0.032]
Foreign Experience	-0.001	0.033	0.002	-0.015	-0.015	-0.011
	[0.011]	[0.031]	[0.018]	[0.011]	[0.009]	[0.010]
Foreign Experience	0	-0.095	-0.015	0.034	0.047+	0.055
squared/100	[0.033]	[0.090]	[0.060]	[0.032]	[0.027]	[0.036]
Highest Level of Education						
High School	0.253**	0.453*	0.368**	0.288**	0.111*	-0.016
(Native-born)	[0.065]	[0.187]	[0.090]	[0.059]	[0.049]	[0.047]
Non-university post-	0.457**	0.736**	0.584**	0.441**	0.307**	0.228**
secondary (Native-born)	[0.068]	[0.185]	[0.091]	[0.062]	[0.054]	[0.060]
University	0.886**	0.978**	0.878**	0.898**	0.822**	0.913**
(Native-born)	[0.081]	[0.186]	[0.089]	[0.062]	[0.061]	[0.090]
High School (Canadian	0.128	-0.025	0.231	0.310*	0.001	0.054
educ., imm.)	[0.094]	[0.255]	[0.233]	[0.135]	[0.110]	[0.068]
Non-university post-	0.393**	0.15	0.563*	0.771**	0.241+	0.207+
secondary (Canadian						
educ., imm.)	[0.071]	[0.226]	[0.221]	[0.127]	[0.132]	[0.114]
University (Canadian	0.758**	0.083	0.626**	0.942**	0.854**	1.236**
educ., imm.)	[0.109]	[0.241]	[0.228]	[0.128]	[0.130]	[0.187]
High School (foreign	0.057	0.019	0.137	0.071	0.062	0.075
educ., imm.)	[0.069]	[0.258]	[0.190]	[0.120]	[0.079]	[0.057]
Non-university post-	0.252**	-0.131	0.430*	0.417**	0.167*	0.189*
secondary (foreign educ.,						
imm.)	[0.075]	[0.314]	[0.204]	[0.132]	[0.084]	[0.092]
University (foreign	0.324*	-0.394	0.506*	0.612**	0.398**	0.362**
educ., imm.)	[0.139]	[0.399]	[0.229]	[0.152]	[0.116]	[0.134]
Observations	5034	5034	5034	5034	5034	5034
R-squared	0.22	0.06	0.12	0.2	0.19	0.17

Non-university post-	0.252**	-0.131	0.430*	0.417**	0.167*	0.189*
secondary (foreign educ.,						
imm.)	[0.075]	[0.314]	[0.204]	[0.132]	[0.084]	[0.092]
University (foreign	0.324*	-0.394	0.506*	0.612**	0.398**	0.362**
educ., imm.)	[0.139]	[0.399]	[0.229]	[0.152]	[0.116]	[0.134]
Observations	5034	5034	5034	5034	5034	5034
R-squared	0.22	0.06	0.12	0.2	0.19	0.17

Notes: Sample aged 25 to 59 who are not in school and not self-employed. Results include controls for number of children, province of residence and rural status. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 11a: OLS and Quantile Regressions with log of weekly earnings as the dependent variable, males, Quebec

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Immigrant	-0.254**	-0.18	-0.407**	-0.265**	-0.177**	-0.024
	[0.061]	[0.150]	[0.101]	[0.058]	[0.054]	[0.112]
Experience	0.029**	0.02	0.026+	0.021*	0.037**	0.037**
	[0.005]	[0.022]	[0.014]	[0.009]	[0.006]	[0.008]
Experience squared/100	-0.043**	-0.036	-0.037	-0.021	-0.058**	-0.058**
	[0.011]	[0.046]	[0.029]	[0.019]	[0.013]	[0.018]
Highest Level of Education						
High School	0.178**	0.192	0.272*	0.192**	0.120*	0.088
	[0.053]	[0.189]	[0.115]	[0.067]	[0.058]	[0.059]
Non-university post-secondary	0.350**	0.410**	0.595**	0.384**	0.218**	0.149*
	[0.056]	[0.136]	[0.100]	[0.067]	[0.059]	[0.071]
University	0.706**	0.550**	0.790**	0.762**	0.640**	0.812**
	[0.061]	[0.134]	[0.099]	[0.066]	[0.077]	[0.157]
Observations	917	917	917	917	917	917
R-squared	0.25	0.05	0.16	0.21	0.21	0.16

Notes: Sample aged 25 to 59 who are not in school and not self-employed. Results include controls for number of children, province of residence and rural status. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 11b: OLS and Quantile Regressions with log of weekly earnings as the dependent variable, females, Quebec

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Immigrant	-0.189**	0.052	-0.205+	-0.237**	-0.229**	-0.166*
	[0.062]	[0.126]	[0.120]	[0.086]	[0.060]	[0.067]
Experience	0.028**	0.022	0.015	0.028**	0.028**	0.049**
	[0.008]	[0.014]	[0.012]	[0.011]	[0.011]	[0.009]
Experience squared/100	-0.051*	-0.06	-0.021	-0.044+	-0.044*	-0.088**
	[0.019]	[0.036]	[0.026]	[0.024]	[0.022]	[0.018]
Highest Level of Education						
High School	0.257**	0.356*	0.317**	0.309**	0.093+	0.009
	[0.059]	[0.172]	[0.109]	[0.080]	[0.052]	[0.058]
Non-university post-secondary	0.512**	0.579**	0.637**	0.709**	0.340**	0.160*
	[0.065]	[0.168]	[0.108]	[0.086]	[0.063]	[0.068]
University	0.919**	0.691**	0.809**	1.082**	1.020**	0.830**
	[0.062]	[0.168]	[0.110]	[0.085]	[0.073]	[0.102]
Observations	1044	1044	1044	1044	1044	1044
R-squared	0.23	0.06	0.11	0.2	0.25	0.18

Notes: Sample aged 25 to 59 who are not in school and not self-employed. Results include controls for number of children, province of residence and rural status. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 12: OLS and Quantile Regressions with log of weekly earnings as the dependent variable with adjustment for where education obtained, Quebec

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Males						
Immigrant Canadian Educ.	-0.103	-0.191	-0.22	-0.151+	-0.079	0.152
	[0.086]	[0.236]	[0.143]	[0.081]	[0.074]	[0.152]
Immigrant Foreign Educ.	-0.414**	-0.169	-0.606**	-0.386**	-0.281**	-0.211
	[0.087]	[0.157]	[0.135]	[0.074]	[0.067]	[0.129]
Observations	917	917	917	917	917	917
R-squared	0.26	0.05	0.17	0.22	0.22	0.16
Females						
Immigrant Canadian Educ.	-0.170+	0.013	-0.256	-0.185	-0.166*	-0.091
	[0.085]	[0.175]	[0.178]	[0.120]	[0.084]	[0.102]
Immigrant Foreign Educ.	-0.211*	0.099	-0.147	-0.298*	-0.301**	-0.253**
	[0.082]	[0.178]	[0.141]	[0.121]	[0.075]	[0.068]
Observations	1044	1044	1044	1044	1044	1044
R-squared	0.23	0.06	0.11	0.2	0.25	0.18

Notes: Sample aged 25 to 59 who are not in school and not self-employed. Results include controls for number of children, province of residence, rural status, levels of education and experience. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 13a: OLS and Quantile Regressions with log of weekly earnings as the dependent variable with adjustment for where education obtained, males, Quebec

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Immigrant Canadian Educ.	-0.29	-0.202	-0.039	-0.023	0.047	-0.656
	[0.279]	[0.596]	[0.443]	[0.305]	[0.283]	[0.476]
Immigrant Foreign Educ.	0.31	1.041	0.366	0.805*	0.211	0.621
	[0.439]	[0.894]	[0.679]	[0.383]	[0.256]	[0.400]
Experience (Native-born)	0.027**	0.025	0.023	0.020*	0.038**	0.034**
	[0.005]	[0.024]	[0.015]	[0.010]	[0.007]	[0.009]
Experience squared/100	-0.042**	-0.052	-0.033	-0.018	-0.060**	-0.053*
(Native-born)	[0.012]	[0.049]	[0.031]	[0.021]	[0.014]	[0.021]
Canadian Experience	0.065*	0.006	0.028	0.047*	0.073**	0.133**
(Canadian educ., imm.)	[0.026]	[0.031]	[0.026]	[0.020]	[0.019]	[0.037]
Canadian Experience squared/100 (Canadian	-0.1	0.064	0	-0.085	-0.142**	-0.249*
educ., imm.)	[0.069]	[0.076]	[0.068]	[0.056]	[0.051]	[0.101]
Canadian Experience	-0.017	-0.089	0.006	-0.024	0.012	-0.018
(foreign educ., imm.)	[0.041]	[0.074]	[0.059]	[0.032]	[0.023]	[0.038]
Canadian Experience squared/100 (foreign educ.,	0.09	0.272	0.031	0.093	0.002	0.094
imm.)	[0.123]	[0.195]	[0.157]	[0.085]	[0.063]	[0.109]

Table 13a: cont'd.

Foreign Experience	-0.01	-0.01	-0.025	-0.017	-0.027+	-0.057*
	[0.024]	[0.044]	[0.034]	[0.016]	[0.014]	[0.026]
Foreign Experience	0.06	0.087	0.113	0.039	0.096*	0.180*
squared/100	[0.073]	[0.134]	[0.116]	[0.051]	[0.041]	[0.082]
Highest Level of Education						
High School	0.199**	0.205	0.338**	0.218**	0.121*	0.08
(Native-born)	[0.057]	[0.202]	[0.122]	[0.071]	[0.061]	[0.063]
Non-university post-	0.374**	0.458**	0.646**	0.428**	0.221**	0.139+
secondary (Native-born)	[0.057]	[0.141]	[0.103]	[0.072]	[0.064]	[0.076]
University	0.701**	0.547**	0.798**	0.772**	0.668**	0.811**
(Native-born)	[0.069]	[0.140]	[0.103]	[0.070]	[0.083]	[0.178]
High School (Canadian	-0.06	-0.003	-0.266	-0.05	-0.082	0.271
educ., imm.)	[0.229]	[0.469]	[0.399]	[0.322]	[0.289]	[0.464]
Non-univ post- secondary	0.12	-0.14	0.109	0.007	0.042	0.355
(Cdn educ. imm.)	[0.287]	[0.452]	[0.421]	[0.291]	[0.298]	[0.499]
University (Canadian	0.706*	0.783+	0.746+	0.702*	0.228	0.920+
educ., imm.)	[0.277]	[0.401]	[0.390]	[0.292]	[0.297]	[0.484]
High School (foreign	-0.27	-0.205	-0.837+	-0.556*	0.016	-0.155
educ., imm.)	[0.238]	[0.465]	[0.438]	[0.252]	[0.100]	[0.173]
Non-univ post- secondary	-0.136	-0.388	-0.178	-0.426+	0.237+	0.114
(foreign education, imm)	[0.380]	[0.549]	[0.445]	[0.240]	[0.125]	[0.188]
University (foreign	0.319	-0.227	0.11	0.001	0.482**	0.505+
education, immigrant)	[0.375]	[0.620]	[0.481]	[0.278]	[0.180]	[0.282]
Observations	917	917	917	917	917	917
R-squared	0.28	0.07	0.19	0.23	0.23	0.18

Notes: Sample aged 25 to 59 who are not in school and not self-employed. Results include controls for number of children, province of residence and rural status. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 13b: OLS and Quantile Regressions with log of weekly earnings as the dependent variable with adjustment for where education obtained, females, Quebec

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Immigrant Canadian Educ.	0.151	-0.022	-0.624	0.479	0.386	0.628**
	[0.294]	[0.898]	[0.602]	[0.472]	[0.263]	[0.228]
Immigrant Foreign Educ.	0.296	1.052*	-0.159	0.289	0.518*	0.764**
	[0.213]	[0.457]	[0.382]	[0.302]	[0.201]	[0.162]
Experience (Native-born)	0.030**	0.028+	0.01	0.027*	0.032**	0.055**
	[0.008]	[0.015]	[0.012]	[0.011]	[0.012]	[0.009]
Experience squared/100	-0.053*	-0.071+	-0.016	-0.04	-0.049*	-0.098**
(Native-born)	[0.020]	[0.039]	[0.027]	[0.025]	[0.024]	[0.019]
Canadian Experience	0.064**	0.003	0.122**	0.105**	0.034*	0.022
(Canadian educ., imm.)	[0.015]	[0.030]	[0.033]	[0.024]	[0.017]	[0.016]
Canadian Experience	-0.166**	-0.052	-0.290**	-0.281**	-0.104*	-0.067
squared/100 (Canadian						
educ., imm.)	[0.039]	[0.110]	[0.087]	[0.060]	[0.041]	[0.044]
Canadian Experience	0.041	-0.004	0.073*	0.042	0.005	0.007

Table 13b: cont'd.

(foreign educ., imm.)	[0.026]	[0.043]	[0.033]	[0.029]	[0.018]	[0.006]
Canadian Experience squared/100 (foreign educ.,	-0.073	0.022	-0.083	-0.073	0.015	-0.022
imm.)	[0.076]	[0.104]	[0.088]	[0.088]	[0.065]	[0.018]
Foreign Experience	-0.02	0.013	-0.03	-0.063*	-0.034+	-0.025
	[0.033]	[0.041]	[0.031]	[0.028]	[0.019]	[0.018]
Foreign Experience	0.047	-0.003	0.046	0.157+	0.078	0.067
squared/100	[0.095]	[0.131]	[0.118]	[0.088]	[0.059]	[0.052]
Highest Level of Education						
High School	0.289**	0.402*	0.382**	0.336**	0.099+	0.007
(Native-born)	[0.062]	[0.187]	[0.115]	[0.087]	[0.059]	[0.065]
Non-university post-	0.547**	0.658**	0.658**	0.732**	0.369**	0.176*
secondary (Native-born)	[0.068]	[0.183]	[0.115]	[0.091]	[0.069]	[0.075]
University	1.028**	0.859**	0.874**	1.184**	1.093**	0.920**
(Native-born)	[0.069]	[0.180]	[0.113]	[0.087]	[0.078]	[0.113]
High School (Canadian	0.164	0.911	0.298	-0.094	-0.006	-0.013
educ., imm.)	[0.160]	[0.847]	[0.480]	[0.337]	[0.095]	[0.075]
Non-univ post-Secondary	0.335*	1.2	0.721	-0.008	0.272	0.194
(Canadian educ., imm.)	[0.151]	[0.828]	[0.470]	[0.367]	[0.176]	[0.203]
University (Canadian	0.366+	0.709	0.458	0.136	0.693**	0.500*
educ., imm.)	[0.197]	[0.859]	[0.480]	[0.363]	[0.208]	[0.248]
High School (foreign	-0.075	-0.284	-0.329	0.052	0.005	-0.049
educ., imm.)	[0.139]	[0.224]	[0.240]	[0.183]	[0.118]	[0.046]
Non-univ post- secondary	0.341*	-0.486	0.503	0.985**	-0.046	-0.057
(foreign educ., imm.)	[0.151]	[0.373]	[0.312]	[0.264]	[0.102]	[0.045]
University (foreign	0.077	-1.051*	0.361	0.504*	0.399*	0.057
educ., imm.)	[0.189]	[0.425]	[0.318]	[0.198]	[0.184]	[0.090]
Observations	1044	1044	1044	1044	1044	1044
R-squared	0.27	0.08	0.16	0.23	0.27	0.2

Notes: Sample aged 25 to 59 who are not in school and not self-employed. Results include controls for number of children, province of residence and rural status. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 14: OLS and Quantile Regressions with log of weekly earnings as the dependent variable with control for language of test, Quebec

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Males						
Immigrant, Test in French.	-0.216*	-0.234	-0.278*	-0.206**	-0.151*	0.035
	[0.084]	[0.201]	[0.121]	[0.070]	[0.064]	[0.115]
Immigrant, Test in English	-0.324**	-0.133	-0.721**	-0.389**	-0.201*	0.063
	[0.079]	[0.141]	[0.149]	[0.085]	[0.080]	[0.158]
Test Written in English	0.037	-0.175	-0.066	0.018	0.077	0.526+
	[0.084]	[0.120]	[0.089]	[0.071]	[0.099]	[0.282]
Observations	917	917	917	917	917	917
R-squared	0.25	0.06	0.17	0.22	0.22	0.19
Females						
Immigrant, Test in French	-0.196*	0.084	-0.178	-0.270**	-0.193**	-0.117
	[0.078]	[0.174]	[0.167]	[0.099]	[0.063]	[0.074]
Immigrant, Test in English	-0.167+	0.04	-0.226	-0.171	-0.312**	-0.235*
	[0.087]	[0.163]	[0.161]	[0.149]	[0.108]	[0.114]
Test Written in English	0.044	0.142*	0.086	0.062	-0.108	0.023
	[0.060]	[0.071]	[0.075]	[0.081]	[0.071]	[0.083]
Observations	1044	1044	1044	1044	1044	1044
R-squared	0.23	0.06	0.11	0.2	0.25	0.18

Notes: Sample aged 25 to 59 who are not in school and not self-employed. Results include controls for number of children, province of residence, rural status, levels of education and experience. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 15: OLS and Quantile Regressions with log of weekly earnings as the dependent variable with adjustment for cognitive skill score, and for where education and experience obtained

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Males						
Immigrant Canadian Educ.	-0.003	0.415	-0.058	0.042	0.065	-0.368+
	[0.202]	[0.320]	[0.246]	[0.189]	[0.168]	[0.223]
Immigrant Foreign Educ.	-0.047	-0.272	-0.203	0.303	0.104	0.246
	[0.153]	[0.489]	[0.280]	[0.186]	[0.146]	[0.212]
Average Skill Score/100	0.304**	0.312**	0.311**	0.353**	0.252**	0.146*
	[0.038]	[0.087]	[0.049]	[0.039]	[0.038]	[0.060]
Observations	4201	4201	4201	4201	4201	4201
R-squared	0.24	0.06	0.16	0.23	0.2	0.12
Females						
Immigrant Canadian Educ.	0.098	0.932*	-0.283	-0.234	0.127	0.018
	[0.129]	[0.388]	[0.303]	[0.184]	[0.179]	[0.192]
Immigrant Foreign Educ.	0.324*	0.830+	0.078	0.27	0.408**	0.476**
	[0.153]	[0.480]	[0.281]	[0.191]	[0.153]	[0.177]
Average Skill Score/100	0.353**	0.188*	0.312**	0.457**	0.414**	0.335**
	[0.037]	[0.089]	[0.062]	[0.048]	[0.047]	[0.058]
Observations	5034	5034	5034	5034	5034	5034
R-squared	0.25	0.06	0.14	0.24	0.23	0.18

Notes: Sample aged 25 to 59 who are not in school and not self-employed. Results include controls for number of children, province of residence, rural status, levels of education and experience. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 16: OLS and Quantile Regressions with log of weekly earnings as the dependent variable with adjustment for cognitive skill score by where education obtained

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Males						
Immigrant Canadian Educ.	-0.384	0.252	-0.573	-0.325	-0.228	-0.416
	[0.329]	[0.526]	[0.388]	[0.261]	[0.240]	[0.370]
Immigrant Foreign Educ.	0.019	-0.234	-0.275	-0.052	0.056	0.139
	[0.192]	[0.692]	[0.309]	[0.214]	[0.172]	[0.286]
Average Skill Score/100	0.326**	0.339**	0.318**	0.377**	0.280**	0.171*
(Native-born)	[0.046]	[0.102]	[0.053]	[0.047]	[0.045]	[0.077]
Average Skill Score/100	0.467**	0.271+	0.483**	0.467**	0.362**	0.353**
(Canadian educ., imm.)	[0.097]	[0.159]	[0.122]	[0.086]	[0.084]	[0.123]
Average Skill Score/100	0.203**	0.327	0.265*	0.264**	0.168**	0.058
(foreign educ., imm.)	[0.070]	[0.232]	[0.108]	[0.075]	[0.057]	[0.079]
Observations	4201	4201	4201	4201	4201	4201
R-squared	0.22	0.05	0.15	0.21	0.18	0.1
Females						
Immigrant Canadian Educ.	0.398*	1.703**	0.801*	0.082	0.019	-0.301
	[0.169]	[0.447]	[0.365]	[0.250]	[0.220]	[0.322]
Immigrant Foreign Educ.	0.420*	1.002+	0.042	0.08	0.468*	0.383
	[0.168]	[0.516]	[0.344]	[0.220]	[0.213]	[0.294]
Average Skill Score/100	0.416**	0.316**	0.385**	0.498**	0.462**	0.363**
(Native-born)	[0.041]	[0.106]	[0.072]	[0.057]	[0.057]	[0.072]
Average Skill Score/100	0.301**	-0.238+	0.122	0.493**	0.465**	0.490**
(Canadian educ., imm.)	[0.059]	[0.131]	[0.116]	[0.082]	[0.071]	[0.114]
Average Skill Score/100	0.203**	-0.114	0.315**	0.415**	0.220**	0.131
(foreign educ., imm.)	[0.063]	[0.174]	[0.117]	[0.079]	[0.077]	[0.106]
Observations	5034	5034	5034	5034	5034	5034
R-squared	0.24	0.05	0.12	0.22	0.22	0.18

Notes: Sample aged 25 to 59 who are not in school and not self-employed. Results include controls for number of children, province of residence, rural status, levels of education and experience. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 17: OLS and Quantile Regressions with log of weekly earnings as the dependent variable with adjustment for cognitive skill score, and for where education and experience obtained, Quebec

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Males						
Immigrant Canadian Educ.	-0.193	-0.114	0.087	0.07	0.112	-0.547
	[0.244]	[0.582]	[0.419]	[0.276]	[0.271]	[0.494]
Immigrant Foreign Educ.	0.382	1.107	0.459	0.874*	0.259	0.701+
	[0.429]	[0.904]	[0.641]	[0.360]	[0.255]	[0.402]
Average Skill Score/100	0.318**	0.290*	0.414**	0.304**	0.213**	0.357*
	[0.047]	[0.113]	[0.081]	[0.053]	[0.064]	[0.174]
Observations	917	917	917	917	917	917
R-squared	0.32	0.08	0.22	0.26	0.24	0.2
Females						
Immigrant Canadian Educ.	0.219	0.055	-0.548	0.559	0.433+	0.680**
	[0.338]	[0.929]	[0.649]	[0.514]	[0.262]	[0.230]
Immigrant Foreign Educ.	0.469+	1.246**	0.032	0.493	0.636**	0.895**
	[0.270]	[0.478]	[0.386]	[0.306]	[0.209]	[0.175]
Average Skill Score/100	0.340**	0.383**	0.376**	0.402**	0.233**	0.258**
	[0.082]	[0.126]	[0.080]	[0.080]	[0.079]	[0.086]
Observations	1044	1044	1044	1044	1044	1044
R-squared	0.3	0.09	0.18	0.26	0.28	0.21

Notes: Sample aged 25 to 59 who are not in school and not self-employed. Results include controls for number of children, province of residence, rural status, levels of education and experience. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.

Table 18: OLS and Quantile Regressions with log of weekly earnings as the dependent variable with adjustment for cognitive skill score by where education obtained, Quebec

	OLS	Quantile Regression				
		10th	25th	50th	75th	90th
Males						
Immigrant Canadian Educ.	-1.005**	-1.676	-1.855**	-0.782*	0.37	0.019
	[0.324]	[1.731]	[0.665]	[0.336]	[0.377]	[0.882]
Immigrant Foreign Educ.	-0.312	0.56	-0.77	-0.183	0.057	0.179
	[0.565]	[0.797]	[0.794]	[0.390]	[0.320]	[0.725]
Average Skill Score/100	0.311**	0.300*	0.394**	0.292**	0.238**	0.387*
(Native-born)	[0.047]	[0.117]	[0.087]	[0.057]	[0.071]	[0.197]
Average Skill Score/100	0.663**	0.864	1.019**	0.543**	0.091	0.463
(Canadian educ., imm.)	[0.107]	[0.562]	[0.203]	[0.121]	[0.139]	[0.286]
Average Skill Score/100	0.301	0.051	0.493+	0.241+	0.131	0.274
(foreign educ., imm.)	[0.193]	[0.268]	[0.273]	[0.142]	[0.117]	[0.223]
Observations	917	917	917	917	917	917
R-squared	0.31	0.07	0.21	0.25	0.23	0.18
Females						
Immigrant Canadian Educ.	0.73	1.303+	1.422*	1.049	-0.437	0.196
	[0.519]	[0.745]	[0.684]	[0.711]	[0.405]	[0.546]
Immigrant Foreign Educ.	0.659+	2.069**	0.311	-0.419	0.507+	0.709*
	[0.364]	[0.618]	[0.681]	[0.405]	[0.268]	[0.317]
Average Skill Score/100	0.415**	0.485**	0.478**	0.457**	0.266**	0.310**
(Native-born)	[0.096]	[0.140]	[0.086]	[0.086]	[0.087]	[0.095]
Average Skill Score/100	0.101	0.03	-0.121	0.022	0.378*	0.218
(Canadian educ., imm.)	[0.162]	[0.216]	[0.260]	[0.253]	[0.152]	[0.213]
Average Skill Score/100	0.109	-0.263	0.348	0.561**	-0.034	-0.048
(foreign educ., imm.)	[0.134]	[0.199]	[0.236]	[0.162]	[0.086]	[0.105]
Observations	1044	1044	1044	1044	1044	1044
R-squared	0.27	0.08	0.14	0.23	0.27	0.19

Notes: Sample aged 25 to 59 who are not in school and not self-employed. Results include controls for number of children, province of residence, rural status, levels of education and experience. Standard errors in brackets. + significant at 10%; * significant at 5%; ** significant at 1% level of statistical significance.