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You Can Take it with You! The Returns to Foreign Human Capital of Male Temporary Foreign Workers

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You Can Take it with You! The Returns to Foreign Human Capital of Male Temporary Foreign Workers*

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Abstract:

The research on immigration has found falling labor market outcomes of immigrants in many Western countries. In Canada, one of the major causes has been the decline in the returns to foreign work experience. Using the 1991, 1996 and 2001 Canadian Census Master Datafiles and applying both parametric and semiparametric techniques, it is found that unlike recently landed male immigrants, temporary foreign workers have no difficulty transferring their human capital to the Canadian labor market and in particular, they obtain very high returns to their foreign work experience. This is even true for temporary foreign workers from non-traditional backgrounds, a group that has had particular difficulty receiving returns to their foreign work experience for recent immigrant cohorts and now composes the majority of Canada's immigration. It is likely that this premium can be partially attributed to the different selection process that temporary foreign workers and immigrants enter Canada under. While immigrants for the most part are selected by the government, the selection process for temporary foreign workers is driven by employers and employers may be better able to assess the transferability of the worker's foreign human capital.

Keywords: Immigrants, Earnings, Temporary Foreign Workers, Partial linear models

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1. Introduction

Many developed countries are becoming more reliant on immigrants to meet labor shortages due mainly to an aging workforce.¹ However, most research has found deteriorating labor market outcomes of immigrants over the past couple of decades. One of the difficulties recent immigrant cohorts have encountered is the lack of portability of the human capital they acquired prior to immigrating. For example, in Israel, Friedberg (2000) finds that the earnings disadvantage experienced by immigrants relative to the native born can be fully explained by the low returns to foreign education and foreign work experience.

In Canada, while the returns to foreign acquired education are often found to be lower than that of Canadian acquired education, these returns have been relatively steady over the period in which immigrant outcomes have been declining.² Instead, one of the main causes of the deterioration in labor market outcomes of recent immigrant cohorts has been the fall in returns to their foreign work experience. Aydemir and Skuterud (2005) find that in Canada, between one-quarter to one-half of the fall in entry earnings are due to the decline in the returns to foreign work experience. While there has been extensive research into immigrant outcomes, little is known about another group of foreign-born workers in Canada, namely temporary foreign workers (TFWs). One might expect TFWs not to encounter the same difficulty receiving returns to their foreign human capital. While immigrants are selected by the government through broad policies designed to target both economic and social goals, the temporary foreign worker (TFW)

¹ For example, in Canada it is estimated that by 2011 all new labor force growth will come from immigrants (Statistics Canada 2003).

² In the United States, Bratsberg and Terrell (2002) find that the returns to education differs by sending county, with immigrants from Japan and Northern Europe receiving high returns to education and immigrants from Central American receiving low returns.

program is driven by employers, who are likely better able to assess the transferability of the worker's skills to the Canadian labor market.

Comparing the outcomes of recently landed immigrant cohorts to TFWs, the results from this paper reveal that while immigrants receive no returns to their foreign work experience, TFWs receive large positive returns.³ In addition, while immigrants do receive positive returns to years of foreign school, TFWs receive higher returns. More importantly, TFWs from non-traditional backgrounds receive high returns to both their foreign experience and foreign education. This demonstrates that it is possible for foreign-born workers to obtain recognition for their foreign acquired human capital in the Canadian labor market.

This paper is organized as follows. In Section 2, the foreign work experience and foreign education literature is discussed and some important aspects of the immigrant and TFW programs are briefly summarized. Section 3 examines the data used and the basic methodology employed. In Section 4, the empirical results are presented. A traditional parametric approach is taken to examine returns to education and work experience. However, given that returns to experience tend to be nonlinear, partial linear models are also employed and compared to the parametric estimates. The last section contains concluding remarks.

2.1 Returns to Foreign Work Experience and Foreign Education Literature

As with research in the United States (Borjas 1985, 1995) where declining labor market outcomes of immigrant cohorts are found, in Canada research overwhelmingly indicates that entry earnings of successive cohorts have fallen over the past several

³ Potential work experience is used since the actual work experience is not available.

decades.^{4,5} The immigrant entry earnings fell during the 1980s (Baker and Benjamin 1994 and Bloom, Grenier and Gunderson 1995) and continued to fall during the 1990s (Frenette and Morrisette 2003; Warman and Worswick 2004 and Aydemir and Skuterud 2005) and in the first half of the 2000s (Picot, Hou and Coulombe 2007).⁶ One of the main causes for this decline in labor market outcomes of immigrants in Canada has been the difficulty they have encountered receiving returns to their foreign work experience.

Evidence suggests that foreign work experience is heavily discounted for immigrants in Canada. For example, Alboim, Finnie and Meng (2005) uncover that a year of foreign experience is worth only one-third the value of a year of Canadian experience and Schaafsma and Sweetman (2001) find that foreign work experience renders virtually no returns in Canada. Further, using the 1981 through 2001 Canadian Census data, Aydemir and Skuterud (2005) find that there has been a large decline in the returns to foreign work experience. Their findings support work by Green and Worswick (2004), who also find that the returns to foreign experience fell for immigrants entering during the 1990s relative to the 1980s cohorts.

While immigrants and the Canadian born receive very similar returns to education obtained in Canada (Schaafsma and Sweetman 2001), research indicates that immigrants receive a lower return to years of foreign education (McBride and Sweetman 2003). The results found by Ferrer, Green and Riddell (2006) reveal that foreign universities generate less usable literacy skills and this can help explain the lower returns to foreign education.

⁴ Looking at wage distributions in the United States, the findings by Butcher and DiNardo (2002) indicate that the worsening wage distribution of immigrants relative to the native born is due to a change in the wage structure.

⁵ In a comparison between the United States, Australia and Canada, Antecol, Kuhn and Trejo (2006) find that immigrants in Canada face less of a wage disadvantage than immigrants in the United States, but experience less earnings assimilation. As well, Antecol, Cobb-Clark and Trejo (2003) find that immigrants in Canada have higher levels of education and English fluency relative to immigrants in the United States.

⁶ Also see Grant and Sweetman (2004) and Picot and Sweetman (2005) for an overview of the causes of the decline in labor market outcomes of immigrants in Canada.

Sweetman (2004) also finds that lower school quality of the sending country (based on test scores from international literacy and numeracy surveys) is associated with lower returns to foreign education in Canada. In terms of the returns to completing a degree, Ferrer and Riddell (2004) uncover that when years of schooling are controlled for, the returns to completed degrees are higher for immigrants than for the Canadian born. However, they find that years of foreign schooling have a lower rate of return. While immigrants obtain lower returns to their years of foreign education, there does not appear to be any fall in this return over the period in which immigrant entry earnings have fallen (see Ferrer and Riddell 2004 and Aydemir and Skuterud 2005).

2.2 Brief Description of Immigrant and TFW Programs in Canada

In Canada, immigrants enter under three main classes: the humanitarian class, the family class and the economic class. Only immigrants entering under the economic class are evaluated based on their labor market skills under the point system.⁷ Starting in the mid-1990s, the proportion of immigrants who entered under the economic class increased and a large emphasis was placed on education. Yet, this did little to reverse the poor entry outcomes of immigrants. Immigrants entering through the point system receive points for their education and work experience, among other skills; skills that should help them integrate into the Canadian economy. Currently, immigrants can receive a maximum of 25 points for education and 21 points for work experience out of a required 67 points for a pass. However, there is insufficient consideration for how these skills will be valued by

⁷ Only the primary applicant entering under the economic class is assessed under the point system. The dependents entering under the economic class with the primary applicant are not assessed. However, the primary applicant can receive a maximum of 5 points for the education level of the spouse/common law partner.

employers in the Canadian labor market.⁸ As well, the other two main classes, the family class and the humanitarian class are not evaluated based on their skills, and do not enter Canada under economic considerations. Instead, immigrants entering under these two classes are assessed based on social goals. Therefore, immigration policy does not attempt to assess how immigrants from the family and humanitarian classes will perform in the Canadian economy even though many of these immigrants will enter the labor market.

TFWs are usually brought in for economic reasons to fill short-term labour shortages in the economy and make the economy work more efficiently. The TFW program is actually a group of programs. The main group of TFWs are high skilled workers who are brought in to fill gaps where the Canadian labor force temporarily lacks necessary skills. Normally to enter under the high skilled TFW program, a worker must have a job offer. The employer has to prove to Human Resources and Skills Development Canada (HRSDC) that there is a labor market shortage for the job that they are bringing in the TFW for or that bringing in the worker will provide a positive benefit to Canada. If HRSDC gives a positive labor market opinion (LMO), the employer is allowed to hire the worker, and then the worker must normally apply to Citizenship and Immigration Canada (CIC) for a work permit.⁹

High skilled workers can also enter under trade agreements, such as the North American Free Trade Agreement and the General Agreement on Tariffs and Trades. However, these workers are unlikely to show up in the Canadian Census population since

⁸ The government has attempted to address this problem. For example, in 2003-2004, the Foreign Credential Recognition (FCR) program was initiated by the Canadian government to try and help verify whether the foreign education and foreign work experience of an immigrant is comparable to Canadian work experience and education.

⁹ The worker applies to Ministère des Relations avec les Citoyens et de l'Immigration (MRCI) if they are applying to work in Quebec.

they are often considered to be visitors.¹⁰ There are also programs to bring in less-skilled workers to perform jobs that Canadians will not do, at least not at the going wage. These include the Seasonal Agricultural Workers Program (SAWP) and the Live-In-Care-Givers program.¹¹ Under SAWP, which began in 1966, employers could annually bring in agricultural workers. In 1981, then called the Foreign Domestic Workers Program, the Live-In-Care-Givers program (as of 1992), formalized the TFW process for domestic workers.¹²

It is possible for some temporary residents who do not enter under these programs to work. The spouses of foreign students are able to work in Canada under an open employment authorization for the same duration that the student's authorization is valid.¹³ Starting with a pilot project in 1998, the spouses of management and professional TFWs are able to work in Canada. In 2001, the Spousal Employment Authorization initiative made the 1998 pilot project permanent. Among other changes to the initiative, the occupations covered are extended to technical and skilled trade workers. As well, the coverage now includes common-law partners and the spouse/common-law partner no longer needs a labor market opinion from HRSDC.

3. Data and Methodology

There is very little choice of data to examine TFWs. While the Canadian Administrative Database on temporary residents contains the full set of records of the

¹⁰ Many workers under trade agreements are exempt from requiring work permits. A number of other categories were also exempt from requiring a work permit in 2002 under the Immigration and Refugee Protection Act (IRPA).

¹¹ In 2002, the Low-Skilled Worker Pilot Program allowed employers to bring in workers for some jobs that would not qualify under the normal TFW program.

¹² TFWs working under the Live-in-Caregiver program are able to apply for permanent resident status after working for 24 months over a 3 year period. Conversely, workers under the Seasonal Agricultural Workers Program are not able to apply for permanent resident status in Canada.

temporary workers, it lacks information on earnings. Instead the 1991, 1996 and 2001 complete 20 percent Canadian Census Master Microdata Files are used.¹⁴ Although the Census is not exhaustive in its coverage of TFWs, it has a large sample size and more importantly has extensive information on earnings and demographic characteristics. Log weekly earnings from wages and salaries are used as the dependent variable and are converted into real terms using the Canadian Consumer Price Index, with 2000 as the base year. Weekly earnings are calculated by dividing total wages and salaries earned in the reference year by the number of weeks worked. The reference year is the year prior to the period when the Census questionnaires are answered. Only male respondents aged 30 to 64 who are not in school full time, and who have positive earnings from wages and salaries are used. The lower part of the age restriction is used to try and ensure that the education obtained is from the sending country. The sample is examined for people with at most 30 years of schooling and at most 45 years of potential experience, since there are few individuals above these thresholds.

In the Census, TFWs are part of the non-permanent resident population, which also includes students and refugee claimants.¹⁵ The non-permanent resident category does not differentiate what type of non-permanent resident the respondent belongs to.

While students are removed, the sample will still contain refugee claimants.¹⁶ However, Schellenberg (2001) finds that 60 to 70 percent of inland determination refugees

¹³ Foreign students were also able to work on campus, or off campus if it was related to their degree. However, starting in 2005, students at public post secondary schools are now able to work off campus, and in 2006, a pilot project extended this to students at private schools.

¹⁴ The Census will give a sample of the May stock of TFWs that were in Canada for at least a portion of the previous year. Prior to 1991, non-permanent residents were not included in the Census (except for 1941).

¹⁵ A small number of Minister's permit holders will also be in the sample. Minister's permits gives special admission to some people who would not have qualified under the TFW program to come to Canada for a short period of time. The Census excludes non-permanent residents and their family members who are government representatives of a diplomatic body of another country, members of the Armed Forces of another country, or those visiting Canada temporarily.

claimants who were authorized to work did not receive a wage or salary. As previously discussed, there are a wide range of possible programs that a temporary resident can work under as a TFW in Canada and the type of program that the TFW entered under is not given in the Census data.

The analysis will be restricted to foreign-born workers who are either TFWs or recently landed immigrants. Only recently landed immigrants will have encountered the same entry conditions and will have been in Canada a similar length of time in comparison to the TFWs. The immigrant cohorts analyzed are the 1986-1990 cohort for the 1991 Census, the 1991-1995 cohort for the 1996 Census, and the 1996-2000 cohort for the 2001 Census. The choice of immigrant cohorts minimizes any difference in the time in Canada for the immigrants and TFWs. Throughout the remainder of the paper, the word *immigrant* will be used interchangeably with the term *recently landed immigrants* unless otherwise noted. Given that the two variables of interest are returns to foreign work experience and returns to foreign schooling, the Canadian born are not examined in this study.

While restricting the sample to recently landed immigrants helps to reduce differences in the duration in Canada, it does not fully control for possible differences among these two groups or allow one to fully differentiate between domestic and foreign work experience. The Canadian Census Master Microdata Files give the precise year of immigration, and many studies have used year of immigration to try and differentiate between domestic and foreign work experience and schooling. Although it is possible to uniquely identify year of immigration in the Census Master Microdata Files, an error in estimating variables based on year of immigration to Canada still exists. It is possible for

¹⁶ The inclusion of the refugee claimants is likely to bias the returns to foreign work experience and foreign education of the TFWs downward.

immigrants to live in Canada prior to obtaining immigration status. While information on year of entry into Canada is not available, the Census has information on the place of residence five years prior to the Census date.¹⁷ Table 1 displays this information for immigrants and TFWs. A large number of immigrants lived in Canada five years prior to the Census date. For example, 20 percent of the 1995 immigrant cohort and almost half of the 1992 immigrant cohort were present in Canada in May of 1991. Given that the year of entry into Canada may be inaccurately measured, it becomes difficult to fully differentiate between Canadian and foreign experience and foreign schooling. Therefore, studies using age at immigration to differentiate between Canadian and foreign experience and education may be incorrectly attributing human capital as foreign that was actually obtained in Canada.

It is equally or maybe even more difficult to determine when TFWs entered the country. While it is possible to get a sense of how long immigrants have been in Canada based on the year of immigration, the same information does not exist for TFWs. Table 1 indicates that between 31 and 39 percent of male TFWs were present in Canada five years prior to the Census. Therefore, to equalize years in Canada, all workers who were in Canada five years prior to the Census enumeration are removed.

The actual measure of labor market experience is not given in the Census. Instead, potential experience is measured by age minus total years of school minus six. While the estimate of experience is likely measured with error, using the Survey of Labour and Income Dynamics, Drolet (2002) finds that the amount of labor market experience for females is particularly overstated by proxy measures of experience. Hum and Simpson (2004) find that the simple correlation between actual and potential experience is 49.7

¹⁷ For example, the 2001 Census would provide information of where the respondent lived in May of 1996.

percent for female immigrants while it is 82.2 percent for male immigrants. Due to the large measurement error that has been found using potential experience for females, the sample is restricted to males.

To differentiate between domestic and foreign years of work experience, it is typical to subtract years in the host country from total years of experience to obtain an estimate of host country experience. As was just discussed, it is possible for the immigrant to be in the country prior to the date of immigration and the date of entry is not given for the TFW. Therefore, it is not possible to determine how much of a worker's experience is foreign experience and how much is domestic experience. However, given that the sample is restricted to foreign-born workers who were not in the country four years prior to the reference year, the amount of Canadian experience is minimal with the maximum years of Canadian work experience being four (or more precisely three years and seven and half months).¹⁸ Therefore, given the negligible number of possible years of Canadian work experience, the wording *total experience* and *foreign experience* are used interchangeably.

The returns to schooling and experience are examined using the following equation:

$$(1) \ln W_i = \beta X_i + \delta_1 S_i + \delta_2 EXP_i + \delta_3 EXP_i^2 + u_i$$

where S_i represents years of foreign schooling and EXP_i represents years of potential work experience. The matrix X contains variables controlling for: minority status, region of birth, mother tongue, region of residence, size of place of residence and marital status.

¹⁸ It is also possible that a small number of people could have been out of the country five years prior the reference year, but in Canada prior to that.

A description of these variables is given in the Appendix and the sample means are presented in Table 2.

While the polynomial expression is included in equation (1) to capture the possible nonlinearity of labor market experience, it has been found that the quadratic model may not give representative estimates of the returns to experience (see Horowitz 2000). Although most literature only uses a quadratic model to capture the nonlinearity in the experience-earnings profile, a cubic estimator will also be used to see if this higher order polynomial is able to capture some of the nonlinearity that the quadratic model may not uncover. As well, the returns to experience will also be estimated nonparametrically using a partial linear regression model to avoid any potential specification error. Partial linear models estimate part of the model nonparametrically, while the rest of the variables in the model are estimated parametrically.

$$(2) \ln W_i = \beta X_i + \delta_1 S_i + f(EXP_i) + u_i$$

The method suggested by Robinson (1988) is used to estimate equation (2). The first step involves removing the effect of EXP_i by running nonparametric regressions on $\ln W_i$ and each of the independent variables separately. Then a regression is run to obtain the parametric estimates using the residual from these nonparametric regressions, and is estimated by:

$$(3) \ln W_i - E(\ln W_i | EXP_i) = (X_i - E(X_i | EXP_i))\beta + (S_i - E(S_i | EXP_i))\delta_1 + v_i$$

where $E(\ln W_i | EXP_i)$ and $E(X_i | EXP_i)$ are estimated by nonparametric regressions. A nonparametric regression is then estimated on $\ln W_i$ after the parametric effects have been

removed. This method proposed by Robinson is referred to as the *double-residual* estimator in the remainder of the paper.

It is likely that the returns to work experience will vary with years of schooling and therefore the relationship between experience and years of schooling are also investigated. Equation (4) allows for both years of experience and years of schooling to enter nonparametrically.

$$(4) \ln W_i = \beta X_i + f(EXP_i, S_i) + u_i$$

The double-residual technique is again used to calculate equation (4), where the procedure is similar to that outlined when only one variable enters nonparametrically.

The nonparametric effects of experience and years of schooling are jointly removed from the dependent variable and each of the independent variables using nonparametric regressions.¹⁹ Then the parametric regression is estimated on the residual from the nonparametric regressions. Finally a nonparametric regression is estimated using the residual of the parametric regression.

4. Empirical Results

4.1 Sample Characteristics

Prior to comparing the returns to foreign schooling and experience between TFWs and recently landed immigrants, it is important to get a sense of how similar these two groups are, at least in terms of observable characteristics. Sample means are presented in Table 2. While the differences in age, years of schooling and years of potential work experience are all statistically significant, the magnitudes of these differences are not

¹⁹ See Horowitz and Lee (2001), Yatchew (2003) and Li and Racine (2007) for an explanation of partial linear models and nonparametric functions with multiple variables.

large. The average age is very similar for both groups (around 39 years), although immigrants have around half of a year more potential labor market experience and have slightly less schooling. However, the distributions of schooling are different. While immigrants and TFWs have a similar proportion with 12 years or less of schooling, 30 percent of TFWs have 18 years of schooling or more compared to 24 percent of immigrants.

There are large differences in the proportion that are married with TFWs being much less likely to be married. Immigrants are also more likely to be a visible minority than are TFWs (the difference is around 13 percentage points). TFWs are much more likely to be born in the United States or come from Western, Southern or Northern Europe. Looking at the workers from the non-traditional sending regions, TFWs are more likely to come from Central and South America or Africa and the Middle East, but are a lot less likely to come from Asia than are recently landed immigrants. There is a fairly even breakdown in the residential settling patterns between these two groups. The only notable differences are that TFWs are around 5 percentage points less likely to live in Toronto, but are more likely to live in Montreal than are recently landed immigrants.

4.2 Returns to Experience and Schooling with Experience Entering Nonlinearly

The results for total years of schooling for equations (1) and (3) are displayed in Table 3a. Both TFWs and immigrants receive positive returns to schooling, with an extra year of schooling garnering an increase in weekly earnings of 6 and 4 percent respectively.²⁰ It is worth noting that the double-residual and quadratic models yield very

²⁰ The equations were re-estimated separately for each of the three years, which revealed little difference in returns to foreign schooling. An earlier version of the paper also controlled for 14 occupational dummies and hours worked dummies. The results were qualitatively and quantitatively similar. However, given that occupation and hours worked are endogenous, the results presented do not include these controls.

similar estimates of the parametric returns to foreign schooling (as well as for the other parameters).

The experience-earnings profiles are plotted in the upper portion of Figure 1. The corresponding returns for each additional year of experience ($d(E(\ln W_i|EXP_i))/dEXP_i$) are displayed in the lower portion of Figure 1. It is clear that the recently landed immigrants receive no return for their labor market experience when first entering Canada.

Conversely, the TFWs receive a very high premium for their labor market experience.

Looking at the upper left-hand graph of Figure 1, the experience-earnings profile is decreasing over the majority of the experience profile for the immigrant sample. This is akin to the finding by Schaafsma and Sweetman (2001) that immigrants who arrive at an older age have worse earnings outcomes. The bottom left-hand graph of Figure 1 shows that the returns for an additional year of experience are slightly negative throughout the majority of the distribution. Given that the profile for immigrants is quasi-linear, the quadratic and cubic models give a tight fit and follow the nonparametric estimates of experience over most of the profile.

The quadratic and cubic models do not do as good a job of estimating the experience-earnings profile for the TFWs. In the upper-right hand graph of Figure 1, the partial linear model shows that the experience-earnings profile flattens out at around 10 years, and the slope becomes completely flat at around 30 years. Both the quadratic and cubic models give misleading results, with both models not starting to flatten out until much later. The quadratic model turns down after 28 years of experience, while the first turning point for the cubic model is around 22 years of experience. In the corresponding results at the bottom right-hand graph of Figure 1, the quadratic model shows small returns for an extra year of experience at low-levels of experience and negative returns to

an extra year of experience at higher levels of experience. Conversely, the nonparametric estimate shows large positive returns to an additional year of experience at low-levels with the additional returns declining with each year of experience until around 33 years of experience, where there are no subsequent returns to additional experience. The cubic model captures the returns to an additional year of experience at the low-levels of experience, but overestimates the benefit of an additional year of experience for years 10 through 18 and underestimates the benefits from years 22 to 35.

We might expect that foreign-born workers who are more similar to the host country population in terms of language and culture should encounter less difficulty transferring their foreign acquired human capital. Aydemir and Skuterud (2005) uncover that while male immigrant cohorts from Western countries endured a modest fall in the returns to foreign work experience between the late 1960s and 1990s, the recent cohorts still obtained positive returns. Conversely, immigrant cohorts from non-Western countries saw a larger fall in the returns to foreign work experience and the 1990s cohorts received no returns to their foreign work experience.

With this in mind, the results from Table 3a are re-estimated looking at both foreign workers that are similar to the host country population and those that are dissimilar. The similar group is defined as foreign workers that speak either English or French, come from a Western country (Western Europe, United States, Australia and New Zealand) and are not a visible minority. The non-similar immigrant group is defined as workers who do not speak English or French, come from a non-Western country (Eastern Europe, Asia, Middle East, Africa, South America or Central America) and are a visible minority.²¹ This estimation also allows us to explore if the better outcomes in

²¹ The results were rerun removing the region of origin restriction and were found to be very similar to the results presented.

returns to work experience for TFWs over immigrants are simply due to the TFW program selecting a higher proportion of workers from backgrounds more similar to the host country, or if the higher returns exists within regions.

The results for the sample that is dissimilar to the Canadian population are shown in Table 3b and Figure 2. The returns to schooling are higher for TFWs than immigrants, with the return for an extra year of schooling around 3 percent higher for TFWs (see right-hand side of Table 3b). For recently landed immigrants, the experience-earnings profile has a linear form and trends downward (see upper left graph of Figure 2), and each additional year of experience decreases weekly earnings slightly (see lower left graph of Figure 2). For TFWs, the experience-earnings profile is very steep until around 10 years of experience, and then it flattens out but remains upward sloping throughout the range. In the lower right graph in Figure 2, the double-residual estimate shows that TFWs receive around a 4 percent increase for an additional year of experience for each of the first several years of experience, but declines with higher levels of experience.

Surprisingly, for the sample that is similar to the Canadian population, TFWs receive lower returns to schooling than do immigrants, with returns to a year of schooling of 3 and 8 percent respectively (see Table 3c). This is likely due to the fact that, unlike what was found for the full sample in Table 2, there are not many TFWs from this group with few years of school, so if the returns to schooling are nonlinear, the school-earnings profile is being estimated largely over the part where it flattens out.²² Restricting the sample to workers with 20 years of schooling or less, the returns to schooling are much closer with returns of 6.6% for TFWs and 8.3% for immigrants. The possible nonlinearity of schooling is investigated in the next section when both schooling and experience are

²² For English/French speaking non-visible minorities from Western countries, only 6% of TFWs have 12 years of schooling or less compared to 15 % of immigrants.

estimated nonparametrically. The experience-earnings profiles are very similar for immigrants and TFWs. Both experience-earnings profiles resemble quadratic returns to experience. However, the profile for the immigrants does hit a maximum several years earlier than that of the TFWs, at around 22 years and 30 years respectively.

While the quadratic model correctly estimates the turn around point, the model overestimates the negative return to experience at later years of experience, and again underestimates the returns to experience at the low-levels of experience for immigrants. The cubic model also gives a loose fit, showing a return to an extra year of experience of 3 percent in the upper years of experience, while the nonparametric specification shows a negative return of around 1.5 percent. For TFWs, the quadratic model and cubic model both underestimate the returns to additional year of experience at both low- and high-levels of experience.

4.3 Experience and Years of Schooling both entering Nonparametrically

The nonparametric estimates of the returns to experience and schooling for the full sample are presented in Figure 4. Allowing schooling to enter nonparametrically allows for the possibility that the returns to schooling are nonlinear. As well, allowing experience and schooling to enter multiplicatively allows us to explore how the returns to work experience vary for different education levels. For recently landed immigrants, there is a positive return to schooling for workers in the low- and mid-years of the experience profile. However, there is little return to schooling in the upper-years of experience. Further, there are no returns to experience, with earnings actually falling with years of experience. This result is consistent across the different levels of schooling. For TFWs, additional schooling causes a large increase in log-weekly earnings throughout the experience profile, especially for the middle-years of schooling ($10 \leq$ years of schooling

≤ 20). There are little returns to experience for TFWs with few years of schooling, with the returns actually being negative in the upper-years of the experience profile. However, there are positive returns for the first 20 years of experience for those in upper range of years of schooling.

The results for the visible minority immigrants with neither English nor French as their mother tongue from non-Western countries (see Figure 5) are similar to the overall results for immigrants. While the recently landed immigrants enjoy positive returns to schooling, they encounter no returns to experience at low-levels of schooling and negative returns at mid- and high-levels of schooling. TFWs do not encounter the same fall in earnings as experience increases. Further, they encounter very high returns to schooling throughout the experience profile.

In Figure 6, the results for non-visible minority foreign-born workers with either English or French as their mother tongue from a Western country are displayed. For the TFWs, there are large returns to experience in the mid-portion of the schooling profile. For those with a low-level of schooling, there is less of a return to experience. However, little emphasis should be placed on the results for less than 10 years of schooling for this group since there are few TFWs from this subset in this range. There are also high returns to extra schooling from around 10 years to 20 years of schooling throughout most the experience profile, after which, there are actually negative returns. For the recently landed immigrants (lower graph of Figure 6), there are large returns to experience in the mid- and upper-portion of the schooling profile. As was seen in Figure 3, the experience-earnings profile flattens earlier for the immigrants than for the TFWs, although, the opposite is true for years of schooling.

5. Conclusion

This paper compares the returns to foreign work experience and education of recently landed immigrants and TFWs in Canada. Poor returns to foreign human capital, or more specifically a fall in the returns to foreign labor market experience, has been found to be one of the major causes of the decline in the earning outcomes of immigrants, particularly for immigrants from non-traditional backgrounds.

Another group of foreign-born workers that has entered over the same time period, but under different policies, are TFWs. In comparison to recently landed immigrants, this study found that male TFWs receive higher returns to their foreign schooling and much higher returns to their labor market experience. However, the immigrants of most concern with respect to difficulty receiving returns to their foreign work experience and the group that now composes the bulk of Canada's current immigration, are immigrants from non-traditional backgrounds. When the sample is restricted to visible minorities with neither English nor French as their mother tongue from non-Western countries, again TFWs experience positive returns to their labor market experience while immigrants receive no returns. Furthermore, these TFWs receive higher returns to their foreign schooling.

The success of male TFWs from dissimilar backgrounds than the Canadian population in receiving high returns to both their foreign schooling and labor market experience is likely due to differences in the selection policy that they enter under. Entering under the TFW program, the worker is selected by employers, which minimizes any potential problem receiving recognition for the human capital they have obtained prior to entering to Canada. As well, given that the employer must normally demonstrate that there is a labor shortage for the job, the worker will be employed in an area of high

demand. Immigrants are chosen by the government. Economic immigrants receive points for their human capital, but without much consideration for how the foreign human capital will be recognized by employers.²³ The other two main immigrant classes, the humanitarian class and family class enter the country based on social goals, without economic consideration.

It is likely that the better outcomes are partially due to unobservable quality differences that may be visible to employers. More specifically, if the differences in returns to credentials are being driven by unobservable quality differences, it may be that the poor earnings outcomes experienced by immigrants from non-traditional countries may be driven by who is being chosen and not necessarily a failure of the host country to recognizing the skills of the immigrant acquired in the sending country.

By taking into consideration the needs of employer and the area of skill shortages in the Canadian labor market, it would be possible to bring immigrants in with skills that are in high demand and which the immigrant's foreign schooling and work experience will be rewarded. However, this may not meet the goals of the government since the selection of immigrants by employers would likely result in a different composition in terms of such things as region of origin. As well, given that the needs of the economy are always changing, skills that are in high demand in one period may not be in high demand in another, any benefit may be temporary. Further, many of the TFWs may not desire to become permanent residents. Nonetheless, the overall important finding is that it is possible for foreign-born workers to obtain returns to their foreign acquired human capital and in particular positive returns to their foreign work experience.

²³ Currently, economic immigrants can receive a maximum of 10 points if they have arranged HRSDC employment in an area of skill shortage or had previous employment that was arranged or exempt.

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Table 1: Proportion that lived in Canada five years prior to the Census survey date

	1991	1996	2001
Temporary foreign workers	31.26	39.25	35.62
Immigrants who immigrated Between four and one year prior	18.19	32.04	20.22
Immigrated four years prior	33.57	48.47	28.97
Immigrated three years prior	14.21	29.42	20.91
Immigrated two years prior	13.01	20.42	15.40
Immigrated one year prior	12.26	20.83	12.74

Samples are restricted to foreign-born males aged 30 to 64 who are not in school full time and have positive earnings from wage and salaries.

Table 2: Sample means

	Recently landed immigrants	Temporary foreign workers
Age	39.194	38.843 ***
Years of schooling	15.045	15.428 ***
% 12 years or less	0.246	0.232 **
% 18 years or greater	0.244	0.301 ***
Years of experience	18.149	17.415 ***
Married	0.852	0.779 ***
Minority	0.680	0.547 ***
United States	0.021	0.159 ***
Central/South America	0.084	0.126 ***
West/South/North Europe	0.151	0.205 ***
Eastern Europe	0.121	0.054 ***
Africa/Middle East	0.121	0.141 ***
Asia	0.498	0.310 ***
Other	0.004	0.005
Atlantic	0.010	0.024 ***
Quebec	0.011	0.019 ***
Montreal	0.097	0.164 ***
Ontario (excluding Toronto)	0.127	0.145 ***
Toronto	0.459	0.409 ***
Prairies	0.108	0.104
British Columbia (excluding Van.)	0.022	0.023
Vancouver	0.166	0.113 ***

Note: Samples are restricted to male foreign-born workers aged 30 to 64 who have been living in Canada less than four years who are not in school full time and have positive earnings from wage and salaries. Statistical difference between means: * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 3a: Returns to schooling and experience estimates using quadratic and partial linear models

	Recently landed immigrants		Temporary foreign workers	
	Quadratic	Double Residual	Quadratic	Double Residual
Experience	-0.004* [0.002]		0.058*** [0.006]	
Experience squared/100	-0.004 [0.005]		-0.104*** [0.014]	
Years of Schooling	0.038*** [0.002]	0.038*** [0.002]	0.058*** [0.004]	0.060*** [0.004]
Minority	-0.185*** [0.025]	-0.185*** [0.025]	-0.365*** [0.050]	-0.358*** [0.051]
Married	0.136*** [0.014]	0.136*** [0.014]	0.156*** [0.032]	0.158*** [0.032]
<i>Region of origin</i>				
Central/Sth America	-0.341*** [0.041]	-0.341*** [0.041]	-0.572*** [0.070]	-0.591*** [0.070]
Wst/Sth/Nth Europe	-0.131*** [0.036]	-0.131*** [0.036]	-0.135*** [0.044]	-0.137*** [0.044]
East Europe	-0.358*** [0.040]	-0.358*** [0.040]	-0.945*** [0.072]	-0.953*** [0.072]
Africa/Middle East	-0.317*** [0.043]	-0.317*** [0.043]	-0.640*** [0.071]	-0.651*** [0.071]
Asia	-0.277*** [0.043]	-0.277*** [0.043]	-0.377*** [0.073]	-0.389*** [0.073]
Other	-0.290*** [0.093]	-0.290*** [0.093]	-0.613*** [0.140]	-0.611*** [0.141]
<i>Place of residence</i>				
Atlantic	-0.064 [0.054]	-0.064 [0.054]	-0.072 [0.076]	-0.066 [0.076]
Quebec	-0.334*** [0.047]	-0.335*** [0.047]	-0.118 [0.090]	-0.105 [0.090]
Montreal	-0.167*** [0.018]	-0.167*** [0.018]	-0.242*** [0.040]	-0.242*** [0.040]
Ontario	-0.053*** [0.016]	-0.053*** [0.016]	-0.096** [0.042]	-0.099** [0.043]
Prairies	-0.227*** [0.018]	-0.227*** [0.018]	-0.141*** [0.047]	-0.138*** [0.047]
BC	-0.209*** [0.038]	-0.208*** [0.038]	-0.391*** [0.096]	-0.392*** [0.096]
Vancouver	-0.096*** [0.014]	-0.096*** [0.014]	-0.006 [0.047]	-0.006 [0.047]
<i>Language</i>				
French	-0.049 [0.033]	-0.049 [0.033]	-0.162** [0.072]	-0.157** [0.073]
other	-0.130*** [0.015]	-0.130*** [0.015]	-0.102** [0.041]	-0.097** [0.042]
<i>Population size of place of residence</i>				
Town	0.132*** [0.024]	0.132*** [0.024]	0.183*** [0.059]	0.181*** [0.059]
Rural	-0.016 [0.028]	-0.016 [0.028]	-0.088* [0.049]	-0.108** [0.050]
<i>Year</i>				
1990	0.034*** [0.011]	0.035*** [0.011]	-0.107*** [0.033]	-0.105*** [0.032]
1995	-0.181*** [0.012]	-0.180*** [0.012]	-0.069* [0.036]	-0.055 [0.036]

Obs.	41710	41710	8396	8396
R-squared	0.09	0.07	0.23	0.23

Note: Samples are restricted to foreign-born males aged 30 to 64 who have been living in Canada less than four years who are not in school full time and have positive earnings from wage and salaries.

Robust standard errors are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%

Table 3b: Returns to schooling and experience estimates using quadratic and partial linear models for Visible minorities with neither English/French as Mother tongue from non-Western countries

	Recently landed immigrants		Temporary foreign workers	
	Quadratic	Double Residual	Quadratic	Double Residual
Experience	-0.012*** [0.003]		0.030*** [0.011]	
Experience squared/100	0.011* [0.006]		-0.044* [0.024]	
Years of Schooling	0.033*** [0.002]	0.033*** [0.002]	0.063*** [0.008]	0.063*** [0.008]
Married	0.144*** [0.018]	0.144*** [0.018]	0.128** [0.054]	0.130** [0.054]
<i>Region of origin</i>				
Central/Sth America	-0.032 [0.193]	-0.032 [0.193]	0.480** [0.200]	0.478** [0.201]
Africa/Middle East	-0.061 [0.193]	-0.061 [0.192]	0.291 [0.196]	0.296 [0.198]
Asia	-0.013 [0.192]	-0.013 [0.192]	0.570*** [0.193]	0.575*** [0.195]
Other	0.024 [0.210]	0.025 [0.210]	0.310 [0.214]	0.322 [0.216]
<i>Place of residence</i>				
Atlantic	0.150 [0.097]	0.150 [0.097]	-0.436* [0.234]	-0.428* [0.233]
Quebec	-0.262*** [0.094]	-0.263*** [0.094]	0.124 [0.185]	0.136 [0.185]
Montreal	-0.187*** [0.025]	-0.187*** [0.025]	-0.374*** [0.064]	-0.371*** [0.064]
Ontario	-0.001 [0.021]	-0.001 [0.021]	0.038 [0.074]	0.034 [0.074]
Prairies	-0.212*** [0.022]	-0.212*** [0.022]	-0.172* [0.094]	-0.166* [0.095]
BC	-0.180*** [0.063]	-0.181*** [0.064]	-0.502** [0.202]	-0.497** [0.203]
Vancouver	-0.101*** [0.016]	-0.101*** [0.016]	0.135* [0.078]	0.135* [0.078]
<i>Population size of place of residence</i>				
Town	0.174*** [0.037]	0.174*** [0.037]	0.640*** [0.138]	0.633*** [0.139]
Rural	0.154*** [0.048]	0.153*** [0.048]	0.121 [0.108]	0.082 [0.112]
<i>Year</i>				
1990	0.038*** [0.014]	0.039*** [0.014]	-0.015 [0.051]	-0.025 [0.054]
1995	-0.199*** [0.015]	-0.198*** [0.015]	-0.048 [0.064]	-0.039 [0.064]
Obs.	24800	24800	3633	3633
R-squared	0.07	0.05	0.10	0.10

Note: Samples are restricted to foreign-born males aged 30 to 64 who have been living in Canada less than four years who are not in school full time and have positive earnings from wage and salaries.

Robust standard errors are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%

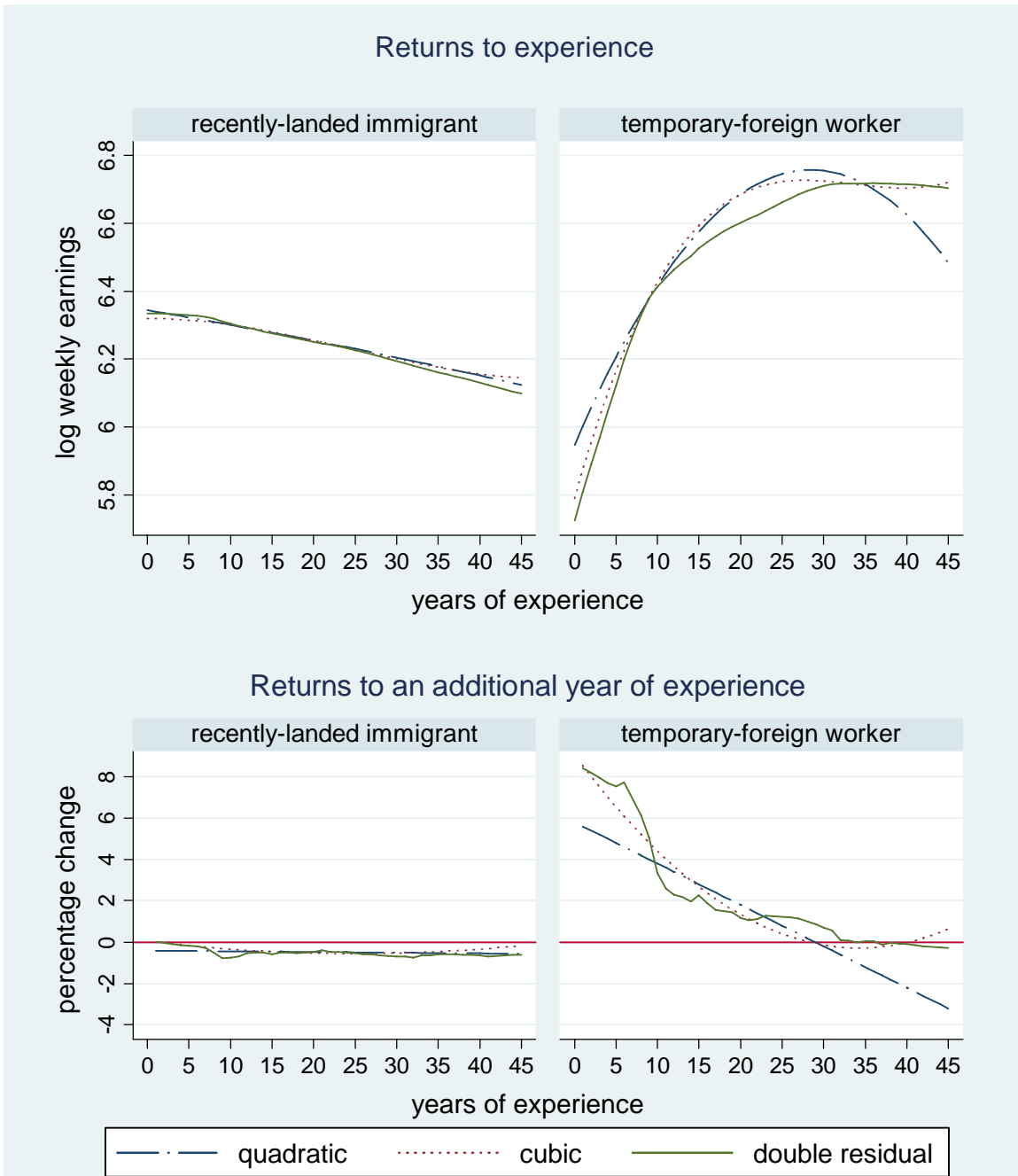
Table 3c: Returns to schooling and experience estimates using quadratic and partial linear models for Non-Visible minorities with either English/French as their mother tongue from Western countries

	Recently landed immigrants		Temporary foreign workers	
	Quadratic	Double Residual	Quadratic	Double Residual
Experience	0.043*** [0.008]		0.073*** [0.011]	
Experience squared/100	-0.091*** [0.021]		-0.129*** [0.027]	
Years of Schooling	0.078*** [0.005]	0.080*** [0.005]	0.028*** [0.008]	0.028*** [0.008]
Married	0.117** [0.047]	0.114** [0.047]	0.198*** [0.050]	0.202*** [0.050]
<i>Region of origin</i>				
Wst/Sth/Nth	-0.015 [0.039]	-0.017 [0.039]	-0.158*** [0.050]	-0.160*** [0.050]
<i>Place of residence</i>				
Atlantic	-0.425*** [0.093]	-0.425*** [0.093]	-0.285*** [0.098]	-0.292*** [0.100]
Quebec	-0.488*** [0.085]	-0.490*** [0.084]	-0.423*** [0.124]	-0.422*** [0.124]
Montreal	-0.241*** [0.057]	-0.243*** [0.057]	-0.189*** [0.068]	-0.192*** [0.069]
Ontario	-0.221*** [0.043]	-0.221*** [0.043]	-0.328*** [0.067]	-0.329*** [0.067]
Prairies	-0.367*** [0.048]	-0.367*** [0.048]	-0.286*** [0.065]	-0.287*** [0.065]
BC	-0.366*** [0.061]	-0.365*** [0.061]	-0.747*** [0.137]	-0.758*** [0.136]
Vancouver	-0.223*** [0.046]	-0.220*** [0.046]	-0.353*** [0.068]	-0.354*** [0.068]
<i>Language</i>				
French	-0.160*** [0.054]	-0.153*** [0.054]	-0.189*** [0.070]	-0.188*** [0.071]
<i>Population size of place of residence</i>				
Town	-0.042 [0.040]	-0.041 [0.040]	-0.140** [0.071]	-0.130* [0.070]
Rural	-0.154*** [0.050]	-0.156*** [0.050]	-0.298*** [0.071]	-0.299*** [0.071]
<i>Year</i>				
1990	0.008 [0.033]	0.005 [0.033]	-0.257*** [0.048]	-0.234*** [0.049]
1995	-0.098*** [0.036]	-0.099*** [0.036]	-0.152*** [0.050]	-0.131*** [0.051]
Obs.	3829	3829	2181	2181
R-squared	0.14	0.14	0.16	0.11

Note: Samples are restricted to foreign-born males aged 30 to 64 who have been living in Canada less than four years who are not in school full time and have positive earnings from wage and salaries.

Robust standard errors are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%

Figure 1: Full Sample



Source: 1991, 1996 and 2001 Canadian Censuses

Samples are restricted to foreign-born male aged 30 to 64 who have been living in Canada less than 3 years and 8 months, who are not in school fulltime and who have positive earnings from wage and salaries. Results control for; years of schooling, hours worked, region of birth, place of residence, language, minority status, population size of residence and marital status.

Figure 2: Visible minorities with neither English/French as Mother tongue from non-Western countries

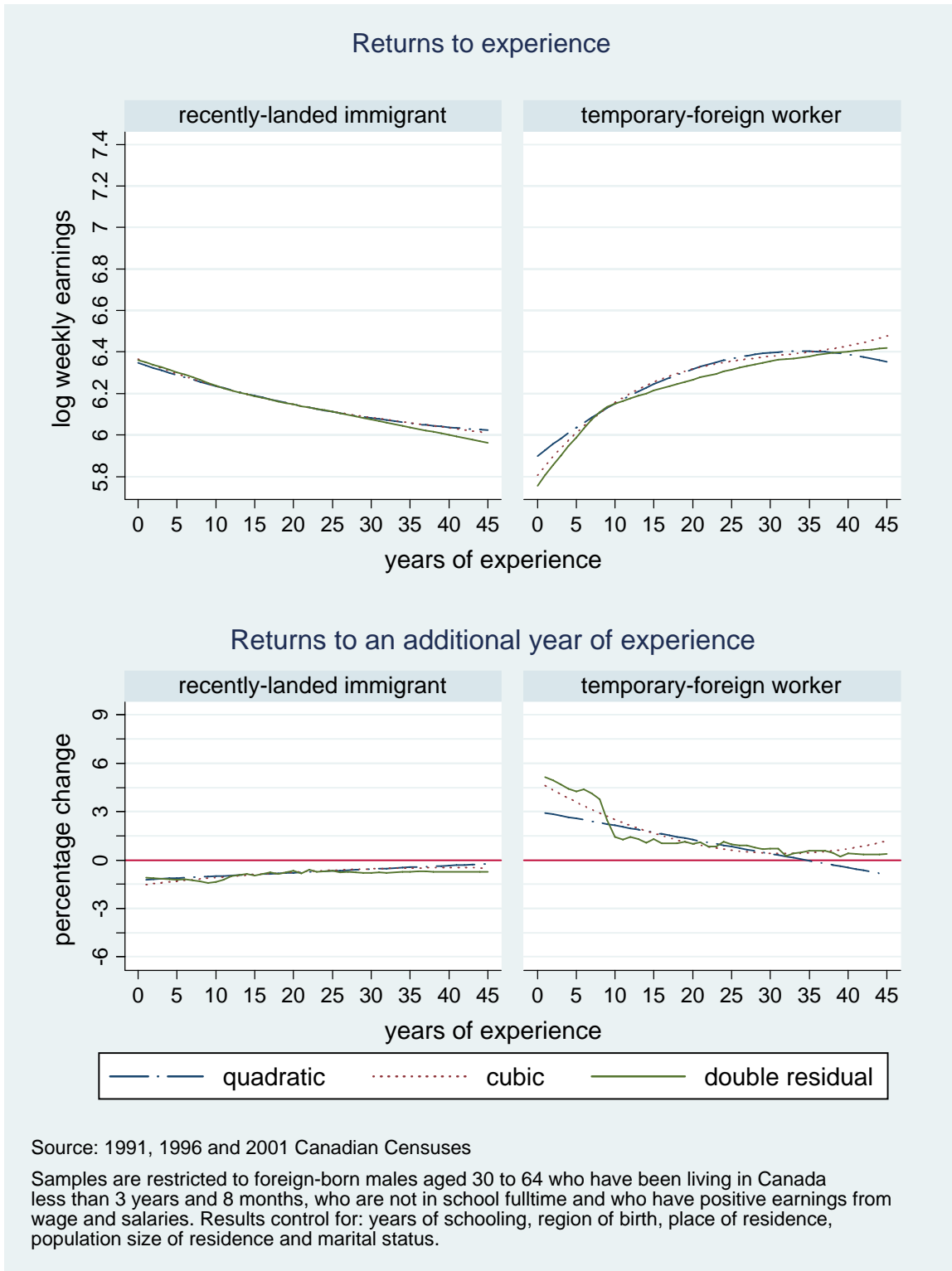


Figure 3: Non-Visible minorities with either English/French as their mother tongue from Western countries

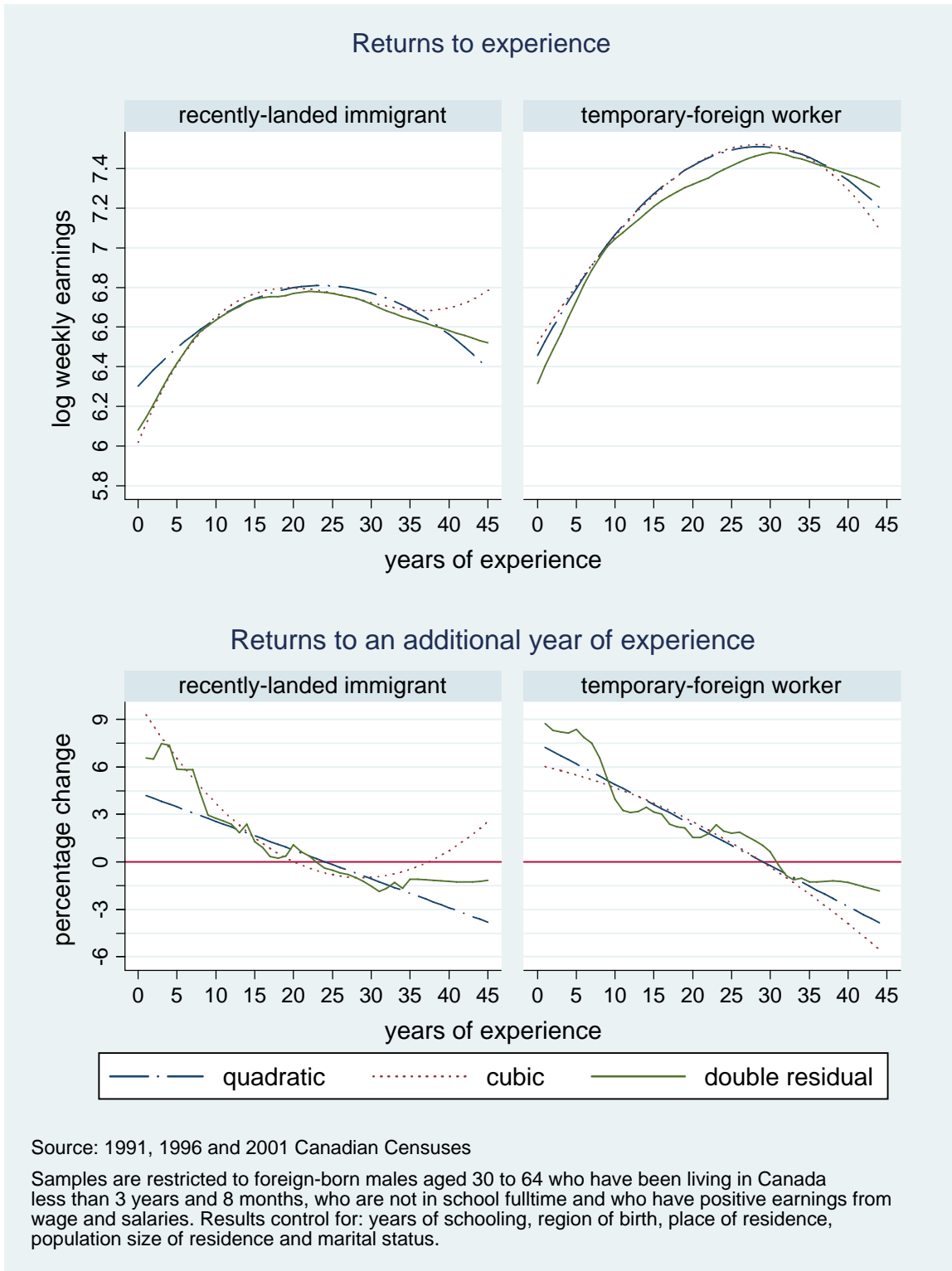
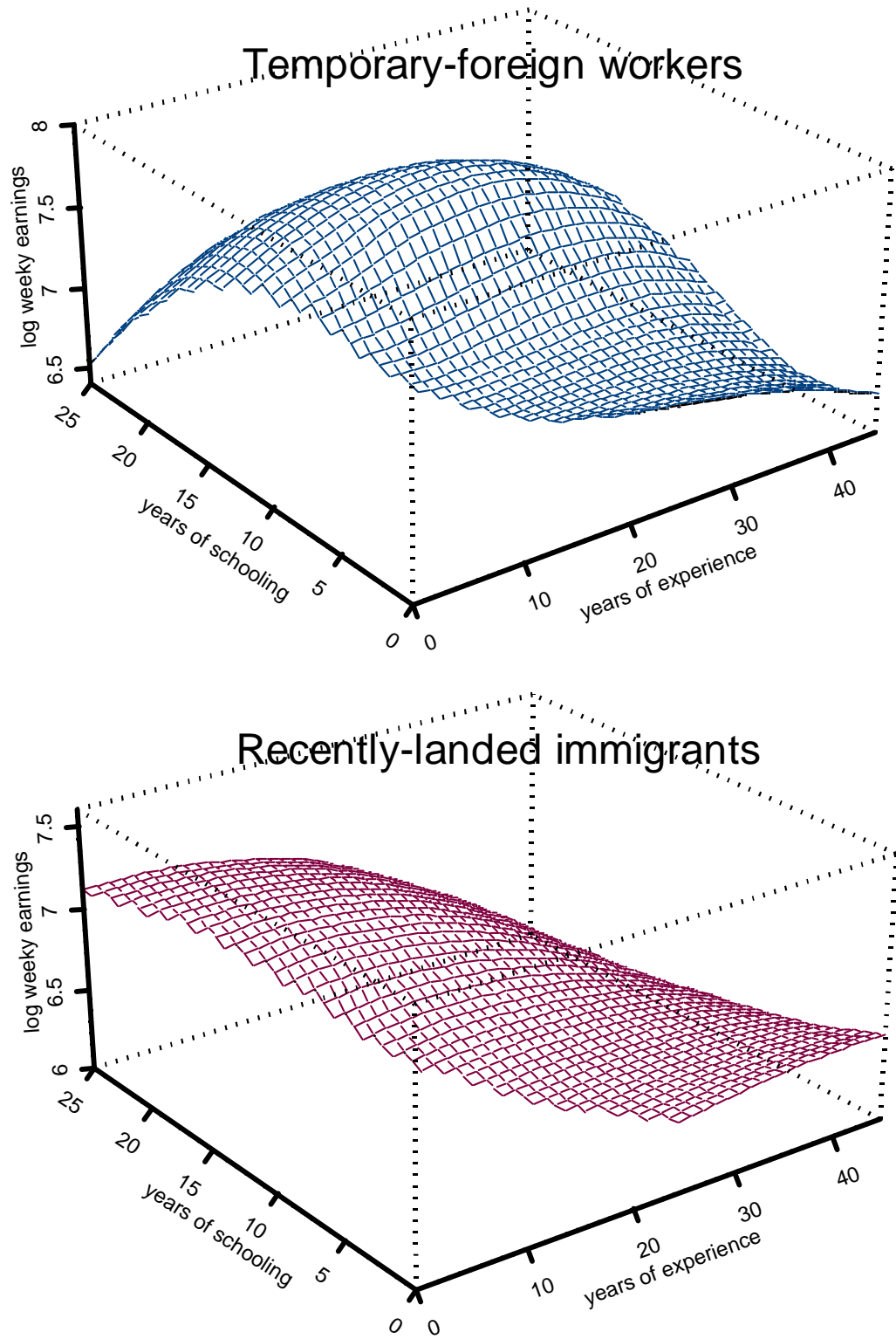
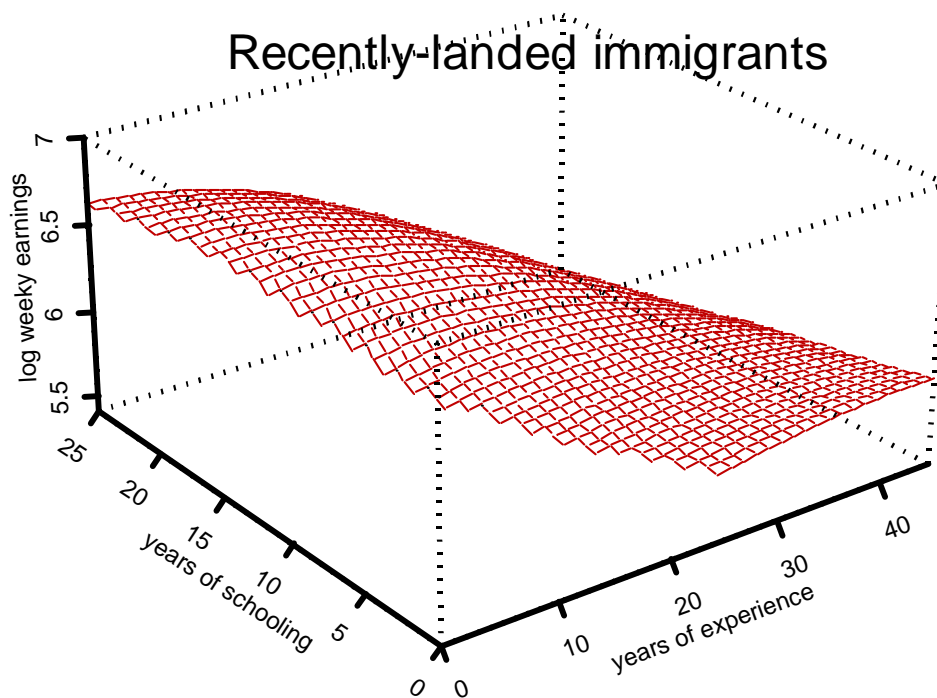
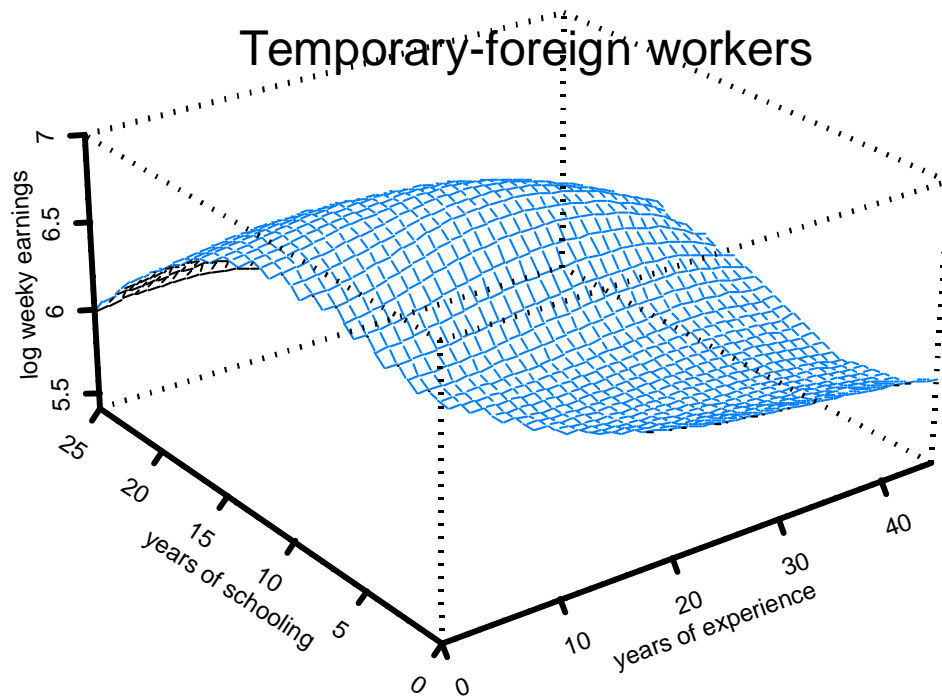


Figure 4: Full Sample



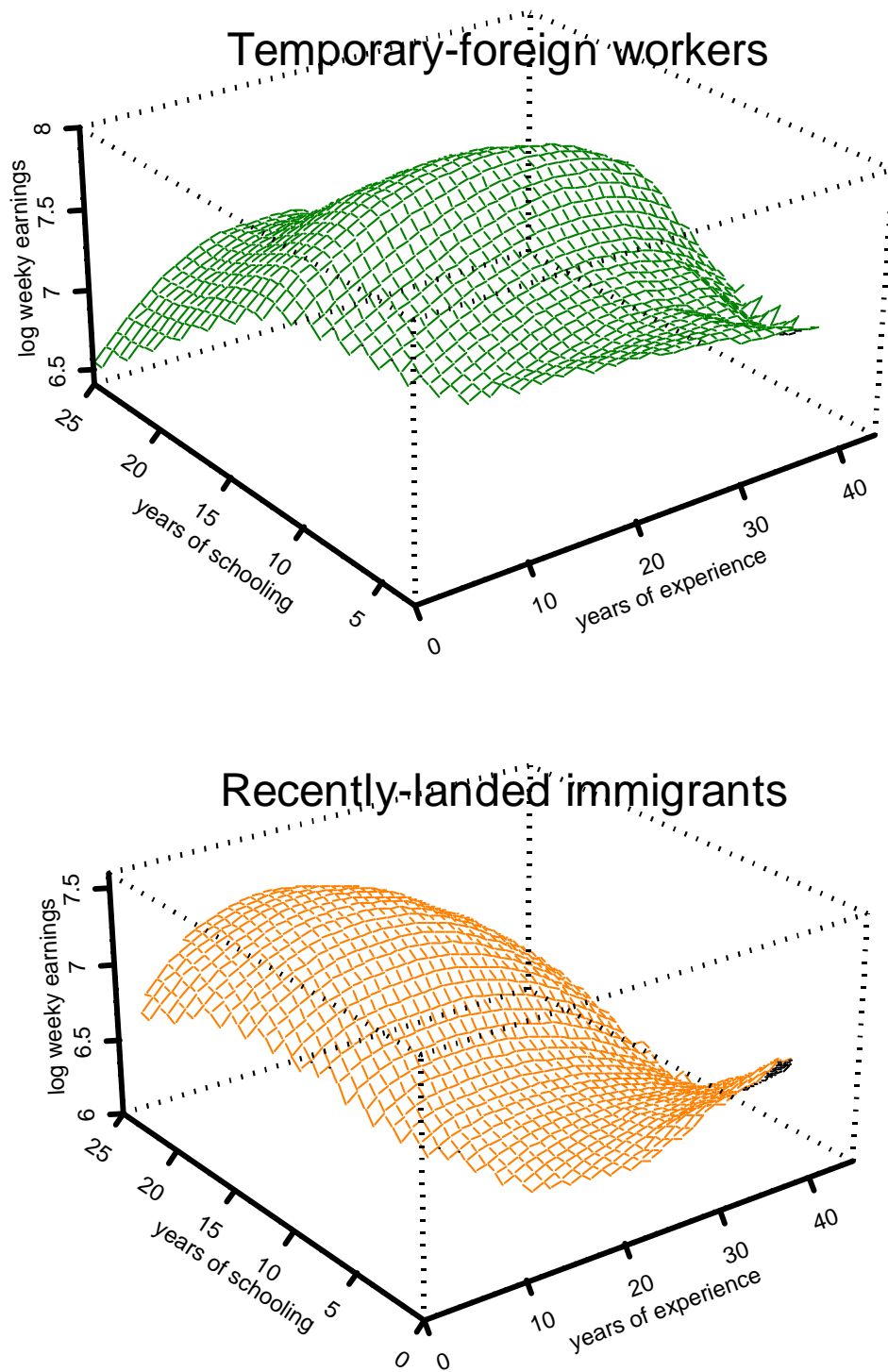
Note: Samples are restricted to foreign-born males aged 30 to 64 who have been living in Canada less than four years who are not in school full time and have positive earnings from wage and salaries. Model also includes indicators for region of birth, place of residence, population size of residence, marital status, mother tongues and visible minority status.

Figure 5: Visible minorities with neither English/French as Mother tongue from non-Western countries



Note: Samples are restricted to foreign-born males aged 30 to 64 who have been living in Canada less than four years who are not in school full time and have positive earnings from wage and salaries. Model also includes indicators for region of birth, place of residence, population size of residence and marital status.

Figure 6: Non-Visible minorities with either English/French as their mother tongue from Western Countries



Note: Samples are restricted to foreign-born males aged 30 to 64 who have been living in Canada less than four years who are not in school full time and have positive earnings from wage and salaries. Model also includes indicators for region of birth, place of residence, population size of residence and marital status.

Appendix:

A. Definitions

Visible minority. – Indicator variable distinguishing whether or not the respondent is a visible minority.

Region of birth. – Seven region of origin categories are controlled for: United States (omitted category), Central/South America or Caribbean, West/South/North Europe, East Europe, Africa or Middle East, Asia, and Oceania or other.

Language. – Three mother tongue categories are controlled for: English (omitted category), French and other language

Place of residence. – Eight regional categories control for place of residents: Atlantic provinces, Montreal, the rest of Quebec, Toronto (omitted category), the rest of Ontario, the Prairies, Vancouver, the rest of British Columbia.

Population size of residence. – Three categories control for the size of the population of the place residence: population of 100,000 or greater (city) (omitted category), population of 10,000 to 100,000 (town) and less than 10,000 (rural).

Married. – Indicator variable distinguishing whether or not the respondent is married.