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The Structure of Canada's Immigration System and Canadian Labour Market Outcomes

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Abstract:
Two distinct issues are addressed. First, we explore earnings and employment outcome differences across categories of the immigrant selection system and directly link the points system to these outcomes, which is relatively rare in Canadian research. Second, the appropriateness of alternative approaches to selecting the sample for analysis and defining the dependent variable(s) are investigated to determine their relevance for answering different policy questions. Appreciable differences in outcomes across immigrant categories are observed with, as expected, the economic class having superior earnings in the long run. However, employment in some categories is comparable to, or higher than, that of the economic class, especially in the short run. Notably, privately sponsored refugees have relatively good outcomes, particularly in the short run and for employment. Their outcomes are particularly strong conditional on observed characteristics and plausibly point to the value of local information and networks.

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1. Introduction

Canada's immigration selection system's structure is a fundamental building block of the nation. It has also been the subject of much discussion in recent decades in relation to the declining economic outcomes and increasing poverty rates of recent immigrant arrival cohorts.[1] Several important policy changes, discussed in Beach, Green and Worswick (2011), and Picot and Sweetman (forthcoming), have been implemented in large part to address this issue. For example, starting in 1993 a Canadian policy shift substantially increased the number of immigrants in the economic class. Despite several such policy changes, the decline in economic outcomes of recent immigrant cohorts appears not to have been reversed to date. Paradoxically, despite substantial research over an appreciable period of time there has been very little directly linking the elements of the selection system to labour market and other outcomes following immigration. Very limited access to relevant data has prevented important policy-relevant analysis.

Unfortunately, most Canadian economic research on immigrant labour market outcomes relies on census and other microdata that do not include information identifying individuals' immigration class or other relevant aspects of the immigration system. There is, therefore, no differentiation between those entering Canada as refugees or humanitarian immigrants, and economic class immigrants selected for the skills that should help them succeed in the Canadian labour market. As a result, a number of important policy questions have not been fully addressed and the scope of the feedback for policymaking is limited.

In contrast, using the Longitudinal Study of Immigrants to Canada (LSIC) this

[1] Economic-oriented surveys of the literature include Beach, Green and Worswick (2011), Picot and Sweetman (2005), and Sweetman and Warman (2008).

paper presents a basic description of differences in labour market outcomes – both earnings, and employment which is less often studied – across immigration classes, and explores the predictive power of elements of the skilled worker program's points system. Moreover, limited dynamics can also be analysed since data were collected six months, two years and four years after landing. We also discuss the implications of alternative empirical strategies for providing specific policy feedback, and address how alternative approaches to the data answer different policy questions. We present data that, in our minds, address a series of distinct policy questions. We believe that thinking carefully about exactly which policy lever or theoretical construct is addressed by a particular analysis (including the sample selected, the selection and definition of the variables employed, and the model specification) is very important.

In the next section we discuss the relevant research literature, undertaking a census of the existing research using micro data to analyze economic aspects of the structure of the immigration system. Section 3 describes the data, the estimation strategy and methodology. It has a particular focus on the implications of the sample selected for analysis on the definition of the dependent variable(s). Section 4 presents the results of our analysis and section 5 concludes.

2. Literature Review

Among the exceptional research that directly relates the structure of the immigration system to labour market outcomes are notable recent papers by Abbott and Beach (2009, 2011a, 2011b), who use federal administrative data to follow immigrant arrival cohorts for a decade after landing. These are significant papers that advance our knowledge and

carefully lay out relevant information in a manner that usefully informs academic, policy and public discussions on this important topic. Also, in earlier work, Beach, Green, and Worswick (2007) take a detailed look at the relationship between Canadian immigration policy regimes and the skill characteristics of new entrants, but their data do not permit labour market outcomes to be observed. Beach, Green and Worswick (2011) is a broader integrative analysis of the situation. While the above papers are the most relevant to the current analysis, Prof. Charles Beach has made other notable research contributions to the understanding of the economics of Canadian immigration as part of his remarkable and productive career. Included in this is editing two volumes on immigration that have had wide readership – one in 1989 with Alan G. Green, and another in 2003 with Alan G. Green and Jeffrey G. Reitz. His journal articles on the topic include those with Abbott (1992, 1993), Worswick (1993), and Green and Worswick (2007). He also testified before the U.S. Senate regarding the value of a skill-based points system in 2006, and for many years edited *Canadian Public Policy*, in which much Canadian evidence on immigration has been published. Overall, although he has worked in several topic areas, his contribution to this policy-relevant topic is considerable.

An early paper addressing labour market outcomes as a function of the structure of the immigration system is by Green and Green (1995) who use aggregate, mostly administrative, data to conduct time series analysis contrasting different policy periods. As far as we are aware DeSilva (1997) is the first, using administrative data, to explicitly link individuals by immigration class to their labour market outcomes. Looking at landing cohorts in the early 1980s, he observes what he describes as rapid convergence over time and points to age at landing as a particularly important predictor of future

earnings. Using the IMDB administrative data a Citizenship and Immigration Canada report (1998) sampled the cross-section of immigrants in the country in 1995, and traced each cohort from 1981 to 1995. It observes economic class principal applicants to have earnings outcomes superior to all other identified groups, and finds that the remainder (family class, the spouses and dependents of the economic class, and refugees) are quite similar to each other. Economic class principal applicants caught up to national average earnings after about four years in the country, whereas the other three groups took 13 to 15 years to reach that threshold.

Unlike DeSilva, Li (2003) did not have access to the underlying microdata but used complex aggregate tabulations from the same underlying dataset. He focused on the time it took each immigrant class to reach earnings parity with the Canadian average. He observes that recent immigrant cohorts earn less than earlier ones, but have more rapid earnings growth. Wanner (2003) merged aggregate administrative and census data, and observed convergence of earnings across immigration classes once differences in human capital were accounted for statistically.

More recently Aydemir (2011), and Xue (2010), use the LSIC to study immigrant integration by class. However, Aydemir only employs the first two cycles so can only look at short-term outcomes. He argues that immigration class has very limited power to predict short run labour market success. Xue is a comprehensive descriptive overview of a diverse set of employment measures covering all three cycles of the LSIC. It is extremely useful background for this work.

3. Data, Estimation Sample and Methodology

The Longitudinal Survey of Immigrants to Canada (LSIC) contains a sample of new immigrants who applied through a Canadian mission abroad, who were age 15 or older at the time of landing and immigrated between October 1st, 2000 and September 30th, 2001. Respondents are interviewed six months, two years and four years after landing. At the first interview the response rate was just over 60 percent, and of those who responded at the first interview about 65 percent continued through to the third wave. We employ the survey weights in all analyses to better recover the population parameters.

Given that respondents to the LSIC landed abroad, one important issue for interpreting the results is that the distribution of individuals across immigration classes is not representative of the entire flow. The primary and almost exclusive omitted group is refugees landed in Canada. In 2000 and 2001, as seen in table 3, they represented slightly over 5% of all immigrants, and just over 40% of all refugees. Table 3 also allows a more general comparison of the LSIC data to that for the entire flow of immigrants in the relevant period, which included parts of 2000 and 2001, and the comparison to the current immigration system.

Additionally, nonresponse is a particularly important issue for the LSIC. Beyond the usual reasons for non-response in a panel data set, outmigration is an issue for this population since the survey is restricted to those residing in Canada. Aydemir and Robinson (2008) suggest that almost 25 percent of all new immigrants leave the country within five years, with over 80 percent of those departing doing so in the first year after landing. Abbott and Beach (2011a, table A2) observed a much lower rate of outmigration – at most about 10% within the first five years – with the key difference being that they

do not observe the massive outmigration in the first year. However, these estimates may not be as far apart as it initially appears since Abbott and Beach restrict their sample to those who file at least one personal tax return and those who exit within a year of landing may not do so. While understanding outmigration is relevant background for evaluating the immigrant selection system, we think that for many policy questions it is appropriate to focus on those who continue to reside in Canada and our sample includes only immigrants still present four years after arrival.[2]

In considering the generalizability, or the external validity, of results employing this dataset one other key issue is relevant. This survey is of a cohort that arrived at a particular point in the business cycle, just prior to infamous "bursting of the IT bubble", and most importantly, the skilled worker program comprised a large number of workers in information technology and related sectors who arrived at this point. Hou and Picot (2009) document the substantial impact that this labour market phenomenon had on this, and surrounding, immigrant entry cohorts. This suggests that relative to more typical states of the labour market, the outcomes observed for skilled workers in this cohort might be somewhat lower, and higher variance, than would otherwise be the case.

We restrict our sample to those who were between the ages of 19 and 62 at the time of the first interview. We check the sensitivity of the results to this age range by re-estimating our results for a few different age groupings, and we do not find important differences. For the earning regressions, we present the results for average weekly earnings from the main job. If hourly earnings are used instead, the key systematic difference is that gaps tend to be smaller since hourly wages and weekly hours are

[2] It is also effectively impossible to identify alternative reasons for nonresponse/attrition.

positively correlated. We think that weekly earnings, which combine the rate of pay and intensity, better reflect the overall economic outcomes in which we are interested. Earnings are converted into real terms by using the Consumer Price Index. Since there is a 12 month gap between the landing of the first and last immigrants, we use a moving average of the monthly CPI over the reference period for each immigrant to better control for differences in the price level.[3] The LSIC does not capture information on self-employment income, or other sources of income, so we are limited to studying employment earnings.

There is substantial variation within the Canadian immigration research literature regarding the analysis of immigrant earnings/income. Some, such as Abbott and Beach (2011a) focus on employment earnings and only include individuals meeting a particular threshold (greater than $1000 in the year in their case). Others, such as Schaafsma and Sweetman (2001), define their dependent variable as employment earnings plus positive self-employment income since self-employment income can be negative. Aydemir and Skuterud (2005) use the sum of employment and all self-employment earnings when positive, but only include full-time full-year workers in their sample. There is no obvious "correct" definition for this variable, or the sample for analysis. However, it is clear that these factors change the observed outcomes and affect interpretation. For example, immigrants have different self-employed (Hou and Wang, 2011) and overall employment rates (see table 5) than nonimmigrants.

In general, our reading of the literature suggests that broader categorizations are associated with larger immigrant-nonimmigrant gaps. We also contend that the more

[3] For example, for an immigrant interviewed at cycle 1, we take an average of the CPI over his/her six month reference period.

encompassing the measure and/or the sample, the more relevant are the findings for the most common policy questions. While some economic and policy issues are best addressed by looking at workers with substantial labour force attachment, or particular characteristics, evaluations of the overall structure of the immigration program, we argue, should focus on a sample as closely approximating the entire flow (or perhaps the portion of the entire flow that remains in Canada) as is feasible. If the results are not representative of the entire flow of immigrants, it's also useful to document the source of any differences. More generally, explicitly connecting the policy question being addressed with the sample selected for analysis, and the variables employed, seems appropriate.

3.1 Descriptive Statistics

Tables 1, for males, and 2, for females, present descriptive statistics by broad immigrant class across the three cycles of the survey. The uppermost variables defined are ones we view as fixed across cycles. For both genders it is clear that skilled worker principal applicants have higher educational attainment and that males have higher averages than females. Interestingly, and in accord with the analysis of this topic by Sweetman and Warman (2010), the skilled worker spouses and dependents are also very educated and on average much more so than the family class immigrants or the refugees.

Points are calculated for all individuals regardless of immigration class according to the system in place in 2011 based on characteristics observable in the data. This, of course, differs from the framework in place at the time the LSIC cohort entered, which

was before the Immigrant and Refugee Protection Act (IRPA).[4] There is some measurement error; for example education as captured in the survey cannot be perfectly mapped into the points system. Also, some minor elements, in particular some elements of "adaptability", are also not present in the LSIC. Overall, for these estimates slightly underestimate the points some high skilled individuals would receive. Comparing average point levels across classes in tables 1 and 2, there are clear and appreciable gaps. Our estimates suggest that around 70% of the skilled worker principal applicants would meet the current 67 point cut off, whereas only roughly around 10 % of refugees, and around 20% of the family class, would do so. This is a very appreciable difference.[5]

The lower three quarters of each table present labour market outcomes and language scores across the three cycles. Skilled worker principal applicants consistently have higher, indeed much higher, earnings in all years compared to all other groups. The gaps in the various measures of employment are more mixed. Also, there is greater convergence in the employment measures across the cycles.

Although this paper does not focus on rates of change over time, it is worth commenting on them in view of these tables, and those that follow, since there is some confusion in the literature. The lowest earning class, refugees, has the highest rate of increase in earnings and hours. Some commentators have interpreted this to mean that there is convergence, and some have pushed even further suggesting that in the long-term

[4] Estimates using the current point system are employed since they are more interesting/useful for current policy; also the limited information in the LSIC makes estimates for the system in place when this cohort of immigrants arrived problematic. The 2011 point system comprises six selection factors: education, language ability, work experience, age, arranged employment and adaptability. See Appendix 2 for the complete list.

[5] The gap is probably larger than our estimates suggest since the elements of the point system that we are unable to measure reduce the total for individuals with appropriate characteristics. Plausibly skilled worker principal applicants are more likely to have those unobserved characteristics so that their point totals are underestimated.

immigrant class is not a particularly strong predictor of labour market outcomes. However, this follows from a focus on rates of growth and not the levels of earnings and hours of employment. A higher rate of growth, starting at a lower base, does not necessarily imply convergence in levels. As is calculated in this case, the percentage growth of earnings for refugees exceeds that of the skilled worker principal applicants, but in terms of levels the gap increases. Given the substantial difference in the initial earnings of these groups, the rate of growth for those starting with a lower base needs to be very much larger for that group to catch up in a period commensurate with an individual's working life.

Abbott and Beach (2011b) observed the same phenomenon focusing on real median annual employment earnings using tax data. In their first 10 years in the country, for example, males in the independent economic class of the 1982 landing cohort experienced 52% real earnings growth, whereas refugees had a massive 150%. In this case the substantial difference in earnings growth rates was sufficient to reduce the gap, although only by a modest amount; over the 10 years it went from $18,833 to $14,185. Ten years after landing the earnings of refugees were still lower than that achieved by the economic class in their second year after landing. However, the earnings of refugees after 10 years were comparable to that of the family class and the spouses and dependents of the skilled worker principal applicants. Of course, refugees are not accepted to Canada because of their earnings potential, but the financial difficulties they face should not be minimized by pointing to their relatively high rate of earnings growth.

3.2 Analysis of Immigration Classes for Sample Representing the Immigrant Flow

In this section, we investigate simple earnings and employment regressions. We focus exclusively on aspects of the current Canadian immigration system that are directly tied to current policy parameters to give some sense of the relevant average relationships (although we make no claim that these correlations are causal, nor that they reflect magnitudes relevant for marginal changes in the policy parameters). For the set of policy questions that we wish to address in this section we, therefore, do not differentiate between elements of the system that we view as "tied together" – hence we do not separately identify skilled worker principal applicants, and their spouses and/or dependents. Once policy for the former is set, for this portion of the analysis we take the view that the latter arrive jointly and the policy should be viewed as being associated with the joint outcomes of the immigrating family. Similarly, while some studies look at sub-samples that achieve some threshold labour market outcome(s), we take an alternative approach. Other samples are appropriate for certain policy questions, but we believe that the question we are seeking to address – documenting the relative outcomes of the entire flow in each category – is less frequently addressed in Canada. Therefore, we include the entire sample in the earnings regressions, even those without earnings for whom we assume annual earnings of $1. This contrasts with the approach pursued by Aydemir (2011) and leads to quite different findings.

We run separate regressions for each cycle estimating equations of the form:

$$(1) \quad Y_i = \beta_o + \phi Class_i + [\pi Pts_i] + \varepsilon_i$$

where Y_i is the natural logarithm on weekly earnings for person i, $Class_i$ is a vector of indicator variables for immigration class, and Pts_i, in brackets to indicate that it is

included in only some specifications, reflects the point system and is implemented in two alternative matters. The remaining elements are coefficients to be estimated, with the exception of the last, which is a white noise error term. All regressions also control for months since migration.

In some specifications we include a set of 46 indicator variables for the various components of the points system, while in others we use a linear measure of the sum of the predicted points. One interpretation is that we first allow all of the elements of the point system to operate in an unrestricted manner and thereby allow the estimator to select weights (coefficients) that optimally associate the characteristics with labour market outcomes and maximize their explanatory power. We subsequently restrict the elements to have the weights imposed by the immigration system and sum up the points into the total for each person (where the range is 0 to 100 points). Of course, the system does not rank all applicants as we are doing; it simply addresses which skilled worker principal applicants (currently about 20 percent of the flow) are, or are not, above a fixed cut-off.

We treat immigrants who settle in Quebec the same as those settling in the rest of Canada. However, it should be noted that skilled workers in Quebec are admitted based on a different point system.[6] We did rerun the results excluding immigrants living in Quebec, and found that for the most part, the results are very similar to those presented.

[6] Since 1978 (under the Cullen-Couture Agreement) Quebec has had its own admission system for immigrants, and since 1991 Quebec has had sole responsibility for the skilled worker class (Grenier 2003).

3.3 Analysis of Immigration Classes by Gender for Selected Samples

Next a more traditional set of regressions are specified. Earning and employment outcomes of immigrants, by gender, are explored using versions of:

(3) $Y_i = \beta X_i + \phi Class_i + \varepsilon_i$

where the matrix X_i includes controls for: age, months since migration, years of school, highest degree prior to landing, region of origin, region of residence, English and French language ability, marital status and number of children, as well as an intercept term. We estimate equation (3) by OLS when log weekly earnings is the dependent variable, and by probit when employment is the dependent variable. For the earning regressions, we only examine workers with positive earnings from the main job and for employment we limit the sample to those in the labour market.[7] In all regressions, we present only the results for the immigration classes since they are the policy levers. Many of the control variables in these regressions are clearly not in the points systems and could never plausibly be added to it, thus the sample selection does not match the system's operation. The ensuing results are interesting and useful for understanding the economic integration process, but provide only indirect information regarding the immigration selection system.

4. Empirical Results

4.1 Results for Immigration Classes for Sample Representing the Immigrant Flow

Substantial variance in earnings between the different immigrant classes can be observed in table 4. For each of the three (6 months, 2 and 4 years after landing) cycles

[7] We did examine hourly earnings, as well as the average weekly and average hourly earnings for all jobs. We construct the average earnings by taking the weighted average earnings of each worker's jobs where the weight for a given job is the number of hours worked in the given job over the reference period divided by the total number of hours worked for all jobs in the same reference period.

three regressions are presented: no controls, the full set of 46 variables representing the points system, and a linear measure of the points imputed for each observation. The omitted group, against which the others are compared, is the skilled worker class. Note that the business class is a composite including the various other classes of the economic class listed in table 3.

The most fundamental policy question might be: How well does the average immigrant in each class do in the labour market after meeting any relevant requirements and immigrating to Canada? If this is the question of interest, then the first of each set of three regressions is relevant. Additional controls are not required since the primary question is unconditional (except for months since migration to account for dispersion in time-to-interview). In contrast, the immigration category coefficients in the second of each set of three regressions, which include controls for 46 variables associated with elements of the point system, do not answer this question. Rather, they tell us something about how well those in each group are doing once the points-system relevant characteristics are taken into account. That is, they say something about how differences in unobserved characteristics on average interact with labour market demands and, in equilibrium, produce labour market outcomes that vary across immigration categories. For example, the -0.294 for the spouse/fiancé subcategory of the family class in (1) in table 3 indicates that, on average, members of this group six months after landing earned approximately [(exp(-0.294)-1)*100%=] 25% less than the average member of the skilled worker class. In contrast, the coefficient in (2) for the same variable, at 0.031 and not statistically different from zero, suggests that conditional on the observable characteristics that are relevant for the points system and the flexible specification

employed, the average earnings of these two groups are approximately equal. That is, the entire gap is explained by differences in the observed characteristics.

The third regression constrains the relevant characteristics to a linear specification assigning the same weights used in the points system. It answers a question similar to that in the second regression, but it extends the questions to include the points system's weighting scheme. At 0.076, the coefficient on the spouse/fiancé variable in (3) is not statistically different from zero and very comparable to that in (2). For this variable the restricted functional form does not appreciably change the coefficient estimate. Further, the coefficient on the linear points variable suggests that each point increases earnings by about 2.5 %.

Perhaps surprisingly, two of the "other" categories (in the family class and the overall "other" group) surpass the skilled workers in terms of earnings. But, these are both quite small and unusual groups, and too much importance should not be placed on them for this reason. Other members of the family class have outcomes that are consistently poorer than those of the skilled worker category.

Notably, higher initial earnings are also observed for the provincial nominee program, which was a very small class in the timeframe of this data, but as seen in table 3 has grown appreciably since. While the outcomes for this group decline in relative terms within two years after landing, even at four years after landing they are at least as good in terms of earnings and employment as the skilled worker class. Privately sponsored refugees also have remarkably good outcomes six months after landing. They are statistically indistinguishable from those of the skilled worker class for both earnings in table 4, and employment in table 5, in specifications (1) and (4). Further, as can be seen

in (2), (3), (5) and (6) in both tables, conditional on their characteristics this group has extremely positive outcomes. By four years after landing these outcomes have declined in relative terms but either because of their own characteristics and/or those of the sponsoring organizations, they have quite strong labour market outcomes. Finally, and surprisingly, business class immigrants have labour market outcomes most similar to those of government-sponsored refugees. With or without controls for observable characteristics this group does not have outcomes anywhere close to those of the skilled workers. Of course, the particular outcome measures available may not be most suitable for capturing the economic activity of this category. This is an issue that needs further research in a larger sample that can identify the sub-classes of this aggregate.

4.1.1 Impact of Points on Earning and Employment Outcomes

As noted above, each additional point appears to increase earnings by around 2%, and the probability of being employed by around 0.5% – see (3), (6) and (9) of tables 4 and 5.[8] It is likely that the relationship between points, and earnings and/or employment, is non-linear. We, therefore, map out these relationships semi-parametrically using the double-residual method of Robinson (1988). The specification is the same as (9) from tables 4 and 5, except for the specification of the points, which is non-parametric.[9]

[8] When we restrict the sample to workers with positive earnings, we find that an additional point increases earnings by around one percent. As well, when we restrict the sample to skilled workers, each additional point increases earnings by around three percent when we include people with zero earnings and by one and a half percent when we restrict the sample to people with positive earnings.

The marginal effects for the continuous variables are calculated at their mean. Almost identical results are found for the points coefficient and standard errors when the average marginal effects are calculated instead.

[9] It could be argued that this profile should not be conditional on immigration class.

Figures 1 and 2 present the estimates for earnings and employment respectively, which turn out to be very similar. For immigrants with very low levels of points, the slope increases sharply until around 35 or 40 points, after which the influence is still strongly positive, but slightly less pronounced. Then, after around 70 points, the relationship becomes much steeper. The vertical line, at 67, represents the threshold required for admission as a skilled worker principal applicant (although, as previously discussed, we underestimate points). Of course, there are important shifts in the composition of immigration classes across the points spectrum. And, as seen in the earlier regressions, there is information in immigration class beyond that captured by points. Nevertheless, it is clear that if the current cut off were adjusted, then average labour market outcomes would be expected to improve (deteriorate) for those subject to a higher (lower) threshold. That there is no diminishing value of increasing points is an important issue since the skilled worker program was originally designed with the idea of using the points threshold as a policy lever to manage the application backlog – see the discussion in Citizenship and Immigration Canada (2010), and Picot and Sweetman (forthcoming). Increasing the threshold to reduce the massive current backlog would appear to simultaneously improve labour market outcomes among those selected for their economic potential.

4.2 Results for Immigration Classes by Gender for Selected Samples

We next examine the earning and employment outcomes based on class separately by gender including a broader set of demographic controls, such as region of origin and residence, than are relevant to the operation of the immigration selection system. In table

6 weekly earnings, and in table 7 employment, regressions are presented for males and females. Conforming to the dominant approach, to see what differences emerge, we restrict our sample for table 6 to people with positive weekly earnings, and that for table 7 to those in the labour market.[10] We only display results for the first and third cycle to conserve space, and for each we present two specifications beyond the immigration class variables. In the first, a linear months since migration term and a linear age term are included. We then add additional controls for highest degree prior to landing, region of origin, region of residence, language ability, marital status and number of children. For this part of the estimation, the provincial nominees are included with the "other" class given the small sample sizes when we divide by gender.

In contrast to the results in table 4, every immigrant class (except the "other" immigrants for females) has lower earnings in every specification than the skilled worker principal applicants who are here separated from their spouses and dependents. Some classes do particularly poorly, such as government sponsored refugees. However, the magnitude of the earnings disadvantage decreases for both male and female government sponsored refugees over the four year period. Conversely, for the remaining immigrant classes, although they do not experience as large an initial earnings disadvantage as government sponsored refugees, the differential either stays relatively constant or increases over the 3 cycles. Interestingly, the earnings of the economic class spouses and dependents look more like those of the spouses and fiancées of the family class than those of the economic class principal applicants.

[10] The results for the most part are very similar if we restrict the sample to people working at least 30 hours a week (we also tried 40 hours a week). For both males and females, the earnings disadvantage for skilled worker spouses and dependants is smaller and the earnings disadvantage experienced by government sponsored refugees is around half as large as the results presented.

Although in both tables 4 and 6 the economic class is shown to have extremely good outcomes, clearly there are important differences in the conclusions drawn from the two. Each is important and answers different policy questions, but we believe the one posed in table 4 is relatively neglected while being more important on some dimensions. We cannot, for example, imagine gender being included as an immigration selection factor. So, while it is important to understand how the selection system works through a gender lens as in table 6, it is also useful to understand how aggregate outcomes vary as a function of policy levers actually employed.

The employment story, in table 7, is somewhat different than that for earnings. This is consistent with the idea, explored in Antecol, Kuhn and Trejo (2006), that institutions play a crucial role in economic integration, which can proceed quite differently in terms of wages (dollars per hour) and employment (hours per week or per year). North American institutions appear to promote employment with integration primarily happening in terms of wages.

The differences across classes are more mixed for employment than earnings and gender plays a larger role in the ranking across classes for employment. For males, family class, especially spouses/fiancés, and privately sponsored refugees have better short term employment outcomes compared to skilled worker principal applicants. There is clearly value in the local information and/or connections associated with family class and sponsorship. While, this advantage dissipates for the males by the third cycle four years after landing, the outcomes remain statistically indistinguishable from those of the skilled worker principal applicants except for the parents and grandparents category where there is a relative decline. The results look quite different for females. Female skilled worker

principal applicants have appreciably higher employment rates in both cycles even conditional on characteristics. As was the case with wages, understanding the differences across the sexes, and in the case of employment among the subpopulation that is in the labour force, is informative. But, it answers a question that is hard to directly relate to the parameters of the immigration selection system.

5. Conclusion

Two distinct issues are addressed in this paper. First, we explore earnings and employment outcome differences across the categories of the immigrant selection system and directly link the points system to outcomes, which is relatively rare in Canadian research. Second, we examine alternative approaches to the sample selection, the definition of the dependent variable, and their links to alternative policy questions.

We argue that there is value in pursuing samples and specifications that closely mirror the parameters, or potential parameters, of the immigrant selection system. For example, separating skilled worker principal applicants from their spouses and dependents in comparisons to, for example, family class immigrants, does not seem to reflect most potential policy changes. If the decision were made to increase the percent of the flow in the skilled worker category, then implicitly a decision is also being made to increase the flow of their spouses and dependents and the combined outcomes of both these groups following this policy change is of relevance. While it is worthwhile, within a large research literature, to explore a variety of different policy and theoretical questions, we believe that a relatively small portion of the research literature has answered questions directly related to the evaluation of the immigrant selection system since, given the limits

of the available data, there has been a focus on samples and variables that do not easily line up with relevant policy levers.

In contrasting the earnings and employment outcomes of immigrants using alternative sample selection criteria we observe some important differences in what might be drawn from alternative analyses, particularly in the short run and with respect to earnings. For example, privately sponsored refugees have particularly good outcomes, especially in the short run. More generally, the employment advantage of the economic class immigrants is not as great as their earnings advantage compared to other immigrant classes, particularly in the short run. However, across both approaches to the data, and in contrast to results reported by Aydemir (2011) who focused on only short-term results, we find that economic class immigrants clearly have appreciably superior earnings than immigrants entering through most other classes.

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Table 1: Descriptive Statistics by Immigrant Class, Males

	Family Class		Skilled Worker Principal Applicants		Skilled Worker Dependents & Spouse		Refugees	
	Means	s.e.	Means	s.e.	Means	s.e.	Means	s.e.
Years of school[a]	12.76	0.163	16.81	0.060	15.52	0.151	12.66	0.156
University Degree[a]	0.28	0.018	0.87	0.008	0.62	0.027	0.17	0.017
Age at Cycle 1	36.28	0.537	35.26	0.152	34.56	0.477	33.29	0.442
Have a child	0.22	0.017	0.56	0.012	0.56	0.028	0.47	0.023
# of children	1.36	0.053	1.59	0.023	1.61	0.057	2.20	0.070
Points	45.29	0.836	70.87	0.267	60.37	0.976	40.38	0.866
Percent ≥ 67 points	0.21	0.016	0.73	0.011	0.42	0.028	0.11	0.014
Cycle 1-about 6 months after landing								
Log weekly earnings	5.97	0.024	6.26	0.020	6.03	0.04	5.65	0.070
Weekly earnings	451.73	16.69	664.31	16.50	477.91	21.14	340.40	15.59
Hours worked[b]	29.83	0.806	27.64	0.475	24.31	1.183	13.94	0.868
Positive hours[c]	40.60	0.488	39.35	0.281	39.28	0.793	35.48	1.205
Employed	0.68	0.019	0.64	0.012	0.51	0.028	0.34	0.021
English Score	0.57	0.013	0.74	0.005	0.65	0.015	0.47	0.012
French Score	0.08	0.009	0.17	0.007	0.13	0.015	0.14	0.012
Cycle 2-about 2 years after landing								
Log weekly earnings	6.09	0.022	6.46	0.017	6.20	0.038	5.85	0.036
Weekly earnings	501.15	15.24	767.74	14.32	572.64	20.63	401.61	10.71
Hours Worked[b]	38.40	0.644	36.66	0.385	33.38	1.075	26.61	0.892
Positive hours[c]	42.23	0.462	41.41	0.247	40.44	0.765	37.16	0.682
Employed	0.79	0.016	0.76	0.010	0.66	0.027	0.60	0.022
English Score	0.61	0.013	0.76	0.005	0.69	0.014	0.55	0.012
French Score	0.09	0.01	0.18	0.008	0.15	0.016	0.17	0.014
Cycle 3-about 4 years after landing								
Log weekly earnings	6.25	0.024	6.63	0.015	6.37	0.038	6.00	0.031
Weekly earnings	593.38	17.55	869.46	13.29	677.72	23.313	464.99	11.92
Hours Worked[b]	38.87	0.729	38.58	0.346	35.34	0.904	30.78	0.829
Positive hours[c]	43.48	0.548	41.48	0.253	39.44	0.665	37.73	0.613
Employed	0.79	0.016	0.85	0.009	0.82	0.022	0.72	0.020
English Score	0.62	0.013	0.76	0.005	0.71	0.014	0.59	0.013
French Score	0.09	0.01	0.18	0.008	0.15	0.016	0.19	0.015

Sample age 19 to 62 at the time of the first cycle. Standard error (s.e.) in the column to the right of the mean.

a. At time of landing.

b. Includes people with zero hours.

c. Includes only workers with positive hours worked.

Table 2: Means by Immigrant Class, Females

	Family Class		Skilled Worker Principal Applicants		Skilled Worker Dependents & Spouse		Refugees	
	Means	s.e.	Means	s.e.	Means	s.e.	Means	s.e.
Years of school[a]	12.69	0.142	16.53	0.120	15.17	0.070	11.16	0.192
University Degree[a]	0.35	0.015	0.83	0.017	0.62	0.014	0.12	0.014
Age at Cycle 1	34.4	0.417	34.09	0.282	33.83	0.185	34.76	0.454
Have a child	0.19	0.013	0.48	0.022	0.75	0.012	0.69	0.021
# of children	1.38	0.049	1.53	0.047	1.63	0.026	2.21	0.067
Points	42.47	0.697	68.86	0.591	58.46	0.481	33.49	0.843
Percent ≥ 67 points	0.19	0.012	0.68	0.021	0.38	0.014	0.07	0.011
Cycle 1-about 6 months after landing								
Log weekly earnings	5.67	0.030	6.05	0.038	5.73	0.027	5.49	0.078
Weekly earnings	338.74	9.285	522.49	20.848	365.82	11.267	270.29	18.328
Hours Worked[b]	15.01	0.617	22.75	0.834	13.69	0.511	5.21	0.560
Positive hours[c]	35.22	0.628	34.78	0.590	33.40	0.483	31.40	1.650
Employed	0.36	0.015	0.57	0.022	0.35	0.014	0.15	0.016
English Score	0.50	0.010	0.72	0.010	0.59	0.007	0.34	0.011
French Score	0.08	0.007	0.21	0.015	0.11	0.007	0.11	0.010
Cycle 2-about 2 years after landing								
Log weekly earnings	5.82	0.022	6.19	0.035	5.85	0.023	5.51	0.038
Weekly earnings	388.24	11.59	590.74	18.22	421.30	14.50	277.27	8.48
Hours Worked[b]	23.49	0.657	31.84	0.777	23.69	0.543	14.84	0.801
Positive hours[c]	38.09	0.471	37.01	0.608	35.21	0.395	31.98	0.821
Employed	0.44	0.016	0.70	0.020	0.50	0.014	0.35	0.021
English Score	0.54	0.010	0.74	0.010	0.65	0.007	0.42	0.012
French Score	0.09	0.007	0.22	0.016	0.13	0.007	0.14	0.012
Cycle 3-about 4 years after landing								
Log weekly earnings	5.88	0.023	6.34	0.032	6.00	0.024	5.58	0.037
Weekly earnings	417.51	9.95	673.06	17.70	486.54	10.15	308.95	10.18
Hours Worked[b]	23.18	0.610	31.78	0.671	25.46	0.513	18.51	0.822
Positive hours[c]	35.46	0.444	35.65	0.506	33.9	0.391	31.75	0.746
Employed	0.52	0.016	0.81	0.018	0.63	0.014	0.42	0.022
English Score	0.56	0.010	0.74	0.010	0.67	0.007	0.45	0.012
French Score	0.09	0.007	0.23	0.016	0.13	0.008	0.15	0.013

Sample age 19 to 62 at the time of the first cycle. Standard error (s.e.) in the column to the right of the mean.

a. At time of landing.

b. Includes people with zero hours.

c. Includes only workers with positive hours worked.

Table 3 - Immigration Flows by Class from Administrative Data

	For Entry cohort in the Survey					
	2000	2001	% of Class	% of Total	**LSIC Sample***	2010
Spouses and partners	35,296	37,761	57.3	15.3		40,764
Fiancé(e)s	1,521	1,637	2.5	0.7		*
Sons and daughters	3,950	3,934	6.2	1.6		2,955
Parents and grandparents	17,768	21,334	30.7	8.2		15,324
Others	2,078	2,119	3.3	0.9		1,177
Family class	**60,613**	**66,785**	**100.0**	**26.6**		**60,220**
Skilled workers - PA	52,125	58,906	38.0	23.2		48,821
Skilled workers - S&D	66,469	78,313	49.6	30.3		70,536
Canadian experience class - PA						2,532
Canadian experience class - S&D						1,385
Entrepreneurs - PA	1,657	1,610	1.1	0.7		291
Entrepreneurs – S&D	4,526	4,482	3.1	1.9		796
Self-employed - PA	795	707	0.5	0.3		174
Self-employed - S&D	1,735	1,451	1.1	0.7		326
Investors – PA	1,390	1,767	1.1	0.7		3,223
Investors - S&D	3,561	4,572	2.8	1.7		8,492
Prov/terr nominees - PA	1,252	1,275	0.9	0.5		13,856
Prov/terr nominees - S&D	**	**				22,572
Live-in caregivers - PA	1,760	1,875	1.2	0.8		7,664
Live-in caregivers - S&D	1,023	751	0.6	0.4		6,245
Economic immigrants	**136,293**	**155,709**	**100.0**	**61.1**		**186,913**
Government-assisted refugees	10,671	8,697	33.4	4.1		7,264
Privately sponsored refugees	2,932	3,576	11.2	1.4		4,833
Refugees landed in Canada	12,993	11,897	42.9	5.2		9,041
Refugee dependants	3,496	3,746	12.5	1.5		3,558
Refugees	**30,092**	**27,916**	**100.0**	**12.1**		**24,696**
Other immigrants	**460**	**205**		**0.1**		**8,845**
Category not stated	1	1		0.0		7
Total	**227,459**	**250,616**		**100.0**		**280,681**

Source: CIC, Facts and Figures (2003)

* In 2010, fiancees are merged with spouses and partners

**In 2000 and 2001, Provincial/territorial principal applicants includes spouses and dependants

***NOTE: The LSIC distribution column is best not disclosed from the RDC until it is finalized due to possible residual disclosure.**

Table 4: OLS (ln) Weekly Earnings Regressions, controlling for Immigration Category, Canadian Exposure and Points

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Cycle 1 (6 months after landing)			Cycle 2 (2 years after landing)			Cycle 3 (4 years after landing)		
Family Class									
Spouse/ Fiancé	-0.294***	0.031	0.076	-0.447***	-0.106	-0.152	-0.616***	-0.223*	-0.278**
(PA)	[0.113]	[0.125]	[0.119]	[0.108]	[0.124]	[0.115]	[0.110]	[0.123]	[0.115]
Parent/Grandparent	-1.348***	-0.156	-0.461***	-1.358***	0.054	-0.653***	-1.932***	-0.442*	-1.123***
(PA and S)	[0.148]	[0.230]	[0.172]	[0.157]	[0.231]	[0.179]	[0.160]	[0.236]	[0.182]
Other	0.382*	0.877***	1.140***	0.568***	0.879***	1.170***	0.480***	0.779***	1.174***
	[0.218]	[0.235]	[0.223]	[0.174]	[0.205]	[0.187]	[0.152]	[0.194]	[0.169]
Economic Class									
Provincial Nom.	1.361***	0.542	1.414***	0.293	-0.124	0.341	0.125	-0.172	0.174
	[0.454]	[0.382]	[0.436]	[0.476]	[0.392]	[0.454]	[0.480]	[0.425]	[0.451]
Business	-2.248***	-1.913***	-1.794***	-2.670***	-2.331***	-2.309***	-2.720***	-2.307***	-2.306***
	[0.132]	[0.146]	[0.139]	[0.146]	[0.156]	[0.154]	[0.158]	[0.166]	[0.165]
Refugee									
Government	-2.987***	-2.488***	-2.269***	-1.584***	-1.110***	-1.018***	-1.251***	-0.725***	-0.596***
	[0.075]	[0.109]	[0.099]	[0.115]	[0.137]	[0.132]	[0.115]	[0.136]	[0.131]
Private	-0.031	0.408	0.574*	-0.121	0.398	0.363	-0.581**	-0.003	-0.028
	[0.299]	[0.283]	[0.297]	[0.260]	[0.255]	[0.261]	[0.278]	[0.270]	[0.275]
Other	-1.310***	-0.708*	-0.474	-1.350***	-0.756**	-0.696*	-1.368***	-0.687*	-0.606
	[0.363]	[0.371]	[0.371]	[0.369]	[0.373]	[0.377]	[0.368]	[0.374]	[0.374]
Other Class									
Other	1.760***	1.896***	2.122***	0.822**	0.965**	1.113***	0.251	0.401	0.583
	[0.363]	[0.398]	[0.397]	[0.369]	[0.411]	[0.399]	[0.445]	[0.478]	[0.476]
months since mig.	0.171***	0.173***	0.168***	-0.360***	-0.310***	-0.340***	-0.084	-0.152***	-0.097
	[0.041]	[0.039]	[0.041]	[0.044]	[0.043]	[0.043]	[0.059]	[0.058]	[0.059]
46 Point Variables	No	Yes	0.025***	No	Yes	0.020***	No	Yes	0.022***
or Point Estimates			[0.002]			[0.002]			[0.002]
Total Obs.	6859	6859	6859	6859	6859	6859	6859	6859	6859
Obs-Zero Earnings	3564	3564	3564	2289	2289	2289	2046	2046	2046
R-squared	0.07	0.16	0.09	0.07	0.13	0.09	0.07	0.13	0.09

Notes: Sample age 19 to 62 at the time of the first cycle. Sample includes zero $ earners, with zero set to $1 prior to taking ln. For the 46 Points variables, we allow for the points to enter as separate dummy variables, while for the point estimates a continuous variable is included with the potential points predicted. Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%

Table 5: Marginal Effects from Probit Estimates on Employment, controlling for Immigration Category, Canadian Exposure and Points

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Cycle 1 (6 months after landing)			Cycle 2 (2 years after landing)			Cycle 3 (4 years after landing)		
Family Class									
Spouse/ Fiancé	-0.013	0.038*	0.055***	-0.070***	-0.001	0.000	-0.115***	-0.047**	-0.039**
(PA)	[0.019]	[0.023]	[0.020]	[0.019]	[0.022]	[0.020]	[0.019]	[0.021]	[0.019]
Parent/Grandparent	-0.225***	-0.044	-0.081***	-0.264***	0.001	-0.097***	-0.361***	-0.074*	-0.172***
(PA and S)	[0.024]	[0.045]	[0.031]	[0.026]	[0.041]	[0.031]	[0.026]	[0.039]	[0.031]
Other	0.070*	0.153***	0.203***	0.099***	0.188***	0.212***	0.042	0.132***	0.155***
	[0.040]	[0.043]	[0.038]	[0.036]	[0.032]	[0.029]	[0.034]	[0.027]	[0.024]
Economic Class									
Provincial Nom.	0.303***	0.247***	0.316***	0.098	0.040	0.113	0.056	0.002	0.070
	[0.074]	[0.088]	[0.072]	[0.082]	[0.092]	[0.080]	[0.079]	[0.090]	[0.076]
Business	-0.257***	-0.226***	-0.194***	-0.139***	-0.054*	-0.052*	-0.149***	-0.047*	-0.053**
	[0.023]	[0.027]	[0.026]	[0.028]	[0.029]	[0.028]	[0.027]	[0.027]	[0.026]
Refugee									
Government	-0.451***	-0.431***	-0.408***	-0.263***	-0.159***	-0.130***	-0.236***	-0.084***	-0.082***
	[0.011]	[0.015]	[0.015]	[0.019]	[0.025]	[0.024]	[0.020]	[0.024]	[0.022]
Private	0.066	0.142***	0.173***	0.026	0.117**	0.130***	-0.092*	0.018	0.029
	[0.053]	[0.052]	[0.051]	[0.050]	[0.046]	[0.045]	[0.051]	[0.046]	[0.045]
Other	-0.217***	-0.130*	-0.081	-0.221***	-0.082	-0.065	-0.322***	-0.161**	-0.140**
	[0.057]	[0.068]	[0.069]	[0.063]	[0.070]	[0.067]	[0.063]	[0.068]	[0.066]
Other Class									
Other	0.381***	0.394***	0.413***	0.304***	0.315***	0.328***	0.128*	0.143**	0.168***
	[0.069]	[0.067]	[0.063]	[0.049]	[0.037]	[0.035]	[0.067]	[0.059]	[0.056]
months since mig.	0.023***	0.026***	0.023***	-0.028***	-0.020**	-0.025***	0.015	0.005	0.013
	[0.007]	[0.007]	[0.007]	[0.008]	[0.008]	[0.008]	[0.010]	[0.010]	[0.010]
46 Point Variables	No	Yes	0.004***	No	Yes	0.005***	No	Yes	0.005***
or Point Estimates			[0.000]			[0.000]			[0.000]
Observations	6859	6859	6859	6859	6859	6859	6859	6859	6859

Notes: The dependent variable is whether or not the immigrant is employed at the time of the interview. Sample age 19 to 62 at the time of the first cycle. For the 46 Points variables, we allow for the points to enter as separate dummy variables, while for the point estimates a continuous variable is included with the potential points predicted. Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%

Table 6: Weekly earnings by immigrant entry class

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Males				Females			
	Cycle 1		Cycle 3		Cycle 1		Cycle 3	
Family Class								
Spouse/ Fiancé	-0.198***	-0.114**	-0.215***	-0.179***	-0.379***	-0.342***	-0.445***	-0.399***
(PA)	[0.044]	[0.050]	[0.034]	[0.038]	[0.061]	[0.078]	[0.047]	[0.052]
Parent/Grandparent	-0.470***	-0.117	-0.578***	-0.243***	-0.332***	-0.231**	-0.583***	-0.370***
(PA and S)	[0.061]	[0.079]	[0.063]	[0.069]	[0.084]	[0.114]	[0.082]	[0.104]
Other	-0.416***	-0.263***	-0.592***	-0.443***	-0.441***	-0.380***	-0.523***	-0.371***
	[0.061]	[0.073]	[0.065]	[0.072]	[0.093]	[0.107]	[0.071]	[0.074]
Economic Class								
Skilled spouse	-0.234***	-0.152***	-0.260***	-0.175***	-0.316***	-0.236***	-0.342***	-0.273***
and dependents	[0.046]	[0.049]	[0.041]	[0.040]	[0.048]	[0.055]	[0.041]	[0.041]
Business	-0.355***	-0.317**	-0.395***	-0.257**	-0.563***	-0.410***	-0.659***	-0.398***
	[0.135]	[0.130]	[0.107]	[0.103]	[0.110]	[0.115]	[0.079]	[0.084]
Refugee								
Government	-1.232***	-1.181***	-0.705***	-0.596***	-1.528***	-1.363***	-0.767***	-0.483***
	[0.140]	[0.148]	[0.042]	[0.055]	[0.205]	[0.222]	[0.054]	[0.075]
Private	-0.465***	-0.386***	-0.530***	-0.388***	-0.381***	-0.223	-0.710***	-0.414***
	[0.079]	[0.097]	[0.071]	[0.081]	[0.107]	[0.146]	[0.120]	[0.140]
Other	-0.271***	-0.106	-0.563***	-0.358**	-0.547***	-0.381***	-0.834***	-0.516***
	[0.078]	[0.098]	[0.124]	[0.149]	[0.081]	[0.107]	[0.119]	[0.123]
Other Class								
Other	-0.241***	-0.108	-0.305***	-0.255***	0.005	0.096	-0.188	-0.227
	[0.080]	[0.080]	[0.071]	[0.066]	[0.265]	[0.286]	[0.224]	[0.220]
Observations	1964	1964	2606	2606	1322	1322	2204	2204
Full set of controls	No	Yes	No	Yes	No	Yes	No	Yes
R-squared	0.07	0.21	0.13	0.24	0.08	0.13	0.1	0.17

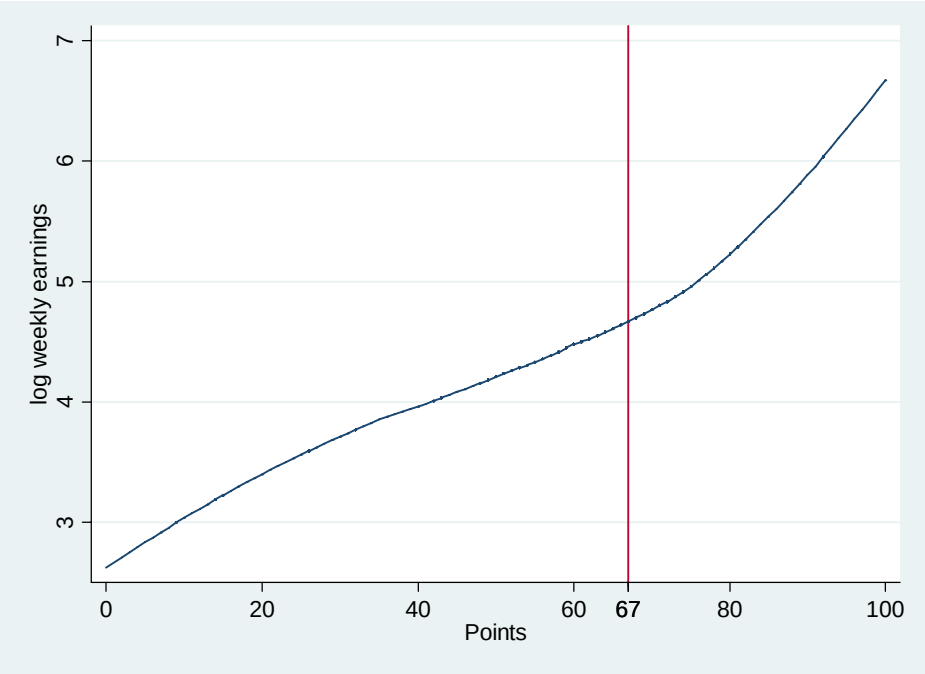
Notes: Sample age 19 to 62 at the time of the first cycle. Restricted to people with positive earnings. All regressions control for a linear months since migration term and a linear age term. The full set of controls include: highest degree prior to landing dummies (less than high school (default), high school, some post secondary, trade/college, bachelor, higher than bachelor), region of origin dummies (US/Western Europe/Australia/NZ (default), Central/South America, Eastern Europe, Southern Europe, Africa, Middle East, East Asia, South/East Asia, South Asia), region of residence dummies (Atlantic provinces, Quebec, Montreal, Ontario, Toronto (default), Western province, BC, Vancouver), English and French language ability, marital status dummies (single previously married (default), married/common law, single never married) and number of children aged less than 18 years in household. Robust standard errors in brackets.
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 7: Marginal Effects from Probit Estimates on Employment by immigrant entry class

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Males				Females			
Family Class	Cycle 1		Cycle 3		Cycle 1		Cycle 3	
Spouse/ Fiancé	0.120***	0.093**	0.010	0.008	-0.161***	-0.066*	-0.270***	-0.189***
(PA)	[0.030]	[0.040]	[0.025]	[0.026]	[0.027]	[0.035]	[0.034]	[0.040]
Parent/Grandparent	-0.030	0.081	-0.172***	-0.036	-0.281***	-0.270***	-0.502***	-0.429***
(PA and S)	[0.050]	[0.064]	[0.049]	[0.046]	[0.027]	[0.035]	[0.032]	[0.048]
Other	-0.051	-0.044	-0.052	-0.009	-0.069	-0.094	-0.018	0.000
	[0.056]	[0.070]	[0.047]	[0.043]	[0.057]	[0.062]	[0.067]	[0.075]
Economic Class								
Skilled spouse	-0.136***	-0.107***	-0.034	-0.019	-0.201***	-0.104***	-0.209***	-0.138***
and dependents	[0.032]	[0.035]	[0.026]	[0.025]	[0.024]	[0.029]	[0.029]	[0.033]
Business	-0.314***	-0.206***	-0.117***	-0.028	-0.261***	-0.183***	-0.292***	-0.176***
	[0.038]	[0.051]	[0.038]	[0.033]	[0.025]	[0.035]	[0.041]	[0.049]
Refugee								
Government	-0.547***	-0.510***	-0.181***	-0.083**	-0.381***	-0.331***	-0.416***	-0.205***
	[0.017]	[0.031]	[0.027]	[0.036]	[0.010]	[0.018]	[0.028]	[0.050]
Private	0.153**	0.247***	-0.061	0.04	-0.177***	0.063	-0.285***	-0.044
	[0.066]	[0.057]	[0.061]	[0.045]	[0.054]	[0.088]	[0.073]	[0.091]
Other	-0.224**	-0.005	-0.111	0.014	-0.249***	-0.055	-0.460***	-0.231**
	[0.110]	[0.115]	[0.116]	[0.080]	[0.045]	[0.084]	[0.053]	[0.090]
Other Class								
Other	0.321***	0.255***	0.064	-0.005	0.070	-0.002	-0.138	-0.281**
	[0.043]	[0.069]	[0.047]	[0.066]	[0.125]	[0.122]	[0.136]	[0.126]
Observations	3399	3399	3399	3399	3460	3460	3460	3460
Full set of controls	No	Yes	No	Yes	No	Yes	No	Yes
Pseudo R-squared	0.08	0.21	0.02	0.11	0.06	0.14	0.06	0.15

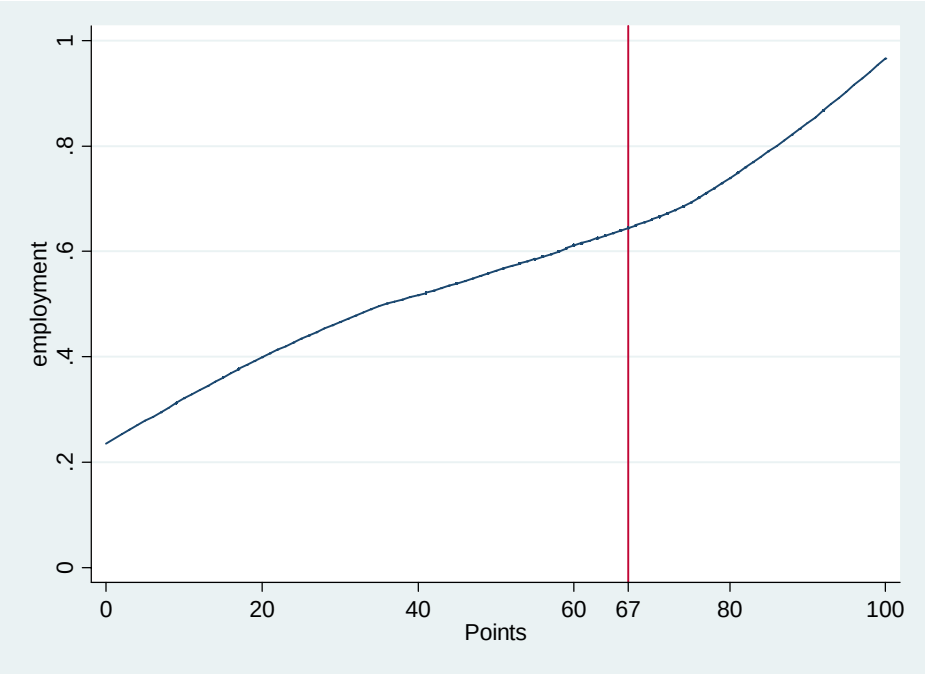
Notes: Sample age 19 to 62 at the time of the first cycle. All regressions control for a linear months since migration term and a linear age term. Full set of controls include: highest degree prior to landing dummies (less than high school (default), high school, some post secondary, trade/college, bachelor, higher than bachelor), region of origin dummies (US/Western Europe/Australia/NZ (default), Central/South America, Eastern Europe, Southern Europe, Africa, Middle East, East Asia, South/East Asia, South Asia), region of residence dummies (Atlantic provinces, Quebec, Montreal, Ontario, Toronto (default), Western province, BC, Vancouver), English and French language ability, marital status dummies (single previously married (default), married/common law, single never married) and number of children aged less than 18 years in household. Robust standard errors in brackets.
* significant at 10%; ** significant at 5%; *** significant at 1%

Figure 1: Partial Linear Model Estimates of the Relationship Between Imputed Points and Log Earnings, Cycle 3



Notes: Other independent variables are put at their mean values for the calculation of the intercept for the graph. The partial linear model: $\ln(\text{Earnings}_i) = X_i B + f(\text{points}_i) + e_i$ is estimated by the double-residual method proposed by Robinson (1988) where points are estimated nonparametrically and the other independent variables are estimated parametrically. The parametric controls include immigrant class indicators and a linear months since migration term.

Figure 2: Partial Linear Model Estimates of the Relationship Between Imputed Points and Probability of Being Employed, Cycle 3



Notes: The partial linear model: $\ln(\text{Employed}_i) = X_i B + f(\text{points}_i) + e_i$ is estimated by the double-residual method proposed by Robinson (1988) where points are estimated nonparametrically and the other independent variables are estimated parametrically. The parametric controls include immigrant class and a linear months since migration term.

Appendix 1: Distribution of Skilled Worker Principal Applicant Points

Table A1: Maximum Points

Category	Maximum Points
Education	25
Language Ability	24
Work Experience	21
Age	10
Arrange employment	10
Adaptability	10
Total Available Points	100
Required for pass	67

Appendix 2: List of Point Indicator Variables

Education: 6 indicators for education (25, 22, 20, 15, 12 and 5 points with 0 points as the default)

Language Ability: 24 indicators for each of the possible points from language ability (ranging from 1 to 24 points with 0 points as the default)

Work Experience: 4 indicators for work experience (21, 19, 17 and 15 points with 0 points as the default)

Age: 5 indicators for age (10, 8, 6, 4 and 2 points with 0 points as the default)

Arrange Employment: 1 indicator for prearranged employment (10 points with 0 points as the default)

Adaptability: 6 indicators for adaptability (10, 9, 8, 5, 4 and 3 points with 0 points as the default)