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### Temporary Foreign Workers and Former International Students as a Source of Permanent Immigration

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# Temporary Foreign Workers and Former International Students as a Source of Permanent Immigration\*

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## **Abstract:**

We compare the economic outcomes of former Temporary Foreign Workers (TFWs) and former international students to immigrants who have no Canadian human capital at the time of landing. First, controlling for all possible variables that are adjustable under the current Canadian points system, we find that TFWs and students have better earning and employment outcomes, although by four years after landing, there is no difference between the employment outcomes of students or earnings of TFWs and workers with no pre-immigration Canadian human capital. Predicting the points that immigrants would obtain based on their observable human capital under the points system, each point increases earnings by around 2 percent and the probability of being employed by around half a percent. We also find that the predicted points of the respondent helps predict the earning and employment outcomes of the spouse. Next we examine the outcomes of immigrants based on entry class separately by gender. We find that both male and female Principal Applicants entering through the Skilled Worker program perform much better than immigrants entering through most of the other classes, although, for males, Principal Applicants entering under the Family Class are more likely to be employed at six months and two years after landing. Finally, restricting the sample to immigrants who were directly assessed based on economic criteria (Skilled Worker Principal Applicants), we discover that for males, immigrants who had previously worked in Canada as TFWs have much better outcomes in terms of entry earnings than immigrants who have no pre-Canadian experience at landing. Former international students experience an advantage in terms of hourly earnings, but much smaller than that experienced by TFWs, and students experience no earnings advantage in terms of weekly earnings. Overall, the evidence suggests that temporary foreign worker or student status does provide some signal of how well an immigrant will integrate economically.

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## Executive Summary

In this paper we examine the economic outcomes of former Temporary Foreign Workers (TFWs) and former international students relative to immigrants who have no Canadian human capital at the time of landing. Starting in September 2008, a new direction in immigration policy was undertaken with the initiation of the Canadian Experience Class. Under this class, some skilled categories of TFWs with Canadian work experience and international students who have a Canadian degree and Canadian work experience will be able to apply to transfer their temporary resident status to permanent status without leaving the country. Under the previous policy such individuals were treated similarly to other applicants and only a small number of immigrants who were previously TFWs or international students in Canada were admitted. While making it easier for successful temporary residents to transfer their temporary status to permanent status appears to be a wise policy change, there is currently no empirical evidence to support such a policy shift. Overall, we find that male TFWs have superior employment and earnings outcomes in all specifications. For former international students, we also find some evidence of better labour market outcomes, but the results are not as strong.

We begin by examining the former TFW and former international student status in relation to the Canadian points system. First, controlling for the predicted points that immigrants would obtain based on their observable human capital and all other possible variables that are adjustable under the current points system, we find that TFWs and students initially have better earnings and employment outcomes. However, by 4 years after landing there is no difference between the employment outcomes of students, or the earnings of TFWs, and those of workers with no pre-immigration Canadian human capital. As well, we find that each predicted point in the point system increases earnings by around two percent and the probability of being employed by around half a percent, although the relationship is not perfectly linear. We also find that the predicted points of the respondent help predict the earning and employment outcomes of the spouse.

Next we examine the outcomes of immigrants based on entry class separately by gender. We find that both male and female principal applicants entering through the skilled worker program perform much better than immigrants entering through most of the other classes, although, for males, principal applicants entering under the family class are more likely to be employed at six months and two years after landing than skilled worker principal applicants.

Finally, restricting the sample to immigrants who were directly assessed based on economic criteria (skilled worker principal applicants), we discover that, for males, immigrants who had previously worked in Canada as TFWs have substantially better outcomes in terms of entry earnings compared to immigrants who have no pre-immigration Canadian experience at landing. Former

international students experience an advantage in terms of hourly earnings, but much smaller than that experienced by TFWs, and students experience no earnings advantage in terms of weekly earnings. When we divide the sample into immigrants from Western and non-Western countries, we find, that TFWs in both samples obtain strong earning outcomes. Further, the benefit of having pre-immigration Canadian work experience at landing was found to be greatest for immigrants from non-Western countries. For the sample of immigrants from non-Western countries, by the third cycle, even after controlling for observable characteristics, the TFWs have a weekly earnings advantage of around 68 percent higher than comparable workers who were not previously TFWs, and were also 7 percent more likely to be employed than workers who had no pre-immigration Canadian human capital at landing.

As well, we find that while other recently landed immigrants receive either no returns or negative returns for their years of potential foreign work experience TFWs do receive positive, although modest, returns (between 1 and 3 percent per year of foreign work experience depending on the specification).

Although there are very substantial differences between our sample of TFWs and international students and those that will be admitted under the Canadian Experience Class, overall, the evidence suggests that the temporary foreign worker status or student status does provide some information regarding how well an immigrant will integrate economically.

## 1. Introduction

Economic outcomes of immigrants have declined in most traditional immigrant-receiving countries, many of which are actively making changes to their immigration policies to improve the economic integration of future cohorts of immigrants. Canada is one of the leading immigrant-receiving countries, and despite several policy changes to date, the decline in economic outcomes of recent immigrants has not been reversed. For example, in 1993 a Canadian policy shift increased the share of immigrants in the economic class.<sup>1</sup> While those who enter Canada as either refugees or humanitarian immigrants are admitted based on humanitarian considerations, economic class immigrants are chosen for skills that should help them succeed in the Canadian labour market.<sup>2</sup> However, increasing the proportion of immigrants in the economic class had only a modest effect on improving the overall outcomes of immigrants.<sup>3</sup>

Starting in September 2008, a major new innovation in Canadian immigration policy is the Canadian Experience Class, under which it is estimated that around 25,000 temporary residents with Canadian experience will become permanent residents annually. Under this class some skilled categories of Temporary Foreign Workers (TFWs) with Canadian work experience, and international students who have a Canadian degree and at least one year of Canadian work experience are able to apply to transfer their temporary resident status to permanent status without leaving the country.<sup>4</sup> Under the previous

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<sup>1</sup> See Beach, Green and Worswick (2006).

<sup>2</sup> Economic immigrants enter Canada under a point system with points awarded for such things as age, language, arranged employment in Canada, education and work experience.

<sup>3</sup> Picot, Hou and Colombe find that in the early 2000s, of the recently landed immigrants, economic class immigrants were more likely to be in low income than Family Class immigrants.

<sup>4</sup> Former international students require a Canadian degree that consists of at least two years of fulltime study in Canada as well as 12 months of work experience after the completion of the degree within a 24 month period just prior to making the application. (Students with a one year Master's degree require at least one year of education in Canada acquired prior to admission into the Master's program). TFWs require 24

policy, such individuals were treated similarly to other applicants and only a small number of immigrants who were previously TFWs or international students in Canada were admitted. Conversely, in Australia, the temporary resident program has become the main source for permanent economic immigrants. Hawthorne (2006) notes that 52 percent of economic immigrants in 2005 were formerly foreign students at Australian educational institutions. Over the same period of time in which immigrants in Canada have encountered poor economic outcomes, immigrants in Australia have experienced more favourable economic outcomes. Possibly, Australia's higher percentage of immigrants with pre-immigration host country human capital accounts for the differences in outcomes.

Using the temporary foreign worker and international student programs as screening devices for economic immigrants, it is plausible that the economic outcomes of new immigrants will be improved. Former TFWs will not experience the same difficulty with the portability of their human capital, since their skills have already been recognized by at least one Canadian employer. Former international students will have obtained education in Canada and therefore should not experience difficulties receiving a "normal" return to their education, and presumably their language skills and Canada-specific knowledge should be appropriate to the Canadian labour market.<sup>5</sup> While the hypothesis underlying this policy change is that selecting a higher proportion of people with pre-

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months of work experience over a 36 month period just prior to making the application. They are both able to make the application within Canada unless they require an interview. They need to be either currently employed in Canada or apply within one year after leaving the job in Canada. Unlike the Skilled Worker Principal Applicants, CEC applicants are not assessed under a point system but instead their application is based on a pass/fail.

<sup>5</sup> There is a minimum language ability requirement under the CEC that depends on the occupation of the Canadian work experience. Immigrants with work experience in managerial or professional occupations (NOC O or A) require moderate language ability in either English or French while those with experience in technical occupations and skilled trades (NOC B) require basic language ability.

immigration Canadian human capital should improve economic integration, there is currently no direct Canadian empirical evidence to justify such a policy proposal. (Data to produce such direct evidence has not previously been available, though there is much indirect Canadian evidence, and some non-Canadian evidence.) In this paper, we examine the economic outcomes of former TFWs and former international students, with particular focus on immigrants who are directly assessed based on economic criteria.<sup>6</sup> While this analysis is for Canada, given that many Western countries are adjusting their immigration policy to improve the selection of immigrants, the empirical results are also useful to policy makers in other countries.

We find that most former TFWs and international students entered the permanent immigration stream in the economic class. Relative to other Skilled Worker Principal Applicants, male TFWs do very well in terms of both earning and employment outcomes. Even after controlling for differences in educational attainment and other demographic characteristics, we find that four years after landing male TFWs experience a 61 percent advantage in earnings over other immigrants who were also assessed under the point system, but who do not have any pre-immigration host country human capital. When we further restrict the sample to immigrants from non-Western countries who enter under the point system, we again find a very large earnings and employment advantage for TFWs. We also find some evidence that female TFWs and former international students perform well economically, but not to the same degree as male TFWs. Although much of the earnings advantage experienced by male TFWs is likely due to unobserved heterogeneity,

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<sup>6</sup> To facilitate the exposition, we will not consistently refer to the TFWs and foreign students in our sample as normally having “formerly” been in one of those categories *prior* to applying to immigrate. But note that this contrasts with the proposed Canada experience class which allows individuals currently in those categories to apply to immigrate from within Canada.

our findings suggest that the TFW status provides policy makers a large amount of information about how well potential immigrants will integrate economically.

Of course, the context in which the TFWs and foreign students in our data entered Canada differs appreciably from that which will exist for the proposed Canada experience class. Nevertheless, these findings are of some value in suggesting that previous experience in Canada is associated with improved labour market outcomes.

In the next section we discuss relevant Canadian immigrant literature, and in the third section we discuss the data and methodology. In section four, we first look at the point system to see what additional information the TFW or student status provides, for both the respondent and the spouse. Then we look at the earning and employment outcomes based on entry class, and finally in section five we compare the economic outcome of TFWs and students for Skilled Worker Principal Applicants. In the final section, we have a summary and conclusion.

## **2. Literature Review**

As with findings in the United States (Borjas 1985, 1995) and Lubotsky (2007), research has found deteriorating economic outcomes for more recent cohorts of new immigrants to Canada. Entry earnings fell in the 1980s (Baker and Benjamin 1994; Bloom, Grenier and Gunderson 1995; Grant 1999) and continued to fall in the 1990s (Frenette and Morissette 2005, Green and Worswick 2004; and Aydemir and Skuterud 2005).<sup>7</sup> Despite the increase in the emphasis placed on the economic class, and such changes to the point system as increasing the weight placed on education, the economic

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<sup>7</sup> Warman and Worswick (2004) did find a modest bounce back for the 1995-99 cohort in terms of unconditional earnings, which is likely due to the increased emphasis placed on education in the points



outcomes of new immigrants have not improved appreciably. Picot, Hou and Coulombe (2007) found that recent immigrants have done poorly; in particular, immigrants entering in the skilled category, the group chosen based on their foreseen ability to integrate into the labour market, actually had greater declines (though from a higher base) than Family Class immigrants.

The difficulty that immigrants have transferring their foreign human capital to the Canadian labour market has been a major contributor to their poor labour market outcomes. Research has found that the returns to foreign work experience have been very low for recent immigrants. For example, Schaafsma and Sweetman (2001), and Ferrer and Riddell (2006), find almost no return to foreign work experience for immigrants. As well, Green and Worswick (2004), and Aydemir and Skuterud (2005), find that the falling return to foreign work experience is a major source of the observed decline in labour market outcomes. It is anticipated that immigrants who were previously TFWs in Canada will not experience the same difficulties receiving recognition for their pre-Canadian work experience since they will already have had their human capital recognized by a Canadian employer and also have Canadian work experience. As well, such workers have undergone a two-side (perhaps multi-sided) selection process. A firm has selected each TFW, and after having experienced Canada each individual has elected to apply to return (or stay under the new program). Undoubtedly both sides of this selection process may be useful in improving the quality of the match between Canada and new immigrants.<sup>8</sup>

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system and the increased fraction of immigrants in the economic class. This effect is not present once one controls for observable characteristics. See also Picot and Sweetman (2005).

<sup>8</sup> Given that these foreign-born workers are familiar with Canada and have chosen to immigrate, this may also reduce the large emigration described by Aydemir and Robinson (2008).

While there was no appreciable fall in the returns to foreign education, immigrants on average do receive a lower return for their foreign acquired education. Schaafsma and Sweetman (2001) find that the age of immigration matters for both economic and educational outcomes. Immigrants who come to Canada at a young age, and therefore obtain Canadian education, do well in the Canadian labour market while immigrants who come at an older age and obtain their education from abroad have poorer outcomes. Similar results have been found in other countries. For example, Clark and Lindley (2009) find that “education entrants”, which includes both adults who arrive in the UK to pursue education and also child immigrants, do much better than immigrants who enter directly into the labour market in the UK.<sup>9</sup>

It would seem likely, therefore, that immigrants who were former international students in Canada will have less difficulties receiving recognition for their educational credentials and would have overall better economic outcomes. However, Schaafsma and Sweetman (2001) do observe an earnings profile with those who arrive very young having much higher annual earnings than those who arrive later in life, so a program that requires only a modest number of years of schooling in Canada may well have a much smaller impact than that for immigrants who arrive as children.

While there is no research on the labour market outcomes of TFWs or international students who later immigrate to Canada, there is a small amount of research that examines the earning outcomes of current TFWs in comparison to recently landed immigrants of all classes.<sup>10</sup> Warman (2007b) finds that male TFWs experience much higher earnings than do recently landed immigrants. Female TFWs (after homemakers

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<sup>9</sup> See also van Ours and Veenman (2006) for evidence for the Netherlands, and Gonzalez (2003), Bleakley and Chin (2004), and Chiswick and DebBurman (2004) for evidence in the United States.

are excluded) also experience a positive earnings advantage versus recently landed immigrants in two out of the three survey years. Further, Warman (2007c) finds that while recently landed immigrants do not receive any returns to their years of foreign work experience, current male TFWs experience large positive returns. As well, male TFWs receive higher returns to their foreign education than do recently landed immigrants.

We add to previous literature by examining the effects of TFW and foreign international student status on subsequent labour market outcomes and the link between pre-immigration host country human capital and economic integration. While our paper focuses on Canadian data and policies, the findings from this study will also be informative to policy makers in other countries since it explores whether retaining and attracting non-permanent residents with host country work experience or education is beneficial. We further add to the Canadian immigration literature by examining economic outcomes by entry class, something that is not possible to do with most data sets, such as the Census.<sup>11</sup> Further, we examine the relationship between the immigration points system and economic outcomes. In the initial analyses we restrict ourselves to variables that are amenable to policy. For example, we do not distinguish between male and female Principal Applicants since we can think of no potential policy that will do so. We then examine what additional information the TFW and international student status add to the point system in terms of subsequent labour market outcomes.

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<sup>10</sup> See Sweetman and Warman (2006, 2009) for a brief description of the temporary worker program.

<sup>11</sup> There has been some work on earning outcomes based on class using landing records. See Li (2003) Warner (2003) and De Silva (1997). See Miller (1999) for a discussion of the Australian points system.

### **3. Data, Estimation Sample and Methodology**

The data used in the estimation comes from the Longitudinal Survey of Immigrants to Canada (LSIC). It 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 1<sup>st</sup>, 2000 and September 30<sup>th</sup>, 2001. They are then interviewed six months, two years and four years after landing. The response rate at the first interview was just over 60 percent, and of those who responded at the first interview, about 65 percent continued through to the third wave.

In addition to the usual reasons for non-response, return and/or onward migration are issues for the sample in question since the survey is restricted to those residing in Canada, and 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. Moreover, given that all respondents in the LSIC landed abroad, these numbers are likely to underestimate departures since the Economic Class had to apply through a mission abroad at the time of the survey and are more likely to depart, whereas refugee claimants may land within the country and are more likely to stay. Aydemir and Robinson (2008) find that around 25 percent of immigrants who arrived under the skilled worker class left within the first year after arrival, and that four years after landing (which would correspond to cycle 3 in our data), around 33 percent had left. Statistics Canada reports that for the “Wave 3 sample, the population of interest consists of all immigrants in the LSIC who are still in Canada four years after their arrival. Consequently, the post-stratification adjustment for this sample ensures consistency between the sum of the weights and the demographic estimate associated

with this period for each combination of age, sex, place of birth (aggregated by region of the world) and class of immigrant.”

We restrict our sample to those who were between the ages of 19 and 62 at the time of the first interview (around six months after landing). We check the sensitivity of the results to this 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 weekly earnings from the main job, but highlight any difference if hourly earnings are used instead. The key systematic difference is that gaps tend to be larger for weekly earnings, since hourly wages and weekly hours are positively correlated. We think that weekly earnings better reflect the overall economic outcomes in which we are interested, since it combines both the rate of pay as well as the intensity. 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.<sup>12</sup>

Unique to the LSIC is information on whether an immigrant had previously held a Work Visa or a Student Visa in Canada. This allows us to compare the economic outcomes between TFWs, international students and immigrants who have no pre-immigration Canadian human capital. It is, however, possible for non-permanent residents to work in Canada without a Work Visa, for example Business Visitors from the US or Mexico who enter under NAFTA. Any such workers who immigrated would be included in the non-temporary foreign worker/non-international student group. Assuming

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<sup>12</sup> For example, for an immigrant interviewed at cycle 1, we take an average of the CPI over his/her six month reference period.

an associated positive effect of this experience for this group, any observed coefficients for TFWs are biased down compared to the non-visa TFWs group being identified. Our understanding is that the size of this latter group in our sample is likely to be quite small. Further, given that TFWs need a minimum of two years of Canadian work experience to be eligible under the Canadian Experience Class, it is unlikely that temporary workers without a Work visa would qualify to enter under the new program.

### **3.1 Addressing Only Elements of the Immigration System**

First, we investigate the earning and employment outcomes focusing exclusively on aspects of the current Canadian immigration system that are amenable to policy manipulation. We examine what additional predictive power being a former TFW or former international student provides for earnings and employment.<sup>13</sup> In this analysis we include only covariates that can be adjusted under the current immigration policy, although we do extend the elements of the points system to all immigrants. Further, we 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, we take the view for this portion of the analysis that the latter arrive jointly and the outcomes of the policy should be viewed as the joint outcomes of the immigrating family. Similarly, although there is another category of people with Canadian experience, but not the relevant visas, we do

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<sup>13</sup> The Canadian Experience Class does not apply to immigrants wishing to live in Quebec. We reran our results excluding Quebec and for the most part find similar results.

not separately identify them, since they are not subject to the policy.<sup>14</sup> We address both of these issues in subsequent parts of the analysis.

Given the different length of time covered by the three reference periods, we run separate regressions for each cycle. While some studies look at sub-samples of the population based on labour force attachment, perhaps because these studies are primarily interested in labour market efficiency or only workers with substantial labour market attachment, the success of immigration policy should be measured against the activity of all those who land and remain. Therefore, we include the entire sample in the earnings regressions, even those without earnings for whom we assume annual earnings of \$1. We also examine employment outcomes and look at whether or not the person was employed at the time of the interview. We estimate equations of the form:

$$(1) \quad Y_i = \beta_o + \phi Class_i + \delta_1 TFW_i + \delta_2 Student_i + \pi Pts_i + \varepsilon_i$$

Where  $Y_i$  is the natural logarithm on annual earnings for person  $i$ ,  $Class_i$  is a vector of indicator variables for immigration class,  $TFW_i$  and  $Student_i$  are indicators for having had the relevant visa, and  $Pts_i$  is one of two variables measuring the predicted points that can be estimated from the LSIC that the respondent would have if s/he were a Skilled Worker Principal Applicant. In some specifications we use a linear measure of our predicted points, while in other specifications we include a set of 46 indicator variables for the various components of the points system, which we describe in the next paragraph. The remaining elements are coefficients to be estimated, with the exception of the last, which is a white noise error term. Not all the variables listed in equation (1) are included in each

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<sup>14</sup> There are some immigrants who were in Canada but did not have a student or TFW visa and were not tourists.

model estimated. We first control for only immigrant class, and then add the TFW and student indicators to examine what additional information these controls provide.<sup>15</sup>

We examine how points influence economic outcomes and we take two approaches here. The point system consists of six selection factors: education, language ability, work experience, age, arranged employment and adaptability.<sup>16</sup> We predict the points that the respondent would have obtained under the point system. For example, under the age category, the respondent would receive 10 points if they are between the ages of 21 and 49 at the time of immigration. They lose 2 points for every year they are younger than 21 or older than 49, so someone who is 53 would get 2 points under the age criteria. See Appendix 2 for the complete list of point dummies.<sup>17</sup> It is likely that the source of a point affects its value in the labour market, so in our first specification we allow for separate dummies for each element of the point system. For example, there are five different possible points for age, so we include five dummies for age (10 points, 8 points, 6 points, 4 points or 2 points with the default being if the person receives no points from age). However, given that the point system does not differentiate among the alternative origins of points, we also rerun the regression with a second specification that includes a single continuous points variable.<sup>18</sup> One way of interpreting this is to consider that we first allow all of the elements of the point system to operate in an unrestricted manner and we thereby allow OLS to select weights (coefficients) that optimally associate the characteristics with labour market outcomes. We subsequently restrict the elements to have the weights imposed by the immigration system and sum up the points

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<sup>15</sup> All regressions control for months since migration.

<sup>16</sup> See Table A2 in Appendix 1 for the maximum points available from each selection factor.

<sup>17</sup> To view the allocation of the all the possible points under the point system, see <http://www.cic.gc.ca/english/immigrate/skilled/apply-factors.asp>.



into the usual total for each person (where the range is 0 to 100 points). Hence, the first allows the data to assign the relative value of, say, a particular age and level of education, whereas the second assigns them to have the relative values built into the points system. 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. While we identify the cut-off in what follows, we think it is worthwhile to document how earnings vary along this metric for all immigrants. Naturally, all Skilled Worker Principal Applicants in our sample had to have been above the cut-off.

For each immigrant, regardless of entry class, we calculate the points based on information provided at the time of landing for most of the items. For language skills, we use information provided at the first cycle, which is six months after landing. While we can calculate points for most of the six selection factors, there are a few items where the LSIC lacks relevant information, so on average our imputation may be lower than the true number of points that the immigrant would have been entitled to, and as well, there may be some measurement error.

We currently 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 that is controlled by the provincial

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<sup>18</sup> Obviously, we do not directly include in the points variable the points that currently come from being a former TFW or student.

government. 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.<sup>19</sup>

### 3.1.1 Points and the Economic Outcomes of the Spouse

Next we explore how well the predicted points determine the earning and employment outcomes of the spouse. Although the economic class currently makes up over half of all new immigrants in a given year, only the Skilled Worker Principal Applicants are directly assessed based on their potential ability to integrate economically. While the Principal Applicant can obtain points based on the adaptability of his/her spouse, it is possible for them to obtain the maximum 100 and all 67 points required for admission without obtaining any points based on his/her spouse's adaptability. Therefore, for a large proportion of immigrants entering under the economic class, there is very little, or no consideration for how well they will integrate economically. For this reason, it is important to determine the success of the spouse, as well as the relationship between the points of the Principle Applicant and the economic outcomes of the spouse.

The LSIC contains labour market information on the spouse, including earning and employment outcomes, as well as some basic demographic information.

$$(2) \quad Y_i = \beta_o + \phi mtsm_i + \delta age_i + \pi Pts_i + \varepsilon_i$$

We estimate the equation (2) using all possible points awarded.<sup>20</sup> We do not include couples in this part of the analysis if the spouse was either born in Canada or if we do not

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<sup>19</sup> 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).

<sup>20</sup> We also re-estimated the results excluding the points that come from the spouse's adaptability, and given that only a small percent of the points come from the spouse, we find very similar results (for example, we excluded the points received for the spouse's Canadian education).

know when he/she immigrated to Canada.<sup>21</sup> Again we include the entire sample in the earnings regressions, even those without earnings for whom we assume annual earnings of \$1. We also re-estimate the results for positive wage earners. Given that the main goal of this exercise is to assess how well the criteria in the points system reflects the potential outcome of the spouse, we do not control for additional information on the spouse, such as ethnicity. However, we do control for the number of months since arrival to Canada. We also re-estimate the results for the full sample. Although only Skilled Worker Principal Applicants are directly assessed under the point system, this exercise will allow us to examine the role of one spouse's human capital on the economic integration of the second spouse.

### **3.2 Immigration Entry Class and Employment and Earning Outcomes**

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

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

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 (see the Appendix for a description). Class is a vector of mutually exclusive variables indicating each respondent's immigration class. We estimate equation (3) by OLS when log weekly earnings is the dependent variable, and by probit when employment is the

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<sup>21</sup> We exclude same sex couples from this part of the analysis since there are too few observations to do separate analysis on same sex couples, and gays and lesbians are found to have very different labour market outcomes compared to heterosexuals in Canada (see Carpenter, 2008 and LaFrance, Warman and Woolley, 2009).

dependent variable. For the earning regressions, we examine workers with positive earnings from the main job.<sup>22</sup>

Mainly due to data limitations, most studies have ignored immigrant class when studying economic outcomes. However, given that refugee and Family Class immigrants are brought in for humanitarian reasons, while economic immigrants are admitted based on economic considerations, the examination of immigrant class is important for studying labour market outcomes of immigrants. While we do control for class when examining the relationship between points and economic outcomes as described earlier, here we run the regressions separately for males and females and include a fuller set of controls to explore differences in economic outcomes between classes.

### 3.3 Focusing on Skilled Worker Principal Applicants

Subsequently, we restrict the analysis to Skilled Worker Principal Applicants: the group of immigrants who are directly assessed under the point system. The focus here is to compare the economic outcomes of former TFWs and international students to immigrants who have no pre-immigration Canadian human capital. We estimate the following equation:

$$(4) \quad Y_i = \beta X_i + \delta_1 TFW_i + \delta_2 Stud_i + \delta_3 otherpre_i + \varepsilon_i$$

where  $TFW_i$ ,  $STD_i$  and  $otherpre_i$  are indicators for former TFWs, former international students and immigrants with other pre-immigration Canadian experience respectively (i.e., lived in Canada prior to immigrating, but did not have either of the visas on which

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<sup>22</sup> 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.

we focus). The default group is Skilled Worker Principal Applicants who do not have any pre-immigration Canadian human capital and have never visited Canada. The  $X_i$  matrix includes the same controls as those specified in equation (3).

## **4. Empirical Results**

### **4.1 Descriptive Statistics**

We first examine the summary statistics for the three Canadian exposure groups (TFWs, students and others: i.e. no pre-immigration Canadian human capital). For males, presented in Table 1a, around 85 percent of TFWs and 84 percent of students entered as Skilled Worker Principal Applicants compared to 60 percent for the rest of the male sample. For females, 44 percent of TFWs, 63 percent of students and 17 percent of the remainder entered as Skilled Worker Principal Applicants. A further 44, 20, and 41 percent of female TFWs, students and “others” entered under the skilled worker class as dependents and spouses. While a very large proportion of TFWs and former students are Skilled Worker Principal Applicants, they only comprise a very small proportion of the total. Looking at Table 1b, TFWs and students compose only around four percent of the male sample, and around two and three percent of the female sample.

In Table 1c we give the breakdown by region of origin for the three different Canadian exposure groups. TFWs are much more likely to come from Western countries (e.g., US, UK, West/North Europe) than are either students or “other” immigrants with no pre-immigration Canadian human capital. For males, 30 percent of the TFW sample originated from a Western country, versus only around nine and five percent for the students or the “other” immigrants. The difference is even more pronounced for females, for whom 45 percent of TFWs came from a Western country compared to only 12 and 4

percent for the students and “other” categories. Male TFWs and students were a little less likely to come from an Asian country than the “other” immigrants, although, this was still the region of origin of half of the TFW and student samples. Conversely, female TFWs were much less likely to come from an Asian country compared to the “other” immigrants.

We next present the means of some of the key variables for the three Canadian exposure groups for male Principal Applicants, female Principal Applicants and female dependents and spouses (Tables 1d, 1e and 1f respectively). For both the male and female Principal Applicants, all three Canadian exposure groups are highly educated. For male Principal Applicants, TFWs have much higher log weekly earnings and also work the most hours. For female Principal Applicants, while TFWs have the highest log weekly earnings in the first cycle, the earnings of the three groups converge, and by the third cycle, despite working fewer hours, students have higher log weekly earnings than the TFWs. Relative to the female Principal Applicants, the female dependents and spouses have lower log weekly earnings and work fewer hours.

In Tables 2a and 2b we display the sample means for the four main immigrant entry classes for males and females respectively (Family Class, Refugees, and we divided Skilled Workers into Principal Applicants and Dependents and Spouses). There are very large differences in the educational outcomes between the different entry classes. While it is not surprising that the Skilled Worker Principal Applicants are the most educated group, the gap in educational outcomes is very pronounced (for example, 87 percent of the male Skilled Workers Principal Applicants have a university degree compared to only 17 percent of the male Refugees). Interestingly, the skilled worker spouses and

dependents are also very educated and much more so than the Family Class immigrants or the refugees. Looking at the predicted points, the Skilled Worker Principal Applicants have the highest predicted points, followed by the spouses and dependents. As previously discussed, it was not possible to perfectly predict all of the points, so although all Skilled Worker Principal Applicants should have at least 67 points we find that 73 percent of males and 68 percent females have at least 67 points.

Higher levels of human capital seems to translate into better earning outcomes; immigrants with higher educational attainment, higher points and better English language ability have higher earnings. Although Family Class immigrants have lower earnings than the Skilled Worker Principal Applicants, in the first two cycles the males were more likely to be employed. Conversely, female Skilled Worker Principal Applicants were much more likely to be employed.

#### **4.2 Earning and Employment Regressions for all prime age individuals.**

In column 1 of Tables 3, 4 and 5, the earning differentials of the various immigrant classes relative to the omitted Skilled Worker Principal Applicants are displayed for Cycles 1, 2 and 3 respectively, while in Tables 6, 7 and 8, the corresponding marginal effects from the probit results for employment outcomes are displayed. In column 2 we add the TFW and student controls. In columns 3 and 4 we add separate controls for the full set of immigration point variables (46 indicators) with and without the TFW and student controls respectively. Finally, in the last two columns we control for potential points using a single continuous variable, first without the TFW and student controls (column 5) and then with these controls added (column 6).

We divide the discussion into three subsections. First we investigate the different outcomes by classes and examine how the earning and employment differentials change when we add in the points as either separate indicators or as a continuous variable. Then we examine what information the TFW and student status provide above the predicted points. Finally we discuss the impact of the continuous points variable on earning and employment outcomes.

#### **4.2.1 Immigrant Entry Class and the Point System**

There is substantial variance in earnings between the different immigrant classes. Particularly, immigrants who entered under the Business Class or as Government Sponsored Refugees had much lower earnings. Even when we allow all the potential points to enter as individual regressors, we cannot reduce the gap very much, suggesting that there are very important unobserved attributes associated with these categories. Conversely, the “other” Family Class immigrants have much better earning outcomes. Provincial Nominees have higher earnings than Skilled Worker Principal Applicants in the first cycle, but it dissipates in later cycles and is also much reduced when the elements of the points system are included in a flexible manner. We next examine the probability of being employed at the time of the interview (see Tables 6, 7 and 8). The “other” immigrants have better employment outcomes relative to the Skilled Worker Principal Applicants in all three cycles, while the Provincial Nominees and “other” Family Class immigrants have better employment outcomes in cycles 1 and 2, and the “other” Family Class immigrants have higher employment outcomes in all cycles once points are controlled for either as separate controls or as a single continuous variable.



However, every other class for the most part experiences much poorer employment outcomes.

Again, since we only want to include variables that policy makers can directly control under the point system, part of the earnings differential between the classes may be due to differences in the composition of demographic characteristics that are important in labour market outcomes, such as gender or region of origin, but that are not directly controlled for under the point system. We look at the earnings by class separately by gender, and employ more traditional controls later in the paper.

#### **4.2.2 TFW and Student Status and the Point System**

Next we add TFW and student dummies to differentiate between immigrants with and without pre-immigration host country human capital. We find a very large earnings advantage for the TFWs; this advantage is largest in the first cycle, drops by the second cycle, but still remains very large over the remainder of the survey (see column 2 of Tables 3, 4 and 5). For students, the earnings advantage is largest in the first cycle, disappears in the second cycle, but grows very large in the third cycle.<sup>23</sup> When we allow for the potential points to enter as 46 separate dummies, the earnings advantage experienced by TFWs and students disappears, and they actually have an earnings disadvantage in the second cycle (see column 4 of Tables 3, 4 and 5). However, when we do not differentiate between the source of the points and allow points to enter as a continuous variable, as is the criteria in the existing system, TFWs experience a statistically significant earnings advantage in the first cycle, while in the second and third cycles, the standard errors are too large to obtain precise estimates of the coefficient (see

column 6 of Tables 3, 4 and 5). One interpretation is that the TFW advantage can be (almost) fully explained by the elements of the point system, but that when the points are added together subject to the constraints of the immigration system's weighting scheme, information is lost and the TFW designation provides additional information.<sup>24</sup>

In all three cycles, TFWs are much more likely to be employed at the time of the interview (see column 2 of Tables 6, 7 and 8). When we add separate dummies for each points grouping, this advantage in employment disappears and is actually negative in cycle 1 (see column 4 of Tables 6, 7 and 8). However, when we add points as a single continuous variable, we again find that TFWs are much more likely to be employed (see column 6 of Tables 6, 7 and 8). Six months after landing, the TFWs are around 17 percent more likely to be employed (see column 6 of Table 6). While this advantage decreases with time in Canada, TFWs still are 10 percent more likely to be employed four years after landing (see column 6 of Table 8). Students are also more likely to be employed, but only six months and two years after landing. By four years after landing, students do not experience any difference in employment relative to immigrants without any pre-immigration host country human capital.

#### **4.2.3 Impact of Points on Earning and Employment Outcomes**

Whether the TFW and student dummies are included or not, in every cycle each additional point appears to increase earnings by around 2 percent (see columns 5 and 6 of Tables 3, 4 and 5).<sup>25</sup> The probability of being employed increases by around half a

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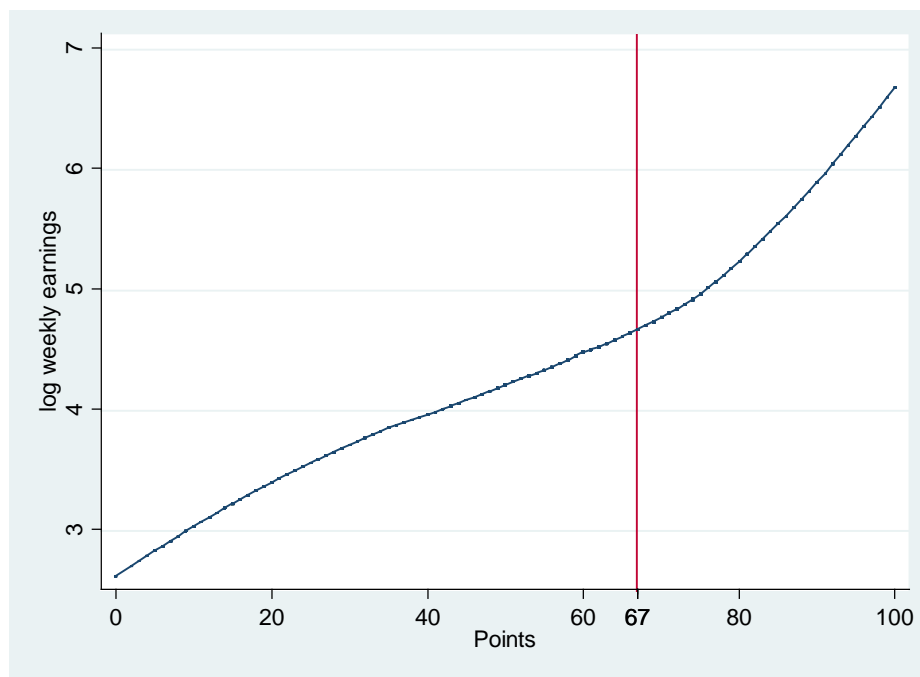
<sup>23</sup> Using an F-test, we cannot reject the null hypothesis of equality between the TFW and student coefficients in column 2 of Table 5.

<sup>24</sup> When we only include workers with positive earnings, we find a much larger earnings advantage for TFWs (results not shown).

<sup>25</sup> 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

percent with each additional point (see columns 5 and 6 of Tables 6, 7 and 8).<sup>26</sup> It is likely that the relationship between points, and earnings and/or employment is non-linear. We, therefore, map out the relationship between points and each dependent variable nonparametrically. Using the double-residual method suggested by Robinson (1988) to estimate partial-linear models, the relationships between earnings/employment and points are estimated nonparametrically while the influence of class and months since migration are removed parametrically. The specification is the same as column 5 from Tables 5 and 8.

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



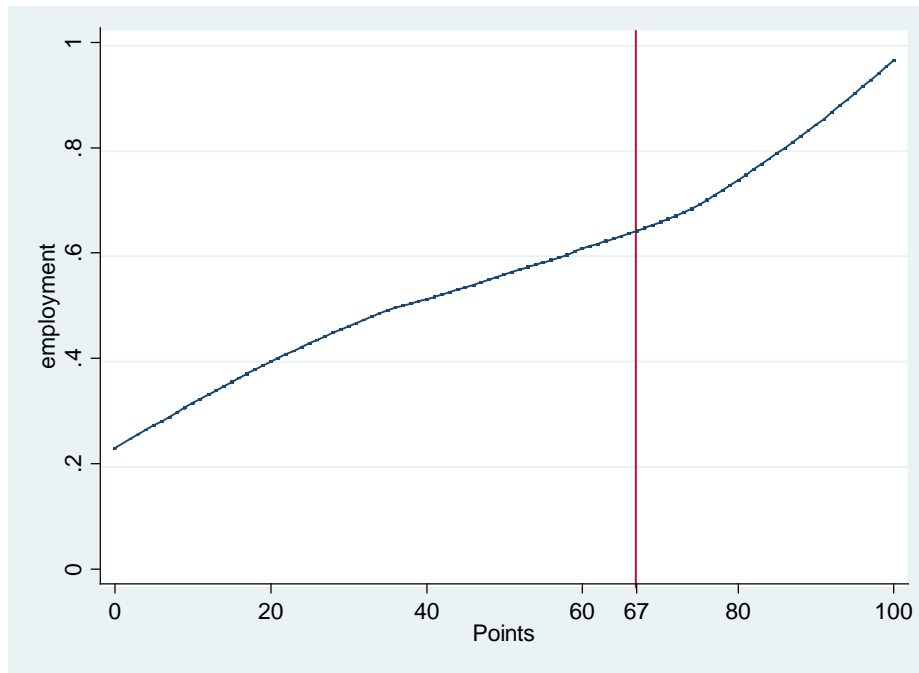
Notes: Other independent variables are put at their mean values for the calculation of the intercept for the graph. The partial linear model:  $\ln(\text{Earnings}_i) = X_iB + f(\text{points}_i) + e_i$  is estimated by the double-residual method proposed by Robinson (1988) where points are estimated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

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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.

<sup>26</sup> 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.

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



Notes: The partial linear model:  $\ln(\text{Employed}_i) = X_iB + f(\text{points}_i) + e_i$  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.

In Figures 1 and 2 we present the partial-linear model estimates from cycle 3 (four years after landing) for earnings and employment respectively. The relationship between points and both earnings and employment are very similar. For immigrants with very low levels of points, the slope increase sharply as the number of points increases up until around 35 or 40, after which the influence is still strongly positive, but slightly less pronounced. 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 cannot perfectly predict all possible 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 the immigration class beyond that captured by the points system.

### **4.3 Predicted Points and the Economic Outcomes of the Spouse**

As discussed earlier, while the Principal Applicant may obtain a small number of points under the adaptability criteria for the potential ability of the spouse to adapt to living in Canada, these points are not necessary for the Principal Applicant to pass the selection to immigrate to Canada as a skilled worker. However, to gauge the success of the economic class, the economic outcomes of the spouse should also be considered. In Table 9 we present the relationship between the points obtained by the Principal Applicant and the earning and employment outcomes of the spouse.<sup>27</sup>

We find that for male spouses, the points of the Principal Applicant do not affect their earning outcomes (Section 1 of Table 9). Conversely, the earnings of female spouses increase with the points of the male Principal Applicant. In the first cycle, each additional point increases earnings by around one percent. The magnitude of this effect decreases with time in Canada and by the third cycle the coefficient on the points is no longer statistically significant. When we restrict the sample to female spouses who had positive earnings in all three cycles (row ii of Table 9), we again find that each point increases earnings by around one percent in the first cycle, however, now this relationship exists in all three cycles.

We next examine the relationship between the points of the respondent and the earning outcomes of the spouse for all immigrants (see Table 10a). This will allow us to

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<sup>27</sup> Although we have removed any spouse born in Canada, we do not restrict the sample based on when the spouse immigrated. We find very similar results to those presented when we restrict the sample to spouses who immigrated to Canada at the same time as the respondent.

assess how the human capital valued under the point system of one spouse affects the economic outcomes of the other spouse. We find that each predicted point of a female immigrant increases the earnings of the male spouse by a little more than half a percent, while each predicted point of the male respondent increases the earnings of the female spouse by around four-tenths of a percent in cycles 2 and 3. Again when we restrict the sample to spouses who had positive earnings in all three cycles, the relationship between points and earnings is larger (see row iii) of Table 10a).

We also investigate the role of Canadian exposure on the economic outcomes of the spouse by re-estimating the results including indicators for former TFW and former Canadian international student status of the respondent (see row iv) of Table 10a). For this analysis, we calculate the points excluding the points that the respondent would have obtained from being a former international student or having pre-immigration Canadian work experience. Although the effect decreases with time in Canada, we find that male spouses of former temporary foreign workers do very well in terms of earning outcomes. Possibly, having a spouse with knowledge of the Canadian economy at the time of immigration may provide some information about jobs, or high ability workers are more likely to marry other high ability workers. The positive effect of the respondent's TFW status is robust to the inclusion of controls for the spouse's age at immigration and highest level of education (results not shown). Unfortunately, we do not have direct information on whether or not the spouse was a TFW or student. Possibly TFWs are more likely to be married to other TFWs, so the effect of the TFW status on the spouse's earning outcomes may just reflect their own former TFW status. We find some evidence of a positive effect of TFW status on the earning outcomes of the female spouse, but not as large as we found

for the male spouse, and as well, the student status effect is much smaller relative to the TFW effect for male spouses, and is zero or negative for female spouses.

We also examine the relationship between points and employment outcomes. We do not find any relationship when we restrict the sample to skilled workers (results not shown), however, for the full sample, each point increases the probability of the male spouse being employed at the interview date by around a quarter percent six months and two years after landing, but has no effect by four years after landing (Table 10b, row i). We also find that the TFW status of the female respondent has a large positive impact on the probability of the male spouse being employed at the time of the interview six months and two years after landing, but decreases the probability of employment by four years after landing.

#### **4.4 Earning and Employment Outcomes by Class and Gender**

We next examine the earning and employment outcomes based on class separately by gender including a broader set demographic controls than are possible in the immigration system. It is likely that the previous estimates of the class dummy variable coefficients may have been affected by the gender composition of the classes. As well, previously, we did not separate the Skilled Workers since the Spouses and Dependents are tied movers.

In Tables 11a and 11b, the weekly earnings of the main job worked are presented for males and females. We restrict our sample to people with positive weekly earnings.<sup>28</sup> We run separate regressions for each of the three cycles, first with only indicator

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<sup>28</sup> 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

variables for the different entry classes (the default is Skilled Worker Principal Applicants), a linear months since migration term and a linear age term. 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.

Every immigrant class has lower earnings than the Skilled Worker Principal Applicants (except the "other" immigrants for females). Some classes do particularly poorly, such as Government Sponsored Refugees. However, the negative earnings disadvantage decreases for both male and female Government Sponsored Refugees over the four year period. Conversely, for the rest of the immigrant classes, although they do not experience as large an initial earnings disadvantage as the Government Sponsored Refugees, the negative differential either stays relatively constant or increases over the 3 cycles.

Immigrants entering under most of the other classes are much less likely to be employed at the time of the interview than Skilled Worker Principal Applicants (see Tables 12a and 12b). There are differences between the male and female samples here. For males, Family Class Spouses and Fiancés were more likely to be employed than Skilled Worker Principal Applicants, however, this employment advantage decreases to zero over the four year period. The opposite is true for females, while there is no difference at six months after landing, Family Class Spouses and Fiancés are less likely to be employed with time in Canada. The only other male groups that are more likely to

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Worker Spouses and Dependents is smaller and the earnings disadvantage experienced by Government Sponsored Refugees is around half as large as the results presented.



be employed are Private Refugees and the group of “other” immigrants (which includes Provincial Nominees), both of which compose only a very small proportion of the total number of immigrants. Again, in both cases, the employment advantage decreases over the period studied and ceases to exist by the time of the third interview.

## **5. Earning and Employment Outcomes of Skilled Worker Principal Applicants**

Here we examine how well TFWs and students do in the labour market in comparison to immigrants who have no pre-immigration host country human capital. We restrict our sample to Skilled Worker Principal Applicants since this is the group that enters directly under the point system and is directly assessed based on how well they are expected to integrate economically. As well, particularly for males, this is the class through which most former TFWs and students entered.

Male TFWs (see Table 13a) have much higher earnings than workers who do not have any pre-immigration Canadian human capital. The weekly earnings advantage ( $[\exp[b]-1]*100\%=$ ) is 106 percent the first six months after landing and is still 62 percent four years after landing when the full set of controls is used (again, similar results are found if hourly earnings from the main job are used, and if the weighted average weekly earnings or weighted average hourly earnings from all jobs are used). Male TFWs also experience better employment outcomes, with employment rates around 16 or 17 percent higher both six months and two years after landing (see Table 13b). Even four years after landing, male TFWs have around a 9 percent higher probability of being employed.

Male students did not experience a weekly earnings advantage relative to males without any pre-immigration host country human capital (see Table 13a). However, when

we look at hourly earnings instead of weekly earnings, we find that students do experience an earnings advantage (results not shown). Controlling for only differences in age and months since migration, the advantage over immigrants without any pre-immigration host country human capital is very substantial (16 to 26 percent). For the most part, the students did not enjoy higher employment rates than immigrants without pre-immigration Canadian human capital, and only two years after landing they were more likely to be employed than the workers who have no pre-immigration Canadian human capital.

The earnings advantage of male TFWs is likely not entirely due to the existence of their pre-immigration work experience, rather some, and perhaps much of the advantage, follows from the particular multi-sided selection process they undergo as TFWs which appears to be superior in terms of generating employment outcomes for these immigrants than the selection process inherent in the points system. The information provided by the knowledge that the worker was a former TFW is, therefore, useful to policy makers. Of course, the immigration system is interested in more than only the economic outcomes of these individuals.

For females, TFWs also experience a weekly earnings advantage in the first cycle, but this advantage drops in magnitude over the next two cycles and is no longer statistically significant by four years after landing (see Table 14a). For students, there is some evidence of higher earnings, but this is only statistically significant in the second cycle (and only when there are only controls for age and months since migration). When hourly earnings are used, students have larger earnings, with an advantage of between 21 and 32 percent when age and months since migration are controlled for (results not

shown). The evidence is modest regarding the employment rates for females (see Table 14b). There is some evidence that TFWs are more likely to be employed, and while students are more likely to be employed six months after landing, this advantage in employment disappears with more time in Canada.

Overall, TFWs have much better earning outcomes.<sup>29</sup> However, the earnings advantage of the TFWs may vary greatly over the earnings distribution. We examine this by looking at the earning differentials at the 25<sup>th</sup>, 50<sup>th</sup> and 75<sup>th</sup> quantiles for both male and female Skilled Worker Principal Applicants. We use the Recentered Influence Function (RIF) regressions to estimate the “unconditional quantiles” proposed by Firpo, Fortin and Lemieux (2007, 2009). The advantage of this method is that the conditional quantiles average up to their unconditional population counterparts. This is not true for the conditional quantile regression proposed by Koenker and Bassett (1978).

Although male TFWs experience an earnings advantage at the 25<sup>th</sup> quantile, the earnings advantage is much larger in the upper part of the distribution (see Table 15). As well, while the mean earnings advantage decreases with time in Canada (see Table 13a), it does not change much at the median and actually increases at the 75<sup>th</sup> quantile over the four year period. For students, the pattern is more complex and varies depending on whether or not the full set of controls are included.

For females, the earnings advantage experienced by TFWs for the most part is also larger in the upper part of the distribution (see Table 16). In the first six months, the earnings advantage is very similar at the median and 75<sup>th</sup> quantile. By four years after

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<sup>29</sup> We find very similar results for males when we restrict the sample to people aged 25 to 44 or university educated. For females, TFWs experience a higher earnings advantage for the sample restricted to university educated immigrants while students have a larger earnings advantage relative to immigrants with no pre-immigration Canadian human capital when the sample is restricted to the 25-44 age group.

landing, the advantage at the median is much smaller, and is no longer statistically significant while it increases at the 75<sup>th</sup> quantile and is still statistically significant at the one percent level. For students, four years after landing, they experience an earnings advantage at both the median and 75<sup>th</sup> quantile, but six months and two years after landing the results do not exhibit a consistent pattern.<sup>30</sup>

To explore the Skilled Worker Principal Applicants in more depth, we undertake a small set of extensions. First, we look at region of origin, and then the returns to experience and education. For region of origin, we split the sample into non-Western and Western country of origin samples. We do this only for males since, unfortunately, the sample for female Skilled Worker Principal Applicants is too small. Aydemir and Skuterud (2005) find that immigrants from non-Western countries experience the most difficulty integrating economically and transferring their foreign human capital to Canada. We therefore expect the benefit of having pre-immigration Canadian work experience to be greatest for immigrants from non-Western countries.<sup>31</sup> Looking at Tables 17 and 18, we observe that indeed the TFW earnings advantage is largest for the non-Western sample. For the Western sample, TFWs experience between a 24 and 34 percent earnings advantage over workers who have no pre-immigration human capital (with the full set of controls), while for the non-Western sample, the earnings advantage is 134 percent in the first six months after landing, and drops to 68 percent by four years after landing. Students do not appear to experience the same benefit in terms of weekly

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<sup>30</sup> When we exclude immigrants living in Quebec, students experience an even larger earnings advantage at the 75<sup>th</sup> quantile four years after landing, and even experience an earnings advantage over the TFWs.

<sup>31</sup> We reran the results for tables 13a, 14a, 17, 18 and 19 removing people who had self-employment earnings in the main job and restricting the sample to people who only had earnings coming from paid work. We found the results to be very similar to those presented. The coefficient on the TFW is smaller for the non-Western country sample (Table 17), but is still large in magnitude and is highly statistically significant.

earnings, but again when we examine hourly earnings, students experience a large statistically significant earnings advantage (results not shown).<sup>32</sup> We also investigate employment rates and find that for the non-Western sample, the estimates are very similar to those presented for the full sample. For the Western sample, the sample size was too small to accurately estimate the probit model.

Finally, in Tables 20 and 21, we look at the return to education and pre-immigration (potential) experience as a function of pre-immigration Canadian experience. As is well known, the economic rate of return to pre-immigration experience has been found to be low to zero, and even negative in some cases, and is one of the main causes of the decline in immigrant earnings. Also, though it has not declined appreciably in recent decades, immigrants experience a lower rate of return to education than the Canadian born. Because of our small sample, we only include a linear experience term, but Goldmann, Sweetman and Warman (2009) show that the relationship is close to linear, so this is not a significant restriction.

Consistent with earlier work, such as that by Schaafsma and Sweetman (2001) and Aydemir and Skuterud (2005), for males in Table 20, the coefficient on pre-immigration experience is everywhere negative, and it is statistically significant in 5 of the 6 models. This contrasts with the strongly positive slope usually observed for the Canadian born and earlier immigrant cohorts. The TFWs, however, have positive and significant coefficients for their interaction term that are large enough not only to counterbalance the negative coefficient on experience (which is part of their return), but to imply they receive a strictly positive return. TFWs appear to be able to transfer at least

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<sup>32</sup> When we exclude Quebec, the student dummy is large and statistically significant for most specifications for the sample of males from Western countries.

some of their pre-immigration labour market experience to Canada, in stark contrast to the vast majority of immigrants. International students who subsequently immigrated have (mostly) positive, but universally statistically insignificant, coefficients on their experience interaction terms. If they are able to transfer the value of their experience, it is to a much lesser degree than for the TFWs.

Turning to education, males have a positive albeit not enormous return to years of schooling, but once the full set of controls are added, the coefficient is reduced in magnitude and is no longer statistically significant. This is mainly due to the inclusion of the English language ability variable, which dominates the effect of years of schooling. The TFWs have a positive interaction term, but it is never statistically significant and is sometimes close to zero. In contrast, the students' interaction coefficient is sometimes negative and is statistically significant by the third cycle. This is unexpected and we have no explanation, especially for it growing more negative across the cycles.

Despite the fact that we find that students do not receive any returns to their education, it is quite possible that those entering under the CEC will have strong economic outcomes. The students in our sample do not have any pre-immigration Canadian work experience, while they are required to have at least 12 months of Canadian work experience in the 24 months just prior to their application. As well, while we have information on how long the immigrant was previously in Canada, we do not know when the visit occurred. Therefore, unlike under the CEC for which the applicant may be outside Canada for a maximum period of one year prior to the application, there might be a large gap between the period when the student (or TFW) in our sample was in Canada and when they immigrated.

As previously discussed, under the CEC, TFWs require at least 24 months of work experience in a 36 month period prior to their application, while students require a Canadian degree that involves at least two years of fulltime enrolment in Canada as well as 12 months of work experience over the 24 month period prior to their application. When we re-estimate the results for males restricting the sample of TFWs and students to those having been in Canada at least two years, we still find that the returns to experience and school are usually zero or negative for students (results not shown). However, the returns to experience are higher for TFWs. For example, six months after landing, the overall returns to experience are slightly negative (-0.7 percent), while TFWs enjoy almost a 5 percent increase in earnings for each year of work experience. Controlling for the full set of variables, even four years after landing, while each year of potential work experience decreases overall earnings by around one percent, it increases earnings by a little more than two percent for TFWs.

For females, in Table 21, there is little to comment on. All the coefficients on experience, education and their relevant interactions are statistically insignificant except for the last two cycles. For experience, when the full set of controls are included, the coefficients are negative. In fact, the point estimates for the experience interactions are almost all negative, not positive, while those for education are mixed. Although the smaller sample for females is an issue, it is clear that even when they are Skilled Worker Principal Applicants, as opposed to spouses or dependents in the same class, the structure of the labour market they face is appreciably different than that for males.<sup>33</sup>

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<sup>33</sup> The lack of returns to foreign experience may be due to the much larger measurement error in potential work experience for female immigrants (see Hum and Simpson, 2004).

## 6. Conclusion

In this paper we examine the earning and employment outcomes of immigrants who have pre-immigration Canadian human capital relative to those who do not. We begin by examining the point system, and determine what additional information the former TFW and international student status provides. First, predicting the points that immigrants would obtain based on their observable human capital under the current Canadian points system, and controlling for all possible variables that are adjustable under the points system, we find that TFWs and students initially have better earning and employment outcomes, although by four years after landing, there is no difference between the employment outcomes of students or earnings of TFWs and workers with no pre-immigration Canadian human capital. We also find that each predicted point increases earnings by around 2 percent and the probability of being employed by around half a percent in each of the three periods. Furthermore, the predicted points help explain the earning outcomes of the spouse.

Next we examine the outcomes of immigrants based on entry class. Here we examine the earning and employment outcomes separately by gender and control for variables traditionally included in regressions, such as region of origin and region of residence. We find that both male and female Principal Applicants Skilled Workers perform much better than immigrants entering through most other classes, although, for males, Principal Applicants entering under the Family Class are more likely to be employed at six months and two years after landing.

Finally, we restrict the sample to Skilled Worker Principal Applicants. This is the class of immigrants that is directly assessed based on economic criteria, and is also the



main class under which TFWs and students enter. We find that for males, immigrants who had previously worked in Canada as TFWs have much better outcomes in terms of entry earnings versus immigrants who have no pre-immigration Canadian experience at landing. Former international students experience no earnings advantage in terms of weekly earnings, but they do experience an advantage in terms of hourly earnings, however, it is much smaller than that experienced by TFWs. When we separate the sample into immigrants from Western and non-Western countries, we find in both cases that TFWs experience a positive earnings advantage, but the benefit of having pre-immigration Canadian work experience is greatest for immigrants from non-Western countries. Consistent with previous research, we find that recently landed immigrants receive either no returns or negative returns for the years of potential foreign work experience, however, we find that TFWs receive positive returns.

Overall we find that male TFWs have superior employment and earnings outcomes in all specifications. For former international students, we also find some evidence of better labour market outcomes, but the results are not as strong. Under the Canadian Experience Class, a new special stream is created that gives priority processing to temporary residents with Canadian human capital and will dramatically increase the proportion of economic immigrants that are former TFWs and former international students. While the TFWs in our sample had particularly good labour market outcomes, it is unclear to what degree this would continue, since the selection mechanism on both sides would be appreciably changed with the introduction of the new policy. Also, changes in the scale alone would have a major effect. Nevertheless, the positive results are quite plausibly indicative of ongoing outcomes that are extremely good for skilled

workers. That, in the period of the data studied, TFWs and students had to apply outside of Canada, will likely only have a modest effect compared to the proposed Canadian Experience Class, where they would be able to apply within Canada. If anything, the new approach will likely facilitate a more direct transition into the Canadian labour market, and remove any ill effects that the time delay of applying abroad would cause.