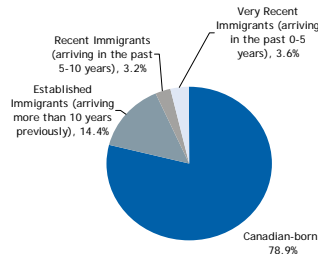


Exhibit 1

Canadian Labour Force by Immigration Status: 2006

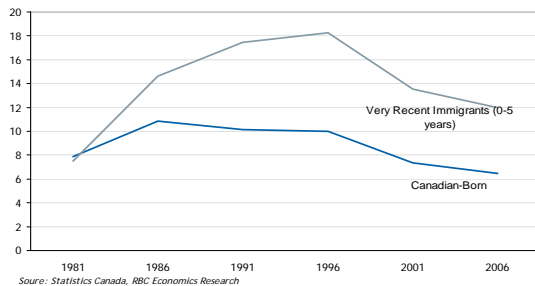


Source: Statistics Canada, RBC Economics Research

Exhibit 2

Unemployment Rates, 1981-2006

% of labour force unemployed



Source: Statistics Canada, RBC Economics Research

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## Immigrant labour market outcomes in Canada: The benefits of addressing wage and employment gaps

### Summary

It is well recognized that immigrants to Canada have higher unemployment rates and lower wages than Canadian-born workers. This report provides an estimate of the size of the aggregate immigrant earnings gap, accounting for immigrants' stronger profile of observable characteristics, and discusses possible reasons for immigrants' poorer labour market outcomes. The research to this point suggests that gaps may be due to both genuine skill differences between immigrants and Canadian-born workers, and labour market inefficiencies that prevent immigrants from making full use of their skills. In either case, there could be room to improve on immigrant outcomes through more extensive language training, faster credential recognition, or other integration initiatives. More rigorous evaluation of existing programs would also be helpful in understanding why gaps persist and how we can best address them.

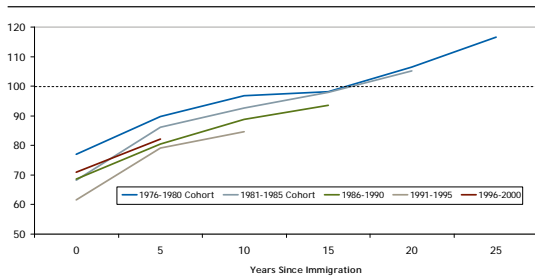
### Introduction

In the past 50 years, Canada has had consistently high levels of immigration relative to other Organisation for Economic Co-operation and Development (OECD) countries. More than 20% of the Canadian population (and the labour force) is foreign born (see Exhibit 1). Furthermore, immigrants to Canada tend to be highly educated, with more than 40% of incoming immigrants possessing a bachelor's degree or higher. This compares to 17% among the Canadian born. Collectively, these immigrants are an important driver of labour force growth and economic activity in Canada; however, while Canada has done a great job of attracting foreign talent, integrating newcomers effectively has proven to be more of a challenge. On average, new immigrants to Canada have both higher unemployment rates and lower wages than Canadian-born workers, despite their higher education levels. As labour force growth in Canada slows due to population aging, it is essential that every worker produce at their full potential. Addressing immigrants' labour market performance issues is one way to ensure this occurs.

As we pointed out in our 2005 paper *The Diversity Advantage: A Case for Canada's 21<sup>st</sup> Century Economy*, immigrant incomes could increase significantly if wage gaps and excess unemployment were reduced. At the time, we estimated that the aggregate earnings gap was as large as \$13 billion. We have updated the study to take into account the differing educational, demographic, and geographic profile of immigrants to Canada, relative to the Canadian-

**Exhibit 3**

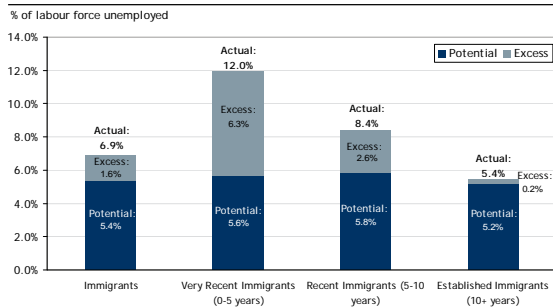
**Immigrant Earnings as a Proportion of Canadian-Born Earnings**



Source: Statistics Canada, RBC Economics Research

**Exhibit 4**

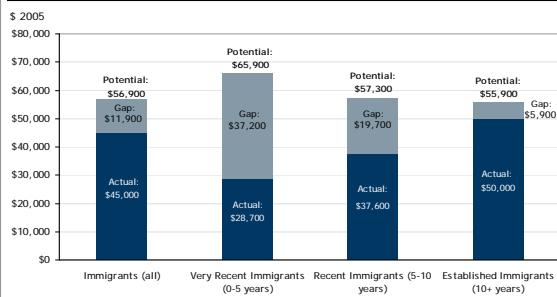
**Immigrant Unemployment: 2006**



Source: Statistics Canada, RBC Economics Research

**Exhibit 5**

**Immigrant Full-Time Wages, 2005**



Source: Statistics Canada, RBC Economics Research

**Exhibit 6**

**Immigrant Wages: Major Cities and Rest of Canada**



born. In this report, we use data from the census to look at how immigrant earnings and unemployment rates would differ if immigrants' observable skills were rewarded in a manner similar to that of Canadian-born workers. We estimate that this would have resulted in \$30.7 billion in increased incomes for immigrants, equivalent to about 2.1% of GDP in 2006.<sup>1</sup> Of course, the true potential output gain may be significantly smaller than this if there are lower skill levels among immigrants relative to Canadian-born workers for a given set of attributes; however, it may also be the case that the skill level of immigrants is higher relative to Canadian-born workers, which would imply that the gap is larger. As well, new immigrants may initially earn less as they transition to the work patterns and business culture in Canada. Because of these factors, our estimate of the immigrant earnings gap is potentially biased, although there are risks on both the down and the up sides. The scale of the effect that we find, however, suggests that even small improvements in immigrant outcomes could contribute positively to the Canadian economy.

In this report, we provide a brief overview of the evolution of immigrant labour market outcomes over the past 30 years. We then provide a snapshot of the more recent situation by presenting estimates of immigrant wage gaps and excess unemployment using the most recently released 2006 Census data. Given that immigrants tend to have a different profile of education and other relevant labour market characteristics than the Canadian born, we adjust our estimates to take account of these factors. Finally, we attempt to evaluate the possible gains for the Canadian economy by examining the research on the sources of immigrant earnings gaps.

**Declining immigrant wage and unemployment outcomes**

Over the past 30 years, economic outcomes for new immigrants to Canada have deteriorated substantially relative to those of the Canadian born. Exhibits 2 and 3 illustrate trends in unemployment and wages for Canadian immigrants.<sup>2,3</sup> While there was little difference between the unemployment rates of new immigrants and the Canadian-born in 1981, a large differential emerged during the 1980s and 1990s. By 2006, incoming immigrants had unemployment rates that were significantly higher than those of the Canadian born. Exhibit 3 shows average full-time earnings as a percentage of average earnings for Canadian-born workers for each five-year immigrant cohort starting in 1980.<sup>4</sup> While the 1976-1980 cohort earned somewhat less than its Canadian-born counterparts initially, its earnings caught up rapidly and eventually surpassed those of the Canadian born. Since that time, however, two significant changes have occurred. First, the earnings gap at entry has grown. The 1976-1980 cohort earned about 75% of the average wage for the Canadian born in 1980; this ratio fell to just 62% for the 1991-1995 cohort. Second, while more recent cohorts of immigrants are seeing lower entry earnings, wage growth for these cohorts has been no faster than for earlier immigrants. This has led to earnings gaps that have persisted much longer than previously. Together, these trends imply that Canada's more recent immigrants are likely to take longer to close the earnings gap, compared to earlier generations. This deterioration in new immigrants' prospects has occurred even as immigrant education levels have increased. The proportion of very recent immigrants with a bachelor's degree or higher increased to 42.2% in 2006 from 13.9% in 1981.



## Immigrant earnings and unemployment: 2006 Census

The deterioration in immigrants' relative outcomes during the past 30 years is evident in the wages and unemployment rates of new immigrants. In 2005, the entire population of immigrants working full time in Canada earned about \$45,000 on average yearly, which is about \$700 or 2% less than the average wage for Canadian-born workers; however, the most recent among them (those arriving in the previous five years) earned just \$28,700 on average. Immigrants also had a higher unemployment rate of 6.9%, compared to 6.4% for the Canadian born; for very recent immigrants, the unemployment rate was 12.0%. While these statistics paint a grim picture of economic outcomes for new immigrants to Canada, they may in fact understate immigrants' underperformance in the Canadian economy. This is because immigrants tend to possess an observable-skills profile that would usually be associated with higher economic rewards. The population of working-age (16–64) immigrants in Canada are more likely to have a university degree than the Canadian born, and are older on average. They are also more likely to live in large cities where earnings tend to be higher. An alternative benchmark or comparison point for immigrant earnings and unemployment is what these outcomes would be for a Canadian-born worker with similar characteristics.

To make this comparison, we estimate earnings and unemployment models for the Canadian born, controlling for factors such as education, age, gender, region, and experience. We use the model to simulate immigrant earnings and unemployment rates, providing an estimate of what they would be if they matched those of Canadian-born workers with similar observable characteristics.<sup>5, 6</sup>

Adjusting for immigrants' observable characteristics makes a big difference. If we take into consideration the stronger profile of immigrants, the 'potential' immigrant unemployment rate would have been 5.4% instead of 6.9% in 2006, which we calculate would have translated into approximately 42,000 additional jobs.<sup>7</sup> The discrepancy was largest for very recent immigrants, who had a potential unemployment rate of 5.6% and implying excess unemployment of 6.3 percentage points (see Exhibit 4). Although we do not consider changes in labour force participation throughout most of this paper, accounting for increases in participation would increase the number of new jobs to 82,000.<sup>8</sup>

Our potential earnings estimate for immigrants working full time is nearly \$57,000 per year, implying that 2006 wages were 21% below what they could have been if immigrants' characteristics were compensated at par with the Canadian born. Very recent immigrants had a gap of 56% or about \$37,200 per working person (exhibit 5).

Interestingly, wage gaps and excess unemployment appear to be higher in Canada's largest cities, where the majority of immigrants settle. Exhibit 6 shows the average wage gap in the three largest Canadian cities, compared to the average for the rest of Canada. Immigrants in these cities had a wage gap of nearly \$15,000 or more than 26%; in the rest of Canada, the gap was nearly \$3,300 or 6%. A similar story holds for unemployment, with excess unemployment of 2.8% for immigrants in the largest cities, versus 1.3% elsewhere in Canada.

Exhibit 7

### Immigrant Unemployment: Major Cities and Rest of Canada

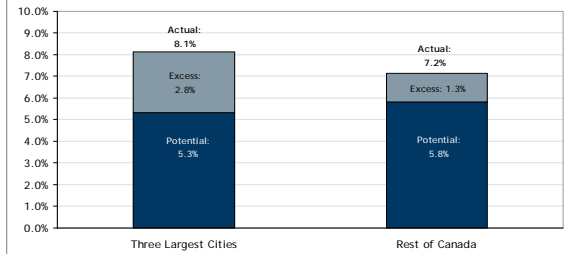
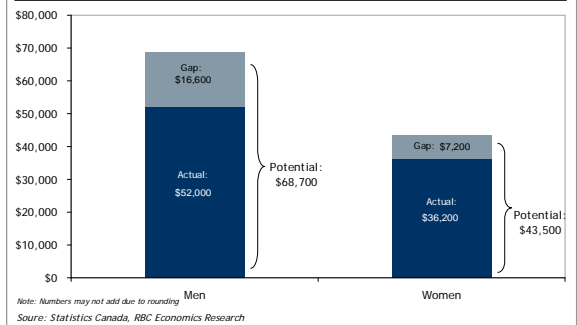


Exhibit 8

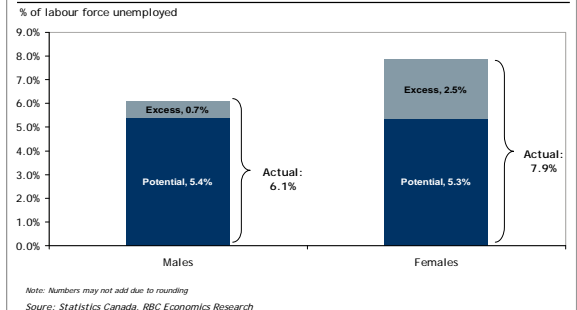
### Immigrant Full-Time Wages, by Gender



Note: Numbers may not add due to rounding  
Source: Statistics Canada, RBC Economics Research

Exhibit 9

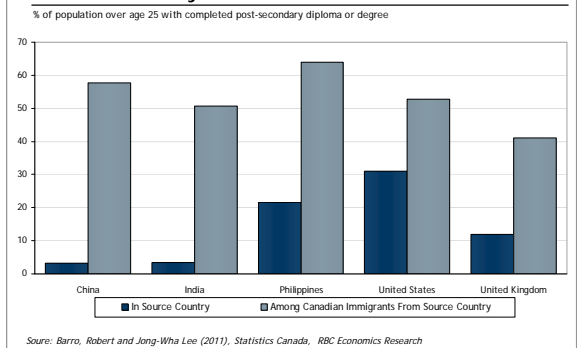
### Immigrant Unemployment Rates, by Gender



Note: Numbers may not add due to rounding  
Source: Statistics Canada, RBC Economics Research

Exhibit 10

### Post-Secondary Attainment, 2005



Source: Barro, Robert and Jong-Wha Lee (2011), Statistics Canada, RBC Economics Research

By gender, males had a higher earnings gap than females (24% compared to 17%). In dollar terms, this is about \$16,500 for men and \$7,000 for women. The excess in the unemployment rate for women was bigger than that for men, at 2.5 percentage points, compared to a 0.7 percentage point difference for men.

## Potential benefits from addressing gaps could be large

If immigrant wage gaps and excess unemployment were completely eliminated, how much would immigrant incomes rise? Based on the estimates above, the aggregate change in earnings, adjusting for employment, would be approximately \$30.7 billion. This was equivalent to about 2.1% of GDP in 2006. As discussed above, however, this estimate may be biased higher or lower depending on the skills of immigrants relative to Canadian-born workers for a given set of attributes.

## Why are there gaps?

Are immigrants being underpaid and underemployed relative to their skill levels? If there are quality differences among foreign and Canadian education or language proficiency differences not captured in the census data,<sup>9</sup> then either lower or higher returns to education or experience for immigrants may in fact be appropriate. On the other hand, if unemployment and wage differentials are primarily the result of labour market imperfections (such as discrimination or a failure to recognize immigrant credentials), this suggests that there are serious inefficiencies that, if remedied, offer potential for improved outcomes. In this section, we discuss some of the evidence surrounding the sources of immigrant wage and unemployment gaps.

## Quality of education

It is possible that immigrants are being paid less for foreign-acquired education because it genuinely imparts a lower skill level relative to a Canadian education. Sweetman (2004) explores this issue and finds that the effect of education quality is potentially significant, with source country quality having a relatively large effect on the returns to schooling; however, the measure used (an index of average test scores among primary students) is unlikely to be representative of the skills of Canadian immigrants, who may be expected to differ from their source country populations in a number of ways. For example, immigrants to Canada are substantially more likely to have a university degree than the average population in their source countries (see Exhibit 10), suggesting that their skill levels are likely to be higher than average. Without a more targeted measure of educational quality among immigrants, we do not know if this is an important piece of the earnings gap.

## Language skills

Immigrants' language skills are another potential factor that could explain their lower earnings and higher unemployment. Bonikowska, Green, and Riddell (2008) show that immigrant literacy skills (a measure encompassing both language and cognitive abilities) can explain the entire wage gap for high school-educated immigrants, university-educated women, and about half of the gap for university-educated men (a group accounting for half of our total estimated earnings gap). This suggests that investing in more extensive language training for immigrants could be worthwhile, particularly if the cost of language training is inexpensive relative to the cost of training new professionals (as seems likely).<sup>10</sup>

## Discrimination

While it is difficult to assess the extent to which immigrants face discrimination in the labour market, there is some evidence that this may be an important factor affecting immigrant outcomes. In a resume-sending experiment, Oreopoulos (2011) shows that job applicants with English-sounding names are about 40% more likely to receive a call back for an interview than applicants with ethnic-sounding names. This was true although both sets of resumes had Canadian education and experience. This corroborates previous research showing that visible minorities earn less in Canada, even among Canadian born.<sup>11</sup>

## Credential recognition

A failure to recognize foreign credentials could also affect the prospects of immigrants. Again, it is difficult to say how much of the wage gap can be explained in this way. According to the Longitudinal Survey of Immigrants to Canada, more than three-quarters of immigrants who applied to have their credentials assessed had them fully or partially accepted within six months of arrival.<sup>12</sup> By four years, 60% of immigrants had had their credentials assessed, and two-thirds of these had been fully or partially accepted. The most common reasons for not having credentials assessed were wanting to work in another field or not having time to have the assessment done.<sup>13</sup>

These statistics suggest that formal credential recognition may only explain a small part of the immigrant earnings gap. On the other hand, informal recognition could be much more important. Surveys suggest that credential recognition services are not well known among employers, and that many would discount internationally educated applicants because they did not know how to assess their credentials.<sup>14</sup>

## Skills mismatch

Canada's points system is designed to select individuals with high general skill levels. Until very recently, however, the selection process has not accounted for whether economic immigrants' specific skills and occupations are currently in demand in Canada. A mismatch between immigrants' skills and the needs of the Canadian economy could explain why immigrants are having difficulty in the labour market.<sup>15</sup> Sweetman and McBride (2004) examine the role of field of study in immigrant earnings and find that immigrants' differing field of study profile can explain at most 14% of the immigrant wage gap.<sup>16</sup>

## Conclusion

This report provides an estimate of the size of immigrant wage gaps and excess unemployment, accounting for immigrants' stronger profile of observable characteristics. While this problem is well recognized, the reasons for it are not fully understood. The research to this point suggests that gaps may be due to both genuine skill differences between immigrants and Canadian-born workers and labour market inefficiencies that prevent immigrants from making full use of their skills. In either case, there could be room to improve on immigrant outcomes through more extensive language training, faster credential recognition, or other integration initiatives. More rigorous evaluation of existing programs would also be helpful in understanding why gaps persist and how we can best address them.

## Methodology

To estimate the adjusted earnings and employment gaps, data from the 2006 Census Public Use Microdata files are used to run the following regressions, using data on native-born Canadians only:

$$\text{Log}(wages_i) = a_i + bx_i + e_i$$

$$\text{Pr}(\text{Unemployment}) = f(bx_i + e_i),$$

where  $x_i$  is a set of personal characteristics,  $e_i$  is a random error term, and  $f(x)$  is the logistic function. These functions are then used to predict outcomes for the immigrant population. In both cases, the regressions are restricted to members of the population aged 16–64, who are in the labour force at the time of the survey; for the wage regressions, only full-time employees are included.

The wage data is for the year 2005. The controls used in the wage regression are the highest degree obtained (broken into six groups), a measure of potential experience based on age and education, the number of weeks worked in 2005, 10 age group dummies, nine region dummies, marital status, sex, visible minority status, and whether the respondent attended school in the previous academic year.

The unemployment data refer to the week prior to May 16, 2006. All controls used in the wage regression are used in the unemployment regression, with the exception of weeks worked in 2005. This is because this variable would be recorded as ‘missing’ for any respondent who was unemployed throughout both 2005 and 2006.

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## End Notes

<sup>1</sup>2006 is the latest year for which census data are available. The census is the only data source that allows us to examine trends in immigrant earnings over long periods of time.

<sup>2</sup>Throughout the report, we restrict attention to individuals aged 16–64. When discussing wages, we also restrict attention to individuals who worked primarily full-time hours in the reference period and who had positive earnings. To enhance comparability with the regression results reported later on, we also limit the sample to observations with non-missing values for all relevant variables. By restricting our analysis to the full-time employed, we are likely underestimating the extent of the earnings gap. This is because we might expect the groups left out of our analysis to be those that would experience the largest earnings differentials.

<sup>3</sup>Immigrant labour market difficulties might be captured in ways outside of unemployment and wages. Immigrants are more likely to be under-employed than Canadian born: that is, part-time work when full-time work is desired, or in jobs that are of lower quality than their credentials merit. They are also more likely to stay out of the labour force altogether. To a large extent, lower-quality employment will be picked up by wage discrepancies. Unless specifically noted, our numbers do not incorporate possible changes in part-time work or labour-force participation into the analysis (see notes 6 and 7).

<sup>4</sup>Because the census data do not allow us to follow individuals longitudinally, these cohorts are constructed from cross sections of data; each data point represents a different random sample of immigrants arriving in the same time period. It should also be noted that the census asks about earnings in the previous year; as such, earnings in the 1981 Census refer to 1980, and so on.

<sup>5</sup>Of course, there are problems with this calculation as a measure of immigrants' potential earnings. In particular, an educational designation (for example, a bachelor's degree) may imply varying levels of skill. If the skill level of an immigrant is inferior to a similarly educated Canadian-born worker, then this calculation would clearly be an upper bound as to the size of the gap; however, if immigrants have a higher skill level than Canadian-born workers, we would be underestimating the potential for earnings to increase. This report makes no judgement on this issue, meaning that our estimates could be biased in either a positive or a negative direction.

<sup>6</sup>Frenette and Morissette (2003) estimate OLS adjusted percentage earnings gaps by cohort for the years 1980–2000. One of the contributions of the present work is to update these estimates using the 2006 data and to extend the analysis to include unemployment.

<sup>7</sup>In our earlier report, we estimated that increasing immigrant employment would lead to 400,000 new jobs. If we replicate that report's methodology using 2006 Census data, our jobs estimate is approximately 350,000. These numbers are higher than our current estimate because they assume that immigrant participation rates match those of the Canadian born. In our headline estimate of 42,000, we do not account for any changes in LFP. Even if we include participation, however, we still arrive at a smaller number (82,300). This is because predicted immigrant LFP remains lower than the Canadian average once we control for observable characteristics.

<sup>8</sup>For most of this report, we assume that labour force participation among immigrants does not change. It is likely that higher wages and lower unemployment rates for immigrants would have a positive effect on labour force participation; nevertheless, it is difficult to predict the size of this effect because there are a number of important and unobservable factors (such as age structure, fertility, and social norms) that also affect participation choices. The interpretation of increasing labour force participation as a net 'gain' is also less obvious, as we do not know the value of leisure and unpaid work (for example, child care provided by stay-at-home parents) that would be lost. As a result, we focus primarily on gains from reducing unemployment and increasing wages.

<sup>9</sup>Unfortunately, the only language variables we have in the census are those that show very high ability (for example, whether an immigrant has English or French as a mother tongue) and very low ability (whether an immigrant can conduct a conversation in English or French). Controlling for these variables reduces our aggregate gap estimate by about one-third; however, it should be noted that this calculation assumes that the wage premium earned by immigrants with an official language as a mother tongue is in fact reflective of better language skills. As we do not know the language abilities of the 'in between' group, this is not necessarily a valid assumption.

<sup>10</sup>This raises the question of why immigrants do not incur the costs of language training themselves, given the large potential gain associated with better language ability. In fact, a large number of immigrants seek language training. According to CIC, there were over 257,000 immigrants enrolled in publicly funded language training in 2010. There were, also, indications that financial or time constraints may have prevented immigrants from fully taking advantage of language training programs (CIC 2010). Although there are free or low-cost training options available, the opportunity cost of language training may be very high, particularly if immigrants face credit constraints. It could also be the case that the language programs themselves are not working well; more program evaluation would be needed to investigate this possibility.

<sup>11</sup>For example, see Pendakur and Pendakur (2011.) In our regressions, the wage penalty for being a visible minority among the Canadian born is approximately 9%, which is consistent with their results.

*(Continued on page 8)*

<sup>12</sup>Statistics Canada (2005).

<sup>13</sup>Houle and Yssad (2010).

<sup>14</sup>See Owen (2007) for an overview.

<sup>15</sup>If immigrant labour market outcomes are the result of a skill mismatch, this raises the question of why this mismatch has been becoming worse over time. One possible explanation could be a shift in the Canadian economy toward occupations that require a different set of skills. Autor, Levy, and Murnane (2003) document the changing profile of jobs in the US away from routine cognitive tasks and toward analytic and interactive tasks. As the change in the US labour market is believed to be driven by the falling cost of computing power, it seems likely that a similar trend is occurring in Canada. If analytic and interactive tasks are more dependent on language abilities or cultural knowledge, a shift of this kind could disproportionately affect immigrant outcomes.

<sup>16</sup>It should be noted that field of study is a broad measure and does not necessarily capture specific occupational skills. More information on the role of labour market needs in immigrant outcomes should be available in the future, as a result of recent changes to immigration policy that allow for more emphasis on occupation in the selection process.

We would like to thank Abdurrahman Aydemir and Garnett Picot for their very helpful comments on this paper.

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