

Postsecondary pathways and outcomes of international students in Ontario

Phase 2 Report

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EXECUTIVE SUMMARY

OVERVIEW

The Consortium on International Education established by the Higher Education Quality Council of Ontario (HEQCO) in 2023, commissioned evidence-based projects that could inform international education policies and practices in Ontario. The Social Research and Demonstration Corporation (SRDC) proposed to contribute to these efforts by investigating the systemwide pathways of international students. The aim was to identify trends over time in the make-up of international students, whether or not they attended publicly-funded institutions, and their schooling, labour market, and migration outcomes.

While the first phase of the project focused on Ontario study permit holders who attended publicly-funded postsecondary institutions, this Phase 2 report investigates the pathways of those who were outside the public postsecondary system, their composition, their tax filing behaviours, earnings, and migration outcomes. The study relies on microdata from Statistics Canada's Education and Labour Market Longitudinal Platform, which links immigration data, postsecondary enrollment records from *public* institutions, and annual tax information. The combination of these datasets allowed SRDC to identify every person issued an Ontario study permit between 2010 and 2020, track their entry in the public postsecondary system and analyze their labour market and migration outcomes using both descriptive and regression approaches.

Schooling information is only available for permit holders attending public institutions meaning those not found in public institutions might have: (a) been attending a private postsecondary institution; (b) never arrived in Canada; (c) been attending a public institution in a year the institution did not supply data to Statistics Canada or (d) been missed entirely in institutional reporting ("no show" arrivals). Unfortunately, it is difficult to differentiate these outcomes among those not showing up in the public postsecondary system data. Despite these challenges for interpretation, SRDC performed a compositional analysis to determine which study permit holder characteristics were absent from the enrollment records of publicly funded Ontario institutions. The study then looked at their tax filing behaviours and among them who claimed education deductions and who reported any earnings. SRDC then performed an earnings analysis among those who did report positive earnings. Finally, it analyzed the year-by-year migration outcomes of all international students.

RESULTS

The number of individuals issued their first Ontario study permit more than doubled over the observed period: from 48,600 individuals in 2010 to 114,000 in 2019. The increase mainly came

from study permit applicants from India who account, by themselves, for almost half of all permits issued in 2019. Their number increased by almost 500 per cent from 2010 to 2019. Numbers from China, the second-largest contributor of international students remained stable over time.

On average, 21 per cent of study permit holders are outside the public postsecondary system (i.e., never recorded as enrolled in public colleges or universities) representing a total of 144,000 international students between 2010 and 2020. The share of permit holders located outside the public postsecondary system neither increased nor decreased from year to year by more than a couple of percentage points. In other words, the number of permit holders outside the public PSE system increased at the same rate as the overall number of study permits issued. Permit holders from East Asia and South America as well as males from Central Asia & the Middle East were most likely to be outside the public system, while those from China and South Asia were most likely to be enrolled in public institutions. Older permit holders were more likely than younger ones to be outside the public system, while those with prior Canadian education experience were less likely to be outside the public system (relative to those who did not have that same experience). Those pursuing ESL training were the more likely to be outside the public system relative to other study levels followed by those pursuing a college diploma.

Approximately 22 per cent of permit holders outside the public postsecondary system filed taxes in Canada in their first year and 20 per cent did so five years later, which represent much lower rates than found among corresponding permit holders who registered in public institutions (63 per cent in both years). Study permit holders from any region of Africa and from South Asia file Canadian taxes more frequently than those from other regions. Similarly, older permit holders, those with prior Canadian education, and those pursuing college certificates were all more likely to file taxes in Canada than their respective counterparts. Among those who filed taxes, just over half (54 per cent) claimed education deductions in their first year as did a little over two thirds (39 per cent) in their second year implying that they were actively pursuing education in Canada. Notably, however, this is only known for the subsets who filed taxes in their initial years. For comparison, 81 per cent of those who filed taxes and who were known to have enrolled in public institutions claimed education deductions. Thus, close to 20 per cent of permit holders who file taxes and attend public institutions in a given year do not claim these deductions. Critically then, using education deductions claimed on taxes as a proxy for those pursuing education outside the public system is likely underestimating the number actively involved in education.

Of those who filed taxes and reported earnings, the average earnings in the first year following permit issue was approximately \$17,000 and grew to \$40,500 five years later. The equivalent numbers for public institution attenders were \$15,500 and \$46,500, respectively. By their fifth year, public non-attenders reported earnings 15 per cent lower than those who attend public postsecondary institutions. By region, we see that—by year 5—those from West & North Europe reported the highest average annual earnings at \$51,000, followed by those from India (\$44,800) and those from South America (\$44,100). The underlying sample for the earnings analysis

depends on both filing taxes in a given year and reporting positive earnings but is not restricted to those who meet these two requirements every year. Therefore, individuals can enter and leave the sample used for earnings data over time. Varying composition over time means the reported averages are potentially affected by compositional effects. For example, the difference in mean earnings across “similar” public and non-public students also reflects individual factors that influence their probability of filing taxes and reporting earnings in the first place. Correspondingly, these differences may be related to variations in the length of programs between the two types of institutions or the emigration rates of each group, or other factors.

Finally, the study also investigated immigration outcome of all study permit holders outside the public postsecondary system by capturing their status two, four, six, and eight years after the study permit was issued. Each year, individuals could have transitioned to permanent residency, held a study and/or work permit, or had no official status (i.e., likely left the country). Two years after being issued a study permit, 38 per cent had no active permit, 59 held a study and/or work permit, and 3 per cent had transitioned to permanent residency. Two years later, those without any permit increased to 62 per cent, those with a permit (study and/or work) decreased to 27 per cent and the share of individuals who became permanent residents increased to 10 per cent. By year eight, 77 per cent had no active permit, only 3 per cent had a permit, and 20 had become permanent residents. Comparatively among those attending public postsecondary institutions, after eight years 33 per cent had no active permit, 13 per cent had a work and/or study permit, and 54 per cent had become permanent residents, meaning that those outside the public postsecondary system were less likely to have remained in (or have entered) Canada eight years out, and their emigration happened much more quickly.

Public non-attenders from India and Africa were most likely to have become permanent residents by year 8 (54 and 43 per cent, respectively). Similarly, study permit holders from those same regions/countries who attended public postsecondary institutions had above-average rates of becoming permanent residents eight years following permit issue. Women were slightly more likely to transition to permanent residency (by 3.7 percentage points). The exceptions were permit holders from South Asia and other regions and those from Europe among whom male permit holders were slightly more likely to become permanent residents than female permit holders. Those who applied for their study permits or had Canadian education experience were more likely to become permanent residents than those who did not. The older permit holders were, the more likely they were to have become permanent residents by the eighth year. With respect to types of credential, those with study permits at the trade or vocational level were the most likely to become permanent residents, followed by those studying at the undergraduate level.

NEXT STEPS

The final phase of this work will focus more on comparing the pathways of study permit holders within and outside the public postsecondary system to produce a more complete picture of how well the Ontario system is supporting different groups of international students to yield insights and recommendations for policy.

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LIST OF ACRONYMS

IMDB Longitudinal Immigration Database

HEQCO Higher Education Quality Council of Ontario

OLS Ordinary Least Square

PSE Postsecondary Education

PCPP Public College-Private Partnership

PCC Private Career Colleges

PSIS Postsecondary Student Information System

RAIS Registered Apprenticeship Information System

SRDC Social Research Demonstration Corporation

T1FF T1 Family File

INTRODUCTION

This report presents the second of a two-phase comprehensive system-level analysis of international students pursuing postsecondary education (PSE) in Ontario since 2010. These analyses examine their entry characteristics and graduation, labour market, and immigration outcomes. Through both descriptive and regression-based approaches, SRDC undertook this project to generate evidence that can support policy decisions with respect to the schooling, labour market, and migration transitions of international students. Our intention is to answer fundamental questions regarding who is more or less likely to make these transitions and how the composition of international students has changed between 2010 and 2020.

Using linked longitudinal education, tax, and immigration microdata from Statistics Canada, Phase 1 produced a comprehensive analysis of the composition, schooling, labour market, and migration outcomes of Ontario study permit holders who attended *public* postsecondary institutions. Phase 2 aims to investigate the pathways and outcomes of those who were issued Ontario study permits but never appeared in a public institution in either Ontario or across Canada and are therefore outside the public postsecondary system.

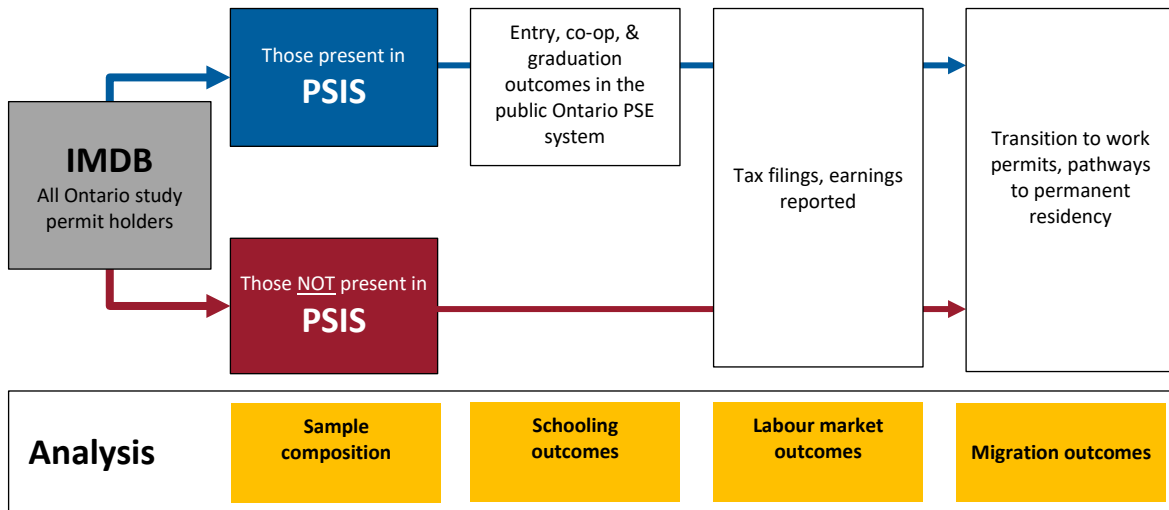
Study permit holders outside the public postsecondary system could have different educational statuses. The most plausible are: 1) pursuing their studies at a private institution in Canada (most likely Ontario), which offer opportunities at virtually every study level from trades to PhD (including in Ontario at a private university, a private career college¹, a private vocational school, or a private language school)², 2) not arriving in Canada, 3) attending public institutions not reporting in the given year, or 4) missed entirely in institutional reporting (“no show” arrivals).

Figure 1 presents the conceptual framework for this work, which mirrors the path of international students from when they first enter Ontario with a study permit, into and through their education. The first step identifies international students who intend to study in Ontario through the IMDB data (grey box). The analysis then examines who appears in the PSIS data (blue box)—meaning they attended a publicly funded institution in Ontario—or not (red box), which represents individuals who either did not study in Canada or attended private institutions.

¹ These would include Public College-Private Partnerships (PCPP), which are private institutions who entered a partnership with a public college. The college oversees programming and award credentials at the end of the program, but PCPPs are responsible for their own management, operation, and enrollment.

² Consult the Ontario Ministry of Colleges and Universities for a full list of private postsecondary institutions (including PCPPs) at ontario.ca/page/private-postsecondary-schools or private career college at ontario.ca/page/search-career-college-ontario.

Figure 1 International student research conceptual framework



Following the red trajectory in Figure 1, this Phase 2 report includes both descriptive and regression results from the following analyses:

- **The compositional analysis**, which compared two different groups of study permit holders—those who did and did not appear in the PSIS data (i.e., enrolled in a public postsecondary institution)—to identify differences in student, program, and immigration characteristics using information from their study permit application. This analysis mirrors the one produced in the Phase 1 report, but it is flipped to provide context for Phase 2.
- **The tax filing analysis**, which explored who filed taxes each year following the issuance of their Ontario study permit for up to five years.
- **The tuition deductions analysis**, which analyzed—among those who filed taxes in a given year—whether they also claimed education-related deductions.
- **The earnings analysis**, which was conducted in two parts. First, for those who filed taxes, the analysis captures those who reported any earnings in each of the five years following permit issuance and then calculates average annual earnings for those same years (excluding those with no earnings).
- **The migration analysis**, the final set of analyses, which considered year-by-year migration outcomes of study permit holders. These outcomes include having no active permits, having an active study and/or work permit, and transitioning to permanent residency status.

Through this series of analyses, the study goal, much like Phase 1, was to contribute to answering the following research questions SRDC proposed when beginning the research:

1. What are the characteristics of international students, and do those characteristics differ by institution (college/university) or credential (certificate, diploma, bachelor's degree, etc.)? What are the differences and similarities across cohorts over time?
2. What are the Ontario and Canadian labour market outcomes (i.e., earnings) of international students and do they vary across student, program, and immigration characteristics?
3. What are the migration pathways of international students (e.g., types of permit, pathway to permanent residency/citizenship, new study permit, etc.) and do they vary across student, program, and immigration characteristics?

BACKGROUND LITERATURE

Research on international students in Canada has tended to focus on those with permits to study in the public system, given the larger numbers involved and the relative richness of available data. Understanding of students enrolling in private institutions is relatively limited. Thus, the literature review in our Phase 1 provides a much more complete consideration of what is known about international student experiences in Canada and Ontario than what is presented here. This Phase 2 study draws out what can be learned from study permit holders who do not enrol in public institutions. However, not all of these will be students enrolled in private institutions. Some will be those who did not enroll in either public or private institutions. Although data are not publicly available for the years covered in this report, a recent investigation by The Globe and Mail found that in early 2024 student permit holders who did not show up at the Canadian colleges and universities where they were supposed to be taking their courses made up 6.9 per cent of the total number of international students recorded by Immigration, Refugees and Citizenship Canada (Woolf, 2025). The proportions varied considerably by origin country with students from Africa (Rwanda at 48.1 per cent and Democratic Republic of Congo at 34.8 per cent) the most prevalent among no shows. Of course, not all “now shows” at the intended institutions are no shows in education, as students might have enrolled at an institution other than the one named on their permit. The proportion who were expected at Ontario institutions specifically was not broken down in The Globe and Mail report.

Study permit holders who do enrol in postsecondary education but outside the public institutions recorded in PSIS can be inferred to nearly all enrol in private colleges rather than universities, at least in Ontario where there are very few private universities. A recent Statistics Canada study (Wall and Anderson, 2024) found in 2021 the bulk of international students at private colleges to be concentrated in about 20 institutions (of the roughly 245 Canada wide) where international students made up at least three quarters of the student body. The proportion of such internationally-focused colleges that were located in Ontario was not reported.

In general, there is less known about study in the private education sector, including private career colleges, prompting some to call it the “invisible sector” (Li & Jones, 2015). Often the main sources of information are ad hoc reports in the media, such as the Globe and Mail report above. El Masri (2019) examined media coverage of international education during the period 2005-2017 and found private colleges disproportionately associated with what the media termed “scams” and “fraud” that affected the experiences of international students. El Masri (2019; 2020) further noted that while some international students resorted to the media to express their frustration over what they saw as private career colleges’ broken promises or false advertising, some also chose to take legal action. In response to allegations of exploitation, municipalities such as Peel have convened committees to examine international students’ experiences, and these tend to focus on the practices of private colleges (Brampton Committee of Council, 2021). The ultimate outcomes of international students are much less often a subject of focus, a situation which this report seeks to remedy in a modest way.

The Office of the Auditor General of Ontario (2021a) reported international students’ enrollment in private career colleges at 10,368 in 2019 and a further 15,143 in Public-Private College Partnerships in 2019-20 (2021b). Our study uses a different data source to report on a different metric: annual cohorts of study permits issued. This identifies roughly 20 per cent of each cohort as public non-attenders including 23,760 issued to public non-attenders in 2019 (Table 3 in Appendix A). Superficially there are some similarities in these numbers, but they are not directly comparable.

ANALYTICAL APPROACH

DATA AND POPULATION

Data

Both phases of the project used linked ELMLP data from three main sources:

- The **Longitudinal Immigration Database (IMDB)** provides data on individuals issued non-permanent resident work or study permits since 1980, even if they did not become a permanent resident. Person- and permit-level data provide information on every work and study permit issued, as well as certain characteristics of the applicant.
- The **Postsecondary Student Information System (PSIS)** contains public college and university enrollment records from across Canada, with most institutions providing complete information from the 2009-10 academic year onward. At the time of undertaking the analysis, PSIS records from Ontario were available up to 2021-22 for most institutions,

although there were some missing college records from 2009-10 to 2012-13.³ PSIS does not include enrollment information on students in Public College-Private Partnerships (PCPP).

- The **T1 Family File (T1FF)** provides income, earnings, and social benefit information among tax filers in Canada. At the time of undertaking the analysis, T1FF data was available up to the 2021 tax year and could be separately linked to both PSIS and IMDB records.

SRDC also used Registered Apprenticeship Information System (RAIS) data to identify any international students in the public PSE system who went on to complete an apprenticeship as an alternative measure of graduation.

Population of study

Using the IMDB non-permanent resident data, sample preparation first involved identifying individuals who were issued an Ontario study permit of two weeks duration or longer between 2010 and 2020, regardless of whether they received an earlier permit to study elsewhere in Canada.⁴ Data preparation then excluded any records at the primary, secondary, or CEGEP⁵ level to focus exclusively on postsecondary attendance in Ontario. To allocate each person to a “study permit cohort,” SRDC then retained the first Ontario study permit identified for each individual in the sample.

To generate the final dataset, the next stage of data cleaning removed a small number of duplicate records (i.e., people who had more than one study permit issued on the same day) by selecting to keep the study permit record that was valid for the longest period of time. From here, a small number of sample exclusions removed any person who: was aged 15 or younger when they were first issued an Ontario postsecondary study permit; could only be linked to PSIS records from regions outside of Ontario;⁶ could only be linked to PSIS graduation records (but had no enrollment records), and; had permanent residency status prior to issuance of their study

³ The following colleges had missing data across most of these years: Cambrian, Confederation, Durham, Georgian, Loyalist, Lambton, Humber (only one year missing), Northern, and Fleming. International students from these institutions before 2013 would end up in the public non-attender sample (i.e., those outside the public postsecondary system). Based on [Ministry of Colleges and Universities open data](#), these institutions could enrol approximately 25 per cent of study permit holders attending public colleges, approximately 7 per cent of the combined college and university sample.

⁴ Along with removing any permit records that were issued for less than 14 days, we excluded a small number of permits that did not have a valid end date (either missing completely or a date that came before the date the permit was issued).

⁵ While CEGEP programs are primarily a feature of the Quebec education system, a small number of PSE institutions in Ontario offer equivalent programs (e.g., University of Ottawa, Western University). Permits issued for these types of programs were excluded from the analysis.

⁶ Approximately 3.8 per cent of the initial sample who were issued Ontario permits only appeared in PSIS records from other Canadian regions. As part of initial cleaning, these individuals were removed from all subsequent analysis as they did not appear to be in Ontario.

permit. The last exclusion was made because it was not possible to identify whether these people applied for restoration and were later reissued their permanent residency status (as only the original landing date was available in the IMDB data).

VARIABLES

Dependent variables

The **compositional analysis** captured study permit holders who do not appear in public Ontario colleges and universities (i.e., in PSIS) and were therefore outside the public postsecondary system. Using PSIS-IMDB linkage keys, each person issued an Ontario study permit was linked from the IMDB to PSIS enrollment records from 2009-10 to 2021-22. This linkage generated a binary outcome variable: no entry to the public system (i.e., Ontario study permit holders without PSIS enrollment records) termed “public non-attenders” (for this report); or entry to the public system “public attenders.”

Among students who were labelled “public non-attenders” outside the public postsecondary system, the next stage of analysis examined the rate at which they **filed taxes in Canada**. One to five years following study permit issuance, this analysis measured whether they had filed a tax return in a given year (1=filed taxes, 0=no tax data).

Among those who did have tax data, we performed two additional analyses. First, we investigated who **declared full- or part-time postsecondary tax credits and deductions** on their tax return on a year-by-year basis between the first and fifth year following the receipt of their initial Ontario study permit (1=tuition deductions declared, 0=no tuition deductions declared). Second, we explored who **declared any earnings** within those same years (1=earnings declared, 0=no earnings declared).⁷

Among those who did have tax data and reported earnings, the next stage was to look at **average annual earnings** in the first five years following study permit issuance. The earnings measure was created by combining positive self-employment earnings, T4 earnings, and “other” earnings, the sum of was then adjusted for inflation.⁸ The earnings measure does not include scholarship

⁷ The earnings information comes from the employee portion of the T4 Statement of Remuneration data and not the employer data. Should subsequent analysis use employer reported data (i.e., T4E Statement of Employment Insurance and Other Benefits), we would likely find additional individuals working and earning money in Canada. Qiu et al (2021) suggest including information from the Fiscal Activity Indicator File (FAIF), including T4E could increase tax-based reporting of immigrants by 4 to 5 percentage points a year. This information was not available in SRDC’s current data access.

⁸ The values for adjustment come from the Consumer Price Index (annual average, not seasonally adjusted) table [18-10-0005-01](#) maintained by Statistics Canada. As part of this measure, negative self-employment earnings were recoded as \$0.

or bursary information, which are typically available in the T4A file and are not available on the ELMLP. Individuals are included in the analysis for the years that they filed taxes and reported earnings and are excluded in the years that they did not. While the Phase 1 report analyzed outcomes following graduation, this cannot be done for those outside the public postsecondary system as the data contain no indicators of graduation for them. Given this limitation, we reproduced the earlier Phase 1 earnings analysis (as well as all outcomes described above) for public attenders while ignoring graduation, for comparison purposes.

The final analysis examined the **residency and migration outcomes** of all international students outside the public postsecondary system in Ontario, which could be undertaken regardless of whether they filed taxes or not. In this analysis, separate models examined yearly outcomes (from year 1 to 8) after first being issued a study permit. As **Figure 2** illustrates, the calendar year in which each yearly outcome was measured differs depending on a person’s Ontario study permit cohort. For each year of one through eight, a person could have one of three outcomes: 1) no active permit, 2) an active study and/or permit, and 3) transition to permanent resident.

Figure 2 Timing of migration outcomes across cohorts

		Tax Year											
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Initial Ontario Permit Cohort	2010		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8			
	2011			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8		
	2012				Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	
	2013					Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
	2014						Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
	2015							Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	2016								Year 1	Year 2	Year 3	Year 4	Year 5
	2017									Year 1	Year 2	Year 3	Year 4
	2018										Year 1	Year 2	Year 3
	2019											Year 1	Year 2

Explanatory variables

Using IMDB’s permit- and person-level non-permanent resident data, **Table 1** describes the variables used across the analyses. The inclusion of each variable depends on the model, the timing of the outcome, and the sample size available.

Table 1 Overview of explanatory and dependent variables

Name/Description	Categories	
Explanatory variables derived from the IMDB		
Region/country of citizenship	1=India (reference group) 2=China 3=US 4=Central America & Caribbean countries 5=South America 6=Western & Northern Europe 7=Eastern & Southern Europe 8=Western Africa	9=Eastern Africa 10=Northern Africa 11=Middle & Southern Africa 12=West Central Asia and the Middle East 13=Eastern Asia 14=Southeast Asia 15=Southern Asia (excluding India) 16=Other
Application location Country of residence at the time of a student's initial permit application	1=Same as citizenship (reference group) 2=Different than citizenship 3=Canada	
Age Age in years when first study permit was issued	1=Age 16 or 17 2=Age 18 (reference group) 3=Age 19 or 20 4=Age 21 or 22	5=Age 23 or 24 6=Age 25-29 7=Age 30-39 8=Age 40+
Male/female	0=Male (reference group) 1=Female	
Initial permit study level⁹ Initial permit study level in Ontario	1=ESL 2=College certificate 3=College diploma 4=Trade or vocational 5=Applied degree at college	6=University BA (reference group) 7=Master's 8=PhD 9=Other studies or level not stated
Destination Economic region of the institution on the initial permit	1=Ottawa 2=Kingston-Pembroke 3= Muskoka-Kawarthas 4=Toronto (reference group) 5=Kitchener, Waterloo, Barrie, Stratford, Bruce Peninsula	6=Hamilton-Niagara Peninsula 7=London 8=Windsor-Sarnia 9=Northeast or Northwest Ontario
Permit cohort Year first issued an Ontario study permit in	2010 (reference group) up to 2020, depending on the model	
Prior K-12 experience in Canada If the person had a study permit at the primary, secondary, or CEGEP level	0=No permit under PSE (reference group) 1=Primary, secondary, or CEGEP level of study	
Prior PSE experience in Canada If the person studied PSE elsewhere in Canada prior to studying in Ontario	0=Studied in Ontario first (reference group) 1=Studied elsewhere in Canada first	

⁹ Study level was captured differently prior to 2014. College certificate, college diploma, and trade or vocational level permits were captured as a single category then and collected separately thereafter. 2014 also saw the addition of ESL training to its categories.

Name/Description	Categories
Dependent variables	
<p>Tax filing Variable indicating the presence of a tax record in a given year in the T1 Family File</p>	<p>0=No Canadian tax filing 1=Canadian tax filing</p>
<p>Tuition deductions Variable indicating any tuition deductions claimed in a given year in the T1 Family File</p>	<p>0=No tuition deductions claimed 1=Tuition deductions claimed</p>
<p>Earnings reported Variable indicating any positive earnings reported in a given year in the T1 Family File</p>	<p>0=No earnings reported 1=Some earnings reported</p>
<p>Annual earnings Average annual earnings reported in a given year in the T1 Family File</p>	<p>Continuous average predicted earnings measure of inflation-adjusted representing the sum of non-negative self-employment earnings, T4 earnings, and “other” earnings</p>
<p>Migration Yearly migration outcomes after initial Ontario study permit was issued</p>	<p>1=No active permit 2=An active student <i>and/or</i> work permit 3=Transition to permanent resident</p>

ANALYSIS

The findings section first investigates the relationship between select explanatory variables and each outcome variable. For example, it shows how the “unadjusted” rate of entry outside Ontario’s public system varies by male/female and region/country of citizenship. In the results below, we use the term “unadjusted” to refer to descriptive results that have not been “adjusted” for other explanatory variables through regression analysis.

Separate regression analysis follows all descriptive analysis to understand how the results change when adjusting for other explanatory variables. “Adjusted” results were produced through separate regression analyses that controlled for multiple explanatory variables at the same time. Each type of regression model differed depending on the type of outcome variable (e.g., continuous, categorical, or binary) and the relevant control variables included. [Appendix A](#) provides complete descriptive and regression results in table format, while the results section uses multiple graphs to help readers interpret the results.

The **compositional analysis** mirrors what was produced in the Phase 1 report, except the focus is on those who did not enroll in an Ontario public postsecondary institution. Given the experiences of those who enrolled in public institutions were described in detail in the Phase 1 report, this report presents only a brief summary analysis based on unadjusted results.

For the **tax filing analysis**, a linear probability specification measures whether or not a study permit holder had a tax record at least once, one to five years after permit issuance. The same

method is used for all analyses using a binary outcome, including the **tuition deductions** and **earnings reported**. All models use specifications with heteroscedasticity consistent standard errors. This model specification determines the extent to which each of the explanatory factors influences the binary outcome variable, which takes the value of one if, for instance, a permit holder filed taxes.

For the **average annual earnings analysis**, we use an ordinary least squares (OLS) regression, which determines the extent to which each of the explanatory indicators independently influences the continuous outcome variable (i.e., inflation adjusted earnings).

For the dependent variable which is categorical, the **migration analysis** uses multinomial logistic regression. Here eight separate models individually examine migration outcomes of the Ontario study permit holder one to eight years after being issued their initial permit.

Across all analyses, we include an **intersection between male/female and country of citizenship** to better understand how each outcome differs for males and females. To help interpret this interaction term, we produce conditional (i.e., controlling for all explanatory variables) marginal effects.¹⁰ This allows us to interpret each male/female group individually instead of in comparison to a reference group.

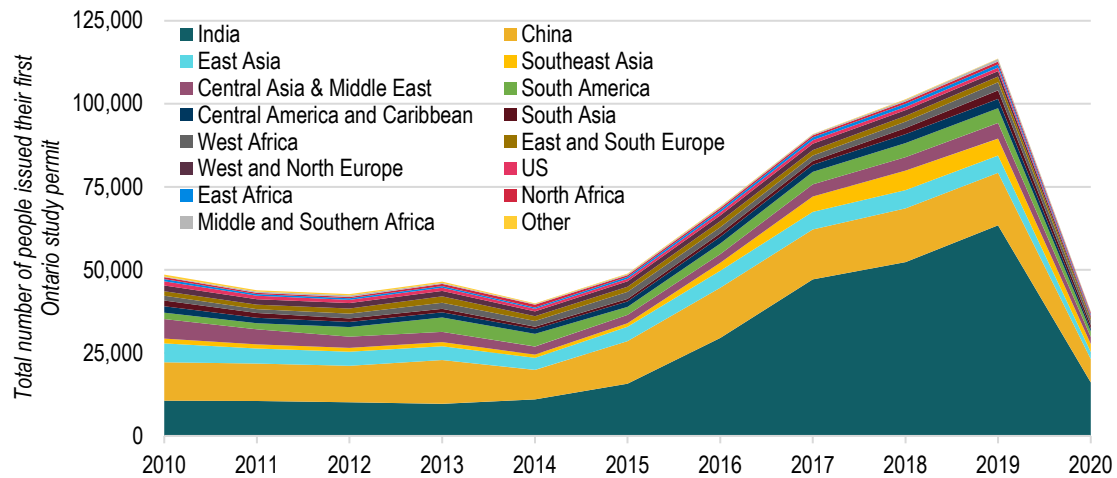
RESULTS

COMPOSITIONAL ANALYSIS: STUDY PERMIT HOLDERS WHO DO NOT ENTER PUBLIC ONTARIO COLLEGES AND UNIVERSITIES

From 2010 to 2019, there was a large increase in the number of individuals issued their first Ontario study permit. As shown in **Figure 3**, approximately 48,600 individuals in the sample were first issued an Ontario study permit in 2010, which grew to just under 114,000 people in 2019. In 2020, the number decreased substantially due to the COVID-19 pandemic.

¹⁰ Using Stata, all margins were produced using the “atmeans” option, which holds explanatory variables at their means.

Figure 3 Number of individuals issued their first Ontario study permit by year and country of citizenship



Growth in the number of study permits issued varied by country of citizenship, with people from India and China comprising over 50 per cent of individuals first issued an Ontario study permit. Given the smaller proportion of individuals from certain source regions/countries, **Figures 4** and **5** (note the difference in scale of the Y-axis in each figure) show more clearly how the number of study permits for individuals from each region/country changed between 2010 and 2020. While the number of permits issued to Chinese and Indian citizens were similar between 2010 and 2014, permits issued to Indian citizens increased substantially between 2015 and 2019. Other regions/countries saw more modest increases between 2010 and 2019 (e.g., China, Central America and Caribbean, South America, West Africa, South Asia), and there was a more sizable increase in the number of initial permits issued to people from Southeast Asia. Others had no increase or even a small decline (e.g., West and North Europe, Central Asia and Middle East).

Among the entire sample of people issued an initial Ontario study permit between 2010 and 2020, 21 per cent were not linked to any enrollment records at a public Ontario college or university: meaning they were outside the public postsecondary system. The following figures explore how the proportion of Ontario study permit holders outside the public postsecondary system varied across a range of characteristics. While this exercise essentially mirrors the findings from the Phase 1 report, going through the findings with this new perspective provides important context for the subsequent analyses. Only figures showing unadjusted proportions are presented in this section and the full table can be found in **Appendix A**.

Figure 4 Number of people from India and China issued initial Ontario study permits

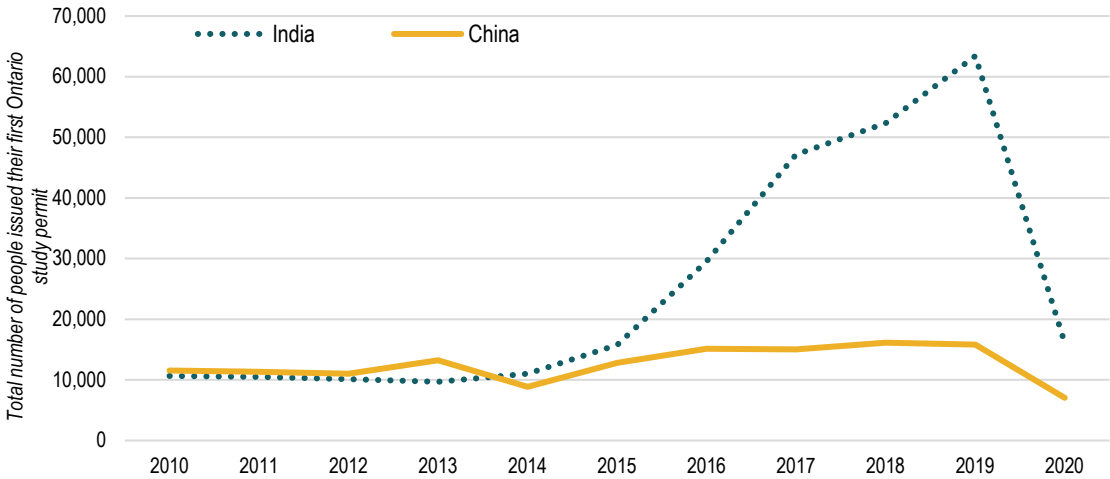
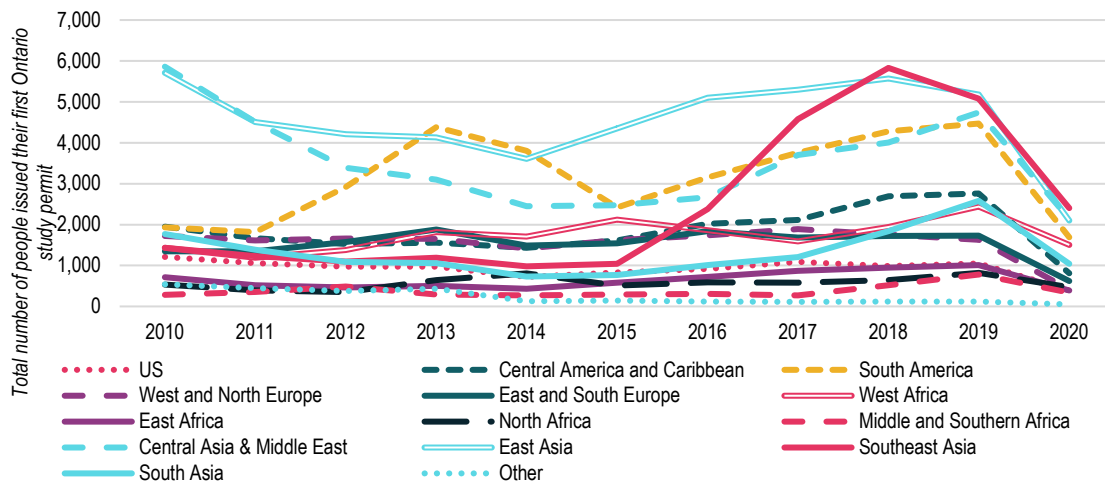


Figure 5 Number of people from all other countries issued initial Ontario study permits



Figures 6 breaks down these proportions first by region of citizenship and male/female while **Figure 7** focuses on changes from one permit cohort to the next and region. Overall, 21 per cent of study permit holders (or 144,260 individuals) never appeared in the public postsecondary system: the 2012 cohort recorded the highest proportion (25 per cent) and the 2015 cohort recorded the lowest. Males and females from East Asia and South America and males from Central Asia & Middle East appeared outside the public system at higher rates than those from other regions. Those from China, West Africa, and South Asia were least likely to be outside the public system. There was greater variation in patterns across region than by male/female.

The proportion of individuals from South America and East Asia issued a study permit in 2020 were outside the public system at much lower rates (35–37 per cent) than those issued a permit in 2010 from the same region (roughly half, 49–50 per cent). While the majority of regions saw a reduction in the proportion of study permit holders outside the public system between the 2010 to 2020 cohorts, those from India saw their rate increase by 14 percentage points.

Figure 6 Proportion of Ontario study permit holders outside the public postsecondary system by region/country of citizenship and male/female, all years, descriptive results

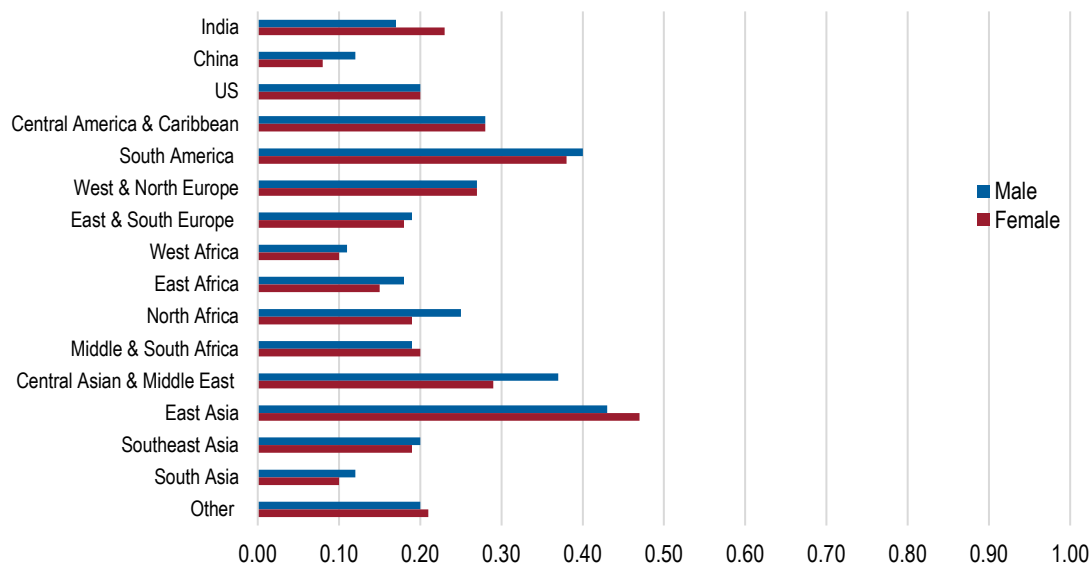
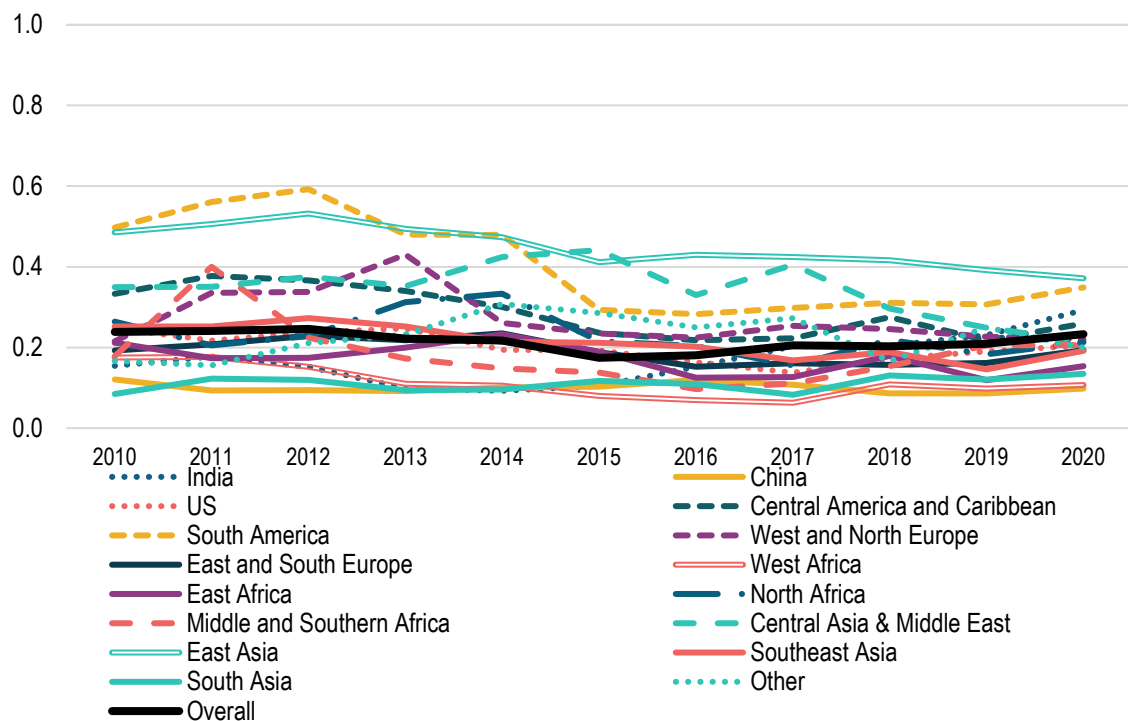


Figure 7 Proportion of Ontario study permit holders outside the public postsecondary system by permit cohort and region/country of citizenship, descriptive results



Looking at age at permit issuance (**Figure 8**), older individuals were more likely to appear outside the public system. This changed over time, with those aged 40+ being 25 percentage points less likely to be outside the public system in the 2020 cohort than in the 2010 cohort. While older permit holders were still more likely than younger ones to be outside the public postsecondary system in later cohorts, only a few percentage points separated them from their younger peers in later cohorts.

In **Figure 9**, the focus is on study permit application location by cohort. Those who applied from their home countries were, most years, more likely to be outside the public system than those who applied from a different country or from Canada. This implies that people who were less mobile prior to applying for an Ontario study permit were more likely to appear outside the public postsecondary system.

Figure 8 Proportion of Ontario study permit holders outside the public postsecondary system by age and permit cohort, descriptive results

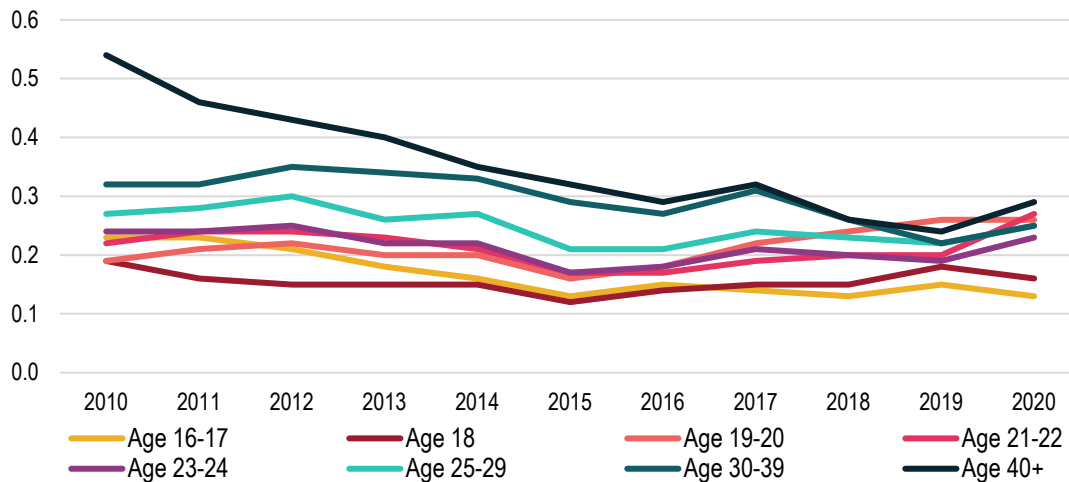


Figure 9 Proportion of Ontario study permit holders outside the public postsecondary system by application location and permit cohort, descriptive results

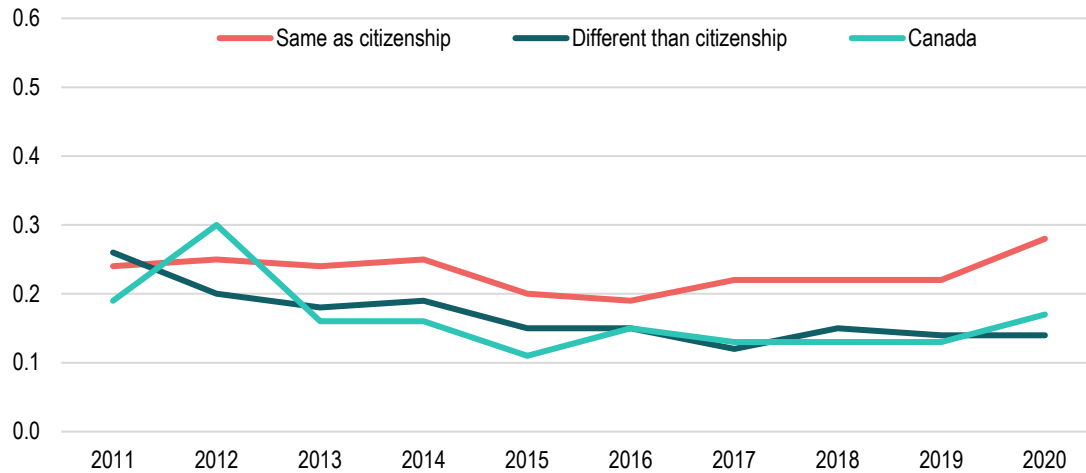


Figure 10 breaks down the results by permit study level and cohort. This analysis reveals that those with permits associated with trades, vocation, or college programs were more likely to be outside the public system across the 2010 to 2013 cohorts. Starting with the 2014 cohort, permit study level was recorded using more categories allowing the patterns of trades, vocational, and college programs to be disaggregated. Those with permits associated with ESL training had above average rates of appearing outside the public postsecondary system and their higher rate remained relatively constant across cohorts. ESL training is extensively offered in the private system, which may explain more study outside the public system relative to college/university-level programs. The rate at which those issued permits for college-level programs appeared outside the public system increased from the 2014 through the 2020 cohorts. By the 2020 cohort and relative to the 2014 cohort, the rate had almost doubled for college certificates and almost tripled for college diplomas. This may align with the provincial government push for Public College-Private Partnerships (PCPPs) from 2017 (Usher, 2023).

Figure 10 Proportion of Ontario study permit holders outside the public postsecondary system by permit study level and permit cohort, descriptive results 11

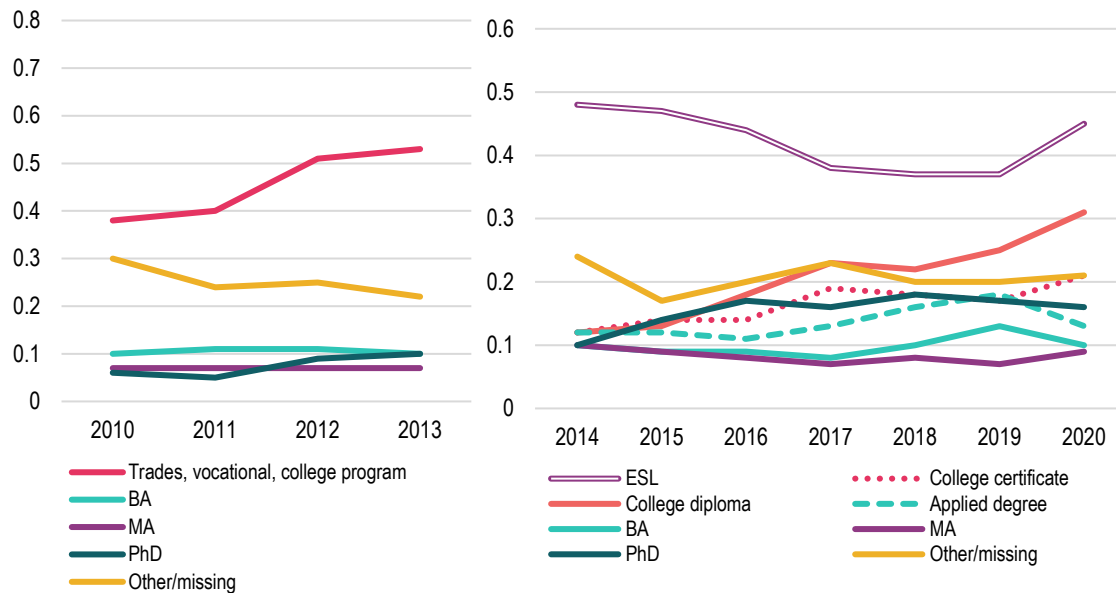


Figure 11 presents the proportion of study permit holders outside the public postsecondary system by destination and permit cohort. The pattern for over half (5/9) of the regions in the share of permit holders outside the public system is a U-shaped distribution across the ten cohorts observed, meaning that the 2010 and 2020 cohort rates were similar for these destinations, and most experienced their lowest share with the 2015 or 2016 cohort. Over time, in Ottawa and London the proportion of individuals outside the public postsecondary system decreased from one cohort to the next. Kingston-Pembroke and Muskoka-Kawartha recorded increases, although their early rate was censored by lack of data, only being available from the 2016 cohort onward. Plausibly, they could have experienced a similar U-shaped distribution as seen in the majority of destinations. Toronto has the highest proportion of study permit holders outside the public system, which likely corresponds to a greater availability of private education opportunities in the GTA than in other destinations. It is important to remember that approximately 7 per cent of students attending public institutions are “outside the public system” in the first four cohorts due to non-reporting colleges.

Figures 12 and 13 present the share of permit holders outside the public postsecondary system based on prior education experiences in Canada: first, prior K-12 or CEGEP experience and second, prior postsecondary experience outside Ontario. In both cases (and at relatively similar rates), those without prior Canadian education experience were more likely to be outside the public system relative to those who had a prior Canadian education experience (24–28 per cent

¹¹ The number of international students with permits associated with trades or vocational schools were too small present beyond 2014.

for the 2020 cohort). Those with prior K-12 or CEGEP experience were least likely to appear outside the public system (less than 10 per cent by the 2020 cohort). While those with prior PSE study permits in Canada outside Ontario were also less likely to appear outside the public system than those without any Canadian experience, the difference was less pronounced than for those with and without Canadian K-12 or CEGEP experience.

Figure 11 Proportion of Ontario study permit holders outside the public postsecondary system by destination and permit cohort, descriptive results

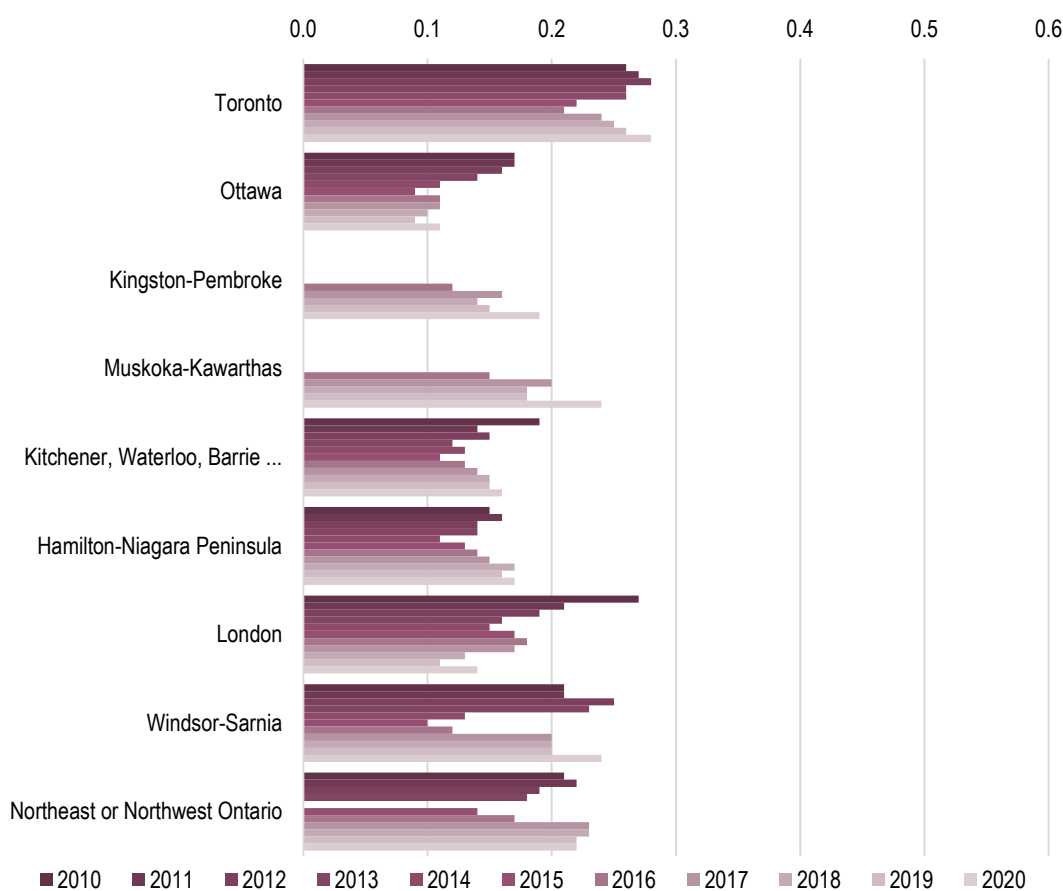


Figure 12 Proportion of Ontario study permit holders outside the public postsecondary system by prior K-12 Canadian experience and permit cohort, descriptive results

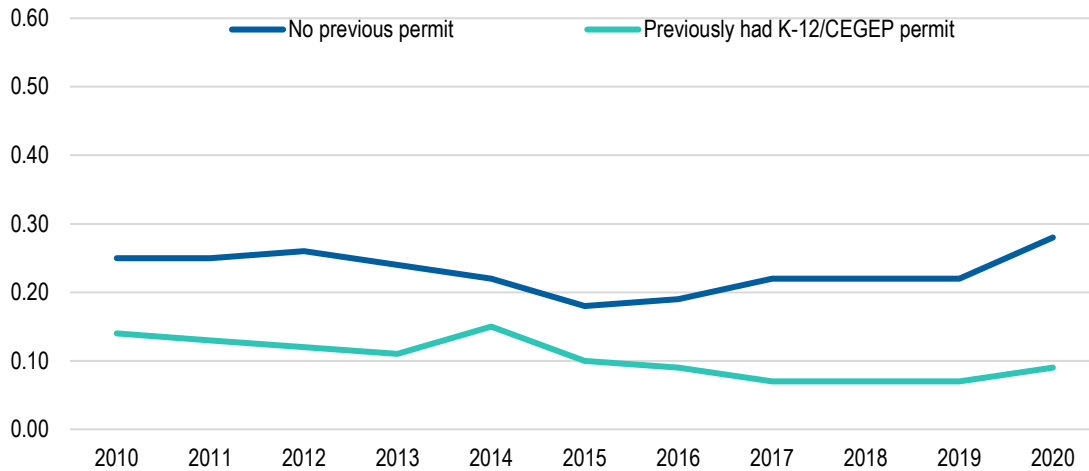
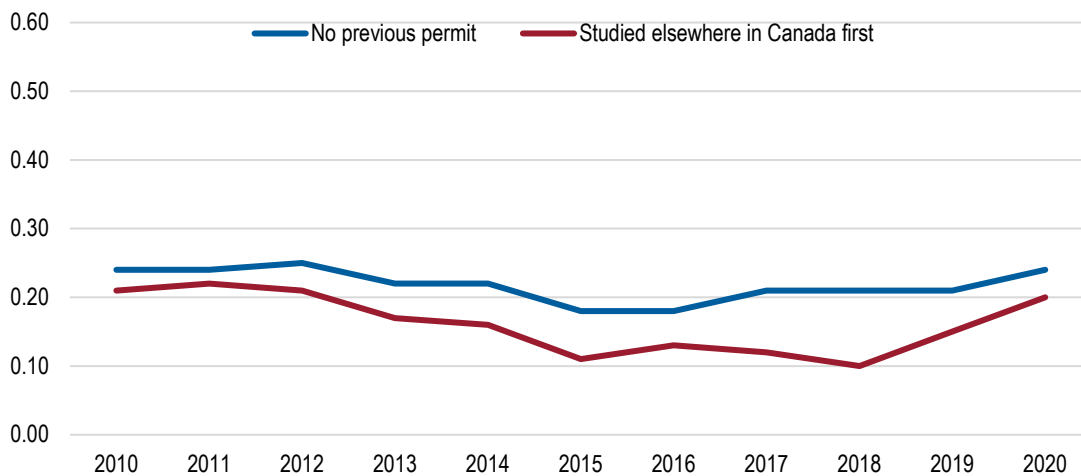


Figure 13 Proportion of Ontario study permit holders outside the public postsecondary system by prior PSE Canadian experience and permit cohort, descriptive results



TAX FILING

A key outcome of interest is whether Ontario study permit holders filed taxes in Canada within the first five years following permit issuance. This is important in part because the reporting of their other outcomes post-permit issuance is only possible for those who filed. While the specific and detailed comparison between outside the public postsecondary system (“public non-attenders”) and those who appear in the public system (“public attenders”) will be the focus of SRDC’s final report, we include some comparison here as context.

What is the difference between the “unadjusted” and “adjusted” results?

“Unadjusted” results refer to descriptive statistics, while “adjusted” results control for the influence of other explanatory factors (e.g., how much of an apparent country effect is due to age differences between people from those countries). The regression modelling approach for each outcome variable is unique, and the full list of explanatory variables in each model is shown in Appendix A. In some cases, adjusted results have been transformed into “marginal effects” so they can be directly compared to the unadjusted results and interpreted in a similar way.

Figure 14 presents the unadjusted proportions of public non-attenders who filed taxes by region and male/female in the first and fifth years following study permit issuance while Figure 15 presents comparable regression-adjusted proportions that control for observable characteristics. Overall, approximately 22 percent of public non-attenders filed taxes in Canada in their first year and 20 per cent did five years later. In contrast, 63 per cent of public attenders filed taxes in years one and five.

Ontario study permit holders who do not attend public postsecondary institutions may have attended private institutions or have been “no shows” (who never came to Canada or who came to Canada later under another type of agreement). Tax filing is one way to identify those who were quite likely to have been in Canada in specific years. There will be permit holders present in Canada who are missed in tax filer data, however. Among public attenders, whose presence in Canada can be confirmed via their institutional enrollment records, 37 per cent did not file taxes in their first year. Plausibly, a similar proportion of public non-attenders could have entered in education outside the public system yet not show up in tax records.

Figure 14 Tax filing by region/country of citizenship and male/female, descriptive results

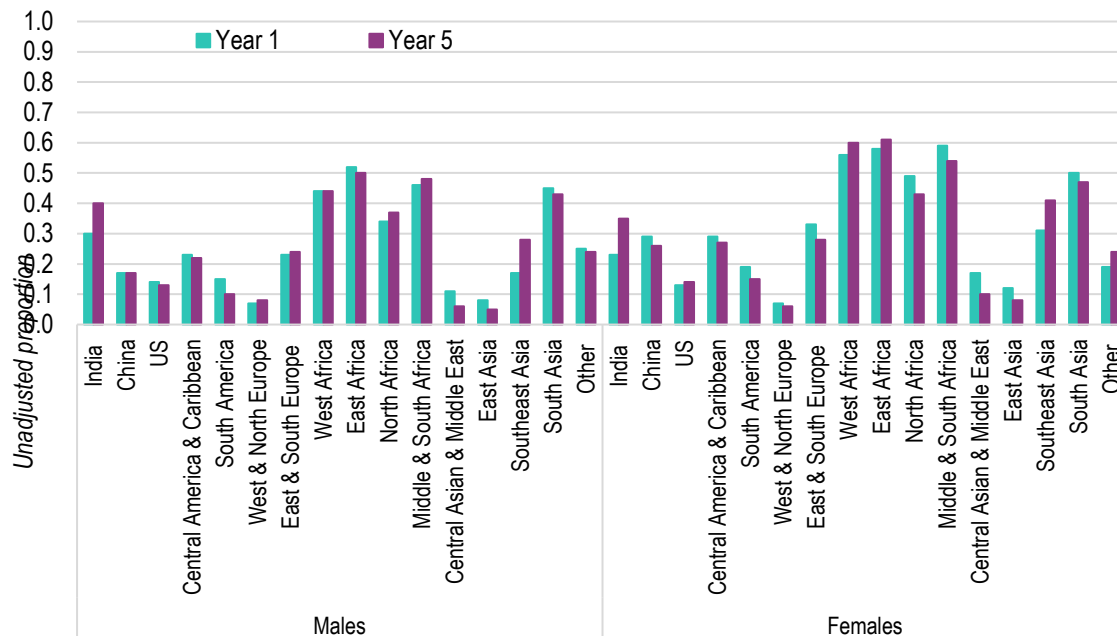
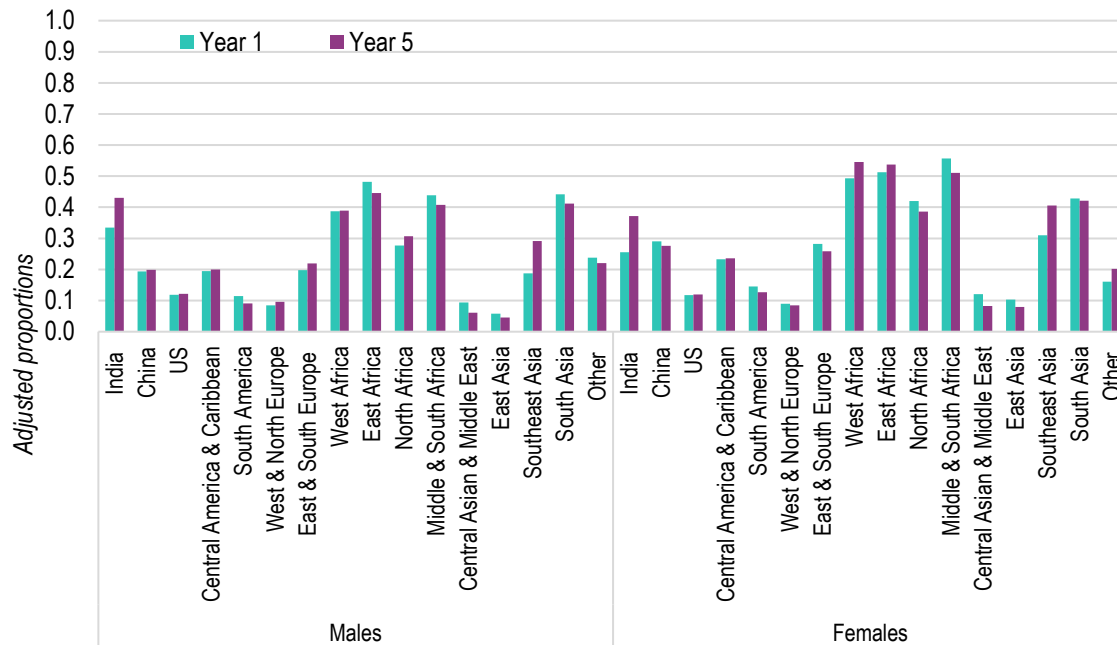


Figure 15 Tax filing by region/country of citizenship and male/female, adjusted results



Study permit holders from Africa (West, East, North, and Middle & South) had high tax filing rates, more so for females (55 per cent on average) than males (45 per cent on average). Those from South Asia were also more likely than average to file Canadian taxes. Those from East Asia, Central Asia & Middle East, and West & North Europe all filed taxes at lower rates than those from other regions, all of which reached filing rates below 10 per cent five years out. The patterns and filing rates were fairly similar across the unadjusted and adjusted figures.

Looking at the proportion of study permit holders outside the public postsecondary system by age at permit issue and application location (Figure 16), we see that the older the permit holder, the more likely they were to file taxes in Canada. For public attenders, these general patterns also appear, however by year 5, those aged 30-39 at permit issue were more likely to file taxes than those aged 40+. Those who applied for their study permit from Canada were more likely to file taxes than those who applied from a different country or from their home country. The results for public attenders point to a contrasting relationship: those who applied from their home country filed taxes at higher rates in the first year than those who applied from a different country or from Canada. Five years out, those who had applied from a different country filed taxes at higher rates than either of the other groups. So, while indicators of increased mobility were associated with more filing for public attenders, the opposite was true for public non-attenders. Although this may be associated with public non-attenders being older, these patterns still hold when other characters (including age) are taken into account.

Those with study permits associated with college certificate, applied degree, and master's programs (Figure 17) were more likely to file taxes than those associated with other study levels

in their first year. Those with college certificate, diploma, and applied degrees were more likely to do so in year 5. This aligns with what was found for public attenders (except PhD students had relatively higher filing rates compared to their peers whose permits were associated with other study levels).

Figure 16 Tax filing by age and application location, descriptive results

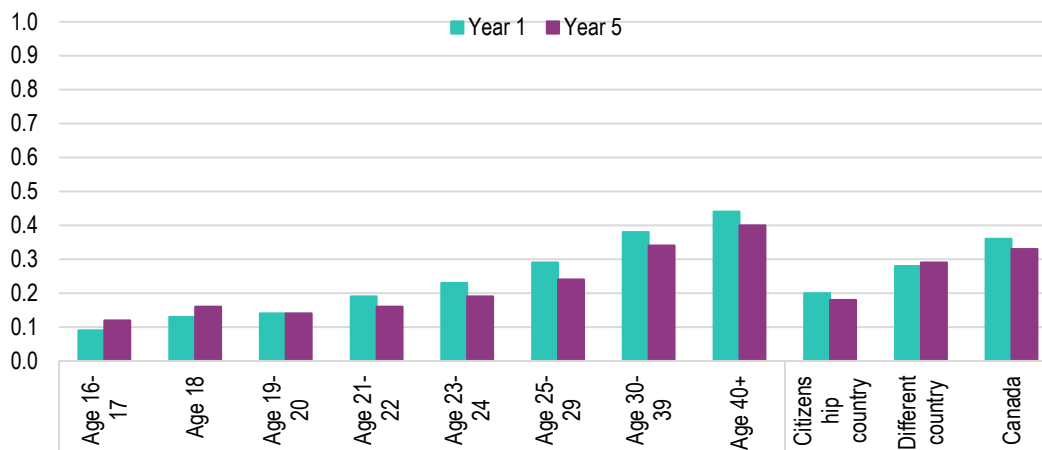
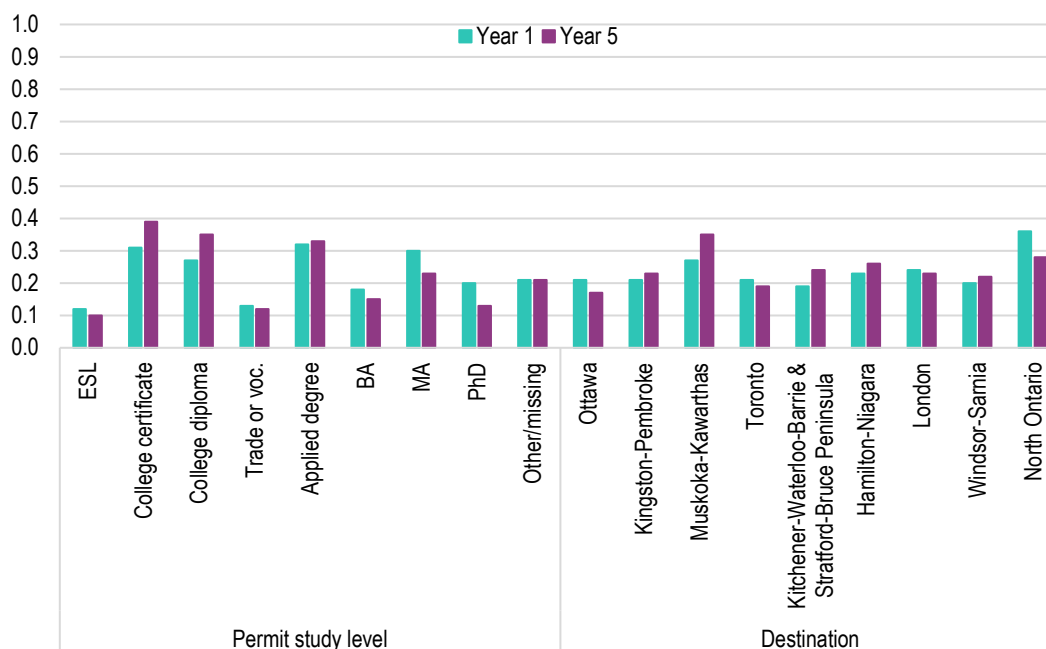


Figure 17 Tax filing by permit study level and destination, descriptive results

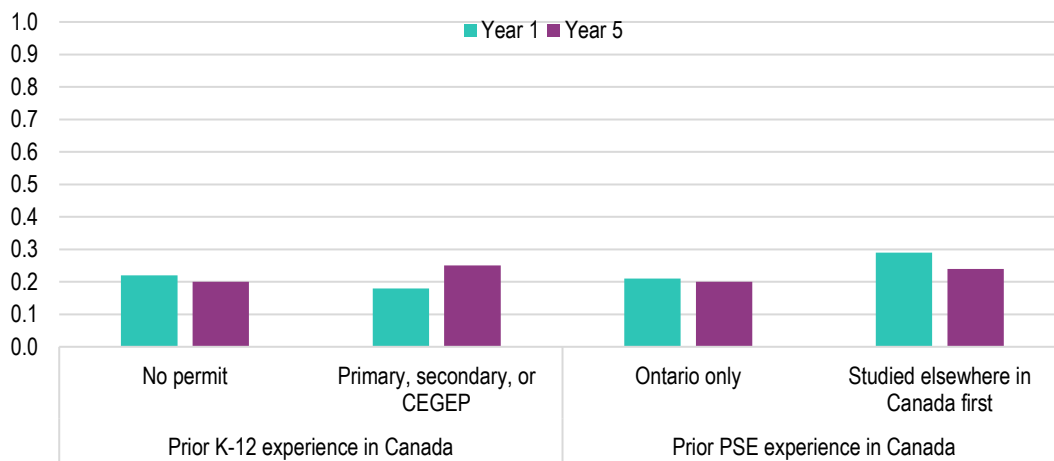


Permit holders initially destined for Muskoka-Kawarthas and North Ontario were more likely to file taxes than those choosing other destinations. This was also true for public attenders. Those

public non-attenders with study permits for five of the nine destinations recorded increased filing rates from year 1 to 5 whereas only two recorded increases among public attenders.

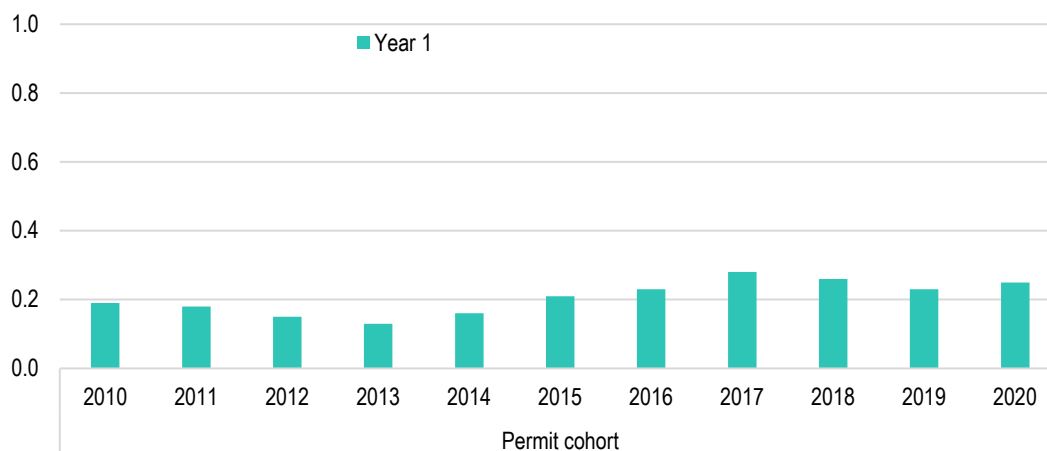
Those with prior K-12 or CEGEP experience were initially less likely to file taxes than those without prior Canadian experience in the first year following permit issue, but the opposite was true five years later (Figure 18). Those who studied at the postsecondary level outside Ontario were more likely to file taxes in all years relative to those whose first contact with Canadian PSE was in Ontario (this relationship disappeared in the regression analysis). In contrast, public attenders without prior K-12 or CEGEP or Canadian PSE outside Ontario were more likely to file taxes in all years relative to those who had such prior educational experiences.

Figure 18 Tax filing by prior Canadian study experience, descriptive results



The tax filing rate of public non-attenders followed a similar pattern to that of the public attenders in Phase 1, albeit at a different level (Figure 19). The rate decreased slightly from 2010 to 2013 and started to rise from the 2014 cohort until the 2017 cohort when it peaked at 28 per cent. The filing rates remained above average in the following three years.

Figure 19 Tax filing in the first year by permit cohort, descriptive results



TUITION DEDUCTION

We next focus on whether or not those who filed taxes in Canada also claimed tuition deductions. Of all international students issued an Ontario study permit between 2010 and 2020 who were outside the public postsecondary system and filed taxes, 54 per cent claimed tuition deductions in the first year, 39 per cent in the second year, 16 per cent in the third year, 12 per cent in the fourth year, and 10 per cent in the fifth year. The largest decrease in filing rates happened between years two and three, which reflects the higher proportion of certificate and diploma level permits awarded. In contrast, the equivalent proportion of international students attending public postsecondary institutions claiming tuition deductions were 81 per cent in the first year, 59 per cent in the second, 15 per cent in the third and 10 per cent during both the fourth and fifth years. The rate at which tuition deductions were claimed by public attenders is 27 and 20 percentage points higher than public non-attenders in the first and second years following permit issue but were similar from the third year onward.

The patterns of claimed tuition deductions by region and male/female (**Figures 20 and 21**) showed that, of those who filed taxes, Indian study permit holders claimed tuition deductions in their first and second years at higher rates than those from other regions. In fact, only Indian public non-attenders had similar rates to their public attender counterparts, while public non-attenders from all other regions claimed tuition deductions at significantly lower rates than their region's corresponding public attenders.

Figure 20 Tuition deductions among tax filers by region/country of citizenship and male/female, descriptive results

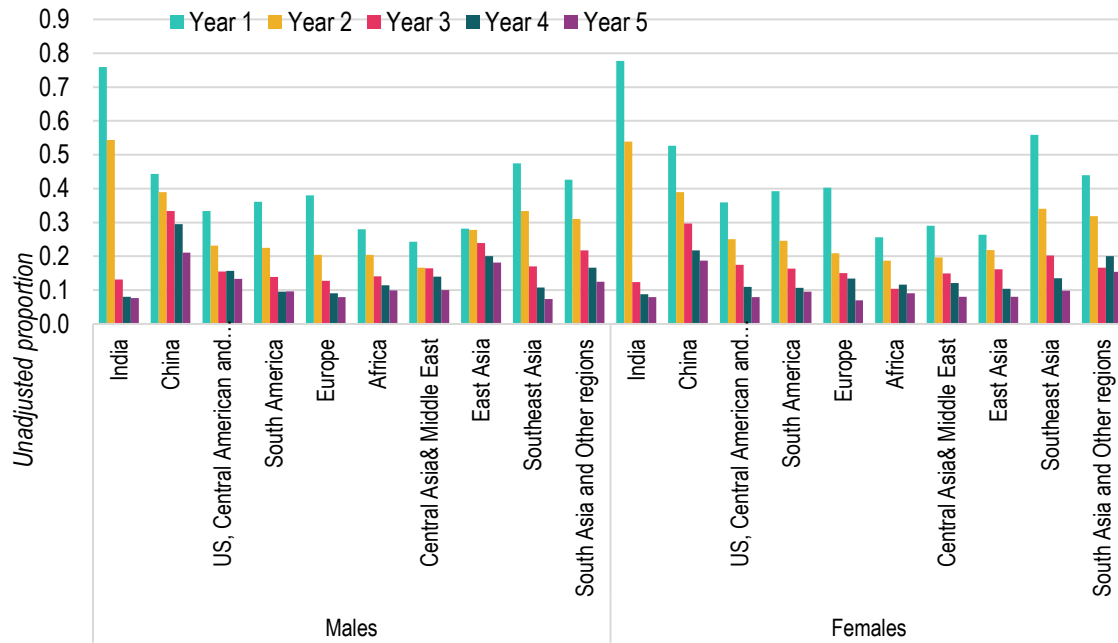


Figure 21 Tuition deductions among tax filers by region/country of citizenship and male/female, adjusted results

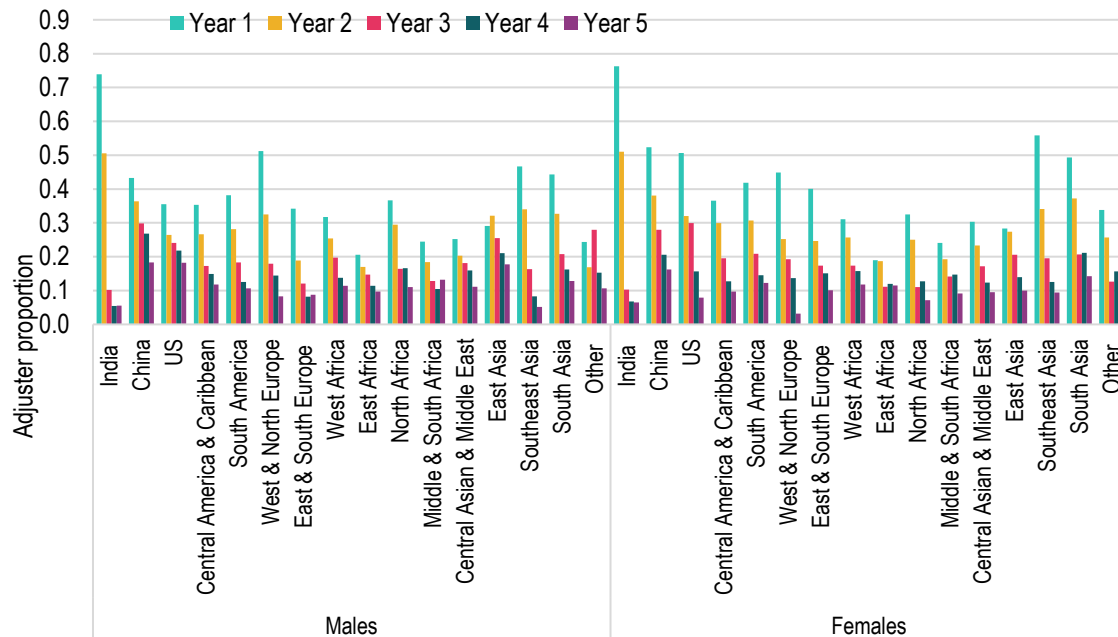
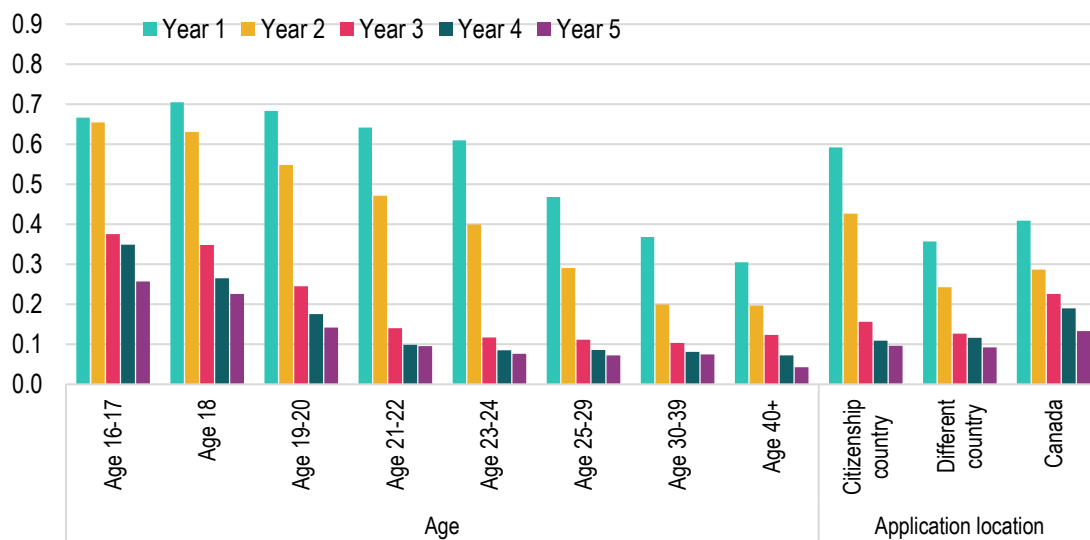


Figure 22 presents the proportion of tax filing Ontario study permit holders who claimed tuition deductions by age and application location on a year-by-year basis. In general, younger permit holders outside the public system claimed tuition deductions in the first year at higher rates than older ones, which was not the case for public attenders who claimed tuition deductions at similar rates across all age groups. Those who applied from their home country claimed tuition deductions at higher rates than those who applied from a different country or from Canada, but from year 3 onward the differences were rarely statistically significant.

Figure 22 Tuition deductions among tax filers by age and application location, descriptive results



Among those with a study permit associated with a college certificate or diploma, bachelor's or applied degree, or master's program, relatively high proportions claimed tuition deductions (**Figure 23**). The number of years they claimed tuition deductions on their taxes largely corresponded to the length of their initially issued permit study level. Thus, those with permits associated with bachelor's and applied degree programs and those associated with doctorate programs claimed these tax credits for longer than those at other study levels. While this was mostly true for public attenders as well (mainly certificate, diploma, and master's degrees), the drop in year-over-year proportions was more pronounced for applied degrees, meaning that public attenders claimed tuition deductions for fewer years than the length of their programs. The opposite was true for public attenders with permits associated with ESL training, meaning they continued to claim tuition deductions for multiple years despite these programs typically being short, which may point to their higher likelihood of pursuing additional schooling. Based on the regression results, those with a bachelor's level study permit were most likely to claim tuition deductions on their taxes in all years, other than those with permits associated with doctorate-level program who tended to claim these deductions at similar adjusted rates from the third year onward.

Those without prior Canadian education experience either at the K-12 or CEGEP level or the PSE level outside Ontario, claimed tuition deductions on their taxes at higher rates than those with prior Canadian experience (Figure 24). The differences across these groups mostly disappeared when the analysis controlled for other characteristics in the regression. An exception was those with prior K-12 or CEGEP experience in Canada who were slightly more likely to claim tuition deductions than others from year 3 onwards. The same was true for public attenders, except the patterns remained in all years even after controlling for other characteristics.

Figure 23 Tuition deductions among tax filers by permit study level, descriptive results

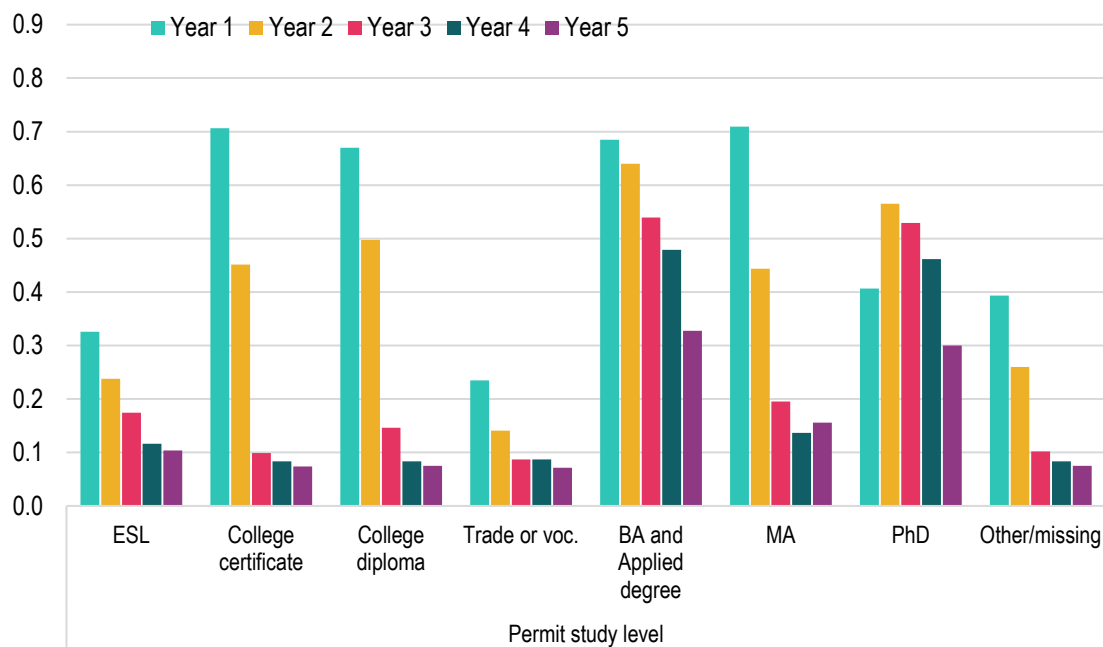


Figure 24 Tuition deductions among tax filers by prior Canadian study experience, descriptive results

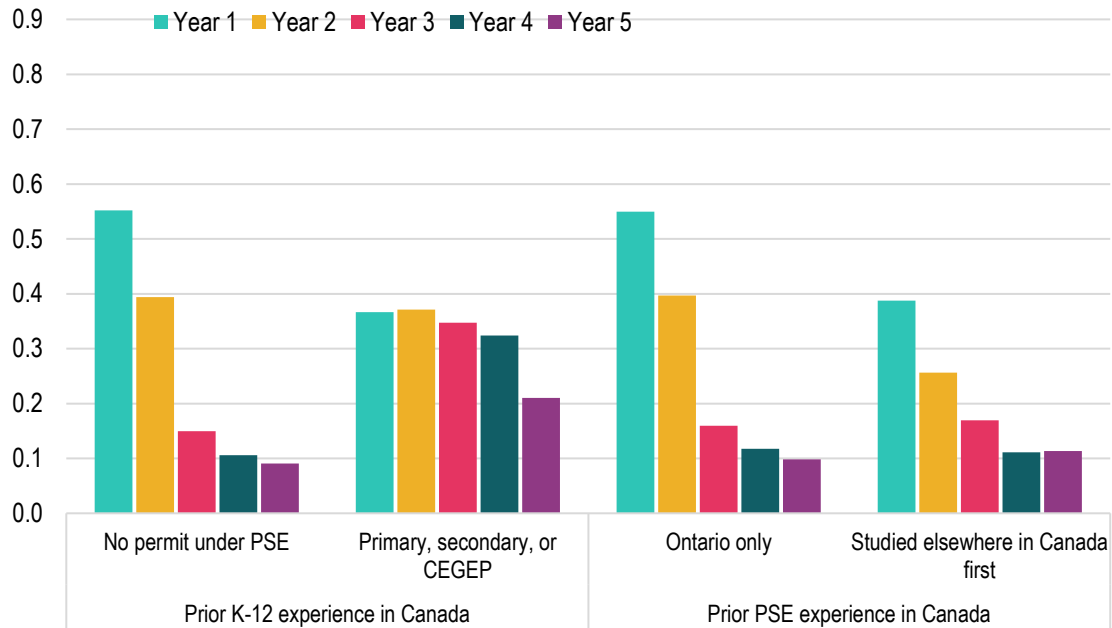
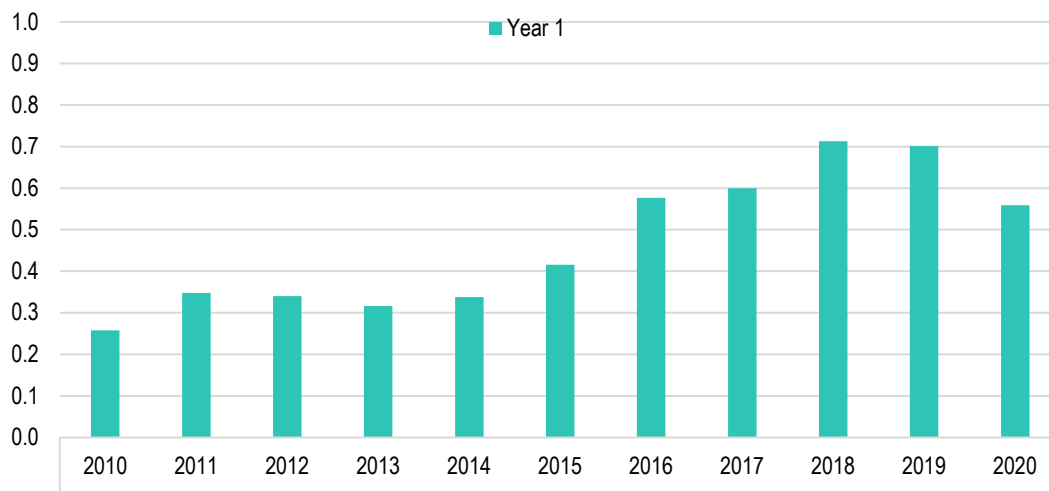


Figure 25 graphs the proportion of Ontario study permit holders that claimed tuition deductions on their taxes in the first year following study permit issue. The rate at which each cohort claimed these deductions was fairly similar over time until a sharp increase by the 2016 cohort, where the rate doubled relative to that of the 2010 cohort. It reached its peak with the 2018 cohort at almost triple the rate of the first cohort. The rate at which tax filing public attendees claimed these deductions also remained stable up to the 2018 cohort, where it peaked at 93 per cent.

Figure 25 Tuition deductions among tax filers by permit cohort, descriptive results



EARNINGS REPORTED

In this section, before reviewing the average annual earnings reported by study permit holders outside the public postsecondary system, we first consider the proportion of permit holders who reported any earnings within the first five years following receiving their Ontario study permit. For context, overall, 78 per cent reported earnings in their first year and 85 per cent did in their fifth year. These rates were very similar to those of public attenders, albeit a few (i.e., between 1 and 5) percentage points lower.

Why would study permit holders who do not have any income file taxes?

International students may be eligible for various tax benefits and credits, such as the carbon tax or GST refund, not all of which depend on reported income. While students can report tax deductions to lower taxable earnings, this incentive is weak for those who do not report any income. That being said, multiple institutions recommend international students file their taxes and claim education deductions even without earnings as this may reduce the taxes owed in future years should students start working as part of their program (e.g., co-op and placements) or work on- or off-campus.

When looking at the proportion of study permit holders outside the public postsecondary system reporting earnings (**Figures 26** and **27**), we can see that Indian study permit holders were most likely to report earnings and Chinese study permit holders were least likely to report earnings in their first year (approximately 35 per cent). A low proportion of females from Northern Africa and Central Asia & Middle East similarly did not report earnings in their first year (44 and 46 per cent, respectively), but they were also less likely than most others to report earnings five years later as 40 and 48 per cent of them did not, respectively. These patterns roughly mirror what we saw in the public attender sample as well.

Figure 26 Earnings reported by region/country of citizenship and male/female, descriptive results

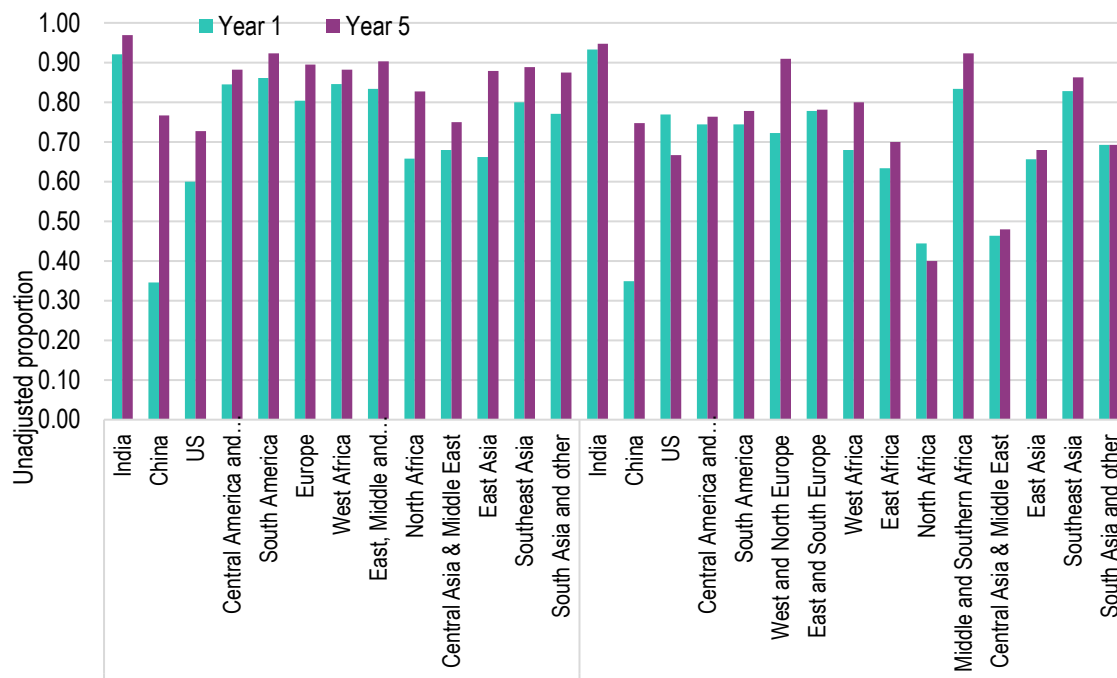
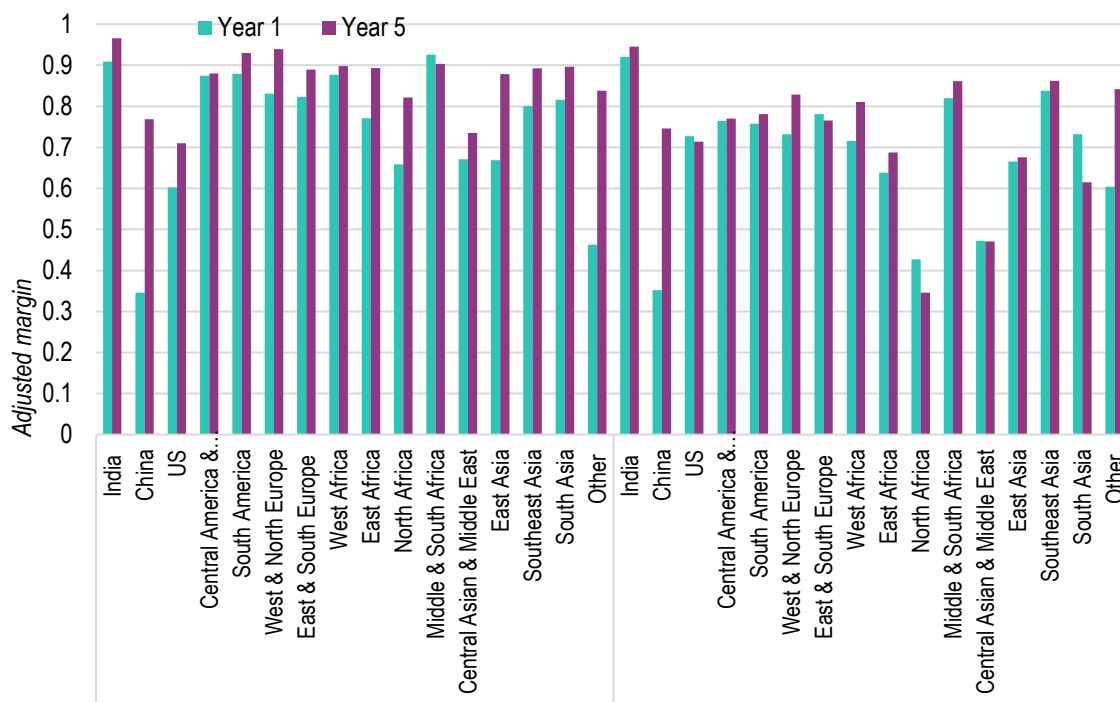
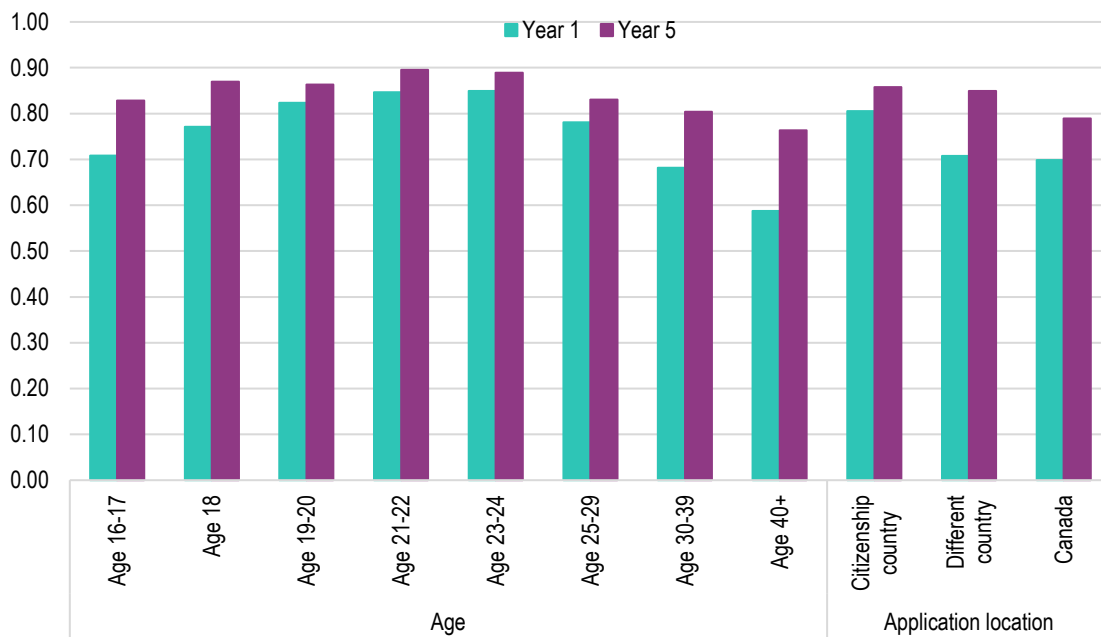


Figure 27 Earnings reported by region/country of citizenship and male/female, adjusted results



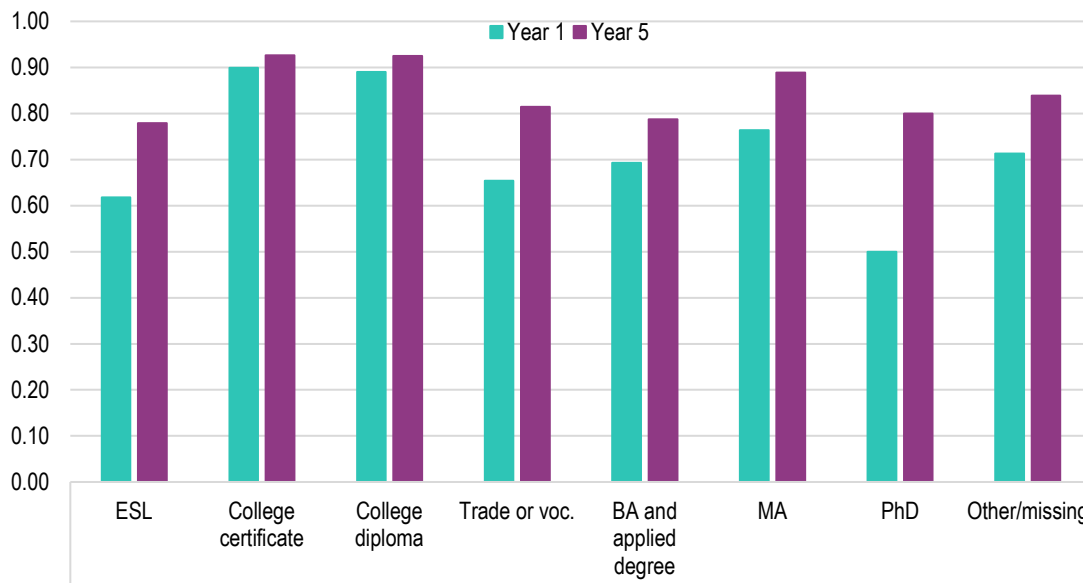
Those age 23-24 at permit issue were most likely to report earnings, while those 25 and older were less likely to report earnings in all years following permit issue (Figure 28). While we observed some differences by application location, the pattern changes after accounting for other characteristics in a regression analysis: those who applied from Canada were generally not statistically different in reporting earnings from those who applied from their home country. Those who applied from a different country tended to report earnings more often than did the other two groups. Similar patterns were observed for public attenders.

Figure 28 Earnings reported by age and application location, descriptive results



By permit study level (Figure 29), we see that while those with permits at the ESL and PhD levels appeared to have the lowest rates of earnings reported, once the regression controls for other factors, holders of ESL study permits were least likely to report earnings in the first year and those with diploma-level permits were the most likely to report earnings. The differences after five years were much smaller, almost completely disappearing with the exception of master’s level study permit holders who were much more likely to report earnings. Similar patterns were observed for public attenders.

Figure 29 Earnings reported by permit study level, descriptive results



Compared to others and controlling for other factors, those with prior K-12 or CEGEP experience in Canada were the least likely to report earnings in the first few years following permit issuance and those who had a prior PSE study permit outside of Ontario were most likely to report earnings (**Figure 30**).

Figure 31 presents the proportion of permit holders who claimed earnings in their first year following permit issue by cohort. We can see that the cohort least likely to report earnings was the 2010 cohort. This finding remains the same when a regression controlled for other factors. In fact, study permit holders were increasingly more likely to report earnings on their Canadian taxes from one cohort to the next up until the 2020 cohort. This last cohort was 25 adjusted percentage points more likely than the 2010 cohort to report earnings in their first year.

Figure 30 Earnings reported by prior Canadian study experience, descriptive results

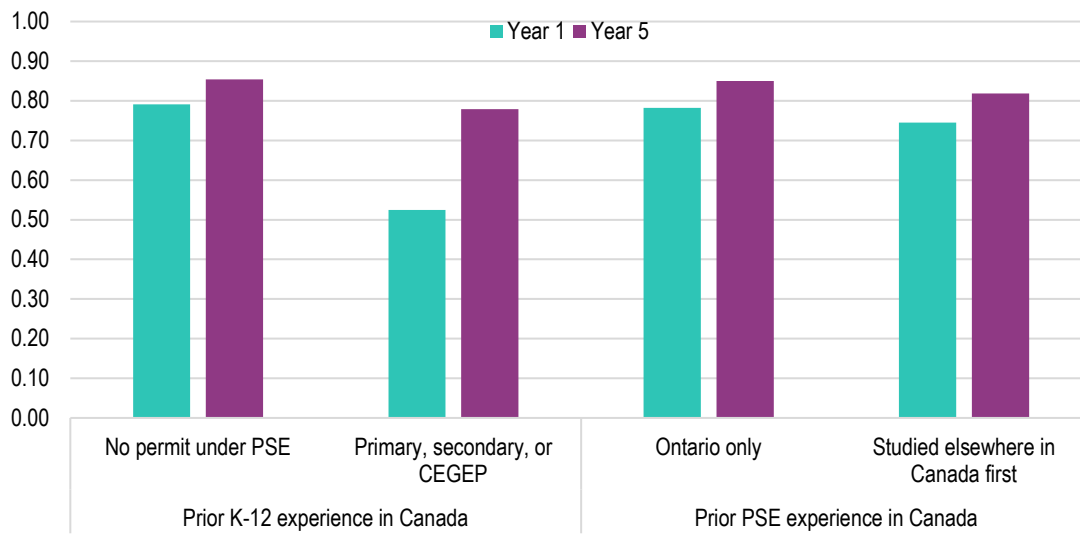
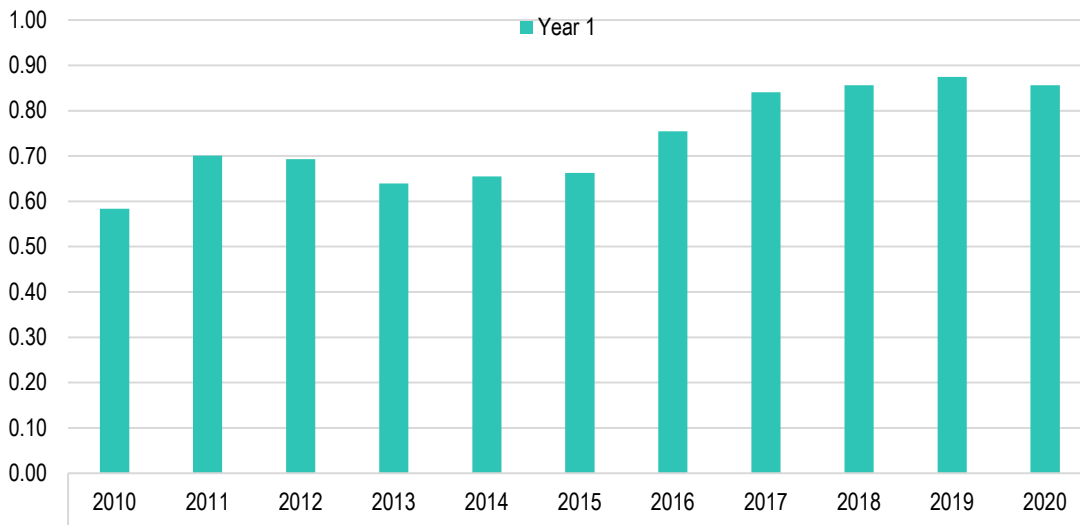


Figure 31 Earnings reported by permit cohort, descriptive results



AVERAGE EARNINGS

The next sets of results explore the average annual earnings amounts reported by Ontario study permit holders outside the public postsecondary system who filed taxes and reported earnings (i.e., more than \$0).¹² The earnings of these permit holders averaged \$17,000 in the first year

¹² Tax filers are included in each year they report earnings and excluded from years where they do not and therefore the underlying sample in each year changes. The earnings increase across years 1 to 5

and grew to \$40,500 in the fifth year following permit issuance. As they were likely still engaged in school during the early years, the increase may reflect time available to work, experience gained, and potentially credential completion. In the first year, those outside the public postsecondary sector earned more than those who attended public colleges and universities (approximately \$1,500 more), but starting in year 2, public non-attenders earned consistently less than public attenders and the difference increased to approximately \$6,000 by year.

Figure 32 presents four graphs to compare the unadjusted and adjusted average annual earnings by region and male/female status of study permit holders outside the public postsecondary system. Five years following permit issuance, males from West and North Europe earn the most among males (over \$60,000) and Indian females earn the most among females (over \$40,000). The average earnings of males and females from the same region differ significantly and these differences are not explained by other characteristics included in the regressions.

Older study permit holders tended to earn more than younger ones in most years; however, five years out those who were aged between 25 and 29 at permit issue recorded the highest earnings (**Figure 33**). This pattern remained in the regression analysis. With respect to application location, those who applied from within Canada earned the most in the first year after receiving their study permit. Those who did not apply from their home country earned less, but still more than those who applied from their home country. By year 5, those who applied from within Canada earned less than those who applied from their home country or those from another country. While these patterns were reflected in the regression analysis, the differences were generally not statistically significant from the third year onwards. Among public attenders, those who applied from outside their home country earned significantly more than those who applied from their home country or from Canada each year following permit issue.

The distribution of earnings recorded by permit study level in year 1 was much tighter than in year 5 (**Figure 34**). By year 5, those with master's level study permits earned significantly more than others (\$59,700) and those with an ESL permit earned significantly less. These differences all remained after controlling for other characteristics. Public attenders experienced similar patterns but most earnings differences remained statistically significant into the fifth year.

could reflect, in part, (a) individuals experiencing earnings growth and/or, i(b) the changing sample as low or high earning individuals join or leave the sample.

Figure 32 Annual earnings by region/citizenship and male/female, descriptive and adjusted results

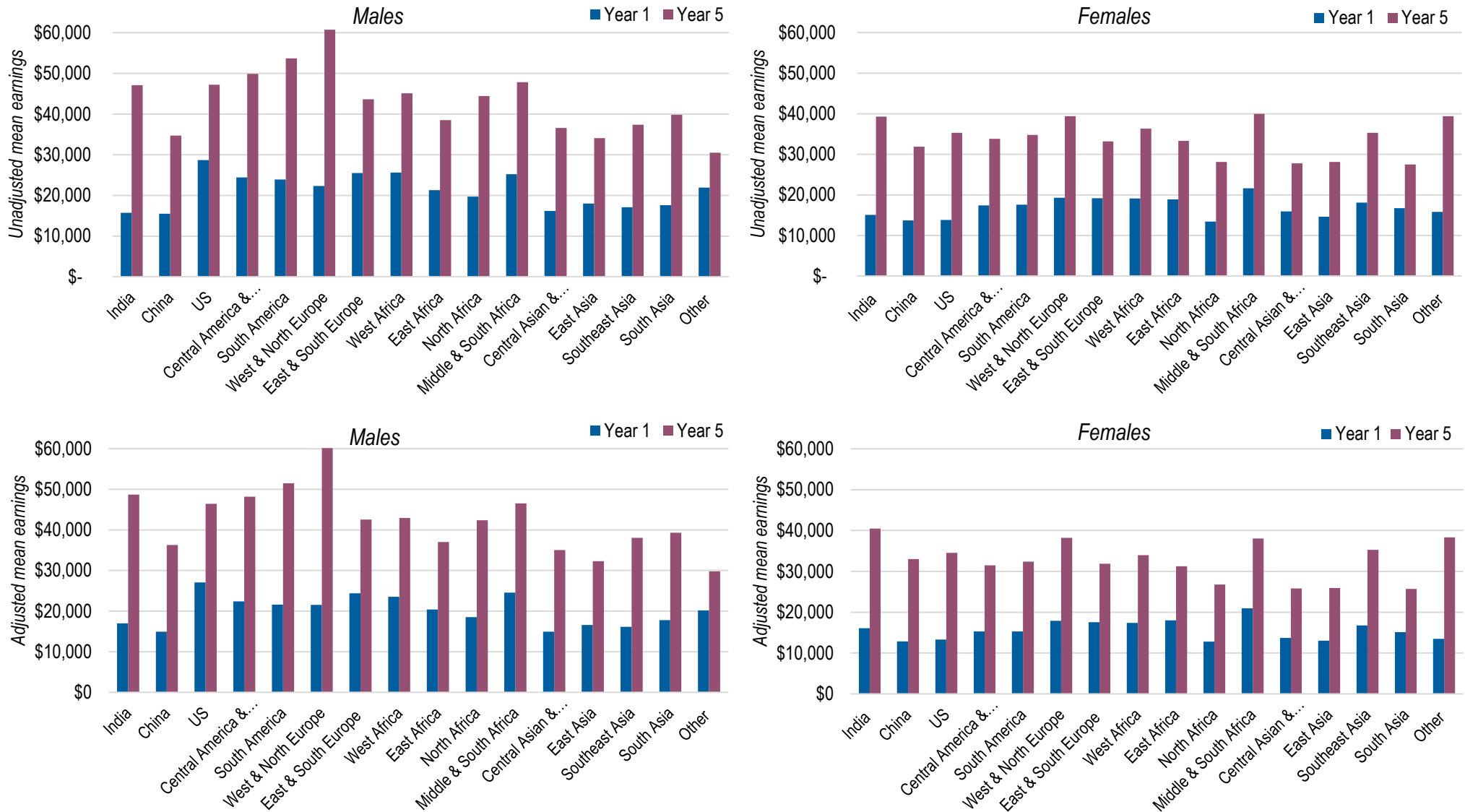


Figure 33 Annual earnings by age and application location, descriptive results

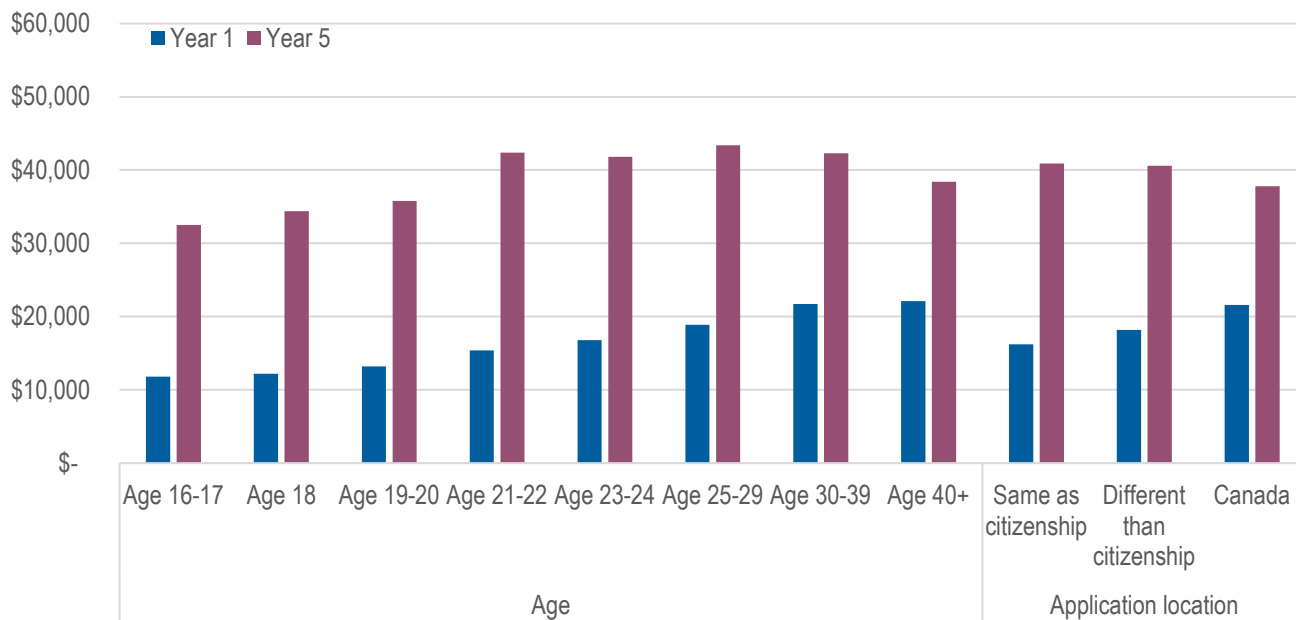
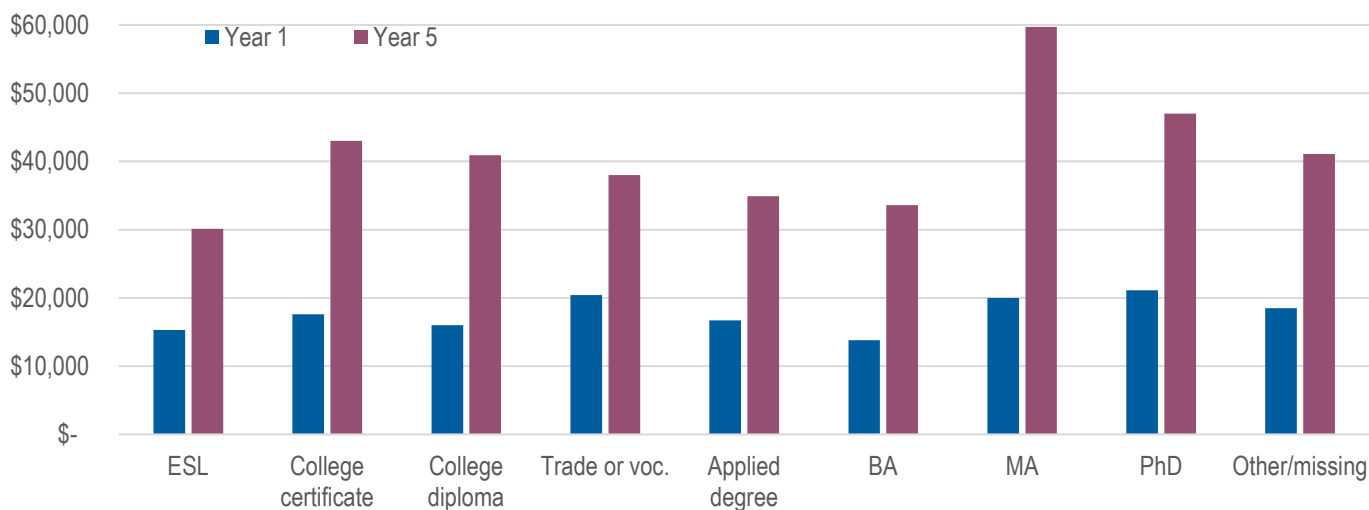


Figure 34 Annual earnings by permit study level, descriptive results



Earnings trajectories by study permit destination were fairly similar in the first year (Figure 35). The regression results found, relative to Toronto, those initially destined for Muskoka-Kawarthas and London earned significantly less five years after permit issuance, while only those who chose Kitchener-Waterloo-Barrie & Stratford-Bruce Peninsula earned more.

Figure 35 Annual earnings by destination, descriptive results

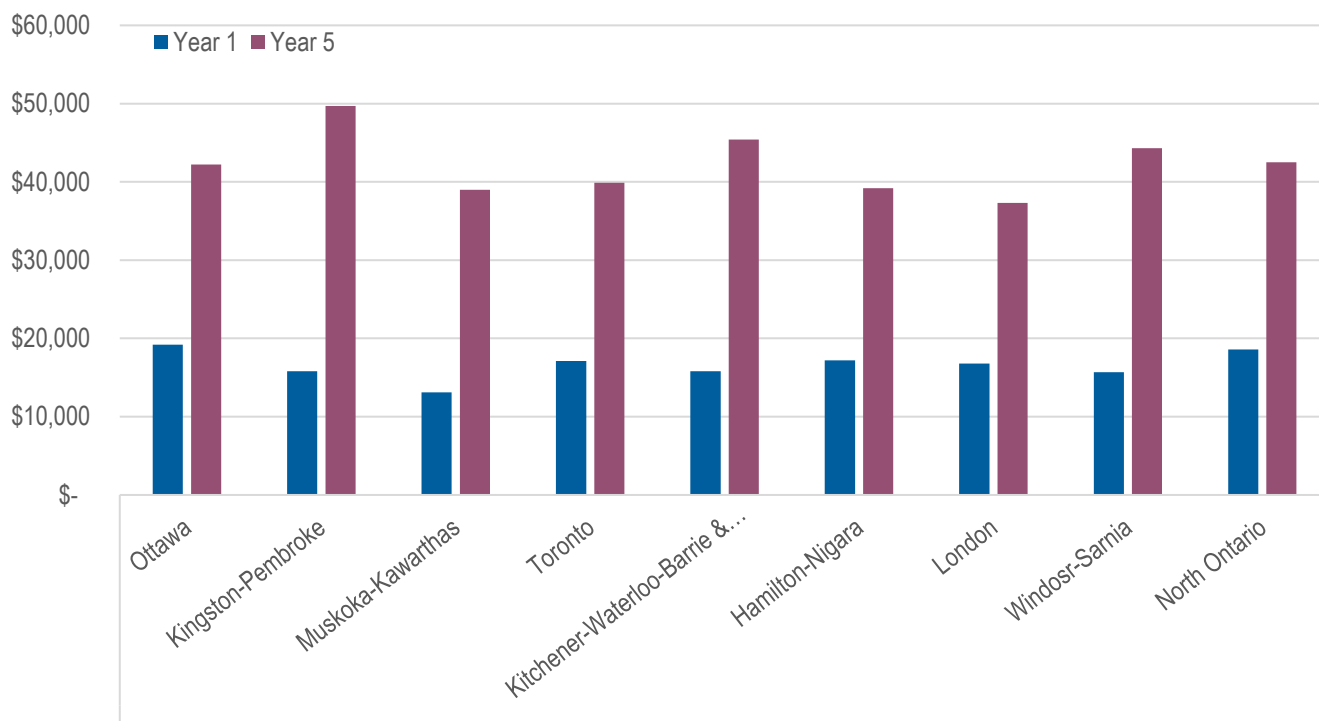
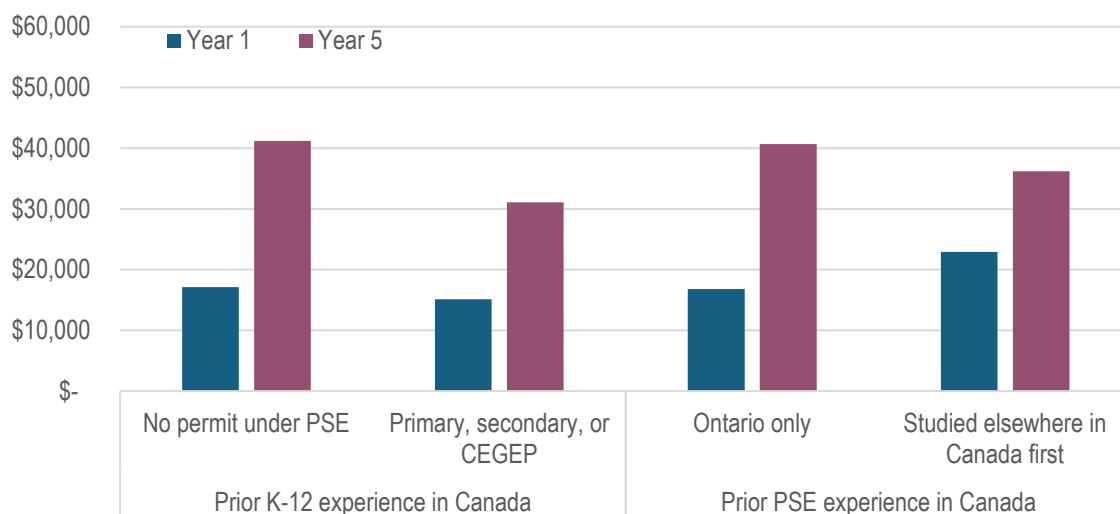


Figure 36 Annual earnings by prior education experience in Canada, descriptive results

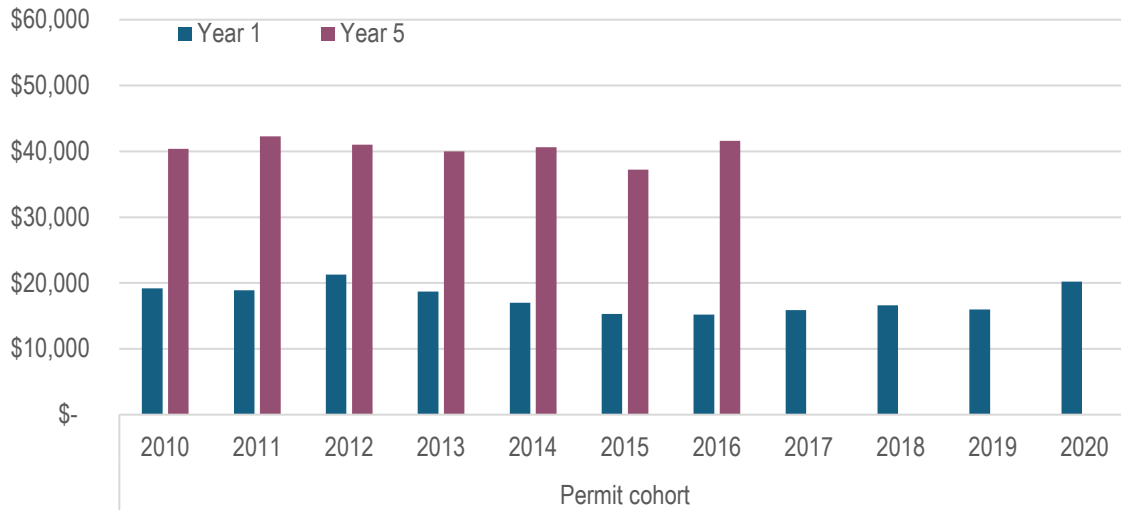


Those with prior Canadian K-12 or CEGEP experience earned less than those who had no prior Canadian education experience (Figure 36). There were no major differences between those

with prior Canadian PSE experience and those without, expect for during the first year when the latter earned more.

While there were some small variations in average first year earnings reported across cohorts, these differences had mostly disappeared five years out ([Figure 37](#)).

Figure 37 Annual earnings by permit cohort, descriptive results



MIGRATION OUTCOMES

This final analysis section examines the year-by-year migration outcomes of Ontario study permit holders outside the public postsecondary system. This analysis considers whether students held a study permit and/or work permit, became a permanent resident (PR), or no longer had an official status in Canada, likely meaning they had left the country. We present migration outcomes two, four, six, and eight years following the study permit being issued on the graphs, but years 1 through 8 are available in [Appendix A](#). It is important to note that the underlying cohorts included in each yearly analysis differ (e.g., only people who were issued a permit between 2010 and 2012 are available to be included in the eight-year outcome model), and therefore longer-term migration outcomes will likely differ for more recent cohorts for whom there is no data yet available in IMDB.

To examine migration outcomes by region and male/female, [Figures 38](#) and [39](#) show two-, four-, six-, and eight-year unadjusted and adjusted outcomes. Overall, the unadjusted results reveal that, among all international students observed:

- Two years after being issued a study permit, 38 per cent had no active study or work permit, 59 held a study and/or work permit, and 3 per cent had transitioned to become a PR.

- Four years after being issued a study permit, 62 per cent had no active study or work permit, 27 held a study and/or work permit, and 10 per cent had transitioned to become a PR.
- Six years after being issued a study permit, 75 per cent had no active study or work permit, 8 held a study and/or work permit, and 16 per cent had transitioned to become a PR.
- Eight years after being issued a study permit, 77 per cent had no active study or work permit, 3 held a study and/or work permit, and 20 per cent had transitioned to become a PR.

Compared to public attenders, public non-attenders are much more likely to have no permit in all years and less likely to have transitioned to permanent residency.

Public non-attenders from South America and East Asia were the most likely to have no permit two years following permit issuance (approximately 70 per cent), while Indian and Southeast Asian permit holders were the least likely to have no permit in year two (9 and 16 per cent, respectively). This was true for both males or females. Differences were much more marked across region/country of citizenship than male/female.

Four years out, South American and East Asian permit holders were still the most likely to have no permit and those from Europe and Central Asia & Middle East were also increasingly more likely to have no permit. By year 6 and into year 8, Indians, Africans, and Southeast Asians were the most likely to have transitioned to permanent residency.

The association between age and transition to permanent residency was clear for public non-attenders (**Figure 40**) and stronger than for public attenders, among whom the rate dipped for those aged 30–39 at permit issue and again for those age 40+. Those who applied for the study permit from within Canada were more likely to become permanent residents in each year than those who applied from their home country or from another country.

Figure 38 Two and four year migration outcomes by region/country of citizenship and male/female, descriptive and adjusted results

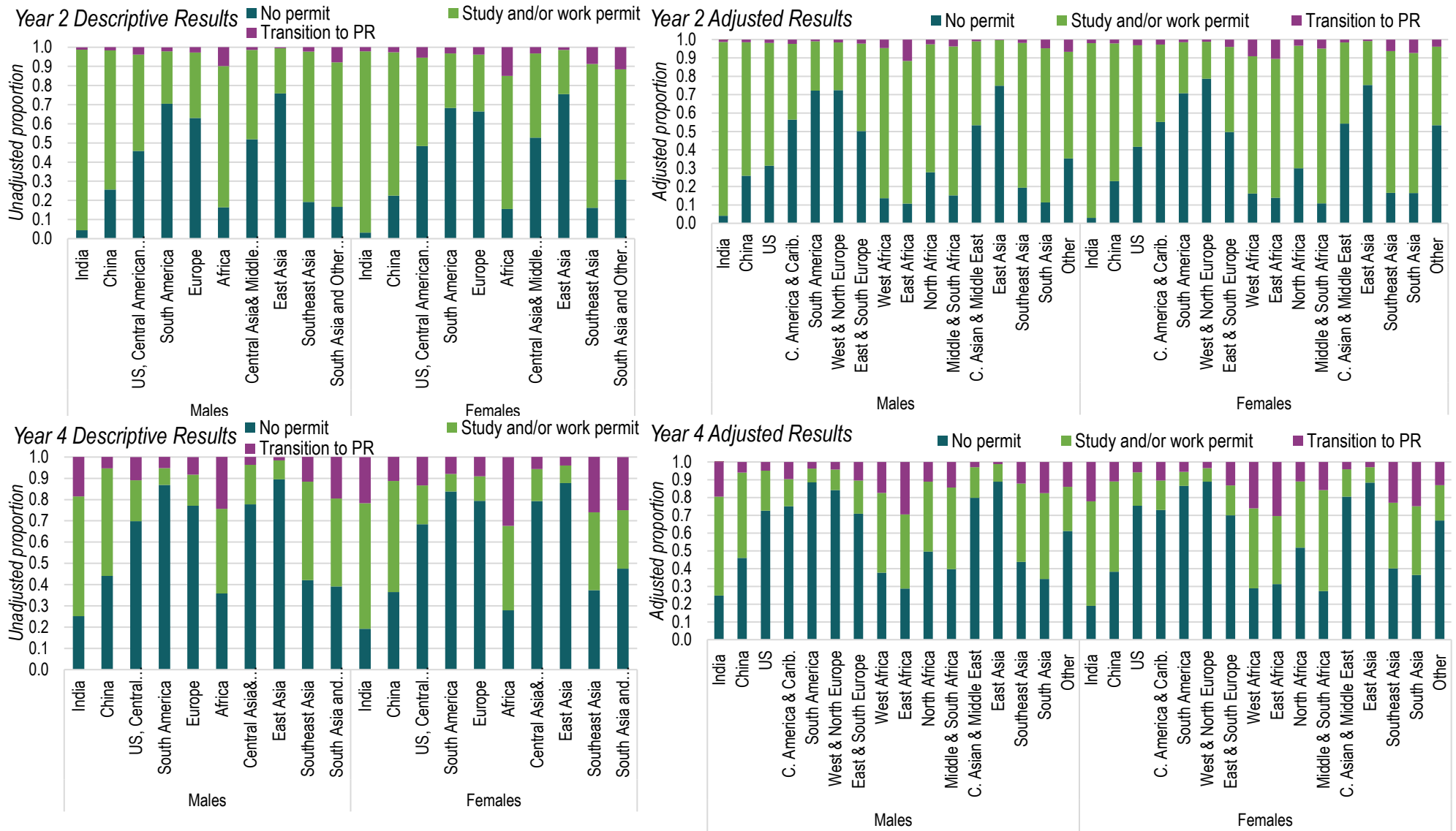


Figure 39 Six and eight year migration outcomes by region/country of citizenship and male/female, descriptive and adjusted results

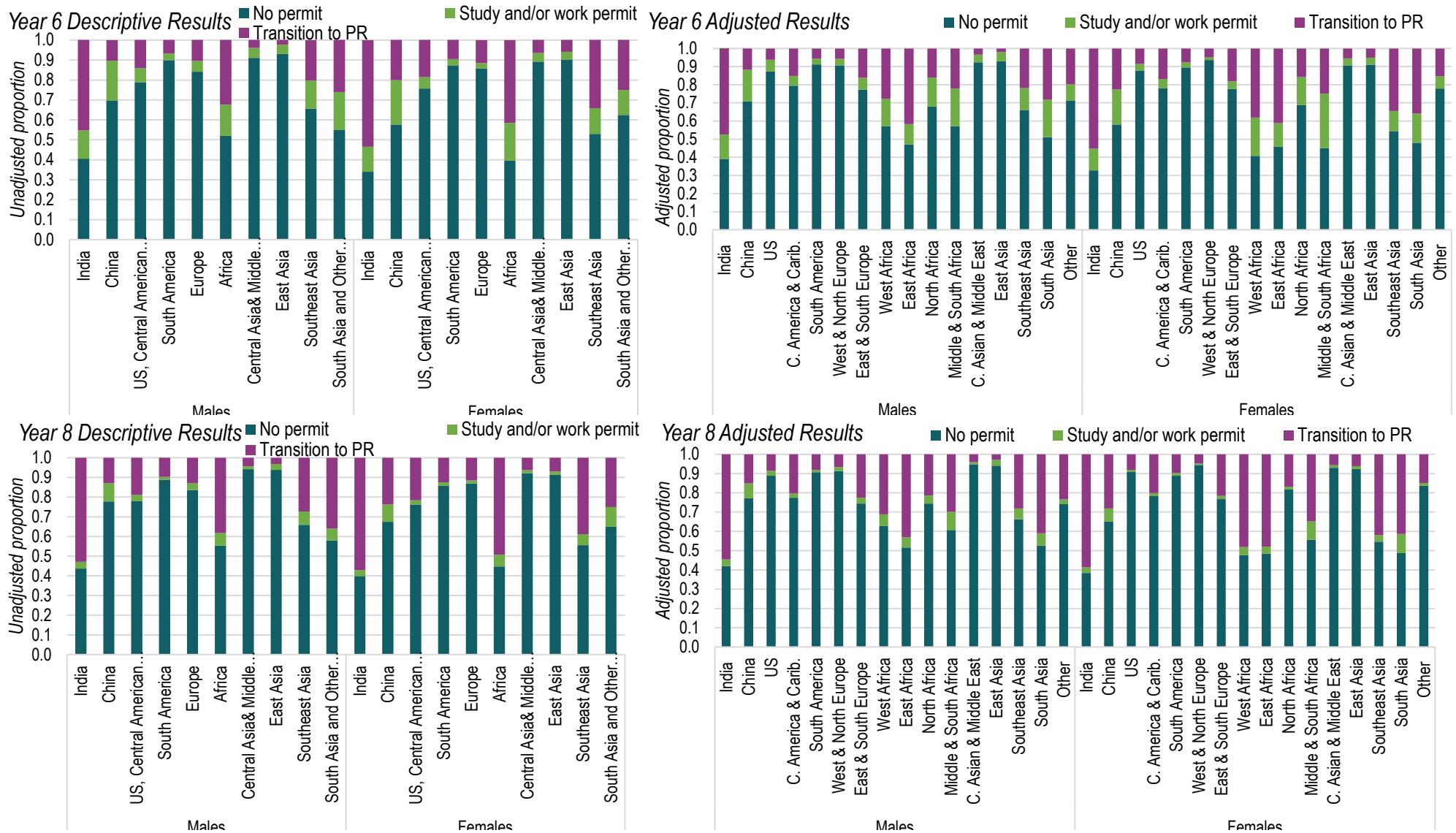


Figure 40 Transition to PR by age and application location, descriptive results

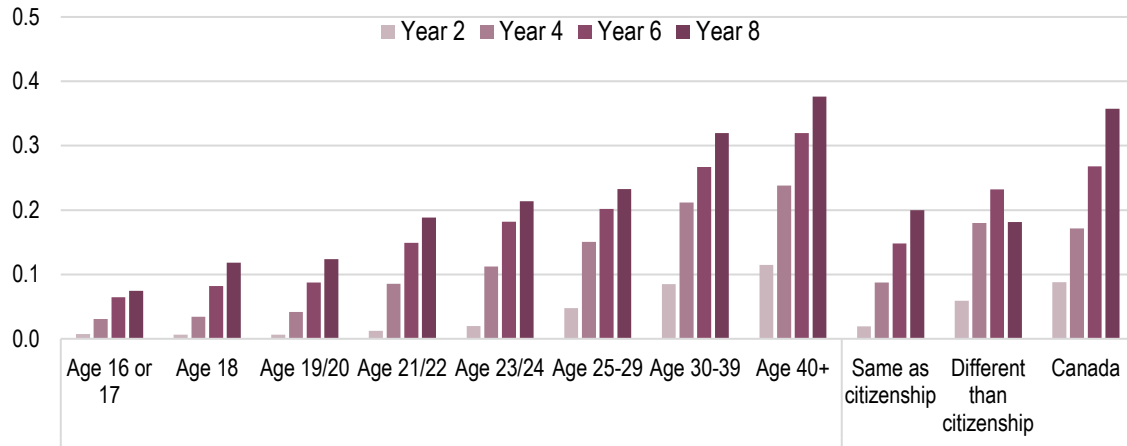
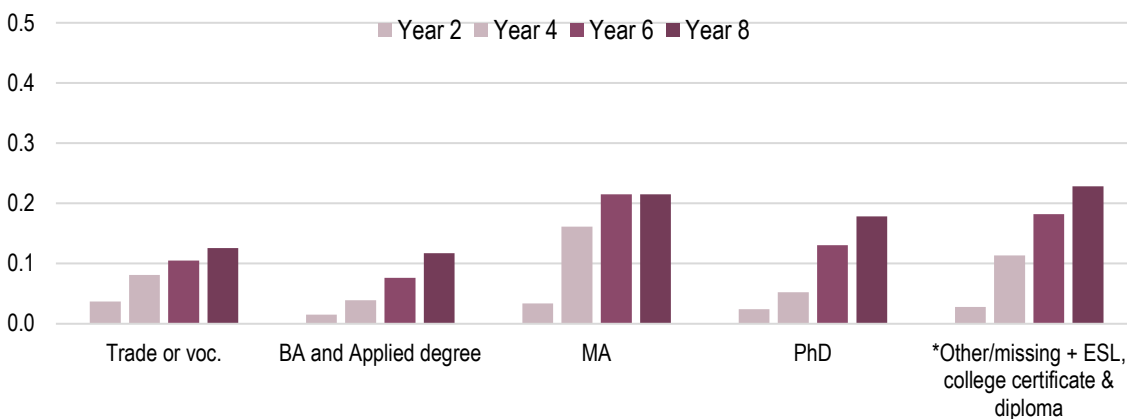


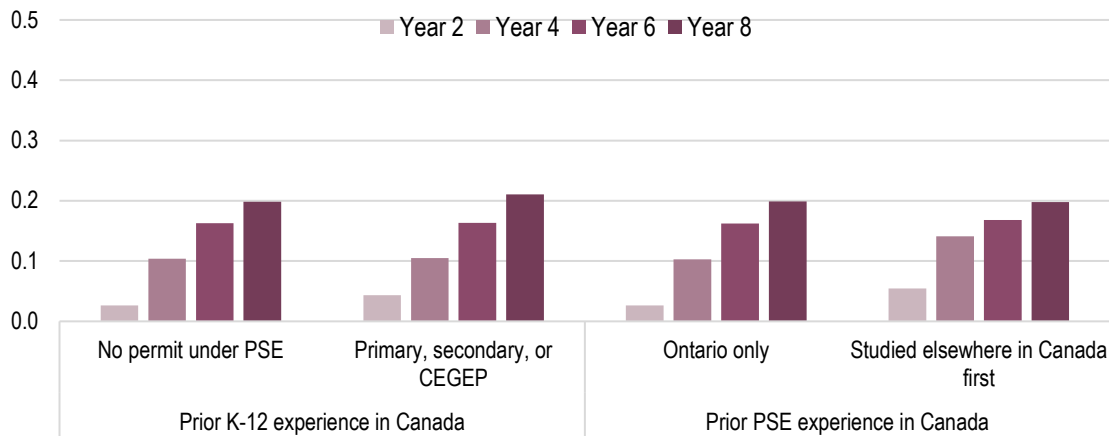
Figure 41 shows that after eight years those with study permits at the master’s level and in the “other/missing” category (which includes ESL, college certificate and diploma due to sample size restrictions) became permanent residents at higher rates than those in the remaining three categories. However, the regression clarified that all else equal, those with “other/missing” study level and trade/vocational were most likely to move to permanent residency eight years out, but the difference compared to bachelor’s level permit holders was narrow at just over 4 percentage points. In contrast, public attenders entering graduate programs recorded the highest PR transition rates across program categories.

Figure 41 Transition to PR by permit study level, descriptive results



Prior Canadian PSE education (Figure 42) was not a significant factor in transition to PR, but those with Canadian K-12 or CEGEP experience were slightly more likely to transition to PR, which was also confirmed in the regression.

Figure 42 Transition to PR by prior Canadian study experience, descriptive results



DISCUSSION

Phase 2 of this project was intended to provide new evidence on the pathways and outcomes of Ontario student permit holders who do not attend public postsecondary institutions. While the data available did not include as much about public non-attenders' schooling as for public attenders, the available linkages revealed interesting patterns with respect to their probabilities of filing taxes in Canada, their engagement in education as revealed by education tax deductions, their earnings, and migration behaviour. The next and final phase of the research will be to compare the results from Phases 1 and 2 and discuss the policy implications of the findings.

The overarching goal of HEQCO's consortium on international education is to answer two wide-ranging questions:

1. How can institutions, communities, and government support quality, accountability, and sustainability of international education in Ontario?
2. How can government and institutions support the transition of international students to successful labour market outcomes and immigration?

To address the first question, our research has shown that while there was a large increase in the number of international students first issued Ontario study permits between 2015 and 2019—with a sharp decline in 2020 due to the COVID-19 pandemic—this change did not result in a marked change in the proportion remaining outside the public postsecondary system. For people issued study permits in 2010, 24 per cent did not enter the public system. This rate decreased to 17 per cent for the 2015 cohort and went back up to 23 per cent with the 2020 cohort. Understandably, Phase 2 confirms that the public Ontario higher education system was the primary destination for those who received a study permit between 2010 and 2020.

While our report cannot pinpoint precisely how many of the 144,000 Ontario study permit holders outside the public postsecondary system went on to study in private institutions, we do know that of the 22 per cent of those who filed taxes in the first year following receipt of their permit, 54 per cent claimed tuition deductions. This is our best proxy for rates of attendance in private education institutions but it carries a substantial caveat in that it is possible that international students underreport education-related deductions on their taxes for various reasons (e.g., due to students knowing less about eligible tax deductions or students with low or no earnings lacking an incentive to report tax deductions). For Ontario, 77,760 (54 per cent of 144,000) is thus a lower bound estimate (and 144,000 the upper bound) of the number of permit holders attending private institutions.¹³

One important contribution of our study has been to track both the initial permit characteristics and outcomes of multiple international student groups by their region/country of citizenship, which revealed large variations in: tax filing behaviours; claiming education deductions; reporting earnings; and remaining in Canada. **Table 2** provides an overview of several unadjusted results disaggregated by region, while the results section earlier in the report provides further disaggregation between males and females as well as region.

Combining all cohorts, we can see that almost half of East Asian study permit holders opted not to enter the public postsecondary system (45 per cent), while Chinese, West African, and South Asian permit holders were least likely to be outside the public system (approximately 10 per cent). As indicated in the first report, there are likely multiple reasons for these differences, including the relative strengths of home versus Ontario educational programming, the activity of international student recruiters and institutional partnerships, educational preparation required to meet entry requirements, as well as localized education and cultural systems and communication channels that promote certain program pathways over others.

Ontario study permit holders who did not attend public postsecondary institutions were less likely to file taxes one year and five years following permit issue (approximately 20 per cent did so) than those who attended public institutions, by approximately 40 percentage points. While tax filing rates did not vary significantly from year to year, they did vary by region of origin. International students from Africa (from each region within it) as well as those from South Asia had comparatively high tax filing rates in both year 1 and year 5 after their permit was issued. Generally, there was little movement in filing behaviour over time (shifting only a few percentage points up or down). However, both Indian and Southeast Asian permit holders increased their tax filing rates in their fifth year by 11 percentage points relative to their rate in the first year, which could signal greater attachment to remaining in Canada.

¹³ Some of those we label “public non-attenders” would also be attending those public institutions that did not report enrollment data to Statistics Canada, including many colleges with missing data prior to 2013 in PSIS.

Of those who filed taxes one year after receiving their study permit, 54 per cent claimed education-related deductions (17,000 claimed deductions over 31,220 filers) while 10 per cent did so in year 5 (1,430 over 14,480): equivalent rates for those who attended public postsecondary were 81 per cent in year 1 and 10 per cent in year 5. This is the only direct evidence of pursuing education outside the public postsecondary system available to this study. Indian permit holders outside the public postsecondary system reported education-related deductions at much higher rates than those from other countries in their first year (77 per cent) and approximately half of those from China, and Southeast Asia claimed similar tax deductions. Approximately 20 per cent of Chinese permit holders still claimed education deductions on their taxes five years after receiving their initial Ontario study permit, a rate twice as high as the average.

While public attenders were more likely to file taxes and to claim education deductions, tax filing public non-attenders were as likely to report earnings. In the first year, 78 per cent (24,400) of filing public non-attenders and 79 per cent of filing public attenders reported earnings and, by year 5, 85 per cent of filing public non-attenders and 90 per cent of filing public attenders reported earnings. Permit holders from India reported earnings at a much higher rate in their first year (93 per cent) and five years out (96 per cent) although the difference between their rate and those from other regions was not as large.

In their first year, public non-attenders earned on average \$17,000 and by year 5 they earned \$40,500. The equivalent numbers for attenders were \$15,500 and \$46,500. By their fifth year public non-attenders reported earnings 15 per cent lower than those who attend public postsecondary institutions. By region, we see that—by year 5—those from West & North Europe reported the highest average annual earnings at \$51,000, followed by those from India (\$44,800) and those from South America (\$44,100).

As a reminder, the underlying sample changes from year to year for the 1) tuition deduction, 2) earnings reported, and 3) average earnings analyses. This is because each year's sample comprises, in the first case, only those who filed taxes in that given year, while the last two include only filers with earnings during any given year. Respectively, these estimates thus represent: 1) of those who filed taxes in a given year, what proportion also claimed education deductions; 2) of those who filed taxes in a given year, what proportion also reported positive earnings; and 3) of those who filed taxes and reported earnings in a given year, how much they earned. This means that the underlying sample - from one year to the next and of course between non-public and public attenders - may vary, and the extent to which these compositional differences influence the results is unclear. For example, the difference in mean earnings across "similar" public and non-public students is wrapped up in their individual probability of filing taxes and reporting earnings in the first place.

When we consider migration outcomes eight years out, 77 per cent of public non-attenders by then did not have a permit and 20 per cent had transitioned to permanent residency, whereas 33 per cent of public attenders did not have a permit and 54 per cent had become permanent

residents by then, meaning that those outside the public postsecondary system were more likely to have left (or never entered) the country after eight years and less likely to have become a permanent resident. Public non-attenders from India and Africa were most likely to have become permanent residents by year 8 (54 and 43 per cent, respectively). Similarly, study permit holders from those same regions/countries who attended public postsecondary institutions were similarly more likely than average to have become permanent residents eight year following permit issue.

While the Phase 2 analysis was able to produce new information about those who did not attend public postsecondary institutions, specifically labour market and migration outcomes, it could not provide much insight into their schooling experiences and education outcomes given the data limitations.

To address the second question, at least in terms of support for the transition of international students towards successful immigration and labour market outcomes, SRDC's Phase 2 analysis found that those who opted not to enter the public postsecondary system transitioned to permanent residency at lower rates than those who enrolled in a public college or university. It is unclear whether these study permit holders were (a) facing labour market or immigration barriers at a higher rate than those who attended public postsecondary or (b) intentionally coming to Canada for short-term and/or specific training meaning fewer expected to remain in Canada from the outset. By year 2, almost 40 per cent of public non-attenders had no official status in the country (i.e., they most likely had left or never arrived in the country) whereas the equivalent figure for public attenders was just 5 per cent. By year 3, there were more individuals without permits than with (study or work) permits and PR combined, which was not the case for public attenders.

Public non-attender students from India were consistently the most likely to become permanent residents relative to those from other regions/countries, much like the equivalent public attenders. In terms of study level, students whose permit was associated with doctoral studies were the least likely to transition to permanent residency. If there is a policy goal to support incoming graduate-level international students, then there may need to be a review of private institution PhD programs to ensure willing students are in a position to benefit from transition programs such as the PGWP and others.

The final phase of this analysis will involve a deeper comparison of similarities and differences in the pathways of public attenders and public non-attenders to produce a more complete picture of how well the Ontario system is supporting different groups of international students to yield insights and recommendations for policy given any barriers identified.

Table 2 Overview of Phase 1 results by region/country

	2010-20 outside public PSE system		% of filing taxes in Canada		% claiming tuition deductions		% reporting earnings		Average annual earnings		% with no permit		% transitioned to PR	
	Overall share	%	Y1	Y5	Y1	Y5	Y1	Y5	Y1	Y5	Y6	Y8	Y6	Y8
	682,530	144,260	31,220	14,480	17,000	1,430	24,400	12,300	24,400	12,300	51,620	32,640	51,620	32,640
Overall	1.00	21%	22%	20%	54%	10%	78%	85%	\$17,000	\$40,500	75%	77%	16%	20%
India	0.40	19%	27%	38%	77%	8%	93%	96%	\$15,500	\$44,800	39%	43%	48%	54%
China	0.20	10%	22%	21%	49%	19%	35%	76%	\$14,500	\$33,300	65%	74%	14%	17%
US	0.01	20%	14%	13%			64%	74%	\$21,000	\$41,900				
Central America and Caribbean	0.03	28%	26%	25%			79%	81%	\$20,400	\$40,500	89%	88%	8%	11%
South America	0.05	39%	17%	12%	37%	10%	79%	84%	\$20,700	\$44,100				
West and North Europe	0.03	27%	7%	7%			76%	87%	\$20,800	\$51,000				
East and South Europe	0.02	19%	28%	26%			79%	83%	\$21,800	\$38,200				
West Africa	0.03	11%	49%	50%			77%	85%	\$22,800	\$40,900				
East Africa	0.01	17%	54%	53%			70%	79%	\$20,300	\$36,200				
North Africa	0.01	23%	38%	39%			57%	69%	\$18,300	\$42,300				
Middle and Southern Africa	0.01	19%	53%	52%			88%	88%	\$23,300	\$43,500				
Central Asia & Middle East	0.06	34%	13%	7%	26%	9%	59%	64%	\$16,100	\$34,200	91%	93%	5%	5%
East Asia	0.07	45%	10%	7%	26%	11%	66%	74%	\$15,600	\$30,300	91%	92%	5%	6%
Southeast Asia	0.04	19%	25%	36%	53%	9%	82%	87%	\$17,800	\$36,000	58%	60%	29%	34%
South Asia	0.02	11%	46%	43%			80%	83%	\$17,400	\$37,600				
Other	0.00	21%	22%	22%			50%	90%	\$19,000	\$34,500				
<i>US, Central American and Caribbean</i>					35%	9%					77%	77%	17%	20%
<i>Europe</i>					39%	7%					85%	85%	11%	13%
<i>Africa</i>					27%	9%					47%	51%	36%	43%
<i>South Asia and Other regions</i>					44%	13%					57%	59%	28%	35%

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APPENDIX A: RESULT TABLES

Compositional analysis

Table 3 Descriptive analysis: Proportion of Ontario study permit holders outside the public postsecondary system

	All Years	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Observations	144260	11590	10560	10490	10330	8660	8510	12490	18640	20520	23760	8730
Total	0.21	0.24	0.24	0.25	0.22	0.22	0.17	0.18	0.21	0.20	0.21	0.23
Region/country of citizenship												
India	0.19	0.15	0.18	0.15	0.10	0.09	0.10	0.15	0.20	0.20	0.23	0.29
China	0.10	0.12	0.09	0.09	0.09	0.10	0.10	0.12	0.11	0.09	0.09	0.10
US	0.20	0.25	0.22	0.24	0.25	0.19	0.19	0.16	0.14	0.17	0.19	0.21
Central America and Caribbean	0.28	0.33	0.38	0.37	0.34	0.30	0.24	0.22	0.22	0.28	0.22	0.26
South America	0.39	0.50	0.56	0.59	0.48	0.48	0.29	0.28	0.30	0.31	0.31	0.35
West and North Europe	0.27	0.22	0.34	0.34	0.43	0.26	0.23	0.22	0.25	0.25	0.23	0.22
East and South Europe	0.19	0.19	0.21	0.23	0.22	0.23	0.19	0.15	0.16	0.16	0.16	0.19
West Africa	0.11	0.17	0.18	0.15	0.11	0.11	0.08	0.07	0.06	0.11	0.10	0.11
East Africa	0.17	0.21	0.17	0.17	0.20	0.23	0.19	0.13	0.13	0.18	0.12	0.15
North Africa	0.23	0.26	0.21	0.23	0.31	0.33	0.22	0.20	0.16	0.22	0.18	0.21
Middle and Southern Africa	0.19	0.18	0.40	0.22	0.17	0.15	0.14	0.10	0.11	0.15	0.21	0.21
Central Asia & Middle East	0.34	0.35	0.35	0.37	0.35	0.42	0.44	0.33	0.41	0.30	0.25	0.21
East Asia	0.45	0.49	0.51	0.53	0.49	0.47	0.41	0.43	0.42	0.42	0.39	0.37
Southeast Asia	0.19	0.25	0.25	0.27	0.25	0.21	0.21	0.20	0.17	0.19	0.15	0.19
South Asia	0.11	0.08	0.12	0.12	0.09	0.10	0.12	0.11	0.08	0.13	0.12	0.13
Other	0.21	0.17	0.16	0.21	0.23	0.31	0.29	0.25	0.27	0.17	0.25	0.20
Male/female												
Male	0.20	0.24	0.24	0.24	0.22	0.21	0.17	0.18	0.20	0.19	0.20	0.21
Female	0.22	0.24	0.24	0.25	0.23	0.23	0.18	0.18	0.22	0.21	0.23	0.25
Application location												
Same as citizenship	0.22	0.24	0.24	0.25	0.24	0.25	0.20	0.19	0.22	0.22	0.22	0.28
Different than citizenship	0.18	0.19	0.26	0.20	0.18	0.19	0.15	0.15	0.12	0.15	0.14	0.14
Canada	0.15	0.24	0.19	0.30	0.16	0.16	0.11	0.15	0.13	0.13	0.13	0.17
Age												
Age 16 or 17	0.16	0.23	0.23	0.22	0.18	0.16	0.13	0.15	0.14	0.13	0.15	0.13
Age 18	0.15	0.19	0.16	0.15	0.15	0.15	0.13	0.14	0.15	0.15	0.18	0.16

Postsecondary pathways and outcomes of international students in Ontario: Phase 2

Age 19/20	0.22	0.19	0.21	0.22	0.20	0.20	0.16	0.18	0.22	0.24	0.26	0.26
Age 21/22	0.21	0.22	0.24	0.24	0.23	0.21	0.17	0.17	0.19	0.20	0.20	0.27
Age 23/24	0.21	0.24	0.24	0.25	0.22	0.22	0.17	0.18	0.21	0.20	0.19	0.23
Age 25-29	0.24	0.27	0.28	0.30	0.26	0.27	0.21	0.21	0.24	0.23	0.22	0.25
Age 30-39	0.29	0.32	0.32	0.35	0.34	0.33	0.29	0.27	0.31	0.26	0.22	0.25
Age 40+	0.33	0.54	0.46	0.43	0.40	0.35	0.32	0.29	0.32	0.26	0.24	0.29
Permit study level												
ESL	0.40					0.48	0.47	0.44	0.38	0.37	0.37	0.45
College certificate	0.17					0.12	0.14	0.14	0.19	0.18	0.17	0.21
College diploma	0.22					0.12	0.13	0.18	0.23	0.22	0.25	0.31
Trade or voc.	0.43	0.38	0.40	0.51	0.53	0.60	0.50	0.25	0.33	0.71	0.67	0.71
Applied degree	0.14					0.13	0.12	0.11	0.13	0.16	0.18	0.13
BA	0.10	0.10	0.11	0.11	0.10	0.10	0.09	0.09	0.08	0.10	0.13	0.10
MA	0.08	0.07	0.07	0.07	0.07	0.10	0.09	0.08	0.07	0.08	0.07	0.09
PhD	0.12	0.06	0.05	0.09	0.10	0.10	0.14	0.17	0.16	0.18	0.17	0.16
Other/missing	0.26	0.30	0.31	0.31	0.28	0.24	0.17	0.20	0.23	0.20	0.20	0.21
Destination												
Ottawa	0.12	0.17	0.17	0.16	0.14	0.11	0.09	0.11	0.11	0.10	0.09	0.11
Kingston-Pembroke	0.14							0.12	0.16	0.14	0.15	0.19
Muskoka-Kawarthas	0.18							0.15	0.20	0.18	0.18	0.24
Toronto	0.25	0.26	0.27	0.28	0.26	0.26	0.22	0.21	0.24	0.25	0.26	0.28
Kitchener-Waterloo-Barrie & Stratford-Bruce												
Peninsula	0.14	0.19	0.14	0.15	0.12	0.13	0.11	0.13	0.14	0.15	0.15	0.16
Hamilton-Niagara	0.15	0.15	0.16	0.14	0.14	0.11	0.13	0.14	0.15	0.17	0.16	0.17
London	0.16	0.27	0.21	0.19	0.16	0.15	0.17	0.18	0.17	0.13	0.11	0.14
Windsor-Sarnia	0.19	0.21	0.21	0.25	0.23	0.13	0.10	0.12	0.20	0.20	0.20	0.24
North Ontario	0.21	0.21	0.22	0.19	0.18		0.14	0.17	0.23	0.23	0.22	0.22
Prior K-12 experience in Canada												
No permit under PSE	0.22	0.25	0.25	0.26	0.24	0.22	0.18	0.19	0.22	0.22	0.22	0.28
Primary, secondary, or CEGEP	0.09	0.14	0.13	0.12	0.11	0.15	0.10	0.09	0.07	0.07	0.07	0.09
Prior PSE experience in Canada												
Ontario only	0.21	0.24	0.24	0.25	0.22	0.22	0.18	0.18	0.21	0.21	0.21	0.24
Studied elsewhere in Canada first	0.15	0.21	0.22	0.21	0.17	0.16	0.11	0.13	0.12	0.10	0.15	0.20
Permit cohort												
2010	0.24											
2011	0.24											
2012	0.25											
2013	0.22											
2014	0.22											
2015	0.17											
2016	0.18											

2017	0.21												
2018	0.20												
2019	0.21												
2020	0.23												
Region*male/female interaction													
<i>Males</i>													
India*M	0.17	0.16	0.18	0.15	0.09	0.09	0.10	0.14	0.19	0.18	0.20	0.25	
China*M	0.12	0.14	0.11	0.12	0.11	0.12	0.13	0.15	0.12	0.09	0.10	0.10	
US*M	0.20	0.28	0.24	0.24	0.24	0.20	0.20	0.17	0.15	0.16	0.16	0.20	
Central America and Caribbean*M	0.28	0.31	0.37	0.33	0.37	0.29	0.25	0.23	0.24	0.29	0.23	0.28	
South America*M	0.40	0.48	0.57	0.60	0.49	0.49	0.30	0.28	0.29	0.32	0.31	0.37	
West and North Europe*M	0.27	0.21	0.33	0.33	0.44	0.23	0.25	0.22	0.24	0.26	0.23	0.25	
East and South Europe*M	0.19	0.21	0.20	0.27	0.23	0.25	0.19	0.16	0.17	0.17	0.14	0.19	
West Africa*M	0.11	0.18	0.18	0.15	0.11	0.09	0.08	0.08	0.07	0.12	0.11	0.09	
East Africa*M	0.18	0.22	0.20	0.17	0.23	0.24	0.20	0.17	0.14	0.22	0.13	0.20	
North Africa*M	0.25	0.28	0.21	0.26	0.30	0.33	0.25	0.24	0.17	0.24	0.20	0.23	
Middle and Southern Africa*M	0.19	0.13	0.35	0.27	0.19	0.13	0.13	0.13	0.08	0.16	0.22	0.22	
Central Asia & Middle East*M	0.37	0.38	0.37	0.39	0.36	0.46	0.47	0.36	0.41	0.32	0.29	0.25	
East Asia*M	0.43	0.47	0.48	0.51	0.46	0.44	0.40	0.41	0.40	0.39	0.37	0.31	
Southeast Asia*M	0.20	0.22	0.23	0.26	0.23	0.21	0.20	0.22	0.17	0.21	0.16	0.20	
South Asia*M	0.12	0.09	0.13	0.12	0.10	0.07	0.11	0.12	0.09	0.14	0.13	0.13	
Other*M	0.20	0.17	0.17	0.24	0.17	0.43	0.29	0.29	0.17	0.17	0.20		
<i>Females</i>													
India*F	0.23	0.15	0.18	0.15	0.11	0.11	0.12	0.17	0.23	0.24	0.27	0.35	
China*F	0.08	0.10	0.07	0.07	0.07	0.08	0.08	0.09	0.10	0.08	0.07	0.09	
US*F	0.20	0.21	0.20	0.22	0.28	0.19	0.21	0.16	0.15	0.18	0.21	0.21	
Central America and Caribbean*F	0.28	0.35	0.38	0.39	0.32	0.31	0.23	0.21	0.21	0.26	0.20	0.24	
South America*F	0.38	0.52	0.55	0.58	0.47	0.47	0.29	0.29	0.30	0.30	0.30	0.33	
West and North Europe*F	0.27	0.22	0.34	0.34	0.42	0.28	0.22	0.23	0.25	0.24	0.22	0.19	
East and South Europe*F	0.18	0.19	0.21	0.20	0.21	0.23	0.19	0.15	0.16	0.15	0.18	0.20	
West Africa*F	0.10	0.19	0.17	0.14	0.11	0.11	0.09	0.06	0.06	0.10	0.09	0.11	
East Africa*F	0.15	0.23	0.15	0.17	0.17	0.22	0.18	0.08	0.11	0.14	0.11	0.14	
North Africa*F	0.19	0.27	0.20	0.13	0.33	0.33	0.19	0.12	0.14	0.18	0.13	0.18	
Middle and Southern Africa*F	0.20	0.21	0.44	0.19	0.17	0.17	0.15	0.13	0.14	0.18	0.21	0.19	
Central Asia & Middle East*F	0.29	0.28	0.30	0.35	0.34	0.33	0.39	0.28	0.39	0.26	0.19	0.17	
East Asia*F	0.47	0.50	0.52	0.55	0.51	0.50	0.42	0.44	0.44	0.43	0.41	0.42	
Southeast Asia*F	0.19	0.28	0.27	0.28	0.28	0.21	0.21	0.19	0.17	0.17	0.13	0.19	
South Asia*F	0.10	0.08	0.10	0.12	0.10	0.11	0.09	0.09	0.07	0.10	0.10	0.15	
Other*F	0.21	0.17	0.14	0.22	0.25	0.29	0.29	0.17	0.33	0.17	0.29		

Tax filing analysis

Table 4 Descriptive analysis: Tax filing one to five years following study permit issuance

	Y1 Propor- tion	Y1 % w/ tax data	Y2 Propor- tion	Y2 % w/ tax data	Y3 Propor- tion	Y3 % w/ tax data	Y4 Propor- tion	Y4 % w/ tax data	Y5 Propor- tion	Y5 % w/ tax data
TOTAL	31,220	0.22	29,730	0.22	24,700	0.22	19,940	0.22	14,480	0.20
Region/country of citizenship										
India	0.45	0.27	0.47	0.29	0.45	0.33	0.42	0.37	0.35	0.38
China	0.10	0.22	0.10	0.22	0.11	0.23	0.12	0.23	0.12	0.21
US	0.01	0.14	0.01	0.15	0.01	0.15	0.01	0.14	0.01	0.13
Central America and Caribbean	0.05	0.26	0.05	0.25	0.05	0.24	0.05	0.25	0.06	0.25
South America	0.07	0.17	0.07	0.16	0.07	0.15	0.07	0.13	0.08	0.12
West and North Europe	0.01	0.07	0.01	0.07	0.01	0.08	0.01	0.08	0.02	0.07
East and South Europe	0.03	0.28	0.03	0.27	0.03	0.27	0.03	0.27	0.04	0.26
West Africa	0.03	0.49	0.03	0.51	0.03	0.51	0.04	0.51	0.05	0.50
East Africa	0.02	0.54	0.02	0.54	0.02	0.54	0.02	0.56	0.03	0.53
North Africa	0.02	0.38	0.02	0.41	0.02	0.39	0.02	0.39	0.03	0.39
Middle and Southern Africa	0.01	0.53	0.01	0.57	0.01	0.53	0.01	0.55	0.02	0.52
Central Asia & Middle East	0.06	0.13	0.05	0.12	0.05	0.10	0.04	0.08	0.04	0.07
East Asia	0.07	0.10	0.06	0.08	0.06	0.07	0.06	0.07	0.07	0.07
Southeast Asia	0.04	0.25	0.05	0.29	0.06	0.33	0.06	0.38	0.05	0.36
South Asia	0.02	0.46	0.02	0.47	0.02	0.46	0.02	0.44	0.02	0.43
Other	0.00	0.22	0.00	0.23	0.00	0.22	0.01	0.21	0.01	0.22
Male/Female										
Male	0.53	0.21	0.55	0.22	0.55	0.22	0.55	0.22	0.55	0.20
Female	0.47	0.22	0.45	0.22	0.45	0.22	0.45	0.22	0.45	0.20
Application location										
Same as citizenship	0.77	0.20	0.79	0.20	0.78	0.20	0.76	0.20	0.72	0.18
Different than citizenship	0.10	0.28	0.10	0.28	0.12	0.28	0.14	0.29	0.19	0.29
Canada	0.13	0.36	0.11	0.37	0.10	0.37	0.10	0.36	0.09	0.33
Age										
Age 16 or 17	0.02	0.09	0.02	0.11	0.02	0.12	0.02	0.12	0.02	0.12
Age 18	0.07	0.13	0.08	0.15	0.08	0.16	0.08	0.17	0.08	0.16
Age 19/20	0.14	0.14	0.15	0.15	0.15	0.16	0.14	0.16	0.13	0.14
Age 21/22	0.15	0.19	0.16	0.19	0.16	0.19	0.16	0.18	0.15	0.16
Age 23/24	0.17	0.23	0.17	0.23	0.17	0.23	0.17	0.22	0.16	0.19
Age 25-29	0.24	0.29	0.22	0.28	0.22	0.27	0.22	0.26	0.23	0.24

Postsecondary pathways and outcomes of international students in Ontario: Phase 2

	Y1 Proportion	Y1 % w/ tax data	Y2 Proportion	Y2 % w/ tax data	Y3 Proportion	Y3 % w/ tax data	Y4 Proportion	Y4 % w/ tax data	Y5 Proportion	Y5 % w/ tax data
Age 30-39	0.15	0.38	0.14	0.37	0.14	0.35	0.15	0.34	0.17	0.34
Age 40+	0.06	0.44	0.05	0.41	0.05	0.40	0.06	0.40	0.06	0.40
Permit study level										
ESL	0.09	0.12	0.09	0.13	0.09	0.13	0.07	0.12	0.05	0.10
College certificate	0.11	0.31	0.11	0.33	0.10	0.36	0.08	0.40	0.05	0.39
College diploma	0.33	0.27	0.32	0.27	0.29	0.31	0.25	0.35	0.15	0.35
Trade or voc.	0.03	0.13	0.02	0.12	0.03	0.12	0.03	0.12	0.05	0.12
Applied degree	0.01	0.32	0.01	0.35	0.01	0.36	0.01	0.32	0.00	0.33
BA	0.07	0.18	0.08	0.19	0.07	0.17	0.07	0.16	0.07	0.15
MA	0.04	0.30	0.04	0.30	0.04	0.29	0.03	0.28	0.03	0.23
PhD	0.01	0.20	0.01	0.15	0.01	0.14	0.01	0.14	0.01	0.13
Other/missing	0.32	0.21	0.33	0.21	0.38	0.21	0.45	0.21	0.59	0.21
Destination										
Ottawa	0.04	0.21	0.04	0.21	0.04	0.21	0.04	0.19	0.04	0.17
Kingston-Pembroke	0.01	0.21	0.02	0.23	0.01	0.24	0.01	0.23	0.01	0.23
Muskoka-Kawarthas	0.02	0.27	0.02	0.30	0.02	0.35	0.02	0.38	0.01	0.35
Toronto	0.66	0.21	0.64	0.21	0.63	0.20	0.65	0.20	0.68	0.19
Kitchener-Waterloo-Barrie & Stratford-Bruce Peninsula	0.05	0.19	0.05	0.21	0.06	0.24	0.05	0.25	0.05	0.24
Hamilton-Niagara	0.06	0.23	0.06	0.26	0.06	0.27	0.06	0.28	0.06	0.26
London	0.05	0.24	0.05	0.24	0.05	0.25	0.06	0.24	0.06	0.23
Windsor-Sarnia	0.06	0.20	0.07	0.21	0.07	0.24	0.08	0.25	0.08	0.22
North Ontario	0.06	0.36	0.06	0.37	0.05	0.37	0.03	0.34	0.02	0.28
Prior K-12 experience in Canadian										
No permit under PSE	0.96	0.22	0.96	0.22	0.95	0.22	0.95	0.22	0.94	0.20
Primary, secondary, or CEGEP	0.04	0.18	0.04	0.21	0.05	0.24	0.05	0.24	0.07	0.25
Prior PSE experience in Canada										
Ontario only	0.97	0.21	0.97	0.22	0.97	0.22	0.97	0.22	0.97	0.20
Studied elsewhere in Canada first	0.03	0.29	0.03	0.28	0.03	0.27	0.03	0.26	0.03	0.24
Permit cohort										
2010	0.07	0.19	0.07	0.19	0.09	0.19	0.11	0.19	0.15	0.19
2011	0.06	0.18	0.06	0.18	0.08	0.18	0.10	0.19	0.14	0.19
2012	0.05	0.15	0.05	0.15	0.06	0.15	0.08	0.16	0.12	0.16
2013	0.04	0.13	0.05	0.14	0.06	0.14	0.08	0.15	0.11	0.15
2014	0.04	0.16	0.05	0.16	0.06	0.18	0.08	0.19	0.11	0.19
2015	0.06	0.21	0.06	0.22	0.08	0.23	0.10	0.24	0.14	0.24
2016	0.09	0.23	0.11	0.27	0.14	0.28	0.18	0.28	0.24	0.28
2017	0.17	0.28	0.18	0.29	0.22	0.29	0.27	0.29		
2018	0.17	0.26	0.17	0.25	0.21	0.25				

Postsecondary pathways and outcomes of international students in Ontario: Phase 2

	Y1 Proportion	Y1 % w/ tax data	Y2 Proportion	Y2 % w/ tax data	Y3 Proportion	Y3 % w/ tax data	Y4 Proportion	Y4 % w/ tax data	Y5 Proportion	Y5 % w/ tax data
2019	0.18	0.23	0.19	0.23						
2020	0.07	0.25								
Region*male/female interaction										
<i>Males</i>										
India*M	0.53	0.30	0.55	0.32	0.53	0.36	0.51	0.39	0.44	0.40
China*M	0.08	0.17	0.08	0.17	0.09	0.18	0.10	0.19	0.11	0.17
US*M	0.01	0.14	0.01	0.13	0.01	0.13	0.01	0.13	0.01	0.13
Central America and Caribbean*M	0.03	0.23	0.03	0.23	0.03	0.21	0.04	0.22	0.04	0.22
South America*M	0.07	0.15	0.06	0.14	0.06	0.13	0.06	0.11	0.07	0.10
West and North Europe*M	0.01	0.07	0.01	0.08	0.01	0.08	0.01	0.08	0.02	0.08
East and South Europe*M	0.02	0.23	0.02	0.22	0.02	0.23	0.03	0.24	0.03	0.24
West Africa*M	0.03	0.44	0.03	0.48	0.03	0.46	0.03	0.45	0.04	0.44
East Africa*M	0.02	0.52	0.02	0.52	0.02	0.51	0.02	0.54	0.03	0.50
North Africa*M	0.02	0.34	0.02	0.38	0.03	0.37	0.03	0.38	0.04	0.37
Middle and Southern Africa*M	0.01	0.46	0.01	0.49	0.01	0.46	0.01	0.50	0.01	0.48
Central Asia & Middle East*M	0.06	0.11	0.06	0.11	0.05	0.08	0.05	0.07	0.05	0.06
East Asia*M	0.04	0.08	0.03	0.06	0.03	0.06	0.04	0.06	0.04	0.05
Southeast Asia*M	0.02	0.17	0.03	0.21	0.03	0.27	0.03	0.29	0.03	0.28
South Asia*M	0.03	0.45	0.03	0.46	0.03	0.45	0.03	0.43	0.03	0.43
Other*M	0.00	0.25	0.00	0.25	0.01	0.26	0.01	0.23	0.01	0.24
<i>Females</i>										
India*F	0.36	0.23	0.38	0.25	0.35	0.29	0.32	0.34	0.23	0.35
China*F	0.12	0.29	0.12	0.29	0.13	0.29	0.14	0.29	0.14	0.26
US*F	0.01	0.13	0.01	0.16	0.01	0.16	0.01	0.15	0.01	0.14
Central America and Caribbean*F	0.06	0.29	0.06	0.27	0.07	0.27	0.07	0.28	0.08	0.27
South America*F	0.09	0.19	0.08	0.18	0.08	0.17	0.08	0.16	0.10	0.15
West and North Europe*F	0.01	0.07	0.01	0.07	0.02	0.08	0.02	0.07	0.02	0.06
East and South Europe*F	0.04	0.33	0.04	0.32	0.04	0.31	0.04	0.30	0.05	0.28
West Africa*F	0.03	0.56	0.03	0.56	0.04	0.57	0.04	0.60	0.05	0.60
East Africa*F	0.02	0.58	0.02	0.58	0.02	0.59	0.03	0.61	0.03	0.61
North Africa*F	0.01	0.49	0.01	0.47	0.01	0.47	0.01	0.46	0.02	0.43
Middle and Southern Africa*F	0.02	0.59	0.02	0.63	0.02	0.60	0.02	0.62	0.02	0.54
Central Asia & Middle East*F	0.05	0.17	0.05	0.16	0.04	0.14	0.04	0.11	0.04	0.10
East Asia*F	0.11	0.12	0.09	0.09	0.09	0.08	0.10	0.09	0.12	0.08
Southeast Asia*F	0.06	0.31	0.07	0.36	0.08	0.39	0.08	0.44	0.08	0.41
South Asia*F	0.01	0.50	0.01	0.50	0.01	0.46	0.01	0.45	0.01	0.47
Other*F	0.00	0.19	0.00	0.19	0.00	0.21	0.01	0.22	0.01	0.24

Table 5 Regression analysis: Tax filing one to five years following study permit issuance

	Year 1	Year 2	Year 3	Year 4	Year 5
Region/country of citizenship (India)					
China	-0.11*** (0.0057)	-0.16*** (0.0059)	-0.18*** (0.0065)	-0.20*** (0.0071)	-0.22*** (0.0079)
US	-0.17*** (0.011)	-0.21*** (0.011)	-0.24*** (0.012)	-0.26*** (0.013)	-0.28*** (0.013)
Central America and Caribbean	-0.10*** (0.0085)	-0.14*** (0.0088)	-0.18*** (0.0092)	-0.19*** (0.010)	-0.21*** (0.011)
South America	-0.17*** (0.0054)	-0.22*** (0.0056)	-0.26*** (0.0060)	-0.29*** (0.0065)	-0.32*** (0.0071)
West and North Europe	-0.21*** (0.0064)	-0.25*** (0.0066)	-0.27*** (0.0072)	-0.28*** (0.0081)	-0.31*** (0.0087)
East and South Europe	-0.11*** (0.011)	-0.15*** (0.011)	-0.17*** (0.012)	-0.19*** (0.013)	-0.20*** (0.014)
West Africa	0.067*** (0.014)	0.070*** (0.015)	0.039* (0.016)	0.0051 (0.017)	-0.035 (0.018)
East Africa	0.16*** (0.019)	0.12*** (0.020)	0.085*** (0.021)	0.078*** (0.023)	0.013 (0.024)
North Africa	-0.026 (0.014)	-0.020 (0.015)	-0.065*** (0.016)	-0.081*** (0.017)	-0.10*** (0.018)
Middle and Southern Africa	0.12*** (0.025)	0.10*** (0.026)	0.049 (0.030)	0.027 (0.032)	-0.014 (0.033)
Central Asia & Middle East	-0.19*** (0.0051)	-0.24*** (0.0052)	-0.29*** (0.0055)	-0.32*** (0.0059)	-0.34*** (0.0066)
East Asia	-0.22*** (0.0050)	-0.29*** (0.0050)	-0.32*** (0.0054)	-0.35*** (0.0060)	-0.37*** (0.0067)
Southeast Asia	-0.12*** (0.0082)	-0.13*** (0.0093)	-0.098*** (0.011)	-0.10*** (0.013)	-0.13*** (0.015)
South Asia	0.12*** (0.015)	0.098*** (0.015)	0.064*** (0.017)	0.022 (0.019)	-0.000086 (0.020)
Other	-0.068** (0.024)	-0.11*** (0.025)	-0.15*** (0.025)	-0.21*** (0.024)	-0.21*** (0.025)
Male/Female (Male)					
Female	-0.081*** (0.0038)	-0.081*** (0.0041)	-0.075*** (0.0052)	-0.059*** (0.0066)	-0.066*** (0.0089)
Region*Female interaction (India*F)					
China*Female	0.17*** (0.0079)	0.17*** (0.0083)	0.17*** (0.0093)	0.15*** (0.011)	0.14*** (0.013)
US*Female	0.079*** (0.015)	0.10*** (0.016)	0.100*** (0.018)	0.071*** (0.019)	0.068*** (0.020)
Central America and Caribbean*Female	0.12*** (0.011)	0.11*** (0.012)	0.12*** (0.013)	0.093*** (0.014)	0.098*** (0.016)
South America*Female	0.11*** (0.0070)	0.10*** (0.0073)	0.10*** (0.0080)	0.089*** (0.0091)	0.10*** (0.011)
West and North Europe*Female	0.085*** (0.0080)	0.082*** (0.0084)	0.071*** (0.0093)	0.047*** (0.011)	0.056*** (0.012)
East and South Europe*Female	0.16*** (0.015)	0.15*** (0.016)	0.13*** (0.017)	0.11*** (0.018)	0.10*** (0.020)
West Africa*Female	0.18*** (0.020)	0.15*** (0.021)	0.16*** (0.023)	0.18*** (0.025)	0.21*** (0.026)
East Africa*Female	0.11*** (0.024)	0.12*** (0.025)	0.13*** (0.025)	0.11*** (0.024)	0.16*** (0.025)

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	Year 1	Year 2	Year 3	Year 4	Year 5
North Africa*Female	(0.028) 0.21***	(0.029) 0.16***	(0.030) 0.15***	(0.033) 0.14***	(0.035) 0.14***
Middle and Southern Africa*Female	(0.029) 0.20***	(0.030) 0.22***	(0.032) 0.20***	(0.035) 0.19***	(0.037) 0.17***
Central Asia & Middle East*Female	(0.034) 0.100***	(0.036) 0.094***	(0.041) 0.094***	(0.044) 0.067***	(0.046) 0.082***
East Asia*Female	(0.0076) 0.12***	(0.0078) 0.11***	(0.0083) 0.10***	(0.0091) 0.088***	(0.011) 0.099***
Southeast Asia*Female	(0.0054) 0.19***	(0.0054) 0.21***	(0.0063) 0.18***	(0.0076) 0.18***	(0.0098) 0.17***
South Asia*Female	(0.011) 0.058*	(0.013) 0.060*	(0.015) 0.050	(0.018) 0.043	(0.021) 0.067
Other*Female	(0.027) 0.0059	(0.029) 0.011	(0.033) 0.024	(0.037) 0.057	(0.041) 0.053
	(0.032)	(0.033)	(0.034)	(0.035)	(0.037)
Application location (same as citizenship)					
Different than citizenship	0.063*** (0.0044)	0.055*** (0.0044)	0.061*** (0.0046)	0.067*** (0.0048)	0.067*** (0.0049)
Canada	0.14*** (0.0053)	0.14*** (0.0058)	0.13*** (0.0064)	0.12*** (0.0071)	0.095*** (0.0080)
Age (Age 18)					
Age 16 or 17	-0.018*** (0.0049)	-0.021*** (0.0053)	-0.025*** (0.0059)	-0.026*** (0.0067)	-0.027*** (0.0072)
Age 19/20	0.016*** (0.0032)	0.017*** (0.0035)	0.020*** (0.0041)	0.019*** (0.0046)	0.015** (0.0051)
Age 21/22	0.087*** (0.0036)	0.082*** (0.0038)	0.076*** (0.0043)	0.066*** (0.0048)	0.053*** (0.0052)
Age 23/24	0.13*** (0.0039)	0.12*** (0.0041)	0.11*** (0.0045)	0.099*** (0.0050)	0.084*** (0.0055)
Age 25-29	0.20*** (0.0040)	0.18*** (0.0041)	0.17*** (0.0046)	0.16*** (0.0051)	0.14*** (0.0055)
Age 30-39	0.28*** (0.0051)	0.27*** (0.0053)	0.25*** (0.0057)	0.24*** (0.0062)	0.23*** (0.0068)
Age 40+	0.32*** (0.0081)	0.30*** (0.0084)	0.29*** (0.0089)	0.27*** (0.0097)	0.28*** (0.011)
Permit study level (BA)					
ESL	-0.075*** (0.0049)	-0.051*** (0.0052)	-0.014* (0.0058)	0.0050 (0.0064)	-0.0023 (0.0072)
College certificate	-0.0066 (0.0063)	-0.017* (0.0066)	0.027*** (0.0079)	0.062*** (0.0097)	0.056*** (0.013)
College diploma	0.0037 (0.0050)	-0.019*** (0.0053)	0.015* (0.0063)	0.041*** (0.0074)	0.036*** (0.0093)
Trade or voc.	0.020*** (0.0061)	0.018** (0.0060)	0.034*** (0.0062)	0.040*** (0.0065)	0.042*** (0.0067)
Applied degree	0.029 (0.017)	0.045* (0.018)	0.058** (0.022)	0.026 (0.027)	0.050 (0.034)
MA	0.0018 (0.0083)	-0.0049 (0.0085)	0.0070 (0.0092)	0.011 (0.010)	-0.013 (0.011)
PhD	-0.13*** (0.011)	-0.17*** (0.010)	-0.16*** (0.011)	-0.14*** (0.012)	-0.14*** (0.014)
Other/missing	0.035*** (0.0041)	0.026*** (0.0043)	0.039*** (0.0046)	0.047*** (0.0049)	0.046*** (0.0051)
Destination (Toronto)					

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	Year 1	Year 2	Year 3	Year 4	Year 5
Ottawa	-0.028*** (0.0053)	-0.024*** (0.0055)	-0.017** (0.0058)	-0.019** (0.0061)	-0.028*** (0.0063)
Kingston-Pembroke	-0.040*** (0.0088)	-0.039*** (0.0094)	-0.042*** (0.011)	-0.056*** (0.013)	-0.037* (0.017)
Muskoka-Kawarthas	0.0058 (0.0097)	0.017 (0.010)	0.055*** (0.012)	0.074*** (0.014)	0.069*** (0.018)
Kitchener-Waterloo-Barrie & Stratford-Bruce Peninsula	-0.059*** (0.0045)	-0.050*** (0.0048)	-0.022*** (0.0058)	0.000095 (0.0069)	0.0015 (0.0079)
Hamilton-Niagara	-0.000094 (0.0049)	0.013* (0.0053)	0.012* (0.0058)	0.020** (0.0067)	0.0081 (0.0074)
London	0.013* (0.0052)	0.0093 (0.0054)	0.018** (0.0059)	0.015* (0.0063)	0.011 (0.0070)
Windsor-Sarnia	-0.026*** (0.0041)	-0.020*** (0.0042)	0.0062 (0.0048)	0.027*** (0.0052)	0.022*** (0.0055)
North Ontario	0.075*** (0.0067)	0.080*** (0.0069)	0.075*** (0.0082)	0.049*** (0.010)	0.026* (0.012)
Prior Canadian study experience (no prior PSE permit)					
Held primary, secondary, or CEGEP permit	-0.039*** (0.0056)	-0.0099 (0.0061)	0.020** (0.0066)	0.031*** (0.0071)	0.055*** (0.0075)
Study permit from elsewhere in Canada	-0.031*** (0.0079)	-0.017* (0.0085)	-0.0083 (0.0090)	-0.0050 (0.0094)	0.0032 (0.0098)
Study permit cohort (2010)					
2011	-0.016*** (0.0048)	-0.0070 (0.0047)	-0.0078 (0.0047)	-0.011* (0.0047)	-0.0079 (0.0047)
2012	-0.038*** (0.0046)	-0.029*** (0.0046)	-0.031*** (0.0046)	-0.027*** (0.0047)	-0.021*** (0.0047)
2013	-0.058*** (0.0047)	-0.049*** (0.0047)	-0.045*** (0.0047)	-0.036*** (0.0048)	-0.027*** (0.0048)
2014	-0.042*** (0.0051)	-0.032*** (0.0051)	-0.021*** (0.0052)	-0.019*** (0.0053)	-0.016** (0.0054)
2015	0.043*** (0.0059)	0.048*** (0.0060)	0.043*** (0.0062)	0.036*** (0.0064)	0.036*** (0.0067)
2016	0.074*** (0.0058)	0.097*** (0.0060)	0.081*** (0.0062)	0.057*** (0.0065)	0.056*** (0.0069)
2017	0.11*** (0.0057)	0.10*** (0.0057)	0.063*** (0.0059)	0.034*** (0.0062)	
2018	0.086*** (0.0056)	0.053*** (0.0056)	0.020*** (0.0059)		
2019	0.054*** (0.0055)	0.035*** (0.0056)			
2020	0.035*** (0.0066)				
Constant	0.16*** (0.0066)	0.21*** (0.0068)	0.23*** (0.0075)	0.25*** (0.0081)	0.28*** (0.0089)
Observations	144270	135540	111770	91260	72620
R ²	0.134	0.136	0.150	0.167	0.174

Notes: This table presents the results of a linear probability model examining if a student had a tax return (1=yes) one to five years following Ontario study permit issuance. The explanatory variables included in the model are categorical and the reference group for each variable is in parentheses next to the bolded variable title. Robust standard errors are in parentheses under each coefficient. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Tuition deduction analysis

Table 6 Descriptive analysis: Tuition deductions on tax filing one to five years following study permit issuance

	Y1		Y2		Y3		Y4		Y5	
	Proportion	% claiming tuition	Proportion	% claiming tuition	Proportion	% claiming tuition	Proportion	% claiming tuition	Proportion	% claiming tuition
TOTAL	17000	0.54	11680	0.39	3940	0.16	2340	0.12	1430	0.10
Region/country of citizenship										
India	0.63	0.77	0.65	0.54	0.36	0.13	0.29	0.08	0.27	0.08
China	0.09	0.49	0.10	0.39	0.21	0.31	0.26	0.25	0.24	0.19
US, Central American and Caribbean	0.04	0.35	0.03	0.24	0.06	0.17	0.06	0.12	0.07	0.09
South America	0.05	0.37	0.04	0.23	0.06	0.15	0.06	0.10	0.08	0.10
Europe	0.03	0.39	0.02	0.21	0.04	0.13	0.04	0.11	0.04	0.07
Africa	0.04	0.27	0.04	0.20	0.07	0.12	0.09	0.11	0.10	0.09
Central Asia& Middle East	0.03	0.26	0.02	0.17	0.04	0.15	0.05	0.13	0.04	0.09
East Asia	0.04	0.26	0.04	0.24	0.07	0.18	0.07	0.13	0.08	0.11
Southeast Asia	0.04	0.53	0.04	0.34	0.07	0.19	0.06	0.13	0.05	0.09
South Asia and Other regions	0.02	0.44	0.02	0.31	0.03	0.20	0.03	0.16	0.04	0.13
Male/Female										
Male	0.55	0.56	0.58	0.41	0.54	0.16	0.55	0.12	0.57	0.10
Female	0.45	0.52	0.43	0.37	0.46	0.16	0.45	0.12	0.43	0.10
Application location										
Same as citizenship	0.84	0.59	0.86	0.43	0.76	0.16	0.71	0.11	0.71	0.10
Different than citizenship	0.06	0.36	0.06	0.24	0.09	0.13	0.14	0.12	0.17	0.09
Canada	0.10	0.41	0.08	0.29	0.15	0.23	0.15	0.19	0.12	0.13
Age										
Age 16 or 17	0.02	0.67	0.03	0.65	0.05	0.38	0.06	0.35	0.06	0.26
Age 18	0.09	0.70	0.13	0.63	0.18	0.35	0.19	0.27	0.18	0.23
Age 19/20	0.18	0.68	0.21	0.55	0.23	0.25	0.21	0.18	0.18	0.14
Age 21/22	0.18	0.64	0.19	0.47	0.14	0.14	0.13	0.10	0.15	0.10
Age 23/24	0.19	0.61	0.17	0.40	0.13	0.12	0.12	0.09	0.13	0.08
Age 25-29	0.20	0.47	0.17	0.29	0.15	0.11	0.16	0.09	0.17	0.07
Age 30-39	0.10	0.37	0.07	0.20	0.09	0.10	0.10	0.08	0.13	0.08
Age 40+	0.03	0.31	0.03	0.20	0.04	0.12	0.03	0.07	0.03	0.04
Permit study level										

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	Proportion	Y1 % claiming tuition	Proportion	Y2 % claiming tuition	Proportion	Y3 % claiming tuition	Proportion	Y4 % claiming tuition	Proportion	Y5 % claiming tuition
ESL	0.05	0.33	0.05	0.24	0.10	0.17	0.07	0.12	0.06	0.10
College certificate	0.14	0.71	0.12	0.45	0.06	0.10	0.06	0.08	0.03	0.07
College diploma	0.41	0.67	0.40	0.50	0.27	0.15	0.18	0.08	0.11	0.08
Trade or voc.	0.01	0.23	0.01	0.14	0.02	0.09	0.03	0.09	0.03	0.07
BA and Applied degree	0.10	0.68	0.14	0.64	0.26	0.54	0.29	0.48	0.26	0.33
MA	0.05	0.71	0.04	0.44	0.04	0.20	0.04	0.14	0.05	0.16
PhD	0.01	0.41	0.01	0.57	0.02	0.53	0.03	0.46	0.02	0.30
Other/missing	0.23	0.39	0.22	0.26	0.24	0.10	0.32	0.08	0.45	0.07
Prior K-12 experience in Canada										
No permit under PSE	0.97	0.55	0.96	0.39	0.89	0.15	0.85	0.11	0.86	0.09
Primary, secondary, or CEGEP	0.03	0.37	0.04	0.37	0.11	0.35	0.15	0.32	0.14	0.21
Prior PSE experience in Canada										
Ontario only	0.98	0.55	0.98	0.40	0.97	0.16	0.97	0.12	0.97	0.10
Studied elsewhere in Canada first	0.02	0.39	0.02	0.26	0.03	0.17	0.03	0.11	0.03	0.11
Permit cohort										
2010	0.03	0.26	0.04	0.19	0.05	0.09	0.07	0.07	0.12	0.08
2011	0.04	0.35	0.04	0.23	0.06	0.12	0.08	0.09	0.11	0.08
2012	0.03	0.34	0.03	0.20	0.05	0.13	0.07	0.10	0.12	0.10
2013	0.03	0.32	0.03	0.26	0.06	0.17	0.10	0.15	0.11	0.10
2014	0.03	0.34	0.03	0.28	0.06	0.15	0.09	0.12	0.11	0.10
2015	0.04	0.42	0.06	0.35	0.09	0.18	0.14	0.16	0.16	0.11
2016	0.10	0.58	0.13	0.44	0.19	0.21	0.22	0.15	0.28	0.12
2017	0.18	0.60	0.23	0.49	0.21	0.15	0.25	0.11		
2018	0.22	0.71	0.20	0.46	0.24	0.18				
2019	0.23	0.70	0.23	0.48						
2020	0.07	0.56								
Region*male/female interaction										
<i>Males</i>										
India*M	0.72	0.76	0.72	0.54	0.44	0.13	0.35	0.08	0.33	0.08
China*M	0.06	0.44	0.08	0.39	0.19	0.33	0.26	0.29	0.23	0.21
US, Central American and Caribbean*M	0.03	0.33	0.02	0.23	0.04	0.16	0.06	0.16	0.07	0.13
South America*M	0.04	0.36	0.03	0.22	0.05	0.14	0.05	0.10	0.06	0.10
Europe*M	0.02	0.38	0.01	0.20	0.03	0.13	0.03	0.09	0.04	0.08
Africa*M	0.04	0.28	0.04	0.20	0.08	0.14	0.09	0.11	0.11	0.10
Central Asia& Middle East*M	0.03	0.24	0.02	0.17	0.05	0.16	0.05	0.14	0.05	0.10

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	Proportion	Y1 % claiming tuition	Proportion	Y2 % claiming tuition	Proportion	Y3 % claiming tuition	Proportion	Y4 % claiming tuition	Proportion	Y5 % claiming tuition
East Asia*M	0.02	0.28	0.02	0.28	0.05	0.24	0.06	0.20	0.07	0.18
Southeast Asia*M	0.02	0.48	0.02	0.33	0.04	0.17	0.03	0.11	0.02	0.07
South Asia and Other regions*M	0.03	0.43	0.03	0.31	0.05	0.22	0.05	0.17	0.05	0.13
<i>Females</i>										
India*F	0.53	0.78	0.55	0.54	0.27	0.12	0.24	0.09	0.19	0.08
China*F	0.12	0.53	0.12	0.39	0.24	0.30	0.25	0.22	0.27	0.19
US, Central American and Caribbean*F	0.05	0.36	0.05	0.25	0.08	0.17	0.08	0.11	0.08	0.08
South America*F	0.06	0.39	0.05	0.25	0.08	0.16	0.08	0.11	0.10	0.10
Europe*F	0.04	0.40	0.03	0.21	0.05	0.15	0.07	0.13	0.05	0.07
Africa*F	0.04	0.26	0.04	0.19	0.06	0.10	0.09	0.12	0.11	0.09
Central Asia& Middle East*F	0.03	0.29	0.02	0.20	0.04	0.15	0.04	0.12	0.03	0.08
East Asia*F	0.06	0.26	0.05	0.22	0.09	0.16	0.08	0.10	0.10	0.08
Southeast Asia*F	0.07	0.56	0.07	0.34	0.10	0.20	0.09	0.14	0.08	0.10
South Asia and Other regions*F	0.01	0.44	0.01	0.32	0.02	0.17	0.03	0.20	0.03	0.15

Table 7 Regression analysis: Tuition deductions on tax filing one to five years following study permit issuance

	Year 1	Year 2	Year 3	Year 4	Year 5
Region/country of citizenship (India)					
China	-0.23*** (0.015)	-0.14*** (0.014)	0.088*** (0.013)	0.099*** (0.013)	0.052*** (0.014)
US	-0.30*** (0.043)	-0.21*** (0.040)	0.081* (0.040)	0.11** (0.040)	0.092* (0.041)
Central America and Caribbean	-0.30*** (0.019)	-0.19*** (0.018)	0.036* (0.016)	0.051** (0.016)	0.038* (0.017)
South America	-0.29*** (0.015)	-0.19*** (0.015)	0.051*** (0.013)	0.038** (0.012)	0.035* (0.014)
West and North Europe	-0.15*** (0.043)	-0.15*** (0.038)	0.028 (0.030)	0.025 (0.030)	-0.0080 (0.026)
East and South Europe	-0.29*** (0.025)	-0.25*** (0.020)	-0.00071 (0.017)	-0.0013 (0.015)	0.014 (0.018)
West Africa	-0.35*** (0.021)	-0.23*** (0.018)	0.036* (0.017)	0.014 (0.016)	0.016 (0.017)
East Africa	-0.48*** (0.021)	-0.32*** (0.020)	-0.011 (0.019)	-0.0049 (0.019)	0.0028 (0.021)
North Africa	-0.31*** (0.024)	-0.20*** (0.022)	0.019 (0.019)	0.060** (0.019)	0.022 (0.018)
Middle and Southern Africa	-0.46*** (0.033)	-0.32*** (0.028)	-0.035 (0.024)	-0.0038 (0.022)	0.046 (0.029)
Central Asia & Middle East	-0.45*** (0.015)	-0.27*** (0.014)	0.033* (0.014)	0.058*** (0.016)	0.027 (0.016)
East Asia	-0.33*** (0.018)	-0.15*** (0.020)	0.075*** (0.018)	0.072*** (0.018)	0.073*** (0.020)
Southeast Asia	-0.24*** (0.025)	-0.14*** (0.022)	0.022 (0.017)	-0.018 (0.015)	-0.039** (0.014)
South Asia	-0.27*** (0.022)	-0.19*** (0.021)	0.0088 (0.019)	0.0062 (0.020)	0.014 (0.021)
Other	-0.38*** (0.050)	-0.27*** (0.045)	0.098 (0.051)	0.0043 (0.041)	0.0027 (0.037)
Male/Female (Male)					
Female	0.0029 (0.0071)	-0.010 (0.0085)	-0.0031 (0.0065)	0.0094 (0.0065)	0.0086 (0.0083)
Region*Female interaction (India*F)					

	Year 1	Year 2	Year 3	Year 4	Year 5
China # Female	0.079*** (0.019)	0.030 (0.019)	-0.0026 (0.017)	-0.050** (0.017)	-0.017 (0.019)
US # Female	0.11 (0.062)	0.0083 (0.056)	0.017 (0.056)	-0.11* (0.052)	-0.12* (0.050)
Central America and Caribbean # Female	0.011 (0.024)	0.037 (0.023)	0.025 (0.020)	-0.031 (0.019)	-0.026 (0.021)
South America # Female	0.034 (0.020)	0.038 (0.020)	0.032 (0.018)	0.014 (0.017)	0.0089 (0.018)
West and North Europe # Female	-0.078 (0.056)	-0.081 (0.050)	0.016 (0.042)	-0.012 (0.041)	-0.066* (0.030)
East and South Europe # Female	0.040 (0.032)	0.057* (0.027)	0.056* (0.023)	0.058* (0.023)	0.0075 (0.025)
West Africa # Female	0.017 (0.028)	0.043 (0.026)	-0.011 (0.024)	0.013 (0.023)	0.0014 (0.023)
East Africa # Female	0.011 (0.031)	0.049 (0.030)	-0.016 (0.026)	0.016 (0.027)	0.027 (0.029)
North Africa # Female	-0.047 (0.039)	-0.039 (0.037)	-0.080** (0.029)	-0.072* (0.031)	-0.052 (0.028)
Middle and Southern Africa # Female	0.016 (0.043)	0.034 (0.039)	0.027 (0.034)	0.036 (0.034)	-0.046 (0.037)
Central Asia & Middle East # Female	0.069** (0.022)	0.037 (0.021)	-0.0044 (0.021)	-0.038 (0.022)	-0.020 (0.024)
East Asia # Female	-0.014 (0.020)	-0.019 (0.023)	-0.010 (0.021)	-0.044* (0.021)	-0.064** (0.023)
Southeast Asia # Female	0.10*** (0.030)	0.023 (0.027)	0.047* (0.022)	0.045* (0.019)	0.045* (0.021)
South Asia # Female	0.046 (0.039)	0.083* (0.039)	0.056 (0.035)	0.086* (0.040)	0.032 (0.040)
Other # Female	0.10 (0.088)	0.100 (0.080)	-0.14 (0.072)	-0.024 (0.056)	-0.041 (0.050)
Application location (same as citizenship)					
Different than citizenship	-0.032** (0.012)	-0.071*** (0.011)	-0.025* (0.0097)	-0.0025 (0.0096)	-0.010 (0.0094)
Canada	-0.11*** (0.0098)	-0.094*** (0.0093)	-0.0036 (0.0086)	0.0062 (0.0088)	0.0042 (0.010)
Age (Age 18)					
Age 16 or 17	-0.0040 (0.022)	0.047* (0.022)	0.00015 (0.022)	0.025 (0.022)	0.0077 (0.025)

	Year 1	Year 2	Year 3	Year 4	Year 5
Age 19/20	-0.0034 (0.011)	-0.059*** (0.012)	-0.063*** (0.011)	-0.053*** (0.011)	-0.056*** (0.014)
Age 21/22	-0.00050 (0.011)	-0.094*** (0.012)	-0.13*** (0.011)	-0.11*** (0.011)	-0.087*** (0.013)
Age 23/24	-0.0054 (0.011)	-0.14*** (0.012)	-0.15*** (0.011)	-0.11*** (0.011)	-0.10*** (0.013)
Age 25-29	-0.043*** (0.011)	-0.19*** (0.012)	-0.17*** (0.011)	-0.13*** (0.011)	-0.11*** (0.013)
Age 30-39	-0.023 (0.012)	-0.20*** (0.013)	-0.18*** (0.012)	-0.14*** (0.012)	-0.11*** (0.014)
Age 40+	-0.037* (0.015)	-0.16*** (0.015)	-0.16*** (0.014)	-0.15*** (0.013)	-0.14*** (0.014)
Permit study level (BA)					
ESL	-0.27*** (0.014)	-0.31*** (0.014)	-0.35*** (0.015)	-0.34*** (0.017)	-0.22*** (0.020)
College certificate	-0.087*** (0.013)	-0.21*** (0.014)	-0.36*** (0.015)	-0.32*** (0.016)	-0.22*** (0.019)
College diploma	-0.12*** (0.010)	-0.21*** (0.011)	-0.36*** (0.013)	-0.36*** (0.015)	-0.25*** (0.017)
Trade or voc.	-0.19*** (0.020)	-0.27*** (0.019)	-0.35*** (0.018)	-0.29*** (0.018)	-0.18*** (0.018)
Applied degree	-0.063* (0.032)	-0.12*** (0.033)	-0.26*** (0.035)	-0.29*** (0.037)	-0.22*** (0.041)
MA	0.012 (0.017)	-0.14*** (0.019)	-0.27*** (0.019)	-0.27*** (0.019)	-0.14*** (0.022)
PhD	-0.17*** (0.033)	0.087* (0.036)	0.076 (0.041)	0.035 (0.046)	0.023 (0.049)
Other/missing	-0.14*** (0.013)	-0.23*** (0.013)	-0.34*** (0.014)	-0.30*** (0.015)	-0.18*** (0.016)

Destination (Toronto)

	Year 1	Year 2	Year 3	Year 4	Year 5
Ottawa	0.0037 (0.014)	0.020 (0.014)	0.0077 (0.013)	-0.0017 (0.012)	-0.0058 (0.013)
Kingston-Pembroke	0.035 (0.020)	0.026 (0.023)	0.013 (0.019)	0.032 (0.020)	0.042 (0.031)
Muskoka-Kawarthas	-0.028 (0.020)	0.013 (0.021)	-0.0084 (0.015)	-0.012 (0.014)	-0.031 (0.017)
Kitchener-Waterloo-Barrie & Stratford-Bruce Peninsula	0.029* (0.012)	0.020 (0.013)	0.0097 (0.010)	0.023* (0.011)	0.022 (0.013)
Hamilton-Niagara	-0.0071 (0.011)	-0.0094 (0.011)	0.022* (0.0098)	0.0075 (0.0095)	0.011 (0.011)
London	-0.055*** (0.011)	-0.040*** (0.011)	-0.021* (0.0094)	-0.011 (0.0093)	-0.0078 (0.010)
Windsor-Sarnia	0.0077 (0.011)	-0.020 (0.011)	-0.031*** (0.0080)	-0.0092 (0.0079)	0.015 (0.0097)
North Ontario	0.019 (0.010)	0.049*** (0.013)	-0.058*** (0.010)	-0.052*** (0.012)	-0.0037 (0.018)
Prior Canadian study experience (no prior PSE permit)					
Held primary, secondary, or CEGEP permit	-0.023 (0.014)	0.022 (0.013)	0.038** (0.012)	0.072*** (0.012)	0.033** (0.012)
Study permit from elsewhere in Canada	-0.043* (0.017)	-0.024 (0.016)	-0.028 (0.015)	-0.040** (0.013)	-0.011 (0.015)
Permit cohort (2010)					
2011	0.052*** (0.013)	0.017 (0.012)	0.031*** (0.0093)	0.028*** (0.0085)	0.0069 (0.0083)
2012	0.048*** (0.014)	-0.0071 (0.013)	0.040*** (0.010)	0.028** (0.0091)	0.022* (0.0093)
2013	0.077*** (0.015)	0.096*** (0.014)	0.044*** (0.011)	0.047*** (0.010)	0.0020 (0.0099)
2014	0.11*** (0.017)	0.16*** (0.016)	0.063*** (0.013)	0.046*** (0.012)	0.027* (0.012)
2015	0.15*** (0.016)	0.16*** (0.015)	0.061*** (0.012)	0.068*** (0.011)	0.041*** (0.012)
2016	0.24*** (0.015)	0.17*** (0.015)	0.077*** (0.012)	0.077*** (0.012)	0.060*** (0.013)
2017	0.20*** (0.014)	0.19*** (0.014)	0.062*** (0.011)	0.070*** (0.011)	
2018	0.34*** (0.013)	0.17*** (0.014)	0.077*** (0.011)		

	Year 1	Year 2	Year 3	Year 4	Year 5
2019	0.31*** (0.013)	0.17*** (0.013)			
2020	0.28*** (0.016)				
Constant	0.65*** (0.017)	0.70*** (0.017)	0.53*** (0.017)	0.43*** (0.018)	0.32*** (0.019)
Observations	31220	29730	24700	19940	14480
R ²	0.255	0.174	0.140	0.142	0.081

Notes: This table presents the results of a linear probability model examining if a student declared tuition deductions on their tax return (1=yes) one to five years following Ontario study permit issuance. The explanatory variables included in the model are categorical and the reference group for each variable is in parentheses next to the bolded variable title. Robust standard errors are in parentheses under each coefficient. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Earnings reported analysis

Table 8 Descriptive analysis: Earnings reported one to five years following study permit issuance

	Y1		Y2		Y3		Y4		Y5	
	Proportion	% w/ \$	Proportion	% w/ \$	Proportion	% w/ \$	Proportion	% w/ \$	Proportion	% w/ \$
TOTAL	24,380	0.78	24,990	0.84	21,170	0.86	17,150	0.86	12300	0.85
Region/country of citizenship										
India	0.53	0.93	0.54	0.96	0.51	0.97	0.48	0.97	0.40	0.96
China	0.04	0.35	0.07	0.57	0.09	0.69	0.10	0.72	0.11	0.76
US	0.01	0.64	0.01	0.66	0.01	0.73	0.01	0.68	0.01	0.74
Central America and Caribbean	0.05	0.79	0.04	0.82	0.04	0.80	0.05	0.81	0.06	0.81
South America	0.08	0.79	0.07	0.85	0.07	0.85	0.07	0.83	0.08	0.84
West and North Europe	0.01	0.76	0.01	0.82	0.01	0.81	0.01	0.83	0.02	0.87
East and South Europe	0.03	0.79	0.03	0.83	0.03	0.84	0.03	0.84	0.04	0.83
West Africa	0.03	0.77	0.03	0.82	0.03	0.82	0.04	0.85	0.05	0.85
East Africa	0.02	0.70	0.02	0.77	0.02	0.81	0.02	0.81	0.03	0.79
North Africa	0.01	0.57	0.01	0.66	0.02	0.67	0.02	0.70	0.02	0.69
Middle and Southern Africa	0.02	0.88	0.01	0.88	0.01	0.90	0.01	0.89	0.02	0.88
Central Asia & Middle East	0.04	0.59	0.04	0.67	0.03	0.65	0.03	0.64	0.03	0.64
East Asia	0.06	0.66	0.05	0.66	0.05	0.68	0.05	0.71	0.07	0.74
Southeast Asia	0.04	0.82	0.05	0.83	0.05	0.84	0.05	0.85	0.06	0.87
South Asia	0.02	0.80	0.02	0.86	0.02	0.87	0.02	0.88	0.02	0.83
Other	0.00	0.50	0.00	0.58	0.00	0.73	0.00	0.80	0.01	0.90

Postsecondary pathways and outcomes of international students in Ontario: Phase 2

Male/Female										
Male	0.56	0.82	0.57	0.88	0.57	0.90	0.58	0.90	0.58	0.90
Female	0.44	0.74	0.43	0.80	0.43	0.81	0.42	0.81	0.42	0.79
Application location										
Same as citizenship	0.79	0.81	0.81	0.86	0.79	0.88	0.78	0.87	0.73	0.86
Different than citizenship	0.09	0.71	0.10	0.80	0.11	0.83	0.14	0.85	0.19	0.85
Canada	0.12	0.70	0.09	0.72	0.09	0.75	0.08	0.76	0.08	0.79
Age										
Age 16 or 17	0.01	0.71	0.02	0.76	0.02	0.79	0.02	0.86	0.02	0.83
Age 18	0.07	0.77	0.08	0.81	0.08	0.84	0.08	0.85	0.08	0.87
Age 19/20	0.15	0.82	0.15	0.85	0.15	0.87	0.15	0.88	0.13	0.86
Age 21/22	0.17	0.85	0.17	0.89	0.17	0.92	0.17	0.92	0.16	0.90
Age 23/24	0.18	0.85	0.18	0.90	0.18	0.91	0.18	0.91	0.17	0.89
Age 25-29	0.24	0.78	0.23	0.85	0.22	0.86	0.22	0.85	0.22	0.83
Age 30-39	0.13	0.68	0.13	0.77	0.13	0.79	0.14	0.80	0.16	0.80
Age 40+	0.04	0.59	0.04	0.68	0.04	0.71	0.05	0.73	0.06	0.76
Permit study level										
ESL	0.07	0.62	0.08	0.72	0.08	0.78	0.07	0.79	0.05	0.78
College certificate	0.13	0.90	0.12	0.94	0.11	0.95	0.09	0.95	0.05	0.93
College diploma	0.38	0.89	0.35	0.92	0.32	0.93	0.27	0.94	0.16	0.92
Trade or voc.	0.02	0.65	0.02	0.75	0.03	0.78	0.03	0.78	0.05	0.81
BA and applied degree	0.07	0.69	0.08	0.74	0.06	0.71	0.06	0.75	0.07	0.79
MA	0.03	0.76	0.04	0.86	0.04	0.89	0.03	0.89	0.03	0.89
PhD	0.01	0.50	0.01	0.74	0.01	0.76	0.01	0.85	0.01	0.80
Other/missing	0.29	0.71	0.32	0.80	0.36	0.83	0.44	0.83	0.58	0.84
Prior K-12 experience in Canada										
No permit under PSE	0.97	0.79	0.97	0.85	0.96	0.87	0.96	0.87	0.94	0.85
Primary, secondary, or CEGEP	0.03	0.53	0.03	0.60	0.04	0.67	0.04	0.71	0.06	0.78
Prior PSE experience in Canada										
Ontario only	0.97	0.78	0.98	0.84	0.98	0.86	0.97	0.86	0.97	0.85
Studied elsewhere in Canada first	0.03	0.74	0.02	0.78	0.03	0.82	0.03	0.83	0.03	0.82
Permit cohort										
2010	0.05	0.58	0.06	0.72	0.08	0.78	0.10	0.79	0.14	0.80
2011	0.05	0.70	0.06	0.79	0.08	0.82	0.10	0.84	0.14	0.85
2012	0.04	0.69	0.05	0.78	0.06	0.79	0.08	0.82	0.12	0.84
2013	0.04	0.64	0.04	0.72	0.05	0.75	0.07	0.80	0.11	0.82
2014	0.04	0.65	0.04	0.76	0.06	0.80	0.08	0.83	0.11	0.85
2015	0.05	0.66	0.06	0.77	0.08	0.82	0.10	0.87	0.14	0.86
2016	0.09	0.75	0.11	0.83	0.15	0.88	0.18	0.88	0.25	0.89

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2017	0.18	0.84	0.20	0.90	0.23	0.91	0.29	0.92		
2018	0.19	0.86	0.18	0.89	0.22	0.91				
2019	0.20	0.87	0.20	0.90						
2020	0.08	0.86								
Region*male/female interaction										
<i>Males</i>										
India*M	0.60	0.92	0.60	0.95	0.58	0.97	0.55	0.98	0.48	0.97
China*M	0.03	0.35	0.05	0.58	0.07	0.70	0.08	0.73	0.10	0.77
US*M	0.01	0.60	0.01	0.64	0.01	0.69	0.01	0.67	0.01	0.73
Central America and Caribbean*M	0.04	0.84	0.03	0.87	0.03	0.87	0.04	0.88	0.04	0.88
South America*M	0.07	0.86	0.06	0.91	0.06	0.91	0.06	0.90	0.07	0.92
Europe*M	0.03	0.80	0.03	0.90	0.04	0.90	0.04	0.91	0.05	0.89
West Africa*M	0.03	0.85	0.03	0.87	0.03	0.89	0.04	0.92	0.04	0.88
East, Middle and Southern Africa*M	0.03	0.83	0.03	0.88	0.03	0.90	0.03	0.94	0.04	0.90
North Africa*M	0.02	0.66	0.02	0.75	0.02	0.77	0.03	0.81	0.03	0.83
Central Asia & Middle East*M	0.05	0.68	0.05	0.74	0.04	0.75	0.04	0.72	0.04	0.75
East Asia*M	0.03	0.66	0.03	0.74	0.03	0.78	0.03	0.80	0.04	0.88
Southeast Asia*M	0.02	0.80	0.03	0.82	0.03	0.83	0.03	0.84	0.03	0.89
South Asia and other*M	0.03	0.77	0.04	0.86	0.03	0.87	0.03	0.92	0.04	0.88
<i>Females</i>										
India*F	0.45	0.93	0.46	0.96	0.42	0.97	0.38	0.96	0.28	0.95
China*F	0.05	0.35	0.08	0.57	0.11	0.68	0.12	0.73	0.13	0.75
US*F	0.01	0.77	0.01	0.73	0.01	0.77	0.01	0.73	0.01	0.67
Central America and Caribbean*F	0.06	0.74	0.06	0.78	0.06	0.75	0.07	0.76	0.08	0.76
South America*F	0.09	0.74	0.08	0.78	0.08	0.79	0.08	0.77	0.10	0.78
West and North Europe*F	0.01	0.72	0.01	0.72	0.01	0.76	0.02	0.79	0.02	0.91
East and South Europe*F	0.04	0.78	0.04	0.78	0.04	0.80	0.04	0.82	0.05	0.78
West Africa*F	0.03	0.68	0.03	0.76	0.03	0.78	0.04	0.78	0.05	0.80
East Africa*F	0.02	0.63	0.02	0.69	0.02	0.73	0.02	0.70	0.03	0.70
North Africa*F	0.01	0.44	0.01	0.44	0.01	0.36	0.01	0.33	0.01	0.40
Middle and Southern Africa*F	0.02	0.83	0.02	0.83	0.02	0.89	0.02	0.81	0.02	0.92
Central Asia & Middle East*F	0.03	0.46	0.03	0.56	0.03	0.51	0.02	0.52	0.02	0.48
East Asia*F	0.10	0.66	0.07	0.62	0.07	0.63	0.08	0.67	0.10	0.68
Southeast Asia*F	0.07	0.83	0.07	0.82	0.08	0.84	0.09	0.85	0.09	0.86
South Asia and other*F	0.02	0.69	0.02	0.74	0.02	0.83	0.02	0.80	0.02	0.69

Table 9 Regression analysis: Earnings reported one to five years following study permit issuance

	Year 1	Year 2	Year 3	Year 4	Year 5
Region/country of citizenship (India)					
China	-0.49*** (0.014)	-0.33*** (0.014)	-0.23*** (0.014)	-0.22*** (0.014)	-0.20*** (0.015)
US	-0.24*** (0.041)	-0.31*** (0.041)	-0.25*** (0.041)	-0.33*** (0.045)	-0.26*** (0.045)
Central America and Caribbean	0.022 (0.016)	-0.043** (0.015)	-0.071*** (0.017)	-0.056*** (0.017)	-0.072*** (0.019)
South America	0.018 (0.011)	-0.016 (0.011)	-0.037** (0.012)	-0.053*** (0.013)	-0.030* (0.013)
West and North Europe	-0.043 (0.030)	-0.061* (0.029)	-0.063* (0.026)	-0.063* (0.026)	-0.026 (0.023)
East and South Europe	-0.029 (0.021)	-0.028 (0.018)	-0.058** (0.018)	-0.064*** (0.019)	-0.070*** (0.020)
West Africa	0.018 (0.017)	-0.046** (0.016)	-0.056*** (0.016)	-0.032* (0.016)	-0.065*** (0.018)
East Africa	-0.092*** (0.023)	-0.072*** (0.020)	-0.060** (0.019)	-0.028 (0.017)	-0.066** (0.023)
North Africa	-0.23*** (0.023)	-0.19*** (0.021)	-0.17*** (0.022)	-0.16*** (0.023)	-0.16*** (0.024)
Middle and Southern Africa	0.047* (0.021)	-0.0097 (0.021)	-0.027 (0.026)	-0.00099 (0.020)	-0.061* (0.031)
Central Asia & Middle East	-0.21*** (0.015)	-0.21*** (0.015)	-0.21*** (0.017)	-0.24*** (0.020)	-0.22*** (0.023)
East Asia	-0.16*** (0.018)	-0.16*** (0.019)	-0.15*** (0.020)	-0.16*** (0.022)	-0.083*** (0.020)
Southeast Asia	-0.094*** (0.021)	-0.11*** (0.018)	-0.14*** (0.018)	-0.12*** (0.019)	-0.072*** (0.020)
South Asia	-0.057*** (0.017)	-0.037* (0.014)	-0.051** (0.016)	-0.039* (0.017)	-0.070*** (0.020)
Other	-0.38*** (0.058)	-0.38*** (0.060)	-0.21*** (0.058)	-0.15** (0.056)	-0.13* (0.051)
Male/Female (Male)					
Female	-0.0042 (0.0046)	-0.0030 (0.0036)	-0.013*** (0.0036)	-0.024*** (0.0044)	-0.024*** (0.0066)
Region*Female interaction (India*F)					
China*Female	-0.002 (-0.018)	-0.0047 (-0.018)	-0.015 (-0.018)	0.0094 (-0.019)	0.00081 (-0.021)
US*Female	0.1 (-0.057)	0.13* (-0.055)	0.097 (-0.055)	0.13* (-0.062)	0.024 (-0.067)
Central America and Caribbean*Female	-0.10*** (-0.021)	-0.085*** (-0.021)	-0.091*** (-0.023)	-0.097*** (-0.023)	-0.090*** (-0.026)
South America*Female	-0.12*** (-0.016)	-0.12*** (-0.015)	-0.10*** (-0.017)	-0.099*** (-0.019)	-0.12*** (-0.021)
West and North Europe*Female	-0.10* (-0.045)	-0.12** (-0.043)	-0.094* (-0.042)	-0.11* (-0.044)	-0.091* (-0.043)
East and South Europe*Female	-0.05 (-0.027)	-0.11*** (-0.025)	-0.074** (-0.026)	-0.080** (-0.027)	-0.11*** (-0.031)
West Africa*Female	-0.14*** (-0.026)	-0.079** (-0.025)	-0.074** (-0.027)	-0.096*** (-0.026)	-0.056* (-0.028)
East Africa*Female	-0.11** (-0.026)	-0.15*** (-0.025)	-0.14*** (-0.027)	-0.21*** (-0.026)	-0.18*** (-0.028)

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North Africa*Female	(-0.035) -0.22***	(-0.034) -0.32***	(-0.034) -0.38***	(-0.035) -0.45***	(-0.041) -0.45***
Middle and Southern Africa*Female	(-0.04) -0.086**	(-0.042) -0.056	(-0.046) -0.014	(-0.049) -0.084*	(-0.053) -0.0065
Central Asia & Middle East*Female	(-0.033) -0.18***	(-0.031) -0.16***	(-0.035) -0.22***	(-0.036) -0.19***	(-0.043) -0.25***
East Asia*Female	(-0.023) -0.011	(-0.024) -0.13***	(-0.028) -0.14***	(-0.034) -0.10***	(-0.039) -0.18***
Southeast Asia*Female	(-0.021) 0.048*	(-0.023) 0.014	(-0.025) 0.053*	(-0.026) 0.032	(-0.026) -0.0044
South Asia*Female	(-0.024) -0.10**	(-0.022) -0.15***	(-0.022) -0.093*	(-0.023) -0.17***	(-0.025) -0.26***
Other*Female	(-0.035) 0.15	(-0.035) 0.25**	(-0.038) 0.051	(-0.047) -0.029	(-0.057) 0.028
	(-0.09)	(-0.086)	(-0.088)	(-0.085)	(-0.076)
Application location (same as citizenship)					
Different than citizenship	0.031** (0.011)	0.036*** (0.010)	0.036*** (0.010)	0.021* (0.010)	0.011 (0.011)
Canada	-0.016 (0.0086)	-0.026** (0.0090)	-0.0099 (0.0097)	-0.021 (0.011)	-0.019 (0.013)
Age (Age 18)					
Age 16 or 17	-0.032 (0.018)	-0.014 (0.016)	-0.0086 (0.018)	0.039* (0.018)	-0.0077 (0.021)
Age 19/20	0.022* (0.0085)	0.014 (0.0081)	0.0057 (0.0085)	0.015 (0.0096)	-0.011 (0.012)
Age 21/22	0.063*** (0.0087)	0.054*** (0.0082)	0.039*** (0.0084)	0.052*** (0.0095)	0.0094 (0.012)
Age 23/24	0.067*** (0.0088)	0.066*** (0.0082)	0.032*** (0.0085)	0.046*** (0.0096)	0.012 (0.012)
Age 25-29	0.056*** (0.0090)	0.062*** (0.0085)	0.034*** (0.0089)	0.035*** (0.010)	-0.0046 (0.012)
Age 30-39	0.0050 (0.011)	0.044*** (0.010)	0.018 (0.011)	0.034** (0.012)	0.0032 (0.014)
Age 40+	-0.075*** (0.014)	-0.031* (0.014)	-0.048** (0.015)	-0.018 (0.016)	-0.022 (0.018)
Permit study level (BA)					
ESL	-0.049*** (0.013)	0.016 (0.012)	0.074*** (0.014)	0.046** (0.017)	0.0100 (0.021)
College certificate	0.052*** (0.010)	0.058*** (0.0098)	0.094*** (0.012)	0.055*** (0.015)	0.032 (0.019)
College diploma	0.047*** (0.0090)	0.049*** (0.0087)	0.084*** (0.011)	0.055*** (0.014)	0.019 (0.016)
Trade or voc.	0.058** (0.020)	0.062*** (0.019)	0.088*** (0.020)	0.037 (0.020)	0.032 (0.020)
Applied degree	0.0054 (0.026)	0.015 (0.026)	0.0038 (0.032)	0.0094 (0.043)	0.037 (0.046)
MA					
PhD	0.030* (0.015)	0.056*** (0.014)	0.10*** (0.015)	0.082*** (0.017)	0.075*** (0.020)
Other/missing	-0.050 (0.027)	0.046 (0.030)	0.075* (0.034)	0.11** (0.033)	0.10** (0.038)
Destination (Toronto)					
Ottawa	0.053***	0.063***	0.063***	0.041**	0.013

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	(0.011)	(0.011)	(0.011)	(0.013)	(0.016)
Kingston-Pembroke	0.020	0.015	-0.0088	0.013	-0.015
	(0.013)	(0.011)	(0.014)	(0.014)	(0.028)
Muskoka-Kawarthas	-0.013	-0.027*	-0.0022	-0.012	0.00032
	(0.013)	(0.011)	(0.010)	(0.013)	(0.017)
Kitchener-Waterloo-Barrie & Stratford-Bruce Peninsula	0.0096	0.036***	0.035***	0.027**	0.027*
	(0.0091)	(0.0078)	(0.0077)	(0.0091)	(0.012)
Hamilton-Niagara	0.00020	0.013	0.0032	-0.0023	-0.0032
	(0.0092)	(0.0082)	(0.0083)	(0.0093)	(0.011)
London	-0.058***	-0.039***	-0.021*	-0.031**	-0.026
	(0.011)	(0.010)	(0.010)	(0.011)	(0.014)
Windsor-Sarnia	-0.0071	0.011	0.019*	0.0051	0.022*
	(0.0088)	(0.0076)	(0.0073)	(0.0083)	(0.0096)
North Ontario	0.024***	0.0099	0.022***	0.011	0.038**
	(0.0066)	(0.0061)	(0.0065)	(0.0094)	(0.014)
Prior Canadian study experience (no prior PSE permit)					
Held primary, secondary, or CEGEP permit	-0.060***	-0.078***	-0.070***	-0.046**	-0.0027
	(0.015)	(0.014)	(0.014)	(0.014)	(0.015)
Study permit from elsewhere in Canada	0.038**	0.047**	0.036*	0.045**	0.037*
	(0.014)	(0.015)	(0.016)	(0.017)	(0.019)
Permit cohort (2010)					
2011	0.072***	0.039**	0.0094	0.024*	0.038***
	(0.014)	(0.012)	(0.012)	(0.011)	(0.011)
2012	0.080***	0.048***	-0.0031	0.017	0.042***
	(0.015)	(0.013)	(0.013)	(0.012)	(0.012)
2013	0.080***	0.044**	0.0082	0.042***	0.063***
	(0.015)	(0.014)	(0.014)	(0.013)	(0.013)
2014	0.074***	0.039*	0.021	0.046***	0.074***
	(0.017)	(0.016)	(0.014)	(0.014)	(0.014)
2015	0.086***	0.057***	0.042**	0.076***	0.071***
	(0.015)	(0.014)	(0.013)	(0.013)	(0.014)
2016	0.17***	0.12***	0.090***	0.052***	0.067***
	(0.013)	(0.012)	(0.012)	(0.012)	(0.014)
2017	0.20***	0.14***	0.080***	0.064***	
	(0.013)	(0.011)	(0.011)	(0.012)	
2018	0.22***	0.13***	0.093***		
	(0.012)	(0.011)	(0.011)		
2019	0.22***	0.15***			
	(0.012)	(0.011)			
2020	0.25***				
	(0.014)				
Constant	0.66***	0.75***	0.80***	0.85***	0.90***
	(0.016)	(0.014)	(0.015)	(0.017)	(0.019)
Observations	31220	29730	24700	19940	14480
R ²	0.243	0.178	0.159	0.141	0.119

Notes: This table presents the results of a linear probability model examining if a student had some earnings (1=yes) one to five years following Ontario study permit issuance. The explanatory variables included in the model are categorical and the reference group for each variable is in parentheses next to the bolded variable title. Robust standard errors are in parentheses under each coefficient. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Annual earnings analysis

Table 10 Descriptive analysis: Annual mean earnings one to five years following study permit issuance (\$)

	N=	Y1 24,380	Y2 24,990	Y3 21,180	Y4 17,150	Y5 12,310
Region/country of citizenship						
India		15,500	25,200	35,800	41,600	44,800
China		14,500	19,900	25,500	28,900	33,300
US		21,000	26,000	31,000	40,900	41,900
Central America and Caribbean		20,400	27,400	34,000	37,800	40,500
South America		20,700	29,000	35,300	40,000	44,100
West and North Europe		20,800	28,400	36,300	42,600	51,000
East and South Europe		21,800	29,200	34,100	35,900	38,200
West Africa		22,800	29,100	35,100	37,100	40,900
East Africa		20,300	28,700	33,800	36,200	36,200
North Africa		18,300	28,400	35,600	38,900	42,300
Middle and Southern Africa		23,300	33,200	41,000	44,200	43,500
Central Asia & Middle East		16,100	22,400	26,700	31,000	34,200
East Asia		15,600	21,800	27,300	28,900	30,300
Southeast Asia		17,800	23,900	28,400	32,300	36,000
South Asia		17,400	23,700	31,400	35,200	37,600
Other		19,000	25,800	26,200	31,100	34,500
Male/Female						
Male		17,700	26,700	36,000	41,300	44,600
Female		16,100	23,600	30,100	33,200	34,900
Application location						
Same as citizenship		16,200	25,000	33,700	38,200	40,900
Different than citizenship		18,200	27,000	34,100	38,800	40,600
Canada		21,600	26,500	30,500	33,600	37,800
Age						
Age 16 or 17		11,800	17,500	24,100	28,500	32,500
Age 18		12,200	18,600	26,600	31,800	34,400
Age 19/20		13,200	19,700	28,700	34,700	35,800
Age 21/22		15,400	24,300	34,200	39,000	42,400
Age 23/24		16,800	26,300	35,600	40,000	41,800
Age 25-29		18,900	28,800	35,900	40,000	43,400
Age 30-39		21,700	30,200	36,000	38,900	42,300
Age 40+		22,100	28,600	35,800	38,500	38,400
Permit study level						
ESL		15,300	20,700	25,000	27,400	30,100
College certificate		17,600	28,000	36,800	40,800	43,000
College diploma		16,000	23,400	32,900	38,300	40,900
Trade or voc.		20,400	28,100	34,400	37,300	38,000
Applied degree		16,700	21,200	30,600	34,100	34,900
BA		13,800	18,400	24,300	29,100	33,600
MA		20,000	34,400	47,200	54,200	59,700
PhD		21,100	26,500	31,200	39,300	47,000
Other/missing		18,500	28,000	35,000	38,600	41,100
Destination						
Ottawa		19,200	27,200	32,700	37,000	42,200

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	N=	Y1	Y2	Y3	Y4	Y5
Kingston-Pembroke		15,800	26,200	35,000	41,300	49,700
Muskoka-Kawarthas		13,100	24,700	32,700	37,300	39,000
Toronto		17,100	24,900	33,000	37,400	39,900
Kitchener-Waterloo-Barrie & Stratford-Bruce Peninsula		15,800	26,300	36,300	42,200	45,400
Hamilton-Niagara		17,200	25,200	31,900	36,100	39,200
London		16,800	24,700	31,500	35,500	37,300
Windsor-Sarnia		15,700	26,100	35,300	40,200	44,300
North Ontario		18,600	27,300	37,700	41,300	42,500
Prior K-12 experience in Canada						
No permit under PSE		17,100	25,500	33,800	38,400	41,200
Primary, secondary, or CEGEP		15,100	19,500	24,800	26,800	31,100
Prior PSE experience in Canada						
Ontario only		16,800	25,300		38,000	40,700
Studied elsewhere in Canada first		22,900	27,000		34,600	36,200
Permit cohort						
2010		19,200	28,600	36,100	38,700	40,400
2011		18,900	29,400	36,900	40,300	42,300
2012		21,300	30,400	34,600	36,900	41,000
2013		18,700	25,800	30,900	35,400	40,000
2014		17,000	24,600	31,600	37,100	40,600
2015		15,300	23,400	33,200	37,100	37,200
2016		15,200	24,400	32,300	35,900	41,600
2017		15,900	23,900	31,600	39,500	
2018		16,600	23,700	35,100		
2019		16,000	25,800			
2020		20,200				
Region*male/female interaction						
<i>Males</i>						
India*M		15,700	25,800	37,300	43,700	47,100
China*M		15,500	20,400	26,500	30,700	34,700
US*M		28,700	33,500	38,500	45,200	47,200
Central America and Caribbean*M		24,400	32,600	40,400	45,800	49,900
South America*M		23,900	33,900	41,600	47,500	53,700
West and North Europe*M		22,300	31,600	41,700	48,500	60,700
East and South Europe*M		25,500	32,500	36,100	39,600	43,600
West Africa*M		25,600	32,200	39,100	41,200	45,100
East Africa*M		21,300	30,500	36,600	38,000	38,500
North Africa*M		19,700	30,500	37,600	40,300	44,400
Middle and Southern Africa*M		25,200	36,200	44,100	47,900	47,800
Central Asia & Middle East*M		16,200	22,400	27,600	32,500	36,600
East Asia*M		18,000	25,500	31,600	33,800	34,100
Southeast Asia*M		17,100	24,200	28,600	33,900	37,400
South Asia*M		17,600	24,000	32,400	37,000	39,800
Other*M		21,900	23,700	19,800	27,600	30,500
<i>Females</i>						
India*F		15,100	24,300	33,100	37,500	39,300
China*F		13,700	19,400	24,700	27,300	31,900
US*F		13,800	20,000	24,400	36,800	35,300
Central America and Caribbean*F		17,400	23,400	29,500	31,900	33,800
South America*F		17,600	24,000	29,000	32,600	34,800
West and North Europe*F		19,300	25,200	30,600	35,400	39,400
East and South Europe*F		19,200	26,700	32,400	32,700	33,200

	N=	Y1	Y2	Y3	Y4	Y5
West Africa*F		19,100	25,000	29,900	32,000	36,300
East Africa*F		18,900	26,100	29,800	33,500	33,300
North Africa*F		13,400	19,200	24,500	29,900	28,100
Middle and Southern Africa*F		21,600	30,700	38,800	41,100	40,000
Central Asia & Middle East*F		15,900	22,300	24,800	27,600	27,800
East Asia*F		14,600	19,700	24,800	26,200	28,100
Southeast Asia*F		18,100	23,700	28,400	31,500	35,300
South Asia*F		16,700	22,600	28,200	28,500	27,500
Other*F		15,800	27,900	34,900	35,400	39,400

Table 11 Regression analysis: Annual earnings one to five years following study permit issuance

	Year 1	Year 2	Year 3	Year 4	Year 5
Region/country of citizenship (India)					
China	-3047.0** (1038.7)	-8124.4*** (774.0)	-10390.0*** (895.1)	-12810.9*** (1085.7)	-13078.2*** (1470.3)
US	8791.0* (3454.7)	1477.4 (3479.9)	-3050.1 (3760.9)	-1512.3 (3900.4)	-3717.1 (4268.3)
Central America and Caribbean	4524.0*** (878.2)	1136.0 (1137.6)	0.64 (1386.6)	-131.4 (1718.1)	1045.3 (2141.3)
South America	4120.8*** (678.3)	2834.6** (933.8)	1722.6 (1205.3)	1691.7 (1541.1)	4429.5 (2683.0)
West and North Europe	3584.3 (2625.2)	1727.8 (2521.9)	2783.2 (2874.8)	2823.1 (3492.9)	11381.7 (6395.1)
East and South Europe	6311.2*** (1463.0)	1477.2 (1496.7)	-3579.1* (1647.3)	-5974.8** (1862.5)	-4743.7* (2207.8)
West Africa	4449.2*** (983.8)	-528.7 (1139.4)	-2318.8 (1466.0)	-5983.8*** (1731.4)	-5874.4** (2129.6)
East Africa	1748.9 (968.7)	-745.6 (1286.4)	-3042.3 (1601.2)	-8449.6*** (1908.8)	-11603.1*** (2389.7)
North Africa	-918.5 (1778.9)	-425.8 (3837.1)	-1890.4 (5452.7)	-5310.9 (6641.9)	-5424.4 (5789.5)
Middle and Southern Africa	5371.5*** (1455.0)	4353.0* (1809.3)	3098.1 (2531.2)	887.6 (2844.7)	-1567.3 (3398.0)
Central Asia & Middle East	-3287.4*** (643.8)	-8511.3*** (840.9)	-11455.2*** (1226.9)	-12848.0*** (1838.6)	-13049.0*** (1862.5)
East Asia	-1112.9 (756.3)	-4172.4*** (1061.8)	-6871.3*** (1363.7)	-11205.7*** (1420.2)	-14384.0*** (1623.0)
Southeast Asia	-1510.2 (796.8)	-3975.5*** (1018.8)	-8403.6*** (1136.2)	-8891.7*** (1520.2)	-9931.3*** (2064.4)
South Asia	-865.3 (725.3)	-5226.9*** (891.2)	-7364.8*** (1294.1)	-9980.8*** (1772.6)	-10914.2*** (2321.0)
Other	1535.9 (5844.1)	-6942.5 (5124.1)	-18634.1*** (2577.0)	-18260.6*** (3466.7)	-19015.0*** (3244.2)
Male/Female (Male)					
Female	-840.3*** (191.9)	-1814.5*** (260.1)	-4542.2*** (372.9)	-6578.3*** (482.8)	-8229.8*** (795.3)
Region*Female interaction (India*F)					
China # Female	-1257.9	547.2	2067.4	2684.8*	4603.8*

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	(1289.7)	(974.1)	(1096.5)	(1336.7)	(1845.1)
US # Female	-12532.2***	-9690.2*	-6244.3	-713.7	-2450.6
	(3675.2)	(4013.4)	(4267.1)	(4885.7)	(5635.0)
Central America and Caribbean # Female	-6085.0***	-7202.4***	-6590.9***	-8026.7***	-9025.4***
	(1028.6)	(1360.8)	(1679.4)	(2063.4)	(2483.1)
South America # Female	-5428.2***	-7545.5***	-7688.0***	-7723.3***	-10155.4***
	(793.0)	(1106.8)	(1429.8)	(1804.1)	(2811.1)
West and North Europe # Female	-2733.3	-6149.3*	-7095.3*	-7396.6	-14374.5
	(3062.0)	(3040.2)	(3520.9)	(4136.5)	(7426.6)
East and South Europe # Female	-5968.0***	-4243.2*	1133.9	-444.4	-2815.6
	(1637.2)	(1855.3)	(2173.8)	(2425.8)	(2876.0)
West Africa # Female	-5023.2***	-4525.3**	-3787.3	-1720.5	353.6
	(1356.7)	(1576.4)	(2015.4)	(2231.8)	(2755.4)
East Africa # Female	-1818.7	-2212.4	-2873.5	1893.6	3107.6
	(1464.6)	(1781.0)	(2265.2)	(2628.5)	(3208.1)
North Africa # Female	-4618.4	-8520.4*	-8956.7	-2759.5	-7819.2
	(2359.7)	(4193.8)	(5971.6)	(7219.6)	(7211.2)
Middle and Southern Africa # Female	-2712.9	-3568.2	-6.36	589.6	-460.0
	(1910.6)	(2405.1)	(3389.1)	(3782.3)	(4237.1)
Central Asia & Middle East # Female	-40.1	1597.4	1189.5	596.3	-914.4
	(1001.3)	(1278.1)	(1819.2)	(2596.3)	(2832.1)
East Asia # Female	-2871.9***	-4698.9***	-2651.8	-1140.3	1700.3
	(802.5)	(1174.9)	(1524.2)	(1596.5)	(1885.2)
Southeast Asia # Female	1700.2	1240.2	4993.0***	3983.4*	5762.1*
	(944.3)	(1184.4)	(1405.7)	(1848.0)	(2546.4)
South Asia # Female	-1726.5	-1985.0	-1911.7	-2709.9	-4700.0
	(1180.4)	(1602.5)	(2233.9)	(3145.0)	(3961.4)
Other # Female	-5471.6	4284.2	18354.4***	13374.3*	15616.6**
	(6358.9)	(6173.0)	(4865.9)	(5932.3)	(5528.4)
Application location (same as citizenship)					
Different than citizenship	1526.4**	2057.6**	1336.1	1882.0*	1074.8
	(520.1)	(634.9)	(773.3)	(917.1)	(1137.8)
Canada	3198.7***	1800.3**	393.2	879.3	1702.3
	(448.3)	(554.9)	(697.5)	(1019.5)	(1837.1)
Age (Age 18)					
Age 16 or 17	-365.4	-471.5	-1133.1	-955.5	-14.3
	(655.7)	(654.7)	(918.3)	(1068.2)	(1568.2)
Age 19/20	559.8*	-83.0	637.6	1546.4*	977.4
	(253.8)	(337.3)	(486.0)	(609.8)	(910.2)
Age 21/22	2133.6***	2707.5***	4129.2***	4543.2***	6235.5***
	(280.4)	(375.7)	(528.7)	(672.4)	(1078.0)
Age 23/24	3522.7***	4288.8***	5833.5***	5770.0***	6061.5***
	(315.5)	(392.9)	(540.4)	(701.6)	(1078.5)
Age 25-29	5191.7***	7036.6***	7794.0***	7942.3***	9806.3***
	(310.3)	(423.2)	(576.9)	(740.5)	(1105.8)
Age 30-39	7195.4***	9320.3***	10431.4***	10053.0***	11707.0***
	(439.0)	(599.6)	(732.0)	(896.1)	(1266.3)
Age 40+	6824.0***	7314.0***	10086.9***	9467.6***	7683.4***
	(761.4)	(967.2)	(1673.3)	(2150.1)	(1860.5)
Permit study level (BA)					
ESL	-1031.5	-1642.3**	-4338.3***	-8148.1***	-9724.6***
	(545.1)	(631.3)	(928.3)	(1307.8)	(2045.5)
College certificate	1500.5**	3749.9***	2154.5*	-1443.5	-3216.3
	(463.8)	(569.4)	(915.3)	(1291.7)	(2225.0)

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College diploma	763.2* (379.1)	1316.4** (454.4)	226.3 (792.2)	-2738.2* (1145.3)	-3846.3* (1850.8)
Trade or voc.	2161.2* (921.7)	1606.4 (1103.0)	3.50 (1500.8)	-964.7 (1697.1)	-3922.1* (1938.4)
Applied degree	879.3 (983.0)	530.8 (1299.8)	713.0 (2199.9)	-2527.3 (2690.8)	-5225.1 (3922.7)
MA	4018.8*** (854.3)	10952.5*** (1033.9)	14674.0*** (1422.4)	15408.8*** (1959.4)	16705.7*** (3103.3)
PhD	3193.7 (2165.2)	4552.1 (2413.0)	2855.3 (2878.4)	3215.0 (4686.0)	5983.0 (4671.5)
Other/missing	1268.9* (496.2)	2806.9*** (601.4)	672.5 (921.0)	-1260.9 (1173.1)	-2417.1 (1547.6)
Destination (Toronto)					
Ottawa	1538.7* (626.1)	1906.6* (855.3)	-768.5 (1023.6)	-754.5 (1279.0)	1158.3 (1627.3)
Kingston-Pembroke	414.4 (654.0)	1978.0* (936.9)	885.5 (1206.0)	862.1 (1787.1)	6716.4 (5974.3)
Muskoka-Kawarthas	-2771.5*** (468.9)	-179.8 (678.7)	-2360.6** (836.9)	-3814.9*** (995.3)	-5417.7** (1697.0)
Kitchener-Waterloo-Barrie & Stratford-Bruce Peninsula	-69.3 (381.4)	2001.8*** (470.8)	2613.0*** (668.0)	3415.9*** (929.1)	4139.9** (1316.3)
Hamilton-Niagara	377.3 (387.9)	58.0 (465.1)	-1688.6** (595.1)	-2181.9** (723.7)	-1458.4 (1078.4)
London	-1470.1** (479.0)	-1912.7** (582.9)	-2776.4*** (739.5)	-3609.2*** (915.4)	-4801.6*** (1195.7)
Windsor-Sarnia	-1386.8*** (352.1)	-577.2 (454.8)	-899.7 (566.1)	-471.1 (704.0)	1398.4 (1241.0)
North Ontario	2746.5*** (328.6)	2747.7*** (438.2)	1564.8* (662.6)	-627.1 (923.2)	-1044.1 (1528.0)
Prior Canadian study experience (no prior PSE permit)					
Held primary, secondary, or CEGEP permit	-2574.5*** (723.7)	-2314.7** (719.8)	-1595.2 (817.9)	-3261.8*** (955.0)	-2595.9* (1324.2)
Study permit from elsewhere in Canada	2771.0*** (824.0)	278.1 (982.7)	-525.1 (1340.1)	-1745.6 (1633.9)	-3354.6 (2012.2)
Permit cohort (2010)					
2011	226.2 (684.1)	651.4 (980.7)	267.8 (1099.8)	1087.6 (1205.6)	939.6 (1186.5)
2012	2499.4*** (732.2)	1302.2 (1035.1)	-1490.6 (1135.4)	-1887.0 (1211.9)	293.6 (1115.7)
2013	-1047.6 (776.9)	-2116.6* (1070.5)	-3597.1** (1194.0)	-1573.2 (1345.5)	432.4 (1366.1)
2014	-2770.0*** (789.3)	-4435.8*** (1143.8)	-4247.3** (1337.2)	-815.2 (1551.5)	998.8 (1471.8)
2015	-3310.1*** (711.2)	-3697.6*** (1023.6)	-1215.8 (1168.1)	1014.9 (1367.4)	-875.3 (1500.1)
2016	-1463.5* (692.5)	-297.5 (1009.2)	-1219.2 (1150.7)	191.8 (1359.4)	3796.5* (1659.5)
2017	-160.8 (618.6)	-725.7 (958.5)	-3110.7** (1119.0)	2675.9* (1330.1)	
2018	352.6 (613.0)	-1622.5 (965.0)	589.7 (1119.7)		
2019	30.1 (617.1)	1105.2 (964.6)			
2020	1901.8**				

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Paid Can. tuition 1 year after ON study permit	(704.2) -3202.9*** (235.7)				
Paid Can. tuition 2 years after ON study permit		-8194.4*** (233.5)			
Paid Can. tuition 3 years after ON study permit			-8859.3*** (424.4)		
Paid Can. tuition 4 years after ON study permit				-8282.1*** (645.9)	
Paid Can. tuition 5 years after ON study permit					-6363.6*** (1175.7)
Constant	14348.4*** (692.6)	24886.1*** (1066.4)	34706.1*** (1401.8)	40760.5*** (1678.4)	43406.2*** (1916.4)
Observations	24,380	24,990	21,170	17,150	12,300
R ²	0.102	0.124	0.104	0.091	0.082

Notes: This table presents the results of separate LPM models examining CIP adjusted log earnings (excluding those who earned \$0) one to five years following Ontario study permit issuance. The explanatory variables included in the model are categorical and the reference group for each variable is in parentheses next to the bolded variable title. Robust standard errors are in parentheses under each coefficient. * p < 0.05, ** p < 0.01, *** p < 0.001.

Migration analysis

Table 12 Descriptive analysis: Migration outcomes one to three years following study permit issuance

	Proportion	No permit	Y1 Study and/or work permit	Transition to PR	Proportion	No permit	Y2 Study and/or work permit	Transition to PR	Proportion	No permit	Y3 Study and/or work permit	Transition to PR
TOTAL	135,540	0.067	0.923	0.010	111,770	0.381	0.592	0.027	91,260	0.524	0.416	0.060
Region/country of citizenship												
India	0.35	0.004	0.991	0.005	0.30	0.039	0.945	0.016	0.25	0.141	0.794	0.066
China	0.10	0.029	0.962	0.010	0.10	0.242	0.736	0.022	0.11	0.347	0.606	0.048
US, Central American and Caribbean	0.05	0.078	0.899	0.023	0.06	0.471	0.480	0.052	0.06	0.612	0.301	0.090
South America	0.10	0.226	0.765	0.010	0.10	0.695	0.279	0.026	0.11	0.818	0.131	0.050
Europe	0.06	0.104	0.885	0.013	0.06	0.649	0.317	0.034	0.07	0.740	0.199	0.062
Africa	0.04	0.025	0.922	0.055	0.04	0.157	0.722	0.121	0.04	0.251	0.535	0.214
Central Asia& Middle East	0.10	0.103	0.888	0.009	0.10	0.521	0.458	0.021	0.12	0.706	0.262	0.033
East Asia	0.16	0.122	0.876	0.003	0.18	0.757	0.233	0.010	0.19	0.855	0.127	0.019
Southeast Asia	0.04	0.023	0.956	0.021	0.04	0.175	0.766	0.062	0.03	0.291	0.578	0.135
South Asia and Other regions	0.01	0.030	0.934	0.040	0.01	0.212	0.703	0.091	0.02	0.345	0.504	0.158
Male/Female												
Male	0.54	0.064	0.929	0.008	0.55	0.354	0.625	0.021	0.56	0.501	0.448	0.051
Female	0.46	0.071	0.915	0.013	0.45	0.412	0.553	0.035	0.44	0.552	0.377	0.071
Application location												
Same as citizenship	0.86	0.066	0.928	0.007	0.85	0.393	0.588	0.019	0.83	0.541	0.411	0.048
Different than citizenship	0.08	0.094	0.883	0.024	0.09	0.365	0.576	0.059	0.11	0.488	0.397	0.115
Canada	0.06	0.053	0.904	0.044	0.06	0.239	0.676	0.088	0.06	0.352	0.522	0.129
Age												
Age 16 or 17	0.04	0.096	0.902	0.004	0.04	0.364	0.631	0.007	0.04	0.487	0.501	0.014
Age 18	0.12	0.035	0.963	0.002	0.11	0.231	0.764	0.006	0.11	0.349	0.639	0.013
Age 19/20	0.21	0.042	0.956	0.002	0.20	0.339	0.655	0.007	0.19	0.476	0.506	0.018
Age 21/22	0.18	0.074	0.922	0.004	0.18	0.444	0.544	0.013	0.19	0.585	0.376	0.040
Age 23/24	0.16	0.080	0.915	0.005	0.16	0.406	0.575	0.020	0.17	0.563	0.379	0.059
Age 25-29	0.18	0.085	0.898	0.018	0.18	0.424	0.529	0.048	0.18	0.586	0.313	0.101
Age 30-39	0.09	0.089	0.874	0.038	0.09	0.413	0.503	0.085	0.10	0.542	0.312	0.147
Age 40+	0.03	0.073	0.870	0.059	0.03	0.354	0.537	0.115	0.03	0.473	0.358	0.172
Permit study level												

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	Proportion	No permit	Y1 Study and/or work permit	Transition to PR	Proportion	No permit	Y2 Study and/or work permit	Transition to PR	Proportion	No permit	Y3 Study and/or work permit	Transition to PR
ESL	0.16	0.131	0.866	0.003	0.15	0.669	0.321	0.011	0.13	0.785	0.190	0.026
College certificate	0.07	0.011	0.982	0.007	0.06	0.132	0.846	0.024	0.05	0.221	0.705	0.079
College diploma	0.25	0.004	0.989	0.007	0.21	0.068	0.913	0.020	0.16	0.174	0.780	0.046
Trade or voc.	0.04	0.138	0.844	0.020	0.05	0.694	0.269	0.037	0.06	0.791	0.148	0.061
BA and Applied degree	0.10	0.017	0.978	0.007	0.09	0.208	0.779	0.015	0.10	0.292	0.683	0.027
MA	0.03	0.045	0.946	0.014	0.03	0.229	0.741	0.034	0.03	0.444	0.464	0.096
PhD	0.01	0.093	0.901	0.013	0.01	0.472	0.520	0.024	0.01	0.583	0.396	0.031
Other/missing	0.34	0.103	0.880	0.017	0.40	0.476	0.485	0.040	0.47	0.609	0.313	0.079
*Other/missing + ESL, college certificate & diploma	-	-	-	-	-	-	-	-	-	-	-	-
Prior K-12 experience in Canada												
No permit under PSE	0.96	0.069	0.921	0.010	0.95	0.392	0.582	0.026	0.95	0.537	0.404	0.060
Primary, secondary, or CEGEP	0.04	0.019	0.960	0.024	0.05	0.140	0.818	0.043	0.05	0.272	0.660	0.070
Prior PSE experience in Canada												
Ontario only	0.98	0.067	0.923	0.010	0.98	0.382	0.592	0.027	0.98	0.525	0.416	0.059
Studied elsewhere in Canada first	0.02	0.087	0.892	0.025	0.02	0.335	0.615	0.054	0.02	0.481	0.418	0.111
Permit cohort												
2010	0.09	0.085	0.891	0.026	0.10	0.432	0.519	0.050	0.13	0.557	0.354	0.091
2011	0.08	0.087	0.893	0.021	0.09	0.454	0.505	0.043	0.12	0.579	0.345	0.078
2012	0.08	0.104	0.884	0.013	0.09	0.507	0.465	0.030	0.12	0.641	0.301	0.058
2013	0.08	0.107	0.882	0.012	0.09	0.526	0.450	0.025	0.11	0.659	0.297	0.045
2014	0.06	0.135	0.858	0.009	0.08	0.547	0.428	0.025	0.09	0.640	0.306	0.054
2015	0.06	0.072	0.917	0.013	0.08	0.415	0.553	0.033	0.09	0.526	0.408	0.067
2016	0.09	0.055	0.936	0.010	0.11	0.314	0.660	0.027	0.14	0.415	0.521	0.065
2017	0.14	0.053	0.942	0.006	0.17	0.262	0.718	0.020	0.20	0.351	0.611	0.039
2018	0.15	0.043	0.951	0.006	0.18	0.240	0.747	0.013	-	-	-	-
2019	0.18	0.031	0.965	0.004	-	-	-	-	-	-	-	-
Region*male/female interaction												
<i>Males</i>												
India*M	0.38	0.005	0.992	0.004	0.33	0.044	0.943	0.013	0.28	0.154	0.786	0.061
China*M	0.10	0.028	0.964	0.008	0.11	0.256	0.728	0.018	0.12	0.368	0.599	0.035
US, Central American and Caribbean*M	0.05	0.081	0.901	0.020	0.05	0.458	0.503	0.042	0.05	0.604	0.321	0.078
South America*M	0.09	0.231	0.763	0.007	0.10	0.705	0.274	0.021	0.11	0.832	0.129	0.040
Europe*M	0.05	0.108	0.881	0.011	0.05	0.631	0.342	0.030	0.06	0.727	0.220	0.053
Africa*M	0.04	0.029	0.939	0.035	0.04	0.164	0.737	0.102	0.05	0.269	0.542	0.189

	Y1				Y2				Y3			
	Proportion	No permit	Study and/or work permit	Transition to PR	Proportion	No permit	Study and/or work permit	Transition to PR	Proportion	No permit	Study and/or work permit	Transition to PR
Central Asia& Middle East*M	0.12	0.101	0.894	0.007	0.13	0.519	0.467	0.017	0.15	0.697	0.277	0.027
East Asia*M	0.12	0.119	0.880	0.002	0.13	0.759	0.236	0.005	0.14	0.861	0.131	0.010
Southeast Asia*M	0.03	0.029	0.967	0.010	0.03	0.192	0.785	0.028	0.02	0.333	0.595	0.087
South Asia and Other regions*M	0.02	0.022	0.949	0.036	0.02	0.167	0.754	0.088	0.02	0.305	0.558	0.147
<i>Females</i>												
India*F	0.33	0.003	0.990	0.007	0.26	0.032	0.947	0.022	0.20	0.120	0.806	0.075
China*F	0.09	0.031	0.957	0.013	0.10	0.224	0.749	0.030	0.11	0.319	0.618	0.066
US, Central American and Caribbean*F	0.06	0.078	0.896	0.028	0.07	0.484	0.462	0.063	0.07	0.619	0.281	0.103
South America*F	0.10	0.222	0.767	0.013	0.11	0.682	0.285	0.033	0.12	0.803	0.135	0.064
Europe*F	0.06	0.100	0.888	0.015	0.07	0.665	0.297	0.044	0.08	0.751	0.182	0.070
Africa*F	0.03	0.025	0.895	0.085	0.03	0.155	0.695	0.161	0.04	0.228	0.523	0.255
Central Asia& Middle East*F	0.06	0.109	0.875	0.018	0.07	0.528	0.441	0.035	0.07	0.727	0.227	0.049
East Asia*F	0.21	0.124	0.873	0.004	0.23	0.755	0.232	0.014	0.25	0.850	0.124	0.025
Southeast Asia*F	0.04	0.022	0.952	0.033	0.05	0.162	0.751	0.092	0.04	0.259	0.571	0.176
South Asia and Other regions*F	0.01	0.066	0.902	0.049	0.01	0.308	0.577	0.135	0.01	0.455	0.386	0.205

Table 13 Descriptive analysis: Migration outcomes four to six years following study permit issuance

	Y4				Y5				Y6			
	Proportion	No permit	Study and/or work permit	Transition to PR	Proportion	No permit	Study and/or work permit	Transition to PR	Proportion	No permit	Study and/or work permit	Transition to PR
TOTAL	72,620	0.622	0.275	0.104	60,130	0.708	0.153	0.139	51,620	0.753	0.084	0.163
Region/country of citizenship												
India	0.18	0.232	0.572	0.197	0.14	0.312	0.323	0.365	0.14	0.387	0.137	0.478
China	0.12	0.410	0.511	0.079	0.11	0.560	0.330	0.111	0.11	0.651	0.208	0.143
US, Central American and Caribbean	0.07	0.690	0.187	0.124	0.07	0.750	0.100	0.152	0.08	0.774	0.061	0.168
South America	0.13	0.854	0.080	0.067	0.14	0.876	0.048	0.077	0.15	0.886	0.033	0.083
Europe	0.08	0.783	0.128	0.089	0.08	0.831	0.064	0.107	0.08	0.850	0.038	0.112
Africa	0.05	0.329	0.397	0.278	0.05	0.415	0.259	0.329	0.05	0.473	0.168	0.363

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	Proportion	No permit	Y4 Study and/or work permit	Transition to PR	Proportion	No permit	Y5 Study and/or work permit	Transition to PR	Proportion	No permit	Y6 Study and/or work permit	Transition to PR
Central Asia& Middle East	0.12	0.781	0.175	0.043	0.14	0.857	0.096	0.047	0.14	0.906	0.047	0.048
East Asia	0.21	0.885	0.085	0.030	0.21	0.904	0.059	0.038	0.21	0.914	0.042	0.045
Southeast Asia	0.03	0.390	0.408	0.206	0.03	0.515	0.228	0.257	0.03	0.584	0.134	0.289
South Asia and Other regions	0.02	0.421	0.373	0.214	0.02	0.518	0.241	0.250	0.02	0.570	0.160	0.280
Male/Female												
Male	0.56	0.605	0.300	0.095	0.56	0.700	0.169	0.131	0.57	0.752	0.092	0.157
Female	0.44	0.643	0.242	0.116	0.44	0.718	0.133	0.149	0.43	0.755	0.074	0.170
Application location												
Same as citizenship	0.82	0.647	0.265	0.087	0.81	0.736	0.145	0.119	0.84	0.771	0.081	0.148
Different than citizenship	0.13	0.544	0.277	0.180	0.15	0.597	0.167	0.237	0.13	0.682	0.087	0.232
Canada	0.05	0.425	0.409	0.171	0.04	0.550	0.267	0.188	0.03	0.571	0.167	0.268
Age												
Age 16 or 17	0.04	0.599	0.373	0.031	0.04	0.746	0.212	0.047	0.04	0.817	0.124	0.064
Age 18	0.10	0.459	0.508	0.034	0.09	0.641	0.299	0.062	0.08	0.733	0.185	0.082
Age 19/20	0.18	0.601	0.357	0.042	0.18	0.726	0.212	0.064	0.17	0.789	0.125	0.088
Age 21/22	0.19	0.685	0.231	0.085	0.20	0.751	0.125	0.125	0.20	0.792	0.060	0.149
Age 23/24	0.17	0.667	0.221	0.112	0.17	0.732	0.113	0.155	0.17	0.767	0.052	0.182
Age 25-29	0.19	0.666	0.184	0.151	0.20	0.717	0.102	0.182	0.20	0.743	0.056	0.202
Age 30-39	0.10	0.584	0.206	0.212	0.10	0.633	0.124	0.245	0.10	0.659	0.076	0.267
Age 40+	0.03	0.519	0.247	0.238	0.03	0.561	0.152	0.293	0.03	0.586	0.095	0.320
Permit study level												
ESL	0.10	0.840	0.125	0.037	0.06	0.904	0.072	0.027	0.02	0.927	0.052	0.021
College certificate	0.02	0.309	0.503	0.194	0.01	0.482	0.286	0.268	0.00	0.615	0.231	0.308
College diploma	0.08	0.267	0.606	0.129	0.03	0.358	0.426	0.222	0.01	0.471	0.324	0.235
Trade or voc.	0.08	0.829	0.091	0.081	0.10	0.844	0.061	0.097	0.11	0.859	0.037	0.105
BA and Applied degree	0.10	0.370	0.591	0.039	0.10	0.614	0.336	0.051	0.10	0.714	0.214	0.076
MA	0.03	0.547	0.292	0.161	0.02	0.635	0.182	0.189	0.02	0.711	0.091	0.215
PhD	0.01	0.579	0.368	0.053	0.01	0.690	0.241	0.086	0.01	0.761	0.130	0.130
Other/missing	0.57	0.668	0.210	0.122	0.67	0.705	0.132	0.163	0.73	0.743	0.072	0.186
*Other/missing + ESL, college certificate & diploma	-	-	-	-	-	-	-	-	-	-	-	-
Prior K-12 experience in Canada												
No permit under PSE	0.95	0.636	0.260	0.104	0.95	0.718	0.143	0.139	0.95	0.761	0.076	0.163
Primary, secondary, or CEGEP	0.05	0.359	0.539	0.105	0.05	0.521	0.345	0.137	0.05	0.598	0.239	0.163
Prior PSE experience in Canada												

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	Proportion	No permit	Y4 Study and/or work permit	Transition to PR	Proportion	No permit	Y5 Study and/or work permit	Transition to PR	Proportion	No permit	Y6 Study and/or work permit	Transition to PR
Ontario only	0.97	0.623	0.275	0.103	0.97	0.709	0.153	0.138	0.98	0.753	0.084	0.163
Studied elsewhere in Canada first	0.03	0.587	0.277	0.141	0.03	0.678	0.158	0.171	0.02	0.752	0.088	0.168
Permit cohort												
2010	0.16	0.630	0.244	0.127	0.19	0.695	0.152	0.154	0.22	0.738	0.089	0.175
2011	0.15	0.649	0.242	0.109	0.18	0.712	0.146	0.142	0.20	0.749	0.077	0.175
2012	0.14	0.698	0.213	0.089	0.17	0.748	0.131	0.121	0.20	0.770	0.076	0.154
2013	0.14	0.708	0.217	0.076	0.17	0.754	0.133	0.114	0.20	0.773	0.083	0.145
2014	0.12	0.676	0.229	0.097	0.14	0.711	0.150	0.141	0.17	0.737	0.100	0.164
2015	0.12	0.565	0.310	0.126	0.14	0.613	0.223	0.166	-	-	-	-
2016	0.17	0.459	0.438	0.104	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-	-	-	-
Region*male/female interaction												
<i>Males</i>												
India*M	0.22	0.251	0.564	0.187	0.18	0.331	0.323	0.348	0.17	0.405	0.142	0.455
China*M	0.13	0.441	0.506	0.057	0.12	0.598	0.323	0.081	0.12	0.697	0.200	0.103
US, Central American and Caribbean*M	0.06	0.699	0.192	0.109	0.06	0.767	0.110	0.133	0.06	0.789	0.070	0.146
South America*M	0.12	0.869	0.079	0.054	0.13	0.892	0.049	0.062	0.14	0.899	0.034	0.070
Europe*M	0.07	0.771	0.147	0.083	0.07	0.830	0.077	0.098	0.07	0.842	0.054	0.109
Africa*M	0.05	0.358	0.399	0.248	0.06	0.451	0.254	0.301	0.06	0.521	0.156	0.329
Central Asia& Middle East*M	0.16	0.777	0.186	0.038	0.18	0.857	0.104	0.039	0.18	0.911	0.050	0.040
East Asia*M	0.15	0.895	0.089	0.016	0.16	0.919	0.062	0.023	0.16	0.930	0.046	0.026
Southeast Asia*M	0.02	0.421	0.463	0.137	0.02	0.581	0.257	0.162	0.02	0.656	0.141	0.203
South Asia and Other regions*M	0.02	0.391	0.414	0.207	0.02	0.494	0.273	0.247	0.02	0.551	0.188	0.275
<i>Females</i>												
India*F	0.14	0.192	0.590	0.217	0.10	0.272	0.326	0.410	0.09	0.340	0.125	0.535
China*F	0.11	0.365	0.523	0.115	0.10	0.504	0.339	0.161	0.10	0.577	0.223	0.205
*US, Central American and Caribbean*F	0.08	0.684	0.182	0.138	0.09	0.735	0.097	0.168	0.09	0.757	0.057	0.190
South America*F	0.13	0.838	0.082	0.084	0.15	0.861	0.050	0.094	0.16	0.874	0.032	0.098
*Europe*F	0.09	0.794	0.115	0.094	0.10	0.829	0.056	0.115	0.10	0.858	0.028	0.115
*Africa*F	0.04	0.279	0.397	0.324	0.05	0.358	0.268	0.382	0.05	0.396	0.189	0.415
Central Asia& Middle East*F	0.08	0.793	0.150	0.061	0.08	0.854	0.078	0.068	0.08	0.892	0.043	0.070
East Asia*F	0.28	0.878	0.083	0.041	0.29	0.895	0.059	0.049	0.29	0.902	0.039	0.060

	Y4				Y5				Y6			
	Proportion	No permit	Study and/or work permit	Transition to PR	Proportion	No permit	Study and/or work permit	Transition to PR	Proportion	No permit	Study and/or work permit	Transition to PR
Southeast Asia*F	0.04	0.374	0.366	0.268	0.04	0.474	0.216	0.330	0.04	0.529	0.129	0.353
*South Asia and Other regions*F	0.01	0.475	0.275	0.250	0.01	0.571	0.171	0.286	0.01	0.625	0.125	0.281
US*F	-	-	-	-	-	-	-	-	-	-	-	-
Central America and Caribbean*F	-	-	-	-	-	-	-	-	-	-	-	-
West and North Europe*F	-	-	-	-	-	-	-	-	-	-	-	-
East and South Europe*F	-	-	-	-	-	-	-	-	-	-	-	-
West Africa*F	-	-	-	-	-	-	-	-	-	-	-	-
East Africa*F	-	-	-	-	-	-	-	-	-	-	-	-
North Africa*F	-	-	-	-	-	-	-	-	-	-	-	-
Middle and Southern Africa*F	-	-	-	-	-	-	-	-	-	-	-	-
South Asia*F	-	-	-	-	-	-	-	-	-	-	-	-
Other*F	-	-	-	-	-	-	-	-	-	-	-	-

Table 14 Descriptive analysis: Migration outcomes seven and eight years following study permit issuance

	Y7				Y8			
	Proportion	No permit	Study and/or work permit	Transition to PR	Proportion	No permit	Study and/or work permit	Transition to PR
TOTAL	42,970	0.768	0.053	0.180	32,640	0.770	0.032	0.199
Region/country of citizenship								
India	0.14	0.417	0.063	0.521	0.15	0.427	0.034	0.541
China	0.11	0.691	0.149	0.164	0.11	0.737	0.089	0.174
US, Central American and Caribbean	0.08	0.777	0.039	0.187	0.08	0.773	0.027	0.204
South America	0.14	0.886	0.022	0.093	0.11	0.876	0.016	0.113
Europe	0.08	0.860	0.026	0.115	0.07	0.852	0.021	0.131
Africa	0.05	0.502	0.107	0.391	0.05	0.513	0.063	0.431
Central Asia& Middle East	0.14	0.923	0.027	0.050	0.15	0.935	0.014	0.053
East Asia	0.22	0.920	0.030	0.053	0.22	0.925	0.021	0.056
Southeast Asia	0.03	0.594	0.086	0.328	0.03	0.602	0.061	0.337
South Asia and Other regions	0.02	0.607	0.112	0.303	0.02	0.594	0.072	0.348
Male/Female								

	Proportion	No permit	Y7 Study and/or work permit	Transition to PR	Proportion	No permit	Y8 Study and/or work permit	Transition to PR
Male	0.57	0.768	0.058	0.175	0.58	0.765	0.036	0.199
Female	0.43	0.767	0.047	0.187	0.43	0.775	0.027	0.199
Application location								
Same as citizenship	0.89	0.773	0.051	0.177	0.91	0.769	0.032	0.200
Different than citizenship	0.07	0.784	0.053	0.163	0.08	0.797	0.029	0.181
Canada	0.03	0.581	0.115	0.311	0.01	0.607	0.071	0.357
Age								
Age 16 or 17	0.04	0.855	0.085	0.067	0.04	0.876	0.058	0.074
Age 18	0.08	0.767	0.131	0.102	0.08	0.815	0.071	0.118
Age 19/20	0.17	0.817	0.081	0.104	0.17	0.827	0.051	0.124
Age 21/22	0.20	0.798	0.036	0.167	0.21	0.790	0.024	0.188
Age 23/24	0.18	0.775	0.028	0.198	0.18	0.771	0.015	0.214
Age 25-29	0.20	0.749	0.034	0.218	0.21	0.748	0.021	0.233
Age 30-39	0.09	0.658	0.050	0.292	0.09	0.650	0.034	0.320
Age 40+	0.03	0.590	0.065	0.353	0.03	0.587	0.037	0.376
Permit study level								
ESL	-	-	-	-	-	-	-	-
College certificate	-	-	-	-	-	-	-	-
College diploma	-	-	-	-	-	-	-	-
Trade or voc.	0.13	0.863	0.023	0.116	0.16	0.860	0.016	0.126
BA and Applied degree	0.11	0.751	0.152	0.099	0.11	0.803	0.083	0.117
MA	0.03	0.731	0.046	0.231	0.02	0.772	0.025	0.215
PhD	0.01	0.795	0.077	0.154	0.01	0.821	0.071	0.179
Other/missing	0.73	0.753	0.045	0.202	-	-	-	-
*Other/missing + ESL, college certificate & diploma	-	-	-	-	0.70	0.744	0.028	0.229
Prior K-12 experience in Canada								
No permit under PSE	0.95	0.774	0.046	0.180	0.95	0.774	0.027	0.198
Primary, secondary, or CEGEP	0.05	0.643	0.179	0.183	0.05	0.678	0.117	0.211
Prior PSE experience in Canada								
Ontario only	0.97	0.767	0.053	0.180	0.97	0.769	0.032	0.199
Studied elsewhere in Canada first	0.03	0.778	0.051	0.179	0.03	0.791	0.033	0.198
Permit cohort								
2010	0.27	0.756	0.053	0.192	0.36	0.765	0.029	0.207
2011	0.25	0.758	0.045	0.199	0.32	0.762	0.029	0.209

	Proportion	No permit	Y7 Study and/or work permit	Transition to PR	Proportion	No permit	Y8 Study and/or work permit	Transition to PR
2012	0.24	0.775	0.053	0.172	0.32	0.782	0.037	0.182
2013	0.24	0.783	0.062	0.156	-	-	-	-
2014	-	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-
Region*male/female interaction								
<i>Males</i>								
India*M	0.18	0.437	0.064	0.501	0.20	0.437	0.035	0.528
China*M	0.12	0.742	0.146	0.115	0.12	0.778	0.093	0.130
US, Central American and Caribbean*M	0.07	0.786	0.050	0.170	0.06	0.779	0.033	0.197
South America*M	0.13	0.901	0.026	0.080	0.10	0.887	0.015	0.103
Europe*M	0.07	0.859	0.035	0.118	0.06	0.836	0.034	0.138
Africa*M	0.05	0.550	0.109	0.349	0.05	0.553	0.064	0.383
Central Asia& Middle East*M	0.18	0.930	0.030	0.043	0.19	0.942	0.014	0.047
East Asia*M	0.16	0.939	0.036	0.031	0.17	0.939	0.029	0.035
Southeast Asia*M	0.02	0.691	0.109	0.236	0.02	0.659	0.068	0.273
South Asia and Other regions*M	0.03	0.581	0.129	0.306	0.03	0.580	0.060	0.380
<i>Females</i>								
India*F	0.09	0.372	0.061	0.573	0.10	0.398	0.030	0.579
China*F	0.10	0.609	0.152	0.245	0.10	0.674	0.089	0.244
*US, Central American and Caribbean*F	0.10	0.765	0.034	0.207	0.10	0.763	0.022	0.216
South America*F	0.14	0.874	0.022	0.108	0.13	0.859	0.017	0.124
*Europe*F	0.10	0.866	0.022	0.117	0.09	0.869	0.016	0.123
*Africa*F	0.05	0.442	0.116	0.453	0.05	0.448	0.060	0.507
Central Asia& Middle East*F	0.09	0.913	0.025	0.075	0.09	0.921	0.016	0.071
East Asia*F	0.29	0.906	0.026	0.070	0.30	0.914	0.017	0.074
Southeast Asia*F	0.04	0.534	0.082	0.411	0.04	0.556	0.056	0.407
*South Asia and Other regions*F	0.02	0.643	0.107	0.286	0.01	0.650	0.100	0.300
US*F	-	-	-	-	-	-	-	-
Central America and Caribbean*F	-	-	-	-	-	-	-	-
West and North Europe*F	-	-	-	-	-	-	-	-

	Proportion	No permit	Y7 Study and/or work permit	Transition to PR	Proportion	No permit	Y8 Study and/or work permit	Transition to PR
East and South Europe*F	-	-	-	-	-	-	-	-
West Africa*F	-	-	-	-	-	-	-	-
East Africa*F	-	-	-	-	-	-	-	-
North Africa*F	-	-	-	-	-	-	-	-
Middle and Southern Africa*F	-	-	-	-	-	-	-	-
South Asia*F	-	-	-	-	-	-	-	-
Other*F	-	-	-	-	-	-	-	-

Table 15 Regression analysis: Migration outcome one to three years following study permit issuance

Region/country of citizenship (India)	Y1 Study or/& work permit			Y2 Study or/& work permit			Y3 Study or/& work permit		
	No permit	PR		No permit	PR		No permit	PR	
China	0.023*** (0.0017)	-0.018*** (0.0022)	-0.0054*** (0.0014)	0.22*** (0.0049)	-0.21*** (0.0052)	-0.011*** (0.0023)	0.24*** (0.0064)	-0.20*** (0.0068)	-0.046*** (0.0039)
US	0.031*** (0.0044)	-0.034*** (0.0053)	0.0034 (0.0031)	0.32*** (0.012)	-0.33*** (0.012)	0.0061 (0.005)	0.41*** (0.013)	-0.37*** (0.012)	-0.045*** (0.0066)
Central America and Caribbean	0.075*** (0.0036)	-0.074*** (0.004)	-0.0012 (0.0017)	0.46*** (0.0071)	-0.46*** (0.0074)	0.00027 (0.0028)	0.48*** (0.0081)	-0.45*** (0.0081)	-0.028*** (0.0047)
South America	0.16*** (0.0031)	-0.15*** (0.0033)	-0.0072*** (0.0013)	0.57*** (0.0051)	-0.56*** (0.0053)	-0.013*** (0.0021)	0.61*** (0.0056)	-0.55*** (0.0059)	-0.058*** (0.0036)
West and North Europe	0.087*** (0.0044)	-0.081*** (0.0047)	-0.0058** (0.0019)	0.70*** (0.0072)	-0.68*** (0.0072)	-0.012*** (0.003)	0.67*** (0.007)	-0.60*** (0.0068)	-0.068*** (0.0045)
East and South Europe	0.089*** (0.005)	-0.086*** (0.0053)	-0.0032 (0.0018)	0.42*** (0.0097)	-0.43*** (0.0097)	0.0039 (0.0034)	0.44*** (0.01)	-0.42*** (0.01)	-0.021*** (0.0057)
West Africa	0.017*** (0.0039)	-0.028*** (0.0047)	0.011*** (0.0027)	0.14*** (0.012)	-0.17*** (0.012)	0.035*** (0.0052)	0.12*** (0.014)	-0.17*** (0.015)	0.047*** (0.0087)
East Africa	0.011* (0.0043)	-0.033*** (0.006)	0.022*** (0.0043)	0.10*** (0.014)	-0.19*** (0.015)	0.085*** (0.0088)	0.11*** (0.018)	-0.23*** (0.018)	0.12*** (0.013)
North Africa	0.026*** (0.0052)	-0.026*** (0.0061)	-0.00033 (0.0032)	0.24*** (0.014)	-0.25*** (0.015)	0.0081 (0.0057)	0.25*** (0.017)	-0.23*** (0.017)	-0.017 (0.0088)
Middle and Southern Africa	0.020** (0.0065)	-0.024** (0.0074)	0.0034 (0.0036)	0.094*** (0.017)	-0.11*** (0.017)	0.015* (0.0071)	0.074*** (0.021)	-0.087*** (0.022)	0.013 (0.012)
Central Asia & Middle East	0.070*** (0.0023)	-0.064*** (0.0027)	-0.0061*** (0.0014)	0.40*** (0.0053)	-0.39*** (0.0056)	-0.014*** (0.0022)	0.50*** (0.0064)	-0.43*** (0.0067)	-0.070*** (0.0035)
East Asia	0.069*** (0.0018)	-0.056*** (0.0021)	-0.013*** (0.0011)	0.59*** (0.0048)	-0.57*** (0.0051)	-0.026*** (0.0019)	0.63*** (0.0053)	-0.54*** (0.0057)	-0.087*** (0.0032)
Southeast Asia	0.016*** (0.0023)	-0.018*** (0.0031)	0.0023 (0.0021)	0.13*** (0.0067)	-0.15*** (0.0073)	0.021*** (0.0039)	0.15*** (0.0099)	-0.18*** (0.01)	0.022** (0.0068)
South Asia	0.015** (0.005)	-0.025*** (0.0061)	0.010** (0.0036)	0.12*** (0.015)	-0.16*** (0.015)	0.041*** (0.0076)	0.16*** (0.02)	-0.20*** (0.019)	0.043*** (0.012)
Other	0.074*** (0.013)	-0.081*** (0.014)	0.0068 (0.0046)	0.47*** (0.023)	-0.48*** (0.023)	0.016* (0.0076)	0.49*** (0.021)	-0.48*** (0.02)	-0.011 (0.011)

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Male/Female (Male)									
Female	0.00094 (0.0013)	- (0.0014)	0.0054*** (0.00057)	-0.0036 (0.0023)	- (0.0024)	0.012*** (0.00097)	-0.012*** (0.0027)	-0.0061* (0.0027)	0.018*** (0.0016)
Region*Female interaction (India*F)									
China*Female	0.021*** (0.0022)	-0.020*** (0.0026)	-0.0012 (0.0014)	0.23*** (0.0062)	-0.22*** (0.0065)	-0.0055* (0.0024)	0.25*** (0.0079)	-0.20*** (0.0082)	-0.049*** (0.0043)
US*Female	0.025*** (0.0056)	-0.029*** (0.0064)	0.004 (0.0034)	0.27*** (0.016)	-0.28*** (0.016)	0.0045 (0.0054)	0.36*** (0.017)	-0.32*** (0.017)	-0.049*** (0.0073)
C. America & Carib.*Female	0.077*** (0.0053)	-0.080*** (0.0056)	0.0031 (0.002)	0.45*** (0.01)	-0.46*** (0.01)	0.0073* (0.0036)	0.47*** (0.011)	-0.45*** (0.011)	-0.017** (0.0063)
South America*Female	0.16*** (0.0041)	-0.16*** (0.0042)	-0.0032* (0.0013)	0.57*** (0.0066)	-0.56*** (0.0067)	-0.0069** (0.0022)	0.60*** (0.007)	-0.55*** (0.0072)	-0.054*** (0.004)
West & North Europe*Female	0.090*** (0.0063)	-0.090*** (0.0066)	-0.00023 (0.0023)	0.67*** (0.01)	-0.67*** (0.0099)	-0.00081 (0.004)	0.63*** (0.0097)	-0.58*** (0.0091)	-0.055*** (0.0058)
East & South Europe*Female	0.088*** (0.007)	-0.089*** (0.0073)	0.00058 (0.0023)	0.41*** (0.013)	-0.42*** (0.013)	0.004 (0.0041)	0.43*** (0.014)	-0.40*** (0.014)	-0.023** (0.0073)
West Africa*Female	0.013** (0.0047)	-0.021*** (0.0054)	0.0079** (0.0028)	0.12*** (0.015)	-0.14*** (0.015)	0.028*** (0.0059)	0.12*** (0.018)	-0.15*** (0.019)	0.032** (0.01)
East Africa*Female	0.01 (0.0058)	-0.030*** (0.0076)	0.020*** (0.005)	0.083*** (0.018)	-0.19*** (0.019)	0.10*** (0.012)	0.090*** (0.024)	-0.22*** (0.024)	0.13*** (0.018)
North Africa*Female	0.027*** (0.0054)	-0.026*** (0.0059)	-0.0011 (0.0022)	0.21*** (0.015)	-0.23*** (0.015)	0.012* (0.005)	0.23*** (0.018)	-0.23*** (0.018)	-0.0016 (0.009)
Middle & South Africa*Female	0.020* (0.0093)	-0.023* (0.01)	0.0032 (0.0043)	0.11*** (0.025)	-0.13*** (0.026)	0.020* (0.0099)	0.086** (0.031)	-0.11*** (0.032)	0.023 (0.018)
C. Asian & Middle East*Female	0.068*** (0.0026)	-0.064*** (0.0029)	-0.0037** (0.0012)	0.39*** (0.006)	-0.38*** (0.0062)	-0.0097*** (0.0021)	0.47*** (0.0072)	-0.41*** (0.0075)	-0.065*** (0.0037)
East Asia*Female	0.065*** (0.0025)	-0.057*** (0.0027)	-0.0078*** (0.001)	0.59*** (0.0064)	-0.57*** (0.0066)	-0.020*** (0.0018)	0.62*** (0.0068)	-0.54*** (0.0071)	-0.083*** (0.0033)
Southeast Asia*Female	0.018*** (0.0036)	-0.018*** (0.0043)	-0.00056 (0.0024)	0.13*** (0.0099)	-0.14*** (0.01)	0.0033 (0.0046)	0.18*** (0.014)	-0.17*** (0.015)	-0.002 (0.0092)
South Asia*Female	0.0078 (0.0042)	-0.020*** (0.0056)	0.012** (0.0038)	0.093*** (0.014)	-0.13*** (0.015)	0.038*** (0.0075)	0.13*** (0.02)	-0.16*** (0.02)	0.031* (0.012)
Other*Female	0.049** (0.016)	-0.066*** (0.017)	0.017* (0.007)	0.39*** (0.034)	-0.43*** (0.033)	0.037** (0.011)	0.42*** (0.031)	-0.43*** (0.029)	0.0045 (0.015)
Location when applying for permit (same as citizenship)									
Different than citizenship	-0.0076** (0.0023)	0.0019 (0.0025)	0.0057*** (0.00087)	-0.098*** (0.0043)	0.083*** (0.0044)	0.015*** (0.0016)	-0.099*** (0.0048)	0.068*** (0.0049)	0.031*** (0.0027)

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Canada	0.014*** (0.0038)	-0.051*** (0.0046)	0.037*** (0.0029)	-0.058*** (0.0057)	-0.0023 (0.0061)	0.060*** (0.0039)	-0.076*** (0.007)	0.00049 (0.0071)	0.076*** (0.0053)
Age (Age 18)									
Age 16 or 17	0.030*** (0.0042)	-0.030*** (0.0043)	0.00068 (0.00062)	0.044*** (0.0065)	-0.043*** (0.0065)	-0.00089 (0.0012)	0.046*** (0.0076)	-0.045*** (0.0076)	-0.0016 (0.0021)
Age 19/20	0.0034 (0.0027)	-0.0043 (0.0027)	0.00084* (0.00041)	0.051*** (0.0044)	-0.052*** (0.0044)	0.0011 (0.00093)	0.053*** (0.005)	-0.060*** (0.0051)	0.0061*** (0.0016)
Age 21/22	0.017*** (0.0027)	-0.021*** (0.0028)	0.0036*** (0.00058)	0.071*** (0.0045)	-0.079*** (0.0045)	0.0084*** (0.0012)	0.077*** (0.0051)	-0.11*** (0.0052)	0.029*** (0.002)
Age 23/24	0.021*** (0.0028)	-0.026*** (0.0029)	0.0048*** (0.00066)	0.045*** (0.0046)	-0.061*** (0.0047)	0.016*** (0.0014)	0.060*** (0.0053)	-0.11*** (0.0054)	0.046*** (0.0023)
Age 25-29	0.0099*** (0.0027)	-0.026*** (0.0028)	0.017*** (0.001)	0.0074 (0.0046)	-0.047*** (0.0047)	0.040*** (0.0017)	0.031*** (0.0054)	-0.12*** (0.0055)	0.085*** (0.0027)
Age 30-39	0.00031 (0.0028)	-0.027*** (0.0033)	0.026*** (0.0016)	-0.039*** (0.0051)	-0.018*** (0.0054)	0.057*** (0.0026)	-0.041*** (0.006)	-0.073*** (0.0065)	0.11*** (0.0039)
Age 40+	-0.0092* (0.0037)	-0.023*** (0.0044)	0.032*** (0.0025)	-0.074*** (0.0071)	0.014 (0.0077)	0.059*** (0.0037)	-0.082*** (0.0086)	-0.023* (0.0093)	0.10*** (0.0055)
Entry credential (BA)									
Trade or voc.	0.087*** (0.0047)	-0.098*** (0.0052)	0.011*** (0.0024)	0.23*** (0.0075)	-0.26*** (0.0079)	0.025*** (0.0039)	0.26*** (0.0088)	-0.31*** (0.0091)	0.050*** (0.0055)
MA	0.032*** (0.0048)	-0.031*** (0.0051)	-0.0011 (0.0018)	0.046*** (0.0087)	-0.049*** (0.009)	0.0029 (0.003)	0.16*** (0.01)	-0.19*** (0.01)	0.024*** (0.0049)
PhD	0.062*** (0.0074)	-0.057*** (0.0075)	-0.0056** (0.0017)	0.21*** (0.012)	-0.20*** (0.012)	-0.012*** (0.0028)	0.24*** (0.015)	-0.21*** (0.015)	-0.022*** (0.0042)
Other/missing	0.060*** (0.0026)	-0.062*** (0.0029)	0.0023 (0.0014)	0.19*** (0.0049)	-0.20*** (0.0052)	0.011*** (0.0021)	0.22*** (0.0059)	-0.25*** (0.0061)	0.031*** (0.0031)
Destination (Toronto)									
Ottawa	-0.020*** (0.0032)	0.022*** (0.0034)	-0.002 (0.0012)	0.000094 (0.0057)	0.0071 (0.0057)	-0.0070*** (0.002)	0.013* (0.0064)	-0.0013 (0.0063)	-0.012*** (0.0034)
Kingston-Pembroke	-0.011 (0.0096)	0.015 (0.0098)	-0.0039 (0.0024)	-0.0074 (0.014)	0.021 (0.014)	-0.013*** (0.0038)	-0.0076 (0.014)	0.017 (0.014)	-0.0095 (0.0073)
Muskoka-Kawartha	-0.036*** (0.0079)	0.043*** (0.0081)	-0.0073*** (0.002)	-0.039** (0.013)	0.043** (0.013)	-0.0045 (0.0049)	-0.054*** (0.013)	0.046*** (0.013)	0.0086 (0.0076)
Kitchener-Waterloo-Barrie & Stratford-Bruce Peninsula	-0.024*** (0.0034)	0.028*** (0.0036)	-0.0042*** (0.0012)	0.028*** (0.0056)	-0.017** (0.0057)	-0.011*** (0.002)	0.016* (0.0064)	-0.0075 (0.0062)	-0.0081* (0.0035)
Hamilton-Niagara	-0.021*** (0.0036)	0.022*** (0.0038)	-0.00042 (0.0013)	-0.055*** (0.0061)	0.052*** (0.0062)	0.0035 (0.0024)	-0.025*** (0.0065)	0.014* (0.0062)	0.012** (0.0037)
London	-0.021***	0.018***	0.0030*	-0.014**	0.0077	0.0068**	-0.014*	0.00004	0.014***

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Windsor-Sarnia	(0.003) -0.0091**	(0.0033) 0.013***	(0.0013) -0.0043***	(0.0054) -0.021***	(0.0056) 0.027***	(0.0023) -0.0062***	(0.0063) -0.018***	(0.0063) 0.021***	(0.0035) -0.0033
North Ontario	(0.0029) -0.036***	(0.003) 0.041***	(0.00091) -0.0044**	(0.0048) -0.086***	(0.0049) 0.092***	(0.0018) -0.0068*	(0.0053) -0.035***	(0.0053) 0.041***	(0.0029) -0.0058
	(0.0049)	(0.0051)	(0.0016)	(0.01)	(0.01)	(0.0032)	(0.0099)	(0.0096)	(0.0053)
Prior Canadian student permit									
Held primary, secondary, or CEGEP permit	-0.052***	0.044***	0.0072***	-0.16***	0.15***	0.015***	-0.12***	0.091***	0.024***
	(0.0058)	(0.0059)	(0.0011)	(0.0067)	(0.0067)	(0.0021)	(0.0069)	(0.0067)	(0.0037)
Study permit from elsewhere in Canada	0.022***	-0.021***	-0.00085	-0.017*	0.019*	-0.0018	-0.024**	0.018*	0.0065
	(0.0044)	(0.0046)	(0.0014)	(0.0078)	(0.0079)	(0.0025)	(0.0089)	(0.0089)	(0.0043)
Permit cohort (2010)									
2011	0.0017	0.002	-0.0036*	0.030***	-0.025***	-0.0046	0.037***	-0.023***	-0.013***
	(0.0024)	(0.003)	(0.0018)	(0.0046)	(0.0049)	(0.0025)	(0.0052)	(0.0054)	(0.0033)
2012	0.0029	0.0074*	-0.010***	0.040***	-0.024***	-0.016***	0.063***	-0.037***	-0.027***
	(0.0024)	(0.0029)	(0.0018)	(0.0046)	(0.0049)	(0.0024)	(0.0053)	(0.0055)	(0.0033)
2013	0.00058	0.017***	-0.018***	0.038***	-0.010*	-0.028***	0.065***	-0.018**	-0.047***
	(0.0024)	(0.0029)	(0.0016)	(0.0047)	(0.005)	(0.0022)	(0.0054)	(0.0056)	(0.0032)
2014	0.023***	-0.0058	-0.017***	0.097***	-0.070***	-0.026***	0.085***	-0.043***	-0.043***
	(0.003)	(0.0034)	(0.0017)	(0.0051)	(0.0053)	(0.0023)	(0.0058)	(0.0059)	(0.0033)
2015	0.012***	0.00024	-0.013***	0.061***	-0.043***	-0.017***	0.056***	-0.031***	-0.025***
	(0.0034)	(0.0039)	(0.0019)	(0.0056)	(0.0059)	(0.0026)	(0.0063)	(0.0064)	(0.0038)
2016	0.023***	-0.0078	-0.015***	0.051***	-0.036***	-0.015***	0.033***	-0.022***	-0.011**
	(0.0038)	(0.0042)	(0.0019)	(0.0057)	(0.006)	(0.0028)	(0.0064)	(0.0064)	(0.0041)
2017	0.035***	-0.019***	-0.016***	0.065***	-0.045***	-0.021***	0.035***	0.0057	-0.040***
	(0.0038)	(0.0042)	(0.0018)	(0.0055)	(0.0057)	(0.0026)	(0.0061)	(0.0062)	(0.0036)
2018	0.025***	-0.0084*	-0.017***	0.054***	-0.024***	-0.030***			
	(0.0036)	(0.004)	(0.0017)	(0.0055)	(0.0057)	(0.0023)			
2019	0.019***	0.0002	-0.019***						
	(0.0036)	(0.0039)	(0.0017)						
Observations	135540	135540	135540	111770	111770	111770	91260	91260	91260

Notes: This table shows the average marginal effects produced through a set of multinomial logistic regression models that measure migration outcomes after a student's initial Ontario study permit was issued. Each column represents the three categorical outcomes that are possible in this model. The explanatory variables included in the model are categorical and the reference group for each variable is in parentheses next to the bolded variable title. Robust standard errors are in parentheses under each coefficient. * p < 0.05, ** p < 0.01, *** p < 0.001.

Table 16 Regression analysis: Migration outcome four to six years following study permit issuance

	Y4			Y5			Y6		
	No permit	Study or/ work permit	PR	No permit	Study or/ work permit	PR	No permit	Study or/ work permit	PR
Region/country of citizenship (India)									
China	0.26*** (0.0073)	-0.13*** (0.0075)	-0.13*** (0.0058)	0.29*** (0.0085)	-0.066*** (0.0077)	-0.23*** (0.0075)	0.29*** (0.0094)	0.007 (0.0067)	-0.30*** (0.0088)
US	0.49*** (0.012)	-0.33*** (0.011)	-0.16*** (0.008)	0.52*** (0.012)	-0.22*** (0.0093)	-0.30*** (0.0095)	0.49*** (0.012)	-0.090*** (0.0079)	-0.40*** (0.011)
Central America and Caribbean	0.47*** (0.0086)	-0.35*** (0.0081)	-0.11*** (0.0067)	0.45*** (0.0093)	-0.22*** (0.0077)	-0.23*** (0.0082)	0.41*** (0.0099)	-0.086*** (0.0064)	-0.32*** (0.0093)
South America	0.59*** (0.006)	-0.42*** (0.0062)	-0.17*** (0.0051)	0.57*** (0.0065)	-0.26*** (0.006)	-0.31*** (0.0062)	0.53*** (0.0071)	-0.11*** (0.005)	-0.42*** (0.007)
West and North Europe	0.63*** (0.0074)	-0.45*** (0.0068)	-0.18*** (0.0061)	0.59*** (0.0081)	-0.28*** (0.0065)	-0.31*** (0.0076)	0.54*** (0.0088)	-0.12*** (0.0056)	-0.43*** (0.0084)
East and South Europe	0.44*** (0.011)	-0.34*** (0.0098)	-0.10*** (0.008)	0.44*** (0.011)	-0.22*** (0.0088)	-0.22*** (0.0097)	0.40*** (0.012)	-0.085*** (0.0075)	-0.31*** (0.011)
West Africa	0.16*** (0.015)	-0.15*** (0.015)	-0.011 (0.011)	0.17*** (0.016)	-0.065*** (0.014)	-0.10*** (0.013)	0.16*** (0.017)	0.0075 (0.012)	-0.17*** (0.015)
East Africa	0.12*** (0.02)	-0.18*** (0.018)	0.063*** (0.016)	0.16*** (0.021)	-0.12*** (0.017)	-0.038* (0.018)	0.12*** (0.023)	-0.032* (0.014)	-0.092*** (0.021)
North Africa	0.28*** (0.018)	-0.18*** (0.018)	-0.096*** (0.012)	0.31*** (0.019)	-0.10*** (0.016)	-0.21*** (0.014)	0.31*** (0.02)	0.0031 (0.015)	-0.31*** (0.016)
Middle and Southern Africa	0.11*** (0.024)	-0.050* (0.024)	-0.064*** (0.016)	0.14*** (0.025)	0.032 (0.024)	-0.17*** (0.019)	0.15*** (0.027)	0.097*** (0.023)	-0.24*** (0.022)
Central Asia & Middle East	0.52*** (0.0069)	-0.33*** (0.0071)	-0.19*** (0.0051)	0.54*** (0.0072)	-0.22*** (0.0067)	-0.32*** (0.0063)	0.54*** (0.0074)	-0.097*** (0.0054)	-0.44*** (0.007)
East Asia	0.61*** (0.0058)	-0.41*** (0.0062)	-0.21*** (0.0048)	0.59*** (0.0065)	-0.24*** (0.0062)	-0.34*** (0.006)	0.54*** (0.0071)	-0.092*** (0.0052)	-0.45*** (0.0068)
Southeast Asia	0.21*** (0.012)	-0.16*** (0.011)	-0.042*** (0.0097)	0.26*** (0.014)	-0.12*** (0.011)	-0.14*** (0.012)	0.24*** (0.015)	-0.037*** (0.009)	-0.20*** (0.014)
South Asia	0.17*** (0.022)	-0.17*** (0.019)	-0.001 (0.017)	0.16*** (0.022)	-0.076*** (0.018)	-0.082*** (0.02)	0.13*** (0.024)	0.02 (0.016)	-0.15*** (0.023)
Other	0.48*** (0.02)	-0.37*** (0.016)	-0.10*** (0.014)	0.46*** (0.019)	-0.23*** (0.013)	-0.23*** (0.016)	0.41*** (0.02)	-0.085*** (0.011)	-0.32*** (0.018)
Male/Female (Male)									

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Female	-0.024*** (0.003)	-0.0025 (0.0029)	0.027*** (0.0022)	-0.030*** (0.0033)	-0.0046 (0.0029)	0.035*** (0.0027)	-0.036*** (0.0035)	-0.0038 (0.0025)	0.040*** (0.003)
Region*Female interaction (India*F)									
China*Female	0.27*** (0.0089)	-0.13*** (0.0089)	-0.14*** (0.0065)	0.32*** (0.01)	-0.071*** (0.009)	-0.25*** (0.0084)	0.33*** (0.011)	-0.0044 (0.0079)	-0.32*** (0.0098)
US*Female	0.47*** (0.016)	-0.31*** (0.014)	-0.15*** (0.0097)	0.50*** (0.015)	-0.21*** (0.012)	-0.28*** (0.012)	0.47*** (0.016)	-0.084*** (0.011)	-0.38*** (0.013)
C. America & Carib.*Female	0.45*** (0.012)	-0.35*** (0.011)	-0.10*** (0.0088)	0.43*** (0.013)	-0.22*** (0.01)	-0.21*** (0.011)	0.38*** (0.013)	-0.091*** (0.0085)	-0.29*** (0.012)
South America*Female	0.58*** (0.0074)	-0.42*** (0.0074)	-0.16*** (0.0058)	0.56*** (0.0078)	-0.26*** (0.0071)	-0.30*** (0.0071)	0.51*** (0.0084)	-0.11*** (0.006)	-0.40*** (0.008)
West & North Europe*Female	0.59*** (0.01)	-0.43*** (0.0088)	-0.16*** (0.0078)	0.56*** (0.011)	-0.27*** (0.0081)	-0.29*** (0.0096)	0.51*** (0.012)	-0.12*** (0.0073)	-0.39*** (0.011)
East & South Europe*Female	0.42*** (0.015)	-0.33*** (0.013)	-0.096*** (0.011)	0.42*** (0.015)	-0.21*** (0.012)	-0.21*** (0.013)	0.37*** (0.017)	-0.082*** (0.01)	-0.29*** (0.015)
West Africa*Female	0.18*** (0.02)	-0.15*** (0.02)	-0.026 (0.014)	0.19*** (0.02)	-0.084*** (0.018)	-0.11*** (0.017)	0.20*** (0.021)	-0.025 (0.014)	-0.17*** (0.019)
East Africa*Female	0.093*** (0.027)	-0.17*** (0.025)	0.080*** (0.022)	0.15*** (0.028)	-0.12*** (0.022)	-0.021 (0.024)	0.11*** (0.031)	-0.050** (0.018)	-0.057 (0.029)
North Africa*Female	0.25*** (0.019)	-0.17*** (0.018)	-0.080*** (0.012)	0.29*** (0.019)	-0.097*** (0.017)	-0.19*** (0.014)	0.28*** (0.02)	-0.00058 (0.015)	-0.28*** (0.016)
Middle & South Africa*Female	0.15*** (0.034)	-0.100** (0.034)	-0.055* (0.022)	0.15*** (0.035)	-0.0024 (0.033)	-0.15*** (0.027)	0.17*** (0.038)	0.051 (0.03)	-0.22*** (0.031)
C. Asian & Middle East*Female	0.49*** (0.0077)	-0.32*** (0.0079)	-0.18*** (0.0056)	0.52*** (0.0081)	-0.21*** (0.0076)	-0.31*** (0.007)	0.52*** (0.0082)	-0.10*** (0.0061)	-0.42*** (0.0077)
East Asia*Female	0.60*** (0.0071)	-0.40*** (0.0075)	-0.20*** (0.0052)	0.58*** (0.0078)	-0.24*** (0.0074)	-0.33*** (0.0067)	0.53*** (0.0084)	-0.095*** (0.0065)	-0.44*** (0.0076)
Southeast Asia*Female	0.21*** (0.017)	-0.14*** (0.016)	-0.070*** (0.013)	0.27*** (0.02)	-0.11*** (0.015)	-0.16*** (0.017)	0.25*** (0.021)	-0.042*** (0.012)	-0.21*** (0.02)
South Asia*Female	0.15*** (0.021)	-0.14*** (0.02)	-0.011 (0.017)	0.14*** (0.022)	-0.053** (0.019)	-0.092*** (0.02)	0.12*** (0.024)	0.028 (0.018)	-0.14*** (0.023)
Other*Female	0.44*** (0.027)	-0.36*** (0.022)	-0.085*** (0.019)	0.42*** (0.026)	-0.22*** (0.018)	-0.20*** (0.021)	0.36*** (0.027)	-0.087*** (0.015)	-0.28*** (0.024)
Location when applying for permit (same as citizenship)									
Different than citizenship	-0.094*** (0.0052)	0.046*** (0.005)	0.048*** (0.0037)	-0.085*** (0.0054)	0.022*** (0.0045)	0.062*** (0.0043)	-0.057*** (0.0057)	0.0048 (0.0039)	0.053*** (0.0049)
Canada	-0.080*** (0.0082)	-0.0043 (0.0075)	0.085*** (0.0069)	-0.088*** (0.0098)	0.020* (0.0083)	0.068*** (0.0086)	-0.12*** (0.011)	0.030*** (0.008)	0.091*** (0.01)
Age (Age 18)									

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Age 16 or 17	0.060*** (0.0082)	-0.055*** (0.0082)	-0.0059 (0.0036)	0.052*** (0.0088)	-0.038*** (0.0086)	-0.014** (0.005)	0.059*** (0.009)	-0.037*** (0.0078)	-0.022*** (0.0061)
Age 19/20	0.052*** (0.0057)	-0.063*** (0.0056)	0.010*** (0.0027)	0.029*** (0.0061)	-0.036*** (0.0059)	0.0073 (0.0038)	0.020** (0.0065)	-0.031*** (0.0055)	0.012* (0.0047)
Age 21/22	0.071*** (0.0058)	-0.13*** (0.0057)	0.055*** (0.0032)	0.030*** (0.0062)	-0.094*** (0.0058)	0.064*** (0.0042)	0.014* (0.0064)	-0.077*** (0.0053)	0.063*** (0.0049)
Age 23/24	0.051*** (0.006)	-0.13*** (0.006)	0.077*** (0.0035)	0.011 (0.0065)	-0.10*** (0.006)	0.090*** (0.0045)	-0.0068 (0.0067)	-0.082*** (0.0054)	0.089*** (0.0053)
Age 25-29	0.018** (0.0061)	-0.14*** (0.006)	0.12*** (0.0038)	-0.022*** (0.0065)	-0.10*** (0.006)	0.13*** (0.0047)	-0.050*** (0.0069)	-0.075*** (0.0055)	0.12*** (0.0054)
Age 30-39	-0.069*** (0.007)	-0.098*** (0.0072)	0.17*** (0.0053)	-0.11*** (0.0077)	-0.078*** (0.007)	0.18*** (0.0062)	-0.13*** (0.0083)	-0.058*** (0.0063)	0.19*** (0.0071)
Age 40+	-0.11*** (0.01)	-0.046*** (0.011)	0.16*** (0.0078)	-0.15*** (0.011)	-0.041*** (0.01)	0.19*** (0.0093)	-0.18*** (0.012)	-0.036*** (0.0092)	0.21*** (0.011)
Entry credential (BA)									
Trade or voc.	0.23*** (0.0092)	-0.31*** (0.0091)	0.074*** (0.0069)	0.060*** (0.009)	-0.14*** (0.0078)	0.084*** (0.0074)	0.020* (0.0088)	-0.084*** (0.0062)	0.064*** (0.0077)
MA	0.17*** (0.011)	-0.22*** (0.011)	0.052*** (0.0071)	0.028* (0.012)	-0.081*** (0.011)	0.054*** (0.0085)	0.013 (0.012)	-0.054*** (0.0092)	0.041*** (0.01)
PhD	0.18*** (0.017)	-0.15*** (0.017)	-0.030*** (0.006)	0.067*** (0.018)	-0.033 (0.017)	-0.034*** (0.0081)	0.058** (0.018)	-0.024 (0.015)	-0.035** (0.011)
Other/missing	0.20*** (0.0064)	-0.26*** (0.0066)	0.053*** (0.0041)	0.037*** (0.0064)	-0.11*** (0.006)	0.071*** (0.0046)	-0.0011 (0.0064)	-0.063*** (0.005)	0.064*** (0.0053)
Destination (Toronto)									
Ottawa	0.016* (0.0069)	0.0000051 (0.0065)	-0.016** (0.0049)	0.021** (0.0076)	0.0031 (0.0063)	-0.024*** (0.0061)	0.027*** (0.008)	-0.00086 (0.0053)	-0.026*** (0.007)
Kingston-Pembroke	0.023 (0.015)	0.00063 (0.014)	-0.024* (0.01)	0.040* (0.019)	-0.0033 (0.016)	-0.037** (0.014)	0.051** (0.019)	-0.023 (0.013)	-0.028 (0.016)
Muskoka-Kawarthas	-0.036* (0.016)	0.016 (0.014)	0.019 (0.011)	-0.037* (0.018)	0.0077 (0.014)	0.029* (0.015)	-0.063** (0.02)	0.00091 (0.013)	0.062*** (0.018)
Kitchener-Waterloo-Barrie & Stratford-Bruce Peninsula	0.0054 (0.0074)	-0.0016 (0.0067)	-0.0038 (0.0051)	-0.0079 (0.0082)	0.013* (0.0067)	-0.0053 (0.0064)	-0.012 (0.0091)	0.0081 (0.0063)	0.0044 (0.0078)
Hamilton-Niagara	-0.031*** (0.007)	0.017** (0.0063)	0.014** (0.005)	-0.031*** (0.0076)	0.011 (0.006)	0.021*** (0.0061)	-0.021* (0.008)	-0.0033 (0.005)	0.024*** (0.0071)
London	-0.0043 (0.007)	-0.014* (0.0065)	0.018*** (0.005)	-0.027*** (0.008)	0.0039 (0.0066)	0.023*** (0.0063)	-0.031*** (0.0087)	0.0088 (0.006)	0.023** (0.0073)
Windsor-Sarnia	-0.0097 (0.0058)	0.0031 (0.0057)	0.0067 (0.0042)	-0.0087 (0.0059)	-0.0016 (0.0051)	0.010* (0.0047)	-0.0028 (0.0059)	-0.0062 (0.004)	0.009 (0.005)
North Ontario	-0.014	0.017	-0.0028	-0.00058	0.0075	-0.0069	0.0059	-0.016	0.01

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	(0.012)	(0.011)	(0.0084)	(0.014)	(0.012)	(0.011)	(0.016)	(0.0098)	(0.014)
Prior Canadian student permit									
Held primary, secondary, or CEGEP permit	-0.10***	0.069***	0.035***	-0.087***	0.045***	0.042***	-0.086***	0.040***	0.046***
	(0.0072)	(0.0065)	(0.0054)	(0.0074)	(0.0058)	(0.0065)	(0.0078)	(0.0044)	(0.0071)
Study permit from elsewhere in Canada	-0.0026	-0.0021	0.0046	-0.017	-0.0058	0.022**	-0.012	-0.00046	0.012
	(0.0098)	(0.0095)	(0.0065)	(0.011)	(0.0089)	(0.0081)	(0.012)	(0.0079)	(0.01)
Permit cohort (2010)									
2011	0.035***	-0.013*	-0.022***	0.033***	-0.012**	-0.021***	0.027***	-0.014***	-0.012**
	(0.0054)	(0.0052)	(0.004)	(0.0053)	(0.0045)	(0.0043)	(0.0051)	(0.0036)	(0.0044)
2012	0.056***	-0.023***	-0.033***	0.044***	-0.017***	-0.027***	0.028***	-0.012**	-0.016***
	(0.0055)	(0.0053)	(0.004)	(0.0054)	(0.0045)	(0.0043)	(0.0052)	(0.0036)	(0.0045)
2013	0.053***	-0.0053	-0.048***	0.039***	-0.013**	-0.026***	0.024***	-0.0087*	-0.015**
	(0.0056)	(0.0055)	(0.0041)	(0.0056)	(0.0048)	(0.0046)	(0.0055)	(0.0038)	(0.0048)
2014	0.053***	-0.012*	-0.041***	0.025***	-0.00047	-0.025***	0.0073	0.0062	-0.014**
	(0.006)	(0.0059)	(0.0042)	(0.0061)	(0.0052)	(0.0048)	(0.0062)	(0.0045)	(0.0052)
2015	0.012	-0.0059	-0.0066	-0.024**	0.019**	0.005			
	(0.0068)	(0.0064)	(0.0051)	(0.0074)	(0.0062)	(0.0059)			
2016	-0.011	0.033***	-0.022***						
	(0.0073)	(0.0068)	(0.0052)						
Observations	72620	72620	72620	60130	60130	60130	51620	51620	51620

Notes: This table shows the average marginal effects produced through a set of multinomial logistic regression models that measure migration outcomes after a student's initial Ontario study permit was issued. Each column represents the three categorical outcomes that are possible in this model. The explanatory variables included in the model are categorical and the reference group for each variable is in parentheses next to the bolded variable title. Robust standard errors are in parentheses under each coefficient. * p < 0.05, ** p < 0.01, *** p < 0.001.

Table 17 Regression analysis: Migration outcome seven and eight years following study permit issuance

	Y7			Y8		
	No permit	Study or/& work permit	PR	No permit	Study or/& work permit	PR
Region/country of citizenship (India)						
China	0.29***	0.024***	-0.32***	0.31***	0.021***	-0.33***
	(0.01)	(0.0059)	(0.0097)	(0.011)	(0.0052)	(0.011)
US	0.47***	-0.046***	-0.42***	0.46***	-0.016**	-0.44***
	(0.013)	(0.0065)	(0.013)	(0.015)	(0.0064)	(0.014)
Central America and Caribbean	0.37***	-0.035***	-0.34***	0.34***	-0.017***	-0.33***

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South America	(0.011) 0.49***	(0.0057) -0.051***	(0.01) -0.44***	(0.012) 0.47***	(0.0049) -0.026***	(0.012) -0.44***
West and North Europe	(0.0079) 0.52***	(0.0044) -0.055***	(0.0078) -0.46***	(0.009) 0.49***	(0.0038) -0.025***	(0.0089) -0.47***
East and South Europe	(0.0096) 0.36***	(0.005) -0.042***	(0.0093) -0.32***	(0.011) 0.32***	(0.0047) -0.014*	(0.011) -0.30***
West Africa	(0.014) 0.17***	(0.0064) 0.00024	(0.013) -0.17***	(0.017) 0.15***	(0.0064) 0.0058	(0.016) -0.16***
East Africa	(0.018) 0.093***	(0.0097) 0.0024	(0.017) -0.095***	(0.02) 0.070*	(0.0085) 0.0063	(0.02) -0.076**
North Africa	(0.025) 0.31***	(0.013) 0.017	(0.024) -0.33***	(0.028) 0.31***	(0.012) -0.0077	(0.028) -0.30***
Middle and Southern Africa	(0.023) 0.15***	(0.014) 0.091***	(0.02) -0.24***	(0.03) 0.15***	(0.011) 0.054**	(0.029) -0.20***
Central Asia & Middle East	(0.028) 0.52***	(0.021) -0.048***	(0.024) -0.47***	(0.031) 0.51***	(0.018) -0.026***	(0.029) -0.49***
East Asia	(0.0079) 0.52***	(0.0045) -0.036***	(0.0077) -0.48***	(0.0086) 0.51***	(0.0038) -0.014***	(0.0085) -0.49***
Southeast Asia	(0.0077) 0.22***	(0.0047) -0.011	(0.0075) -0.21***	(0.0086) 0.19***	(0.0041) 0.004	(0.0083) -0.19***
South Asia	(0.016) 0.11***	(0.0076) 0.036*	(0.016) -0.15***	(0.018) 0.064*	(0.0071) 0.038*	(0.018) -0.10***
Other	(0.025) 0.36***	(0.015) -0.036***	(0.025) -0.33***	(0.029) 0.35***	(0.016) -0.024**	(0.029) -0.32***
	(0.023)	(0.0095)	(0.022)	(0.028)	(0.0076)	(0.027)
Male/Female (Male)						
Female	-0.038*** (0.0038)	-0.0049* (0.0022)	0.043*** (0.0035)	-0.030*** (0.0044)	-0.0065** (0.002)	0.037*** (0.0041)
Region*Female interaction (India*F)						
China*Female	0.33*** (0.011)	0.024*** (0.0069)	-0.36*** (0.011)	0.34*** (0.013)	0.021*** (0.0063)	-0.37*** (0.012)
US*Female	0.43*** (0.017)	-0.032*** (0.0094)	-0.40*** (0.016)	0.43*** (0.019)	-0.012 (0.0089)	-0.42*** (0.017)
C. America & Carib.*Female	0.34*** (0.015)	-0.031*** (0.0077)	-0.31*** (0.014)	0.32*** (0.017)	-0.017** (0.0067)	-0.31*** (0.016)
South America*Female	0.47*** (0.0093)	-0.051*** (0.0052)	-0.42*** (0.009)	0.46*** (0.011)	-0.029*** (0.0046)	-0.43*** (0.01)
West & North Europe*Female	0.48*** (0.012)	-0.049*** (0.0066)	-0.43*** (0.012)	0.46*** (0.015)	-0.023*** (0.0064)	-0.44*** (0.015)

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East & South Europe*Female	0.33*** (0.018)	-0.041*** (0.0085)	-0.29*** (0.018)	0.29*** (0.023)	-0.011 (0.0089)	-0.28*** (0.022)
West Africa*Female	0.21*** (0.022)	-0.01 (0.011)	-0.20*** (0.021)	0.19*** (0.025)	0.0096 (0.011)	-0.20*** (0.024)
East Africa*Female	0.063 (0.034)	-0.00091 (0.018)	-0.062 (0.033)	0.065 (0.039)	0.0086 (0.018)	-0.074 (0.038)
North Africa*Female	0.27*** (0.024)	0.016 (0.015)	-0.29*** (0.021)	0.27*** (0.03)	0.0021 (0.014)	-0.27*** (0.028)
Middle & South Africa*Female	0.15*** (0.04)	0.077** (0.028)	-0.23*** (0.035)	0.14** (0.045)	0.052* (0.025)	-0.20*** (0.041)
C. Asian & Middle East*Female	0.50*** (0.0087)	-0.049*** (0.005)	-0.45*** (0.0084)	0.51*** (0.0093)	-0.030*** (0.0042)	-0.47*** (0.0092)
East Asia*Female	0.51*** (0.009)	-0.033*** (0.0058)	-0.47*** (0.0083)	0.50*** (0.0098)	-0.010* (0.0053)	-0.49*** (0.0092)
Southeast Asia*Female	0.24*** (0.022)	-0.0066 (0.011)	-0.24*** (0.021)	0.22*** (0.025)	0.0088 (0.01)	-0.23*** (0.025)
South Asia*Female	0.093*** (0.025)	0.037* (0.015)	-0.13*** (0.025)	0.062* (0.028)	0.02 (0.013)	-0.082** (0.029)
Other*Female	0.31*** (0.033)	-0.028* (0.013)	-0.28*** (0.031)	0.29*** (0.038)	-0.025* (0.01)	-0.26*** (0.037)
Location when applying for permit (same as citizenship)						
Different than citizenship	0.022** (0.0069)	-0.003 (0.004)	-0.019** (0.0062)	0.029*** (0.0074)	-0.0063 (0.0033)	-0.022** (0.007)
Canada	-0.12*** (0.012)	0.016* (0.0065)	0.11*** (0.011)	-0.19*** (0.026)	0.024 (0.014)	0.16*** (0.025)
Age (Age 18)						
Age 16 or 17	0.060*** (0.0095)	-0.025*** (0.0072)	-0.035*** (0.0072)	0.053*** (0.011)	-0.0091 (0.0068)	-0.044*** (0.009)
Age 19/20	0.016* (0.0069)	-0.027*** (0.005)	0.011 (0.0056)	0.00058 (0.0079)	-0.012** (0.0046)	0.012 (0.007)
Age 21/22	-0.0033 (0.0069)	-0.056*** (0.0049)	0.060*** (0.0057)	-0.029*** (0.0078)	-0.030*** (0.0044)	0.059*** (0.007)
Age 23/24	-0.021** (0.0072)	-0.063*** (0.0049)	0.085*** (0.0061)	-0.046*** (0.0082)	-0.035*** (0.0044)	0.081*** (0.0075)
Age 25-29	-0.070*** (0.0074)	-0.053*** (0.005)	0.12*** (0.0063)	-0.094*** (0.0084)	-0.029*** (0.0046)	0.12*** (0.0077)
Age 30-39	-0.16*** (0.0092)	-0.038*** (0.0059)	0.20*** (0.0083)	-0.20*** (0.011)	-0.014* (0.0056)	0.21*** (0.01)
Age 40+	-0.21***	-0.023*	0.23***	-0.24***	-0.0086	0.25***

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	(0.013)	(0.0088)	(0.012)	(0.015)	(0.0082)	(0.014)
Entry credential (BA)						
Trade or voc.	0.015 (0.009)	-0.062*** (0.0051)	0.047*** (0.0083)	-0.011 (0.0098)	-0.033*** (0.0044)	0.044*** (0.0095)
MA	0.024 (0.013)	-0.049*** (0.0075)	0.025* (0.011)	0.032* (0.014)	-0.029*** (0.0066)	-0.0032 (0.013)
PhD	0.079*** (0.018)	-0.025* (0.013)	-0.053*** (0.013)	0.071*** (0.021)	-0.0069 (0.013)	-0.064*** (0.016)
Other/missing	-0.0028 (0.0067)	-0.045*** (0.0044)	0.048*** (0.0059)	-0.025*** (0.0075)	-0.022*** (0.0039)	0.047*** (0.0071)
Destination (Toronto)						
Ottawa	0.039*** (0.0085)	0.00021 (0.0047)	-0.039*** (0.0077)	0.047*** (0.0095)	-0.0039 (0.0042)	-0.043*** (0.0089)
Kingston-Pembroke	0.036 (0.02)	-0.016 (0.011)	-0.02 (0.018)	0.03 (0.023)	-0.0054 (0.011)	-0.024 (0.021)
Muskoka-Kawarthas	-0.061** (0.022)	-0.0073 (0.011)	0.068** (0.021)	-0.082** (0.026)	-0.0029 (0.0094)	0.084*** (0.025)
Kitchener-Waterloo-Barrie & Stratford-Bruce Peninsula	-0.026** (0.0098)	0.012* (0.0057)	0.014 (0.0087)	-0.042*** (0.011)	0.0081 (0.0053)	0.034** (0.01)
Hamilton-Niagara	-0.024** (0.0084)	-0.0049 (0.004)	0.029*** (0.0078)	-0.032*** (0.0095)	-0.0055 (0.0035)	0.037*** (0.0091)
London	-0.029** (0.009)	0.004 (0.0051)	0.025** (0.0081)	-0.025* (0.0097)	0.0015 (0.0045)	0.024** (0.0091)
Windsor-Sarnia	-0.0092 (0.0062)	-0.005 (0.0036)	0.014* (0.0056)	-0.029*** (0.0078)	-0.0096** (0.0033)	0.039*** (0.0074)
North Ontario	0.014 (0.017)	-0.012 (0.0087)	-0.0022 (0.015)	-0.019 (0.019)	-0.011 (0.0077)	0.029 (0.019)
Prior Canadian student permit						
Held primary, secondary, or CEGEP permit	-0.076*** (0.0083)	0.029*** (0.0036)	0.047*** (0.0079)	-0.091*** (0.0094)	0.024*** (0.003)	0.066*** (0.0091)
Study permit from elsewhere in Canada	-0.00015 (0.012)	-0.0067 (0.007)	0.0069 (0.011)	-0.017 (0.013)	-0.0059 (0.0067)	0.022 (0.013)
Permit cohort (2010)						
2011	0.013** (0.005)	0.0096*** (0.0028)	-0.0038 (0.0046)	0.0083 (0.005)	-0.00031 (0.0022)	-0.008 (0.0047)
2012	0.017** (0.0051)	-0.00019 (0.003)	-0.016*** (0.0046)	0.016** (0.0051)	0.0070** (0.0024)	-0.023*** (0.0048)
2013	0.022***	0.004	-0.026***			

	(0.0054)	(0.0032)	(0.0049)			
Observations	42970	42970	42970	32640	32640	32640

Notes: This table shows the average marginal effects produced through a set of multinomial logistic regression models that measure migration outcomes after a student's initial Ontario study permit was issued. Each column represents the three categorical outcomes that are possible in this model. The explanatory variables included in the model are categorical and the reference group for each variable is in parentheses next to the bolded variable title. Robust standard errors are in parentheses under each coefficient. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

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