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# Postsecondary pathways and outcomes of international students in Ontario

**Phase 1 report**

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# EXECUTIVE SUMMARY

## OVERVIEW

In 2023, the Higher Education Quality Council of Ontario (HEQCO) established a research consortium to develop and implement 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 system-wide pathways of international students. This research would identify trends over time in the composition of students, whether they attended publicly funded institutions, and their schooling, labour market, and migration outcomes. This population-level analysis aimed to generate empirical findings that would help institutions, communities, and governments understand the state of international education in Ontario with the longer-term goal of improving support for the transitions of international students.

As presented in the following report, the first phase of SRDC's analysis has focused on Ontario study permit holders who attended publicly funded postsecondary institutions.<sup>1</sup> It used microdata from Statistics Canada's Education and Labour Market Longitudinal Platform, which links postsecondary enrollment records from public institutions, annual tax information, and immigration data. The combination of these datasets allowed SRDC to identify every person issued an Ontario study permit between 2010 and 2020 and track their schooling, labour market, and migration outcomes. The study benefited from multiple derived variables from these data sources to conduct both descriptive and regression analysis, including characteristics about the student and their program of study.

SRDC first performed a compositional analysis to determine which study permit holder characteristics were associated with appearing in the enrollment records of publicly funded Ontario institutions. Among those who appeared in public institutions, the analysis then studied: the type of institution and credential level they first entered; whether they received a co-op work permit; and who went on to complete a postsecondary program. Extending beyond their postsecondary experience, additional analysis examined the labour market outcomes of

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<sup>1</sup> Individuals not found in public college and university enrollment records may have been missed due to data errors or non-reporting. Alternatively, they may be enrolled in Public College–Private Partnerships (PCPPs) or private institutions (college and university) that are not currently captured in the ELMLP. It is also possible they received a study permit but did not arrive in Canada. These study permit holders will be the focus of the next phase of this project.

graduates and the year-by-year migration outcomes of all international students who entered the public Ontario postsecondary system.

## RESULTS

From 2010 to 2019, there was a large increase in the number of individuals issued an Ontario study permit annually. Approximately 48,600 were first issued an Ontario study permit in 2010, which grew to just under 114,000 people in 2019. In 2020, the number of Ontario study permits issued decreased substantially due to the COVID-19 pandemic. Examining growth by the region/country of citizenship of an applicant showed that permits issued to Indian citizens increased substantially between 2015 and 2019. Most other regions/countries had more modest increases between 2010 and 2019 (e.g., China, Central America and Caribbean, South America, West Africa, South Asia), there was a sizable increase in the number of initial permits issued but to people from Southeast Asia.

### Compositional analysis

Overall, four in every five (79 per cent of) people issued an Ontario study permit between 2010 and 2020 had enrollment records at a public Ontario college or university. In terms of change over this decade, there was a modest overall increase in the proportion of permit holders who entered the public Ontario system.

- **Region/country of citizenship:** Across all years, as a share of permit holders, international students from West Africa, China, and South Asia were the most likely to enter a public Ontario college or university (89-90 per cent), while those from South America and East Asia were the least likely (55-61 per cent).
- **Male/female:** While there were few overall differences between males and females, there was intra-group variation for some regions/countries of citizenship. Males from India and North Africa were more likely to attend a public Ontario college or university compared to females from these regions (by 6 percentage points). In contrast, females from Central Asia and the Middle East were more likely to attend a public institution compared to their male counterparts (by 8 percentage points).
- **Age at entry:** Compared to students who were aged 18 or younger when they obtained their first study permit, students who were older were less likely to attend a public Ontario institution across most years. In earlier years, those aged 40 or older were much less likely to attend a public Ontario college or university, although this difference reduced considerably in later years (i.e., 8.5 percentage point gap in 2019 relative to 24 per cent in 2010).

- **Program of study:** International students issued permits to study in English as a second language (ESL) or trades, vocational, or college programs (57-60 per cent) were less likely to attend a public institution compared to those issued permits for bachelor's and graduate degree programs (88-92 per cent).
- **Prior study experience in Canada:** Ontario study permit recipients were more likely to attend a public institution if they had previous experience studying in Canada, either at the primary to secondary level (12 percentage points more) or through holding a previous postsecondary study permit from another Canadian region (6 percentage points more).

## Entry characteristics

Over time, a decreasing proportion of international students began their studies in Ontario universities while an increasing proportion began their studies in colleges. This trend reflects both a temporary decline in university enrollment and a rise in college enrollment. Among students issued study permits between 2010 and 2013, college and university attendance was roughly equal (69,300 each). For those issued permits between 2014 and 2016, 39 per cent enrolled in universities (49,900) and 61 per cent in colleges (78,100). Among the 2017-2019 cohort, 32 per cent attended universities (77,700) and 68 per cent attended colleges (165,200).

- **Region/country of citizenship:** There was large variation in the type of institution where an international student began their studies depending on their region/country of citizenship. Across all time periods, only a small proportion of students from India first entered universities (11-14 per cent), as the majority went to Ontario colleges. In contrast, the majority of students from China, the US, West and North Europe, West Africa, and North Africa (64-84 per cent) first entered universities.
- **Male/female:** In most cases there were only minor differences between males and females in their institution type at entry. However, males from China, and Western and Northern Europe were slightly less likely to enter a university compared to females from these regions. Conversely, males from Central America and the Caribbean, East Asia, and Southeast Asia were slightly more likely to enter a university compared to their female counterparts.
- **Age at entry:** Age correlated with the college attendance share relative to university. The older a student was, the more likely they were to attend college. For the most recent cohorts, 51 per cent of international students who were aged 18 transitioned to universities compared to just 16 per cent of those aged 40 or older.

From 2010 to 2020, despite enrollment increase in real terms, the share of bachelor's and graduate program level entry decreased (relative terms) and certificate and diploma program entry increased. For the most recent cohorts, 6 per cent entered "other", 27 per cent entered



certificate, 37 per cent entered diploma, 20 per cent entered bachelor's degree programs, and 10 per cent entered graduate programs.

- **Region/country of citizenship:** Across all cohorts, students from China, the US, North Africa, and West Africa were the most likely to enter bachelor's or graduate degree programs (e.g., 46 to 64 per cent for permits issued between 2017-19). In contrast, students from India, South America, and Southeast Asia were more likely to enter certificate and diploma programs (e.g., 4 to 13 per cent for permits issued between 2017-19).
- **Male/female:** While there was little variation in program of entry when comparing all males and females, for certain groups (e.g., East Asia, Southeast Asia), males were more likely to enter bachelor's degree programs compared to females, while the reverse was true for other groups (e.g., South Asia, North Africa).
- **Age at entry:** Students aged 21 or older were more likely to enter graduate programs compared to those aged 20 or younger—an expected result given the requirement for previous postsecondary experience at this program level. However, entry into bachelor's degree programs decreased with age while entry into certificate programs increased with age.

### Co-op work permit experience

Overall, 34 per cent of international students who were issued a study permit and entered a publicly funded institution received a co-op work permit within four years, with the rate increasing over time.

- **Region/country of citizenship:** Students from Southeast Asia were the most likely to receive a co-op work permit (53 per cent), while those from the US were the least likely (12 per cent). In addition, people from India, China, Central America and the Caribbean, South America, and East and West Europe also had high rates of obtaining this permit.
- **Male/female:** Overall, there was little male-female difference in obtaining a co-op permit; however, there were differences by region/country of citizenship. Females from India, South America, East and South Europe, East Asia, and Southeast Asia were 5 to 10 percentage points more likely to hold this permit compared to their male counterparts.
- **Entry program:** Students who entered certificate programs had the highest rate (47 per cent) of receiving a co-op permit, while students in graduate programs had the lowest rate (15 per cent). However, once the regression model controlled for other student and program factors, program-level differences reduced considerably.

- **Field of study at entry:** Those who entered service (65 per cent) and health (47 per cent) fields were the most likely to have received a co-op permit. In contrast, those who entered science, education, and humanities fields were the least likely (17-20 per cent).
- **Institution at entry:** Overall, students who entered a college program were more likely to have obtained this permit compared to students who entered a university—an unadjusted 23 percentage point gap that reduced only slightly in the final regression analysis.

## Graduation outcomes

To measure graduation rates, separate models examined outcomes four, five, six, and seven years after initial entry to a public Ontario college or university. Overall, 65 per cent of international students graduated within four years of entering, a rate that increased to 76 per cent after seven years.<sup>2</sup>

- **Region/country of citizenship:** Students from India had the highest completion rates—within four years, 81 per cent had completed a program compared to just 32 per cent of students from West and North Europe. By year seven, graduation rates were also high among students from China, Middle and Southern Africa, and South Asia, while they were lower among students from South America and East Asia.
- **Male/female:** Across all international students, female students were slightly more likely to graduate; however, there was variation by region/country of citizenship. Seven years after entering, females from China, South America, East Africa, Central Asia and the Middle East, and East Asia were more likely to graduate than males from these corresponding regions/countries.
- **Age at entry:** After four years, students who began studies aged 21 to 39 were much more likely to be graduates than those beginning when aged 18; however, by year seven, there was little to no statistically significant difference in their graduation rates.
- **Program of entry:** After seven years, students who had first entered bachelor's degree programs were only slightly more likely to be graduates (81 per cent) compared to students

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<sup>2</sup> This study does not capture international students' intentions upon entering the public postsecondary system. As a result, we cannot distinguish between those who planned to complete a full program and earn a Canadian credential and those who intended only a short-term study abroad experience. These differing intentions may influence both graduation rates and the proportion of students likely to enter the Canadian labour market and remain in the country. That being said, exchange program students, based on a cursory search of institutional website, likely reasonably account for a small portion of the international student population—between 1.6% and 2%—and are therefore unlikely to significantly affect the overall graduation rate.

who had entered certificate (79 per cent) and diploma (77 per cent) programs. All three groups were less likely to have completed their studies compared to those who had entered graduate programs (91 per cent).

- **Field of study:** By year seven, 80 per cent or more among students who had entered social sciences, business, science, engineering, agriculture/resource, health, and service fields had graduated. In the final regression analysis, students who entered education and humanities programs were 7 to 9 adjusted percentage points less likely to be graduates compared to those who entered business fields.

## Labour market outcomes of graduates

### *Filing taxes post-graduation*

SRDC's first labour market outcome analysis considered which characteristics were associated with filing taxes in Canada one to five years after graduation. Overall, 79 per cent of graduating international students filed a tax return one year after graduation. By year five, this rate had reduced slightly to 72 per cent.

- **Region/country of citizenship:** US citizens were the least likely to have tax records in both year one and five (31-38 per cent), while Indian citizens were the most likely (86-91 per cent). In addition, a high proportion of students from West Africa and South Asia also had tax records, while comparably a lower proportion of students from China and West and North Europe had tax data.
- **Male/female:** Overall, females were only slightly more likely to have tax data in the regression-adjusted analysis, although the reverse was true in the descriptive analysis: meaning that all else being equal (e.g., credential and program type, country of origin, etc.) women were in fact more likely to file taxes than their male counterparts. However, for some regional/country groups, this male/female difference was larger. For example, females from South America, Central Asia, and Southeast Asia were 9 percentage points more likely to have tax data in year one compared to males from these regions.
- **Graduating program:** Compared to people who completed a bachelor's degree program (51-59 per cent), those who earned a certificate (77-85 per cent), diploma (77-85 per cent), or graduate degree (65-74 per cent) were all more likely to have tax data across both years one and five.
- **Graduating field of study:** People who completed a credential in engineering and health were the most likely to have tax data. In contrast, people who completed an arts, humanities, or social sciences credential were less likely to have tax information one year after



graduation, although often these differences diminished and sometimes became no longer statistically significant by year five.

### *Earning among those who filed taxes post-graduation*

The next labour market outcome analysis examined variation in annual earnings post graduation. Overall, average earnings (adjusted for inflation to 2021 dollar) among all graduates grew from year to year, from 10.07 log earnings (\$31,700 before log adjustment) in year one to 10.64 log earnings (\$57,600 before log adjustment) in year five.

- **Region/country of citizenship:** For males, those from South Asia earned the most in year one, while those from West and North Europe earned the most in year five. For females, US citizens earned the most in year one while South Asian citizens earned the most in year five. In terms of lower earning groups, males from China, East Asia, and Middle and South Africa regions were among the lowest earning males, while females from East Asia were the lowest earning female group.
- **Male/female:** Female graduates earned increasingly less than males in the years after graduation, from 4 adjusted per cent less in year one to 17 adjusted per cent less in year five in the final regression analysis. The male-female earnings gap was largest for students from North Africa in the first and fifth years, and for both the descriptive and regression results.
- **Age at entry:** International students who were first issued an Ontario study permit when they were aged 25 to 39 typically earned the most—a group that may have entered higher earning graduate programs and/or entered the Canadian labour market with previous education and work experience.
- **Graduating program:** Compared to students who completed a bachelor's degree, people with a certificate or diploma earned less after graduation while those with a graduate degree earned more. There was a particularly large gap for students who held a certificate as they earned an adjusted 42 per cent less by year five compared to those with a bachelor's degree.
- **Graduating field of study:** In both the first and fifth years, students who graduated from engineering and math and computer science fields had the highest earnings, while students from art fields had the lowest.

### *Migration outcomes*

The final analysis examined the year-by-year migration outcomes of all students who attended a public Ontario college or university regardless of their graduation status. Two years after being issued a study permit, most international students still had an active study permit (alone or in

conjunction with a work permit). After eight years, few students still had an active study permit and instead 33 per cent had no official status in Canada, 8 per cent had a work permit, and 54 per cent had transitioned to permanent resident.

- **Region/country of citizenship:** There were large differences by region/country of citizenship. For example, 71 per cent of students from India had transitioned to both a work and study permit by year two compared to just 17 per cent of those from the US. Indian nationals had the highest rates of transitioning to permanent residency or holding a work permit in subsequent years, while US citizens had the lowest.
- **Male/female:** While there were few major differences overall between male and female international students in terms of their migration outcomes, there were a few notable differences for certain regional/country groups. For example, among students from Southeast Asia, China, and East and South Europe, females were more likely to become permanent residents compared to males from these regions.
- **Age:** Compared to people who were aged 18 when they were first issued their Ontario study permit, both the descriptive and results showed that people aged 21 or older were more likely to become a permanent resident four, six, and eight years after being issued their study permit.

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## INTRODUCTION

This report presents the first phase of a comprehensive system-level analysis of international students pursuing postsecondary education (PSE) in Ontario from 2010 to 2020 including their entry characteristics and graduation, labour market, and immigration outcomes. Using 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—beginning by answering fundamental questions regarding who is more or less likely to make these transitions and how the composition of international students has changed over time.

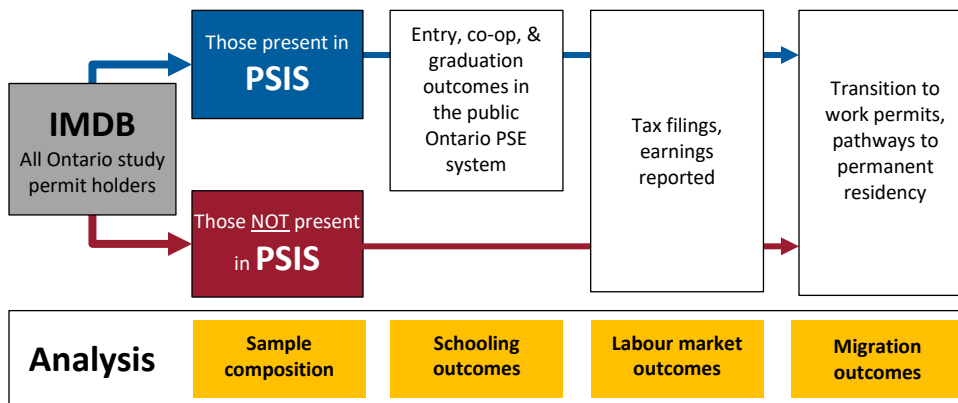
To improve understanding of the relationships between various student characteristics and schooling, labour market, and migration outcomes, SRDC used microdata from Statistics Canada’s Education and Labour Market Longitudinal Platform (ELMLP). This platform includes postsecondary enrollment records from public institutions (PSIS) and annual tax information (T1FF). The ELMLP can be linked to the Longitudinal Immigration database (IMDB), a data source that captures every person issued a permit to study in Ontario since 1980.

Not all people issued an Ontario study permit enter the country and go on to attend a publicly funded college or university. People may experience life circumstances or take on other opportunities and never move to Canada. Others arrive in Canada but go on to study at a private postsecondary institution or engage in a non-schooling activity. While the project cannot assess the outcomes of people who never arrive in Canada, through tax and migration data it is possible to track some outcomes of people who file their taxes in Canada and/or transition to work permits or permanent residency, even if they do not attend a public college or university.

Through the data linkages possible in the ELMLP, this Phase 1 report examines who appears in public postsecondary enrollment records after being issued an Ontario study permit. The following analyses consider the pathways of those who go on to study in an Ontario public college or university, while the upcoming Phase 2 analysis will follow the alternative pathways of people who were issued Ontario study permits but never appeared in a public institution in either Ontario or across Canada. Phase 2 analysis will be included in the project’s final report.

This work is guided by a conceptual framework that mirrors the path of international students from when they first enter Ontario with a study permit, into and through their education (see Figure 1). 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 one of the publicly funded institutions in Ontario—or not (red box), which represents individuals who either did not study in Canada or attended private institutions.

**Figure 1** International student research conceptual framework



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

- **Compositional analysis:** The first set of analyses compared two different groups of study permit holders—those who did and did not appear in the PSIS data—to identify differences in student, program, and immigration characteristics using information from their study permit application.
- **PSE entry analysis:** For those who were observed in the PSIS data, the next set of analyses examined their entry institution and program using information from their public postsecondary enrollment records.
- **Co-op experience analysis:** This next analysis examined which students were issued a co-op work permit within four years of entering public PSE.
- **Public PSE graduation analysis:** This is followed by an examination of who went on to graduate four to seven years after entering a public Ontario institution.
- **Labour market analysis:** Following graduates into the labour market, the next set of analyses investigated who filed taxes and (among those that did) annual earnings one to five years after obtaining a credential.
- **Migration analysis:** The final set of analyses considered year-by-year migration outcomes after public PSE attendees were issued study permits, including holding active work or study permits and the transition to becoming a permanent resident.

Through this series of analyses, the study answers the following research questions first 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 graduation rates of international students across their various student, program, and immigration characteristics?
3. 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?
4. 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?

Since these four research questions were first proposed, additional analysis has extended and added new lines of inquiry (e.g., co-op permit experience) along with answering each research question using student, program, and immigration information available across the various data sources described below. Before presenting the analyses, we first provide an overview of prior research from Ontario and across Canada that uses many of the same datasets to understand how they have been used and what has been learned already about international students.

## BACKGROUND LITERATURE

### THE POLICY CONTEXT

Canadian immigration policy consists of both temporary and permanent migration streams, with the latter including economic, family reunification, and humanitarian pathways to permanent residency (Alboim & Cohl, 2012; Sweetman, 2017; Sweetman & El-Assal, 2016). People who arrive in Canada through both temporary and permanent streams may go on to study in higher education institutions, although it is typically just those who arrive in Canada with a temporary study permit who are identified as international students. Among international students, many unique groups exist, from those undertaking short-term study abroad programs to people who intend to complete a credential in Canada.

As temporary residents, international students were not historically considered to be part of Canada's permanent streams of immigration. Until recently, international students had to demonstrate they planned to leave the country after they finished their studies when applying for a study permit and had limited opportunities to work off campus while studying (Alboim, 2011). Nevertheless, there have been numerous policy changes over recent years that formalized

a “two-step” immigration pathway; one where a person initially has temporary status in Canada before they engage with a pathway to permanent residency program, typically those that align with economic immigration streams in Canada.

One of the major policy changes that promoted this “two-step” immigration pathway for international students was the development and implementation of Canada's International Education Strategy. The Government of Canada's 2011 Economic Action Plan first provided \$10 million to “develop and implement an international education strategy that will reinforce Canada as a country of choice to study and conduct world-class research” (Government of Canada, 2011). An advisory panel, which had the mandate to “make recommendations on a strategy to maximize economic opportunities for Canada” (Government of Canada, 2004, p. 5) informed the strategy, which was first released in 2014 and then updated in 2019.

Canada's International Education Strategy makes a clear economic justification for increasing the number of international students in Canada. Both the original and updated strategies emphasized the economic impact of international students studying in Canada through tuition, accommodation, and discretionary spending—benefits that had an increasing impact on Canada's GDP over the last several years (Global Affairs Canada, 2000). The strategies not only outlined investments to recruit international students to Canada, but also why temporary residents should be integrated into economic immigration streams that aim to attract highly skilled workers:

*“International students make excellent candidates for permanent residency: they are relatively young, proficient in at least one official language, have Canadian educational qualifications, and can help address [Canada's] current and pending labour market needs, particularly for highly skilled workers” (Canada, 2019, p. 5).*

From a human and social capital perspective, this standpoint often emphasizes that international students have an easier time making the transition into the Canadian labour market compared to “one-step” newcomers who gain permanent residency from outside Canada. In comparison, this group of international students have Canadian credentials and previous experience living in Canada that may lead to better established social networks (Arthur & Flynn, 2011; Mandell et al., 2022). Previous work and education experience in Canada do not guarantee the successful transition from temporary to permanent residence as many international students who intend to remain in Canada after their studies still face barriers to entering the Canadian labour market.

For international students who seek to remain in the country either temporarily or permanently after their studies are complete, there are several work and immigration pathways that can be currently accessed (or that could have been accessed during the period of this study). To support the transition from graduation to employment, the **Post Graduate Work Permit (PGWP) program** was introduced initially as a Manitoba pilot program in 2003 and was later expanded



nationally in 2008 as part of the federal government's International Mobility Program (Vosko, 2023). It provides international students who graduate from an eligible program at a designated learning institution a Canadian work permit for one to three years, depending on the length of their programs. Graduates can obtain this work permit even if they have not yet found employment, and people who go on to secure and maintain high-skilled employment are often eligible to transition to permanent residency through one of the programs outlined below. To qualify for the Post Graduate Work Permit, an international student must have studied in-person in Canada for at least 50 per cent of their program,<sup>3</sup> while time spent studying outside Canada by distance education may be deducted from the length of the permit. In 2021, a temporary program was introduced whereby those with this work permit could access an 18-month extension as there was a pause in some types of permanent resident programs (e.g., Express Entry invitations) that may have impacted graduates' ability to transition to permanent residency (IRCC, 2018).

Typically, once an international student secures employment and gains work experience post-graduation, they have several options for transitioning to permanent residency. They can apply through the **Canadian Experience Class**, which was introduced in 2008 for people with at least one year of skilled work experience in Canada. Others may pursue **Provincial Nominee Programs** that offer various regional streams to permanent residency. In Ontario there are currently nine separate streams, including the **International Student Stream**, as well as the **Master's and PhD Graduate streams**, which are point-based and typically available to graduates from public Ontario institutions (although there are stream differences). It is also possible for prior international students to access the **Express Entry system** that launched in 2015. Through this program people who meet the criteria for the Canadian Experience Class or Federal Skilled Worker or Trades program can create a profile outlining their skills, work experience, language ability, education, and any other details. Among these profiles, those that are top-ranked or nominated by a province/territory can apply for fast-tracked permanent residency. Previous research, however, suggests that international students can be disadvantaged under this program in terms of their overall ranking (Wang, 2018). While typically each draw offers 5,000 or fewer invitations to apply for permanent residency, in 2021 there was a large draw that offered 27,332 invitations (Perzyna et al., 2022).

Along with these more common pathways to permanent residency, recent pilots and short-term programs may also have impacted the immigration pathways of people in our study. The first was the **Federal Skilled Worker Program PhD Eligibility Stream** introduced in 2011, which provided permanent residency for a maximum of 1,000 PhD students a year who had completed at least two years of study, as well as people who had recently graduated. This cap was reduced

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<sup>3</sup> In response to the COVID pandemic, however, the impact of studying by distance education on permit length was altered so students would complete up to 100% of their studies online between 2020 and 2022.

to 500 people in 2014 and the program was later cancelled. The second program was the **one-time temporary residence to permanent residence pathway** (TR2PR)—a short-term program implemented during the COVID pandemic in 2021—which was available to support temporary residence for essential sectors (e.g., health care, caregiving), as well as international students who had recently graduated. When the program launched on May 6, 2021, the application cap of 40,000 for recent international graduates was reached within just one day (Perzyna et al., 2022).

While the discussion to this point has focused on employment pathways after graduation, there have also been policy changes that impacted international students' employment options while attending school. In 2006, the **Off-Campus Work Permit Program** was introduced, which allowed full-time students to apply for a work permit that would allow them to work off-campus part-time during their study terms (Alboim, 2011). However, in 2014, a policy change allowed international students to work off-campus without having to first obtain this work permit, with the maximum number of weekly hours fluctuating since that period (as of September 2024, it is currently set to a maximum of 24 hours).

To ensure international students are eligible for full-time co-op and internship placements that are mandatory to completing their academic programs, the **Co-op Work Permit Program** was introduced in 2014. To be eligible for this type of work permit, students must attend a designated learning institute and obtain a letter from their school that outlines the co-op or internship experience necessary to complete their program. This visa covers clinical work, practicums, internships, and co-op experience that may be paid or unpaid.

With promotion through Canada's International Education Strategy and given pathways to permanent residency, the number of international postsecondary students has been growing quickly across Canada since the late 1990s when they represented fewer than 40,000 students. The number was close to 345,000 students during the 2018-19 academic year. Across most years, those studying at an Ontario college or university represented the largest share of all international students in Canada. In the fall of 2019, there were approximately 169,500 international students attending full-time programs at public colleges and universities in Ontario, with another 50,000 attending private colleges or language schools (Ministry of Colleges and Universities, 2020). In the 2021-2022 school year, there were an estimated 213,564 international students (across full-time, part-time, in-person, and distance education programs) within public Ontario colleges and universities—up 34 per cent from the 2017-18 academic year (Statistics Canada, 2022). International students represented approximately 16 per cent of students enrolled in public Ontario universities and 30 per cent of students enrolled in public Ontario colleges in the 2021-22 school year (Statistics Canada, 2022). As will be discussed further below, these and other provincial statistics are often defining a different population from the one we focus on in this report. A key distinction in our analysis is the exclusion of international students who did not require a study permit.

Both the updated 2019 federal International Education Strategy and other policies have made different recommendations and changes in response to the increasing number of international students. Canada's International Education Strategy emphasized the need to diversify origin countries for international students as well as where they are going in Canada. By 2018, over 50 per cent of international students in Canada originated from China and India and the majority were studying in urban areas in Ontario, British Columbia, and Quebec. There was also increasing awareness of the economic precarity of certain international student groups. This included housing shortfalls, with international students more likely to live in unsuitable housing compared to Canadian students (Stick, Hou, & Chang, 2024). There was also economic vulnerability, especially for students unable to find employment to support their studies when necessary (Calder et al., 2016). With increasing recognition that many international students were arriving in Canada without the means to adequately support themselves, the cost-of-living requirement for study permit applicants increased from \$10,000, set in the early 2000s, to \$20,635 in 2024. During the period, the federal government also reimplemented a cap that was lifted during the COVID pandemic on the number of hours international students could work off campus during school term.

Shifts in international student policy have economic and immigration significance for those who study and also impact the institutional funding of many colleges and universities. In 2021, a report from the Office of the Auditor General of Ontario cautioned against the postsecondary sector's increasing reliance on high international student fees to remain financially stable—especially Ontario colleges (Office of the Auditor General of Ontario, 2021). It highlighted that international student fees were compensating for a decline in domestic student enrollment while representing a fiscally insecure source of funding. Correspondingly, if there were ever a sudden decrease in the number of international students, there would be a substantial budget impact. In the 2023-34 school year, the Auditor General's warning became reality as the federal government began to implement a series of different caps on the number of study permits issued by Immigration, Refugees and Citizenship Canada (IRCC). While this policy change is too recent to be reflected in the findings of this report, it is likely to impact many of the outcomes under examination for more recent years.

## PRIOR RESEARCH ON INTERNATIONAL STUDENTS

Importantly, the number of study permits issued by IRCC does not equal the number of international students studying in Canadian colleges and universities. International students who study in Ontario colleges and universities through distance education programs or in programs that last six months or less do not require a study permit and therefore are not included in the IMDB. While the PSIS data can identify international students without a study permit in these programs, it is restricted to those who study at public colleges and universities. This has led researchers to ask the question: *where do study permit holders who do not enroll in public*

*institutions end up?* Frenette et al. (2019) compared the number of study permit holders in the IMDB to the number of international students identified in the PSIS data. Canada-wide, the study found that PSIS data captured about half as many international students as the IMDB data between 2009 and 2014, and close to two thirds by 2015. The source of the gap could be partially explained by the share of international students who attended private and non-provincially funded institutions—schools that do not share enrollment records with Statistics Canada. However, the extent to which private institution enrollment represents the destination of international students who were issued study permits in the IMDB and yet do not appear to be enrolled in the public postsecondary system is unclear as this group could also include those who never arrive in Canada.

Notwithstanding the number of international students varies by data source and little is known about those who study in private institutions, previous research has examined international students using both the IMDB and PSIS data. Prior research using the IMDB data has examined the characteristics of students based on the information listed on their study permit. It finds, among first-time study permit holders in Canada, at least two thirds intended to study in postsecondary programs with 41 per cent at the college level and 27 per cent at the university level, with the latter divided fairly equally between undergraduate and graduate programs (Crossman, Choi, & Hou, 2021). Making up the roughly one third not intending to initiate a postsecondary program, 16 per cent were entering the primary and secondary school system and roughly 17 per cent anticipated neither university nor college program enrollment (i.e., they would enter professional training, university exchange, or short-term prerequisite courses/programs where a study permit is required for subsequent attendance at a long-term program).

While some prior research has examined trends within a single time period, the IMDB data is well suited to examine changes over time in the number and type of study permits issued. Using this approach, Crossman et al. (2021) demonstrated that the absolute numbers of international students in all study categories across Canada grew threefold from 2000 to 2019. However, the proportion embarking on non-postsecondary pathways declined (from 53 to 33 per cent) as the proportion heading to colleges and universities increased. Non-university postsecondary enrollment accounted for the lion's share of the increase over this period, and changes in the type of study programs international students embarked upon transformed the composition of each incoming international student cohort. Crossman et al. (2021) found students were increasingly concentrated in the 18-24 age range over this period (up from 52 per cent in 2000-04 to 59 per cent in 2015-19) with a slight increase in the proportion of male students over the same period (from 51 to 53 per cent). India was the dominant source country by 2015-19, accounting for 34 per cent of students (and 67 per cent of those heading to non-university PSE programs), up from 3 per cent (4 per cent in non-university PSE) in 2001-04. The next most common source country was China, accounting for only half as many students as from India in 2015-19.

To understand the study pathways of students, the PSIS data offers information on the types of program students attend and, on a yearly basis, can examine their outcomes in terms of continued enrollment and/or graduation. Examining these outcomes, Frenette, Lu, and Chan (2019) found that the five-year graduation rates for people who entered full-time postsecondary programs (from the certificate to the doctoral level) were generally higher among international students (at 64 per cent) than among Canadian citizens (59 per cent) and permanent residents (57 per cent), with the gap in graduation rates widest among doctoral students. Higher graduation rates are notable, as previous Ontario-based research found that international students often have lower grades while in school (Chen & Skuterud, 2020; McGregor et al. 2022). The program composition of international students also differs from their domestic counterparts. Along with being more highly concentrated in colleges, research from across Canada indicates that international students made up a greater share of the student population in business and mathematics, computer/information sciences fields, as well as medical residency programs (Frenette, Choi, & Doreleyers, 2020).

While there is no comprehensive data source that can provide complete information on who leaves and who stays in Canada, tax data can track labour force participation and earnings in the formal sector, and the IMDB data can track additional work and study permits granted and the transition to permanent residency. Prior research suggests that a sizable proportion of international students stay in Canada once they complete their programs and eventually become permanent residents. Among a sample of over 3,000 international student survey respondents in Canada, 61 per cent reported that they planned to work in Canada after graduation and 51 per cent intended to apply for permanent residency (Esses et al., 2018). Many do succeed in their intention to transition from being an international student to a Canadian resident. Among international students studying at the bachelor's degree level in Canada from 2000 to 2004, 32 per cent transitioned to become permanent residents within 10 years of receiving their first study permit (Lu & Hou, 2015). This finding mirrors later research on a cohort of recent graduates in 2010. Among international students, 38 per cent reported some form of employment income six years after graduation (Frenette, Lu, & Chen, 2019). Crossman et al. (2022) also used more recent IMDB data to reveal an increasing trend in international students obtaining Post-Graduation Work Permits (PGWPs), with recent research showing those who obtained this permit had higher average earnings compared to “one-step” migrants arriving directly from another country without an initial study or work permit (Banerjee & Lam, 2024).

Using tax records, several Canadian studies examine post-graduation earnings of international students, often in comparison to Canadian citizens and permanent residents. Hou and Lu (2017) found that former international students earned significantly less than Canadian-born workers both in the initial period post-graduation and several years later. Frenette, Lu, and Chen (2019) confirmed these results when they examined the 2016 earnings of 2010 graduates. In their study, international students earned significantly less than Canadian citizens even after controlling for differences in various program and student characteristics. A more recent study, however, found

that once the regression model controlled for Canadian work experience before graduation, international students (with equivalent Canadian work experience) earned more than Canadian citizens one year after graduation, although this advantage disappeared by five years later (Choi et al., 2023). Additional survey-based research by Chen and Skuterud (2018) also indicated that differences in earnings between former international students and Canadian citizens varied substantially across education level, field of study, and region of citizenship. Many of these findings were confirmed by Finnie et al. (2021), although this research found that many of the earnings gaps tended to narrow over time.

## ANALYTICAL APPROACH

### DATA AND POPULATION

#### Data

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 the 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.<sup>4</sup>
- 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.

During the data and variable preparation phase, 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.

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<sup>4</sup> 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.



## 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.<sup>5</sup> Data preparation then excluded any records at the primary, secondary, or CEGEP<sup>6</sup> 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;<sup>7</sup> could only be linked to PSIS graduation records (but had no enrollment records), and; had permanent residency status prior to issuance of their study 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 first **compositional analysis** in this Phase 1 report measured entry to public Ontario colleges and universities. 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); or entry to the public system.

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- <sup>5</sup> 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).
- <sup>6</sup> 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.
- <sup>7</sup> Approximately 3.8 per cent of the initial sample was issued Ontario permits, but 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 part of the public Ontario postsecondary system.

The **public PSE entry analysis** then excluded any permit holders who did not have enrollment records at a public Ontario college or university to examine two entry characteristics as separate dependent variables:

- **Entry into an Ontario college or university:** as a binary variable, this analysis measured whether an international student first attended a public college or university in Ontario. Information on institution of entry was taken from each student's earliest PSIS record, even if it was from before their initial study permit was issued.<sup>8</sup> A student who entered before their study permit issue date could have been previously enrolled in distance education or short-term training programs where a study permit was not required.
- **Highest program of entry from PSIS data:** as a categorical variable, this analysis measured the type of program a student first entered in Ontario: 1) "other" programs (e.g., qualifying program, residencies); 2) certificate; 3) diploma; 4) bachelor's or applied degree; or 5) graduate or professional degree.<sup>9</sup> This information was derived from the earliest Ontario enrollment year, even if that was from before a student's initial study permit was issued.

Next the analysis examined whether the student was issued a **co-op or internship work permit** within four years of entering the Ontario public PSE sector. This information was available in the IMDB data only after 2014 when the non-permanent resident permit file began to identify work permits issued specifically for postsecondary internships and co-ops. For this reason, only students who entered an Ontario college or university between 2014-15 and 2018-19 were included in this analysis.

To measure **graduation** from the public postsecondary system, a categorical dependent variable measured whether the student was: 1) no longer enrolled and not observed to graduate; 2) still enrolled (not yet a grad); 3) observed as graduating from any Canadian postsecondary or apprenticeship program. Separate models examined how the results changed when examining this outcome four, five, six, and seven years after initial entry to a public Ontario college or university.<sup>10</sup> The measure of graduation is cumulative, so even if a student enrolled in another program after graduation, they continued to be observed as a graduate in subsequent models.

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<sup>8</sup> If a student had two PSIS records in the same entry year, one from a college and another from a university, then their university record was retained in this analysis.

<sup>9</sup> If a student had more than one type of program enrollment in their entry year, then their "highest" program was selected.

<sup>10</sup> Select cohorts are included in each model depending on the availability of the PSIS data after entry to the public Ontario system. In the four-year outcome model, people who entered the public system between the 2009-10 and 2016-17 academic years were included, while in the seven-year outcome model, those who entered between 2009-10 to 2013-14 were included.

Among students who were observed as graduating, the next stage of analysis examined their **labour market entry and earnings**. One to five years after graduation, this analysis measured two dependent variables separately: whether or not the person filed a tax return; and, among those who did file a tax return and reported earnings, inflation-adjusted log-earnings (as a sum of self-employment earnings, T4 earnings, and “other” earnings).<sup>11</sup> The timing of each outcome was based on when a student was identified as graduating. For example, if a student first graduated in 2015, then we examined their first-year outcomes in 2016. Students who continued in their schooling were included in the analysis, although we included a control for which individuals declared post-graduation full- or part-time enrollment in their tax return.

The final analysis examined the **residency and migration outcomes** of all international students who entered the public postsecondary system in Ontario, regardless of whether they went on to graduate or had tax information.<sup>12</sup> In this analysis, separate models examined yearly outcomes (from year one to eight) 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. From year one to eight, a person could have one of five outcomes: 1) no active permit; 2) an active study permit only; 3) an active student and work permit; 4) an active work permit only; and 5) 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 both the PSIS and the 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 and the timing of the outcome. For example, in the graduation outcome analysis,

<sup>11</sup> 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.

<sup>12</sup> The future Phase 2 report will examine the same migration outcomes of those who could not be linked to the PSIS data.

field of study at *entry* is measured, while in the labour market outcome analyses, field of study at *graduation* is measured.

**Table 1 Overview of explanatory and dependent variables**

Description	Categories
<b>Explanatory variables derived from the IMDB</b>	
<b>Country of citizenship</b>	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
<b>County of residence at the time of a student's initial permit application</b>	1=Same as citizenship (reference group) 2=Different than citizenship 3=Canada
<b>Age in years when first study permit was issued</b>	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+
<b>Male/female</b>	0=Male (reference group) 1=Female
<b>Initial permit study level in Ontario</b>	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
<b>Destination economic region</b>	1=Ottawa 2=Kingston-Pembroke 3= Muskoka-Kawarthas 4=Toronto (reference group) 5=Kitchener, Waterloo, Barrie, Stratford, Bruce Peninsula

Description	Categories
	6=Hamilton-Niagara Peninsula 7=London 8=Windsor-Sarnia 9=Northeast or Northwest Ontario
<b>Year first issued an Ontario study permit in</b>	2010 (reference group) up to 2020, depending on the model
<b>If the person had a study permit at the primary, secondary, or CEGEP level</b>	0=No permit under PSE (reference group) 1=Primary, secondary, or CEGEP level of study
<b>If the person studied PSE elsewhere in Canada prior to studying in Ontario</b>	0=Studied in Ontario first (reference group) 1=Studied elsewhere in Canada first
<b>Explanatory variables derived from PSIS</b>	
<b>Field of study at entry (or graduation)</b>	1=Education 2=Arts 3=Humanities 4=Social Sciences 5=Business (reference group) 6=Sciences 7=Math and Computer science 8=Engineering 9=Agriculture and Resources 10=Health 11=Services 12=Other, unclassified, missing, or multiple
<b>College or university at entry (or graduation)</b>	0=College (reference group) 1=University
<b>Credential level at entry (or graduation)</b>	1=Other programs (e.g., qualifying program, residencies) 2=Certificate 3=Diploma 4=Bachelor's degree (reference group) 5=Graduate or professional degree
<b>Full- or part-time status at first observed fall snapshot</b>	1=Full-time (reference group) 2=Part-time 3=No fall snapshot information <sup>13</sup>
<b>PSIS entry (or graduation) year</b>	2010-11 to 2019-20
<b>Dependent variables</b>	
<b>Entry to the Ontario public postsecondary system</b>	0=No 1=Yes
<b>Entry college or university</b>	0=College 1=University
<b>Program of entry</b>	1="Other" program (e.g., qualifying program, residencies) 2=Certificate 3=Diploma 4=Bachelor's or applied degree 5=Graduate or professional degree

<sup>13</sup> A person might have missing fall snapshot data for several reasons. One key reason why they may be missing this information is if they entered in another semester (i.e., summer or winter/spring), as data on full- or part-time enrollment outside of the fall semester is not yet available in the PSIS data. A person might also have missing fall snapshot data because they discontinued their studies early in the semester; therefore, a portion of our sample may include international students who did not fully engage in their studies.

Description	Categories
Co-op visa issued within four years of entry	0=No 1=Yes
Graduation status 4, 5, 6, or 7 years after entry	1=No longer enrolled and not observed to graduate 2=Still enrolled (but not yet a graduate) 3=Observed as graduating from a Canadian postsecondary or apprenticeship program
Labour market entry among graduate	0=No Canadian tax filing 1=Canadian tax filing
Annual earnings in Canada	Continuous log measure of inflation-adjusted sum of non-negative self-employment earnings, T4 earnings, and “other” earnings
Yearly migration outcomes after initial Ontario study permit was issued	1=No active permit 2=An active study permit only 3=An active student <i>and</i> work permit 4=An active work permit only 5=Transition to permanent resident

## ANALYSIS

The findings section first provides descriptive analysis that investigates the relationship between select explanatory variables and each outcome variable. For example, it shows how the “unadjusted” rate of entry to Ontario colleges 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.

As the dependent variable is binary, the **compositional analysis** uses a linear probability model specification with heteroscedasticity consistent standard errors (as used throughout all analyses). 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 a student can be linked to PSIS. With change over time as a key interest in this project, separate models measure entry to the public system by the year an Ontario study permit was issued.

The **public PSE entry and co-op analyses** include both binary and categorical outcome variables. For binary dependent variables, the analysis uses linear probability model specifications. For categorical dependent variables, we use multinomial logistic regression. This approach transforms each outcome into a nominal categorical dependent variable to examine the



relationship between the explanatory variables and the likelihood of each outcome.<sup>14</sup> The entry analysis separately examines outcomes for students issued Ontario study permits between 1) 2010-13; 2) 2014-16; and 3) 2017-19. Only students who entered the public Ontario system between 2014 and 2018 are part of the co-op analysis.

The **graduation outcome analysis** also uses multinomial logistic regression, with separate models examining outcomes four to seven years after entry. To measure change over time, the analysis pools data across all PSIS entry cohorts and includes this entry year as an explanatory variable. In this model, graduation is measured cumulatively (i.e., a student who is a graduate in the year five model retains this outcome even if they go on to enroll in a different program).

For the **graduate labour market outcomes analysis**, a linear probability specification measures whether or not a graduate had a tax record at least once one to five years after their graduation date. Ordinary least squares (OLS) regression is then used to measure log earnings, which determines the extent to which each of the explanatory indicators influence the continuous outcome variable (i.e., log earnings).

As the dependent variable 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.<sup>15</sup> This allows us to interpret each male/female group individually instead of in comparison to a reference group.

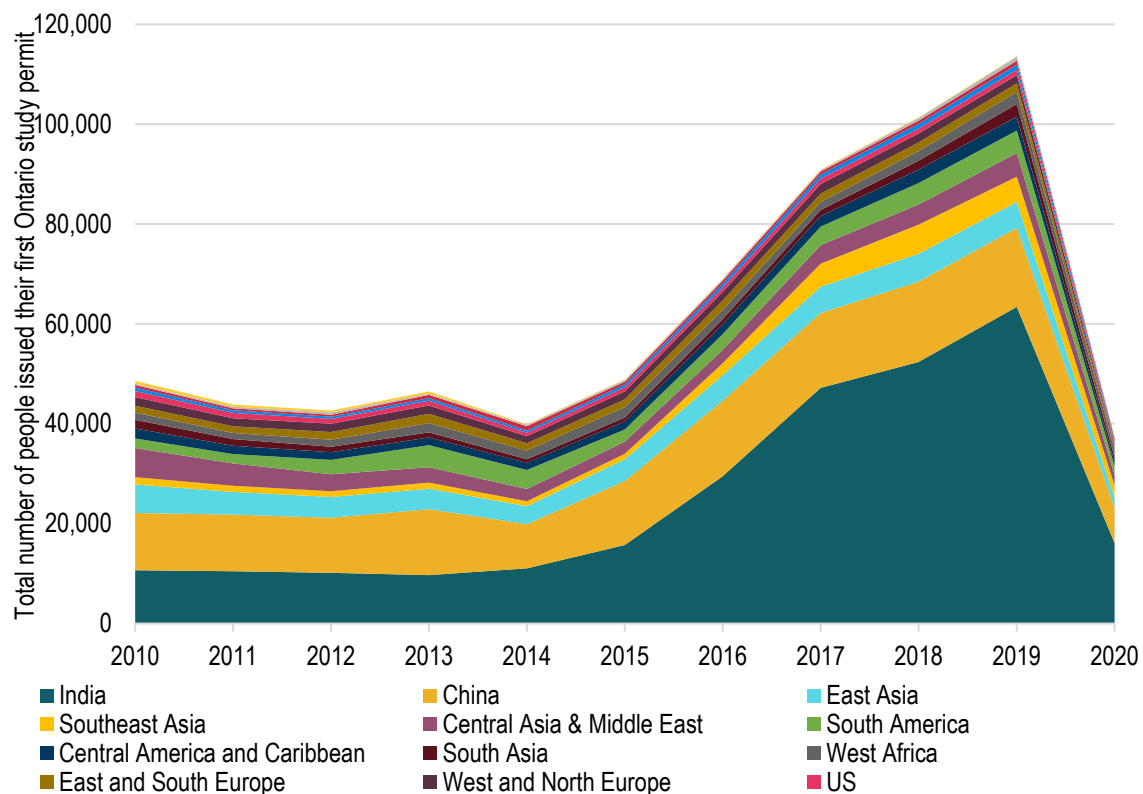
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<sup>14</sup> To interpret the results across all categories in a multinomial regression analysis, we transformed the coefficients from each model into average marginal effects. This allows for the interpretation of the baseline category directly to understand how the probability relating to each outcome category differs in comparison to all others.

<sup>15</sup> Using Stata, all margins were produced using the “atmeans” option, which holds explanatory variables at their means.

## RESULTS

### COMPOSITIONAL ANALYSIS: WHO ENTERED PUBLIC ONTARIO COLLEGES AND UNIVERSITIES?



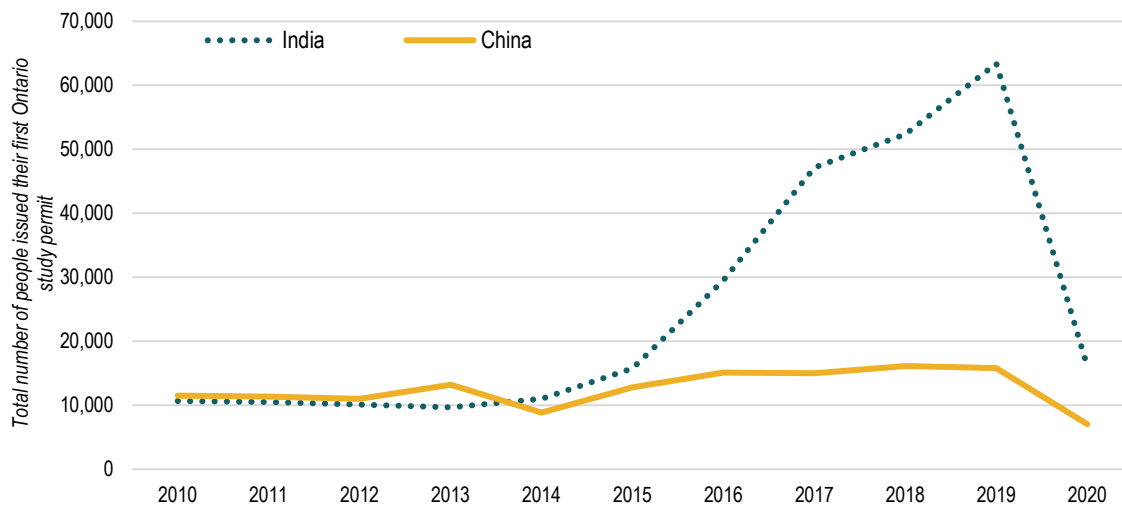
The first set of analyses examined which characteristics were associated with entering a public Ontario college or university; that is, the composition of international students who did and did not make this transition. The main descriptive and regression results are presented graphically in the body of the report, with the full descriptive and regression tables in Appendix A.

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 our 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.

**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 individuals first issued an Ontario study permit. Given the smaller proportion of individuals from certain source regions/countries, Figures 4 and 5 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 had 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).

**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

Among the entire sample of people issued initial Ontario study permits between 2010 and 2020, 79 per cent had enrollment records at a public Ontario college or university. This figure does not differentiate among students in terms of their level of engagement during their initial enrollment, such as who attended a complete semester. Rather the measure of entry captures which students appeared in the PSIS data. As it is based on institutional record keeping, it is possible that some students present in PSIS had low levels of engagement (i.e., there is no information on class attendance).

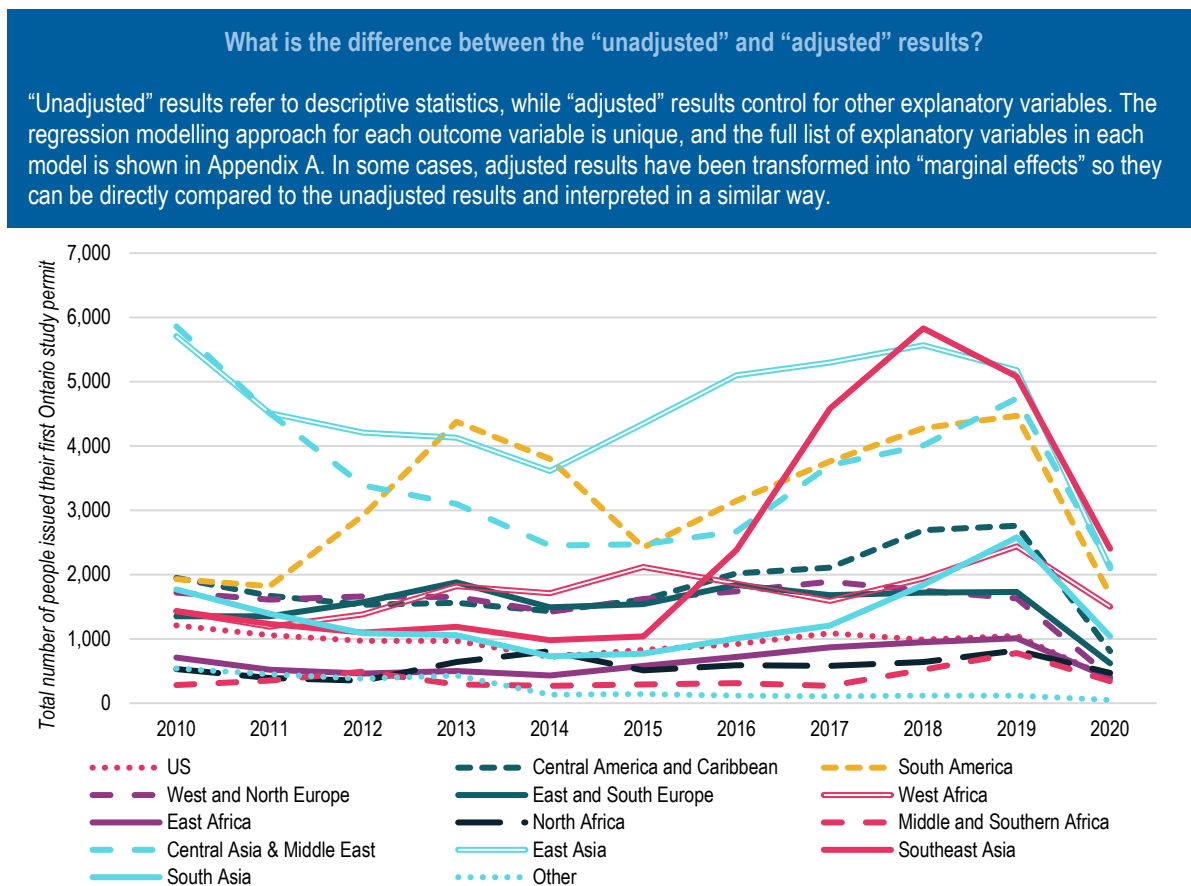
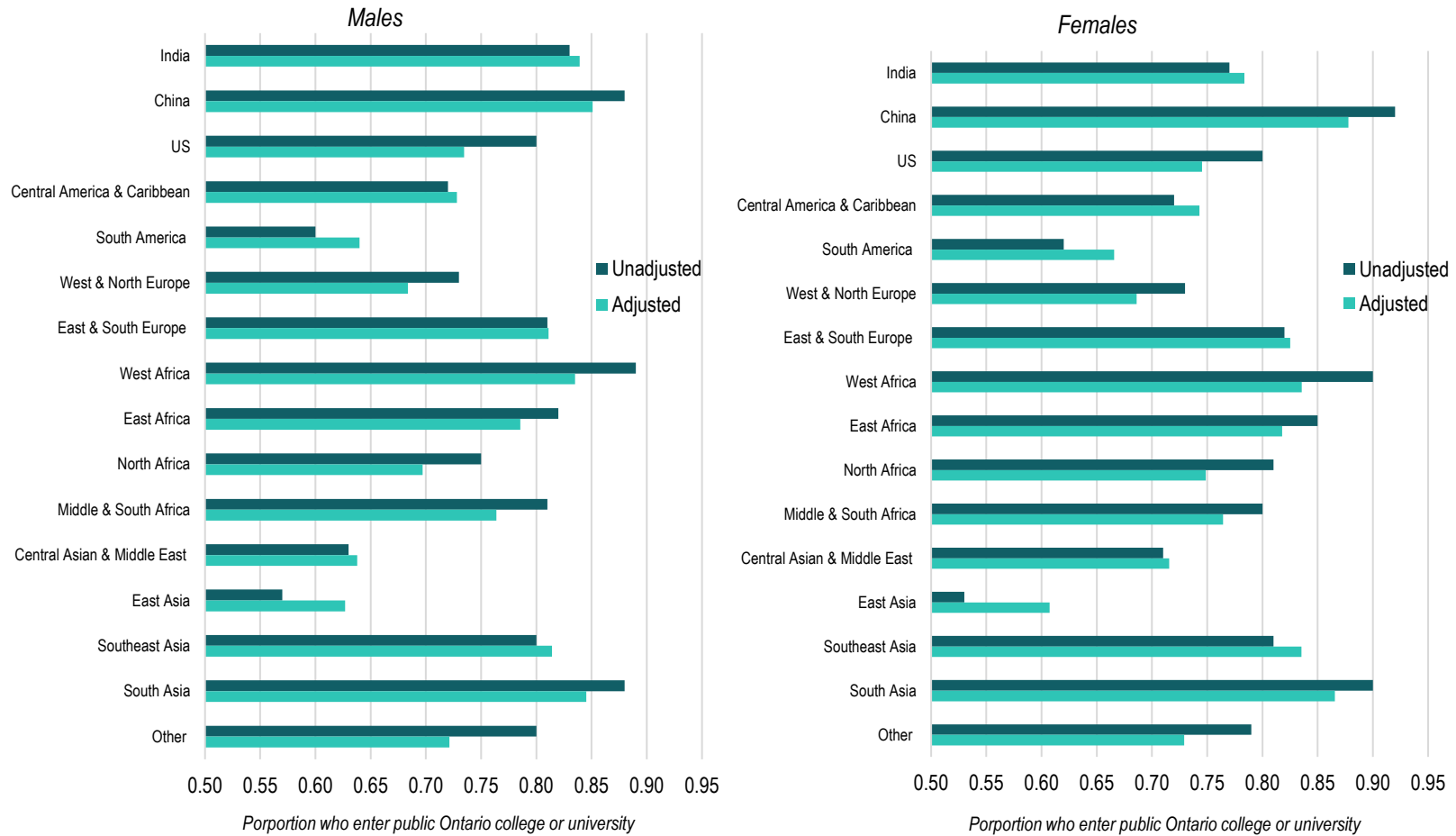


Figure 6 illustrates how entry to public Ontario colleges and universities differed by international students’ region/country of citizenship with the results separated for males and females. Across all years, 80 per cent of males and 78 per cent of females issued an Ontario study permit were present in the PSIS data and therefore made the transition to a public university or college in Ontario. In terms of differences by region/country, both males and females from West Africa, China, and South Asia were the most likely to enter a public Ontario college or university, while males and females from South America and East Asia were the least likely to do so.

In terms of differences between male and female international students, both the adjusted and unadjusted results showed that males from India were 6 percentage points more likely to attend a public Ontario college or university compared to females from India—a gap that was similar to males and females from North Africa. In contrast, females from Central Asia and the Middle East were 8 unadjusted and adjusted percentage points more likely to attend a public institution compared to males. In most other cases, there was little to no differences among males and females by region/country across all years.

In terms of change over time, there was a modest overall increase in the proportion of permit holders who entered the public Ontario system. The transition rate was highest (83 per cent) for students first issued Ontario permits in 2015 and lowest (75 per cent) for those issued permits in 2012. For the 2020 cohort, transition rates decreased slightly, but it may increase as additional years of PSIS data become available in the future, which would capture students who delayed their entry to the public system due to the COVID-19 pandemic.

**Figure 6** Entry to public Ontario PSE by region/country of citizenship and males/females



In terms of variation across years, Figure 7 shows the adjusted probability of entering a public Ontario college or university among males and females by region/country of citizenship. Across most years, the results showed that most groups of males had similar, and in some cohort years slightly higher, rates of entering a public Ontario university or college compared to females; however, this difference was never larger than a few percentage points. In terms of notable change by citizenship group, both males and females from South American countries were more likely to transition to the public system in more recent years. There was also an increase among students from East Asia, with the adjusted rate of increase being larger for males than females.

**Figure 7 Entry to public Ontario PSE over time by region and males/females, adjusted results**

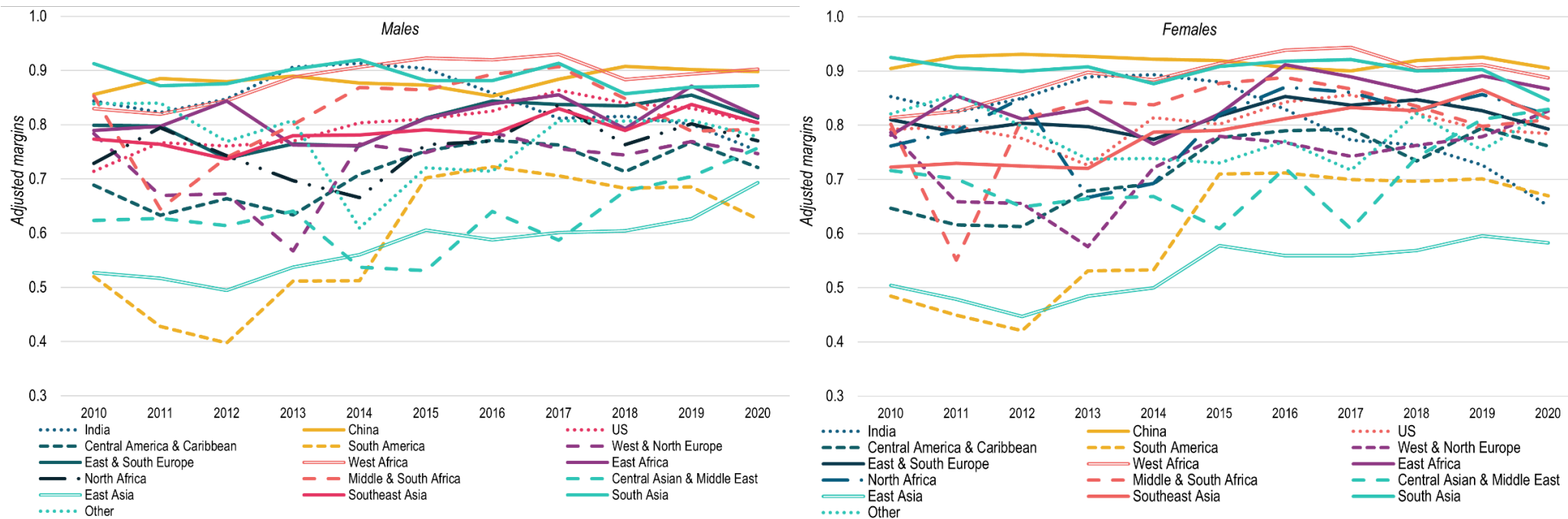
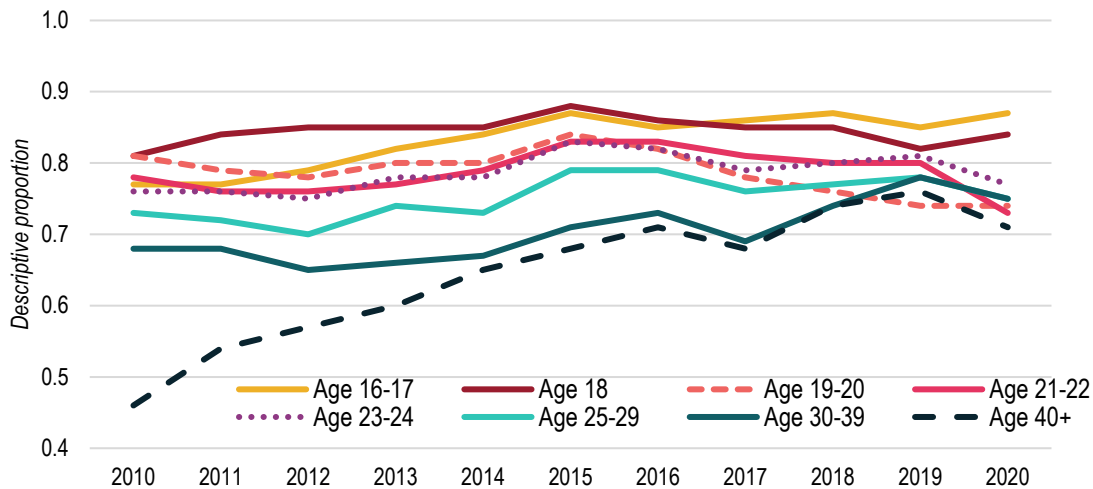




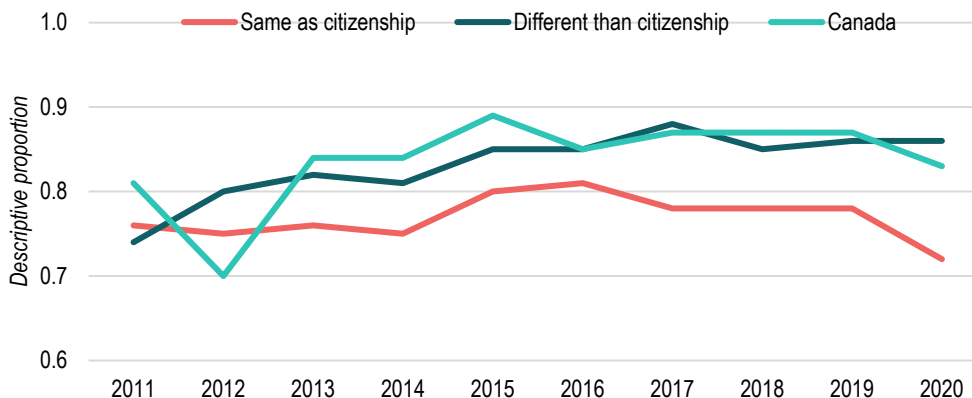
Figure 8 presents how entry to public PSE differed by the age of the study permit applicant. Both the descriptive and regression results found that, compared to people aged 18 or younger, students who were older were less likely to attend a public Ontario institution across most years. In earlier years (i.e., 2010-13), those aged 40 or older when applying for their permit were much less likely to attend public PSE, although this difference reduced and even became statistically nonsignificant in 2018 and 2019 (at the 95 per cent confidence level) compared to those aged 18.

**Figure 8 Entry to public Ontario PSE by age, descriptive results**



Entry to the public Ontario system also varied by the location of applicants when they made a study permit application, as illustrated in Figure 9. Both the descriptive and regression results showed that, compared to those who applied from their country of citizenship, individuals applying from within Canada or a different country (other than where they held citizenship) were more likely to attend a public institution across most years. More recently, those applying from Canada (or a country that differed from where they held citizenship) were several percentage points more likely to enter a public institution compared to those applying from their country of citizenship.

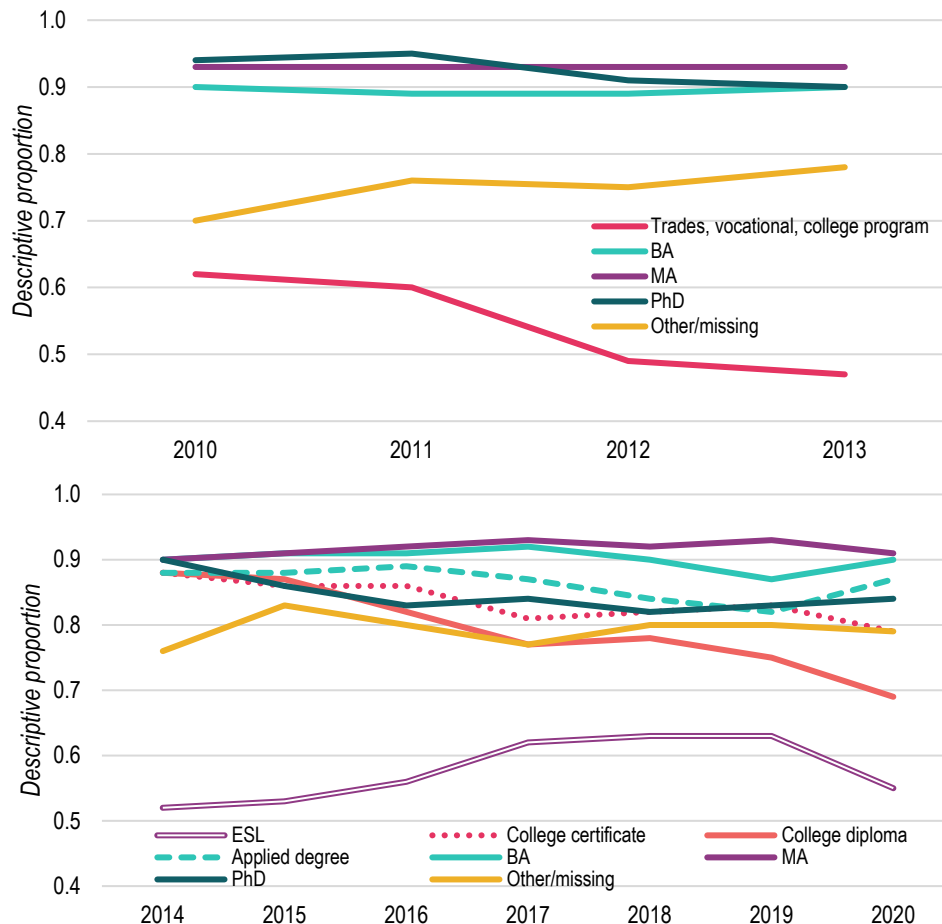
**Figure 9 Entry to public Ontario PSE by application location, descriptive results**



Each study permit application includes the intended level of study. Prior to 2014, this information was consolidated into five categories. In later years, it expanded to nine categories that better differentiate between college and university programs. These changes make comparison over time less straightforward, especially as the “trades, vocational, college program” category was one of the largest from 2010-13 but became less frequently used after 2014. Nonetheless, the increased number of categories provides more detailed information on who entered a public institution by their intended credential level of study.

Figure 10 illustrates entry to public institutions by the credential level stated in a study permit, with those issued permits from 2010-13 at the top and those issued permits from 2014-20 at the bottom. Both the descriptive and regression results showed that, from 2010-13, people issued permits to study in “other” or trades, vocational, college programs were less likely to transition to a public institution compared to people issued permits for BA programs. In comparison, people with MA or PhD permits tended to be slightly more likely to attend a public college or university across most years compared to those issued a BA permit.

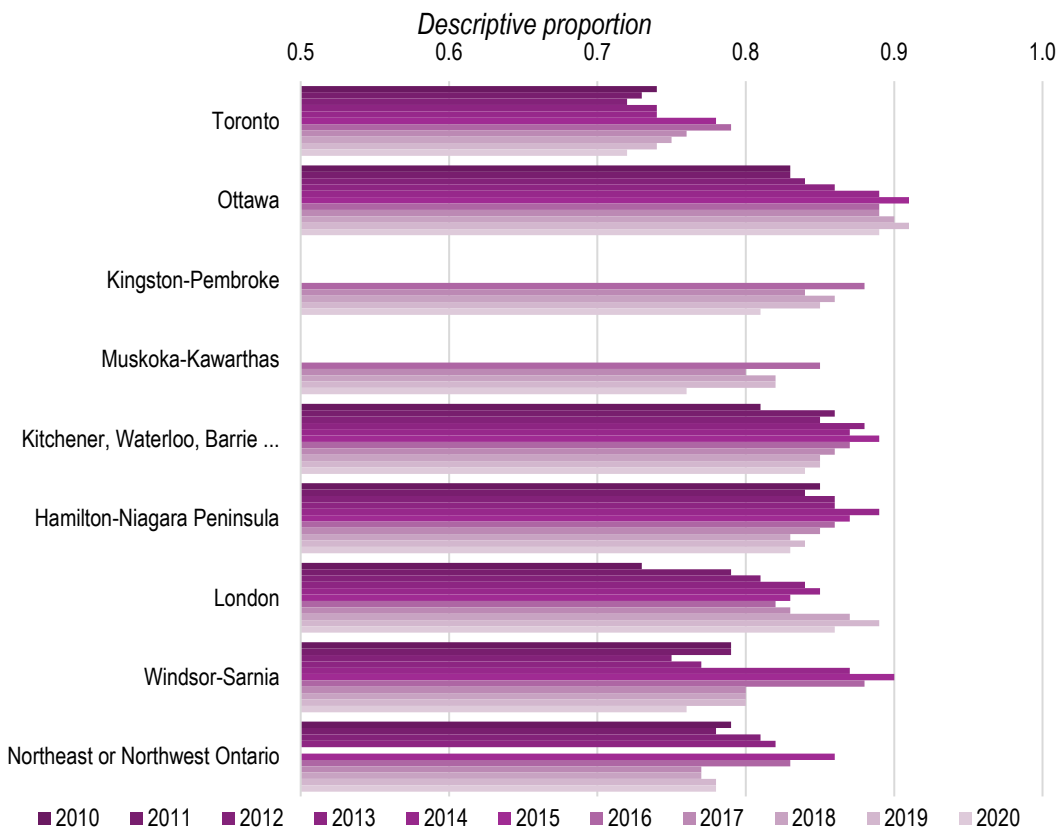
**Figure 10 Entry to public Ontario PSE by study permit level, descriptive results**



For permits issued in 2014 or later, the descriptive and regression results generally found that students issued ESL and college-level permits were less likely to attend a public institution compared to people issued a study permit at the BA level. For example, in 2020, people issued college diploma permits were an adjusted 9 percentage points less likely to attend a public institution compared to those issued a BA permit, while those issued an ESL study permit were an adjusted 26 percentage points less likely. There was no statistically significant difference between those issued applied or regular BA permits across all years.

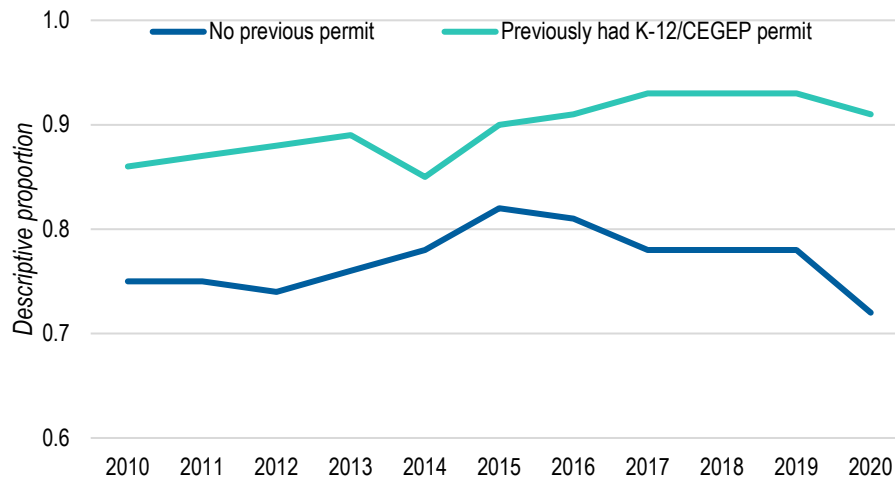
Each study permit also provides information on a student's intended region of study. The descriptive (illustrated in Figure 11) and regression results demonstrated that, across most years, students who planned to study in any region outside Toronto were more likely to attend a public institution. However, in certain years, permit holders planning to study in Muskoka-Kawarthas, Windsor-Sarnia, or North Ontario had either a non-significant difference with those planning to study in the Toronto region or a lower adjusted rate of attending a public Ontario college or university. In contrast, those intending to study in the Ottawa and London regions were typically the most likely to attend a public institution. Importantly, these differences are likely due to variation in the type of institutions in each region rather than a feature of the region itself.

**Figure 11 Entry to public Ontario PSE by declared study region, descriptive results**

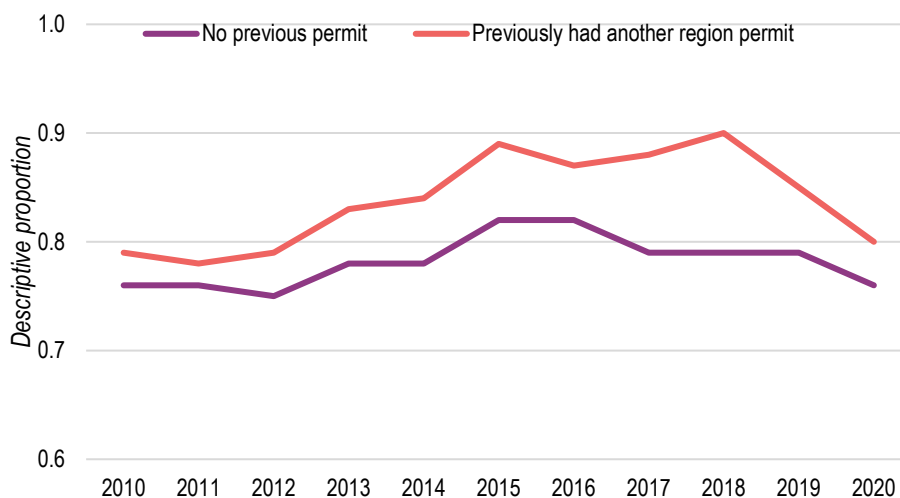


The results in Figures 12 and 13 show that Ontario study permit recipients were more likely to attend a public institution if they had previous experience studying in Canada, either in a primary, secondary, or CEGEP program or through holding a previous PSE study permit from another Canadian region. Over time, the difference between those with and without this type of experience grew larger. For those issued Ontario study permits in 2020, permit holders with a K-12/CEGEP permit were 19 percentage points (or 17 adjusted percentage points) more likely to attend a public college or university compared to those without this type of experience. Those who previously had studied in another Canadian region were 4 percentage points (or 5 adjusted percentage points) more likely to attend a public institution compared to people who were studying in Ontario as their first PSE study experience in Canada.

**Figure 12 Entry to public Ontario PSE by prior K-12 study experience, descriptive results**



**Figure 13 Entry to public Ontario PSE by prior PSE study experience, descriptive results**



## ENTRY CHARACTERISTICS OF PUBLIC PSE STUDENTS

### University or college entry

The next set of analyses examined how initial entry into Ontario colleges or universities varied by student characteristics and across cohorts. For people issued study permits between 2010-13 and who entered the public PSE system in Ontario, 50 per cent first attended a university with the remaining half first attending a college. Over time, college entry increased and university entry decreased. For people issued an Ontario study permit between 2014 and 2016, 39 per cent first entered a university and 61 per cent entered a college. Between 2017 and 2019, 32 per cent entered a university and 68 per cent entered a college.

Figure 14 presents both descriptive and regression adjusted results measuring the type of institution students first entered separated by both region/country of citizenship and males and females. For both the earliest (2011-13) and latest (2017-19) permit cohorts that were part of this analysis, only a small proportion of students from India first entered universities, as the majority went to Ontario colleges. For example, for the 2017-19 cohorts, 13 per cent of males and 10 per cent of females entered universities. In contrast, the majority of both male and female students from China, the US, West and North Europe, West Africa, North Africa, and “other” regions went to universities across both cohort groups.

In terms of differences between males and females, in most cases there were only minor differences in both the descriptive and regression adjusted results. In both sets of analyses, males from China, West and North Europe, and “other” regions were 5 to 6 percentage points less likely to enter a university and more likely to enter a college compared to females from these regions/countries. In contrast, males from Central America and the Caribbean, East Asia, and Southeast Asia were 5 to 6 percentage points more likely to enter a university compared to their female counterparts—although once a regression model controlled for other factors, this difference generally diminished to just a few percentage points.

There was variation by region/country of citizenship when examining change over time. While there was little change in the type of institutes male and female students from India, the US, West and North Europe, West Africa, North Africa, and “other” regions entered, most other regional groups were more likely to enter colleges if they were issued study permits in later years. For example, while 66 per cent of males and females issued study permits between 2011 and 2013 from Central Asia and the Middle East entered universities, this decreased to 53 per cent (males) and 49 per cent (females) for the 2017-19 cohorts. The only exceptions to this trend were male and female students from China, who were more likely to enter Ontario universities rather than colleges in recent years.

**Figure 14** Entry to university by region/country of citizenship and males/females, descriptive and adjusted results

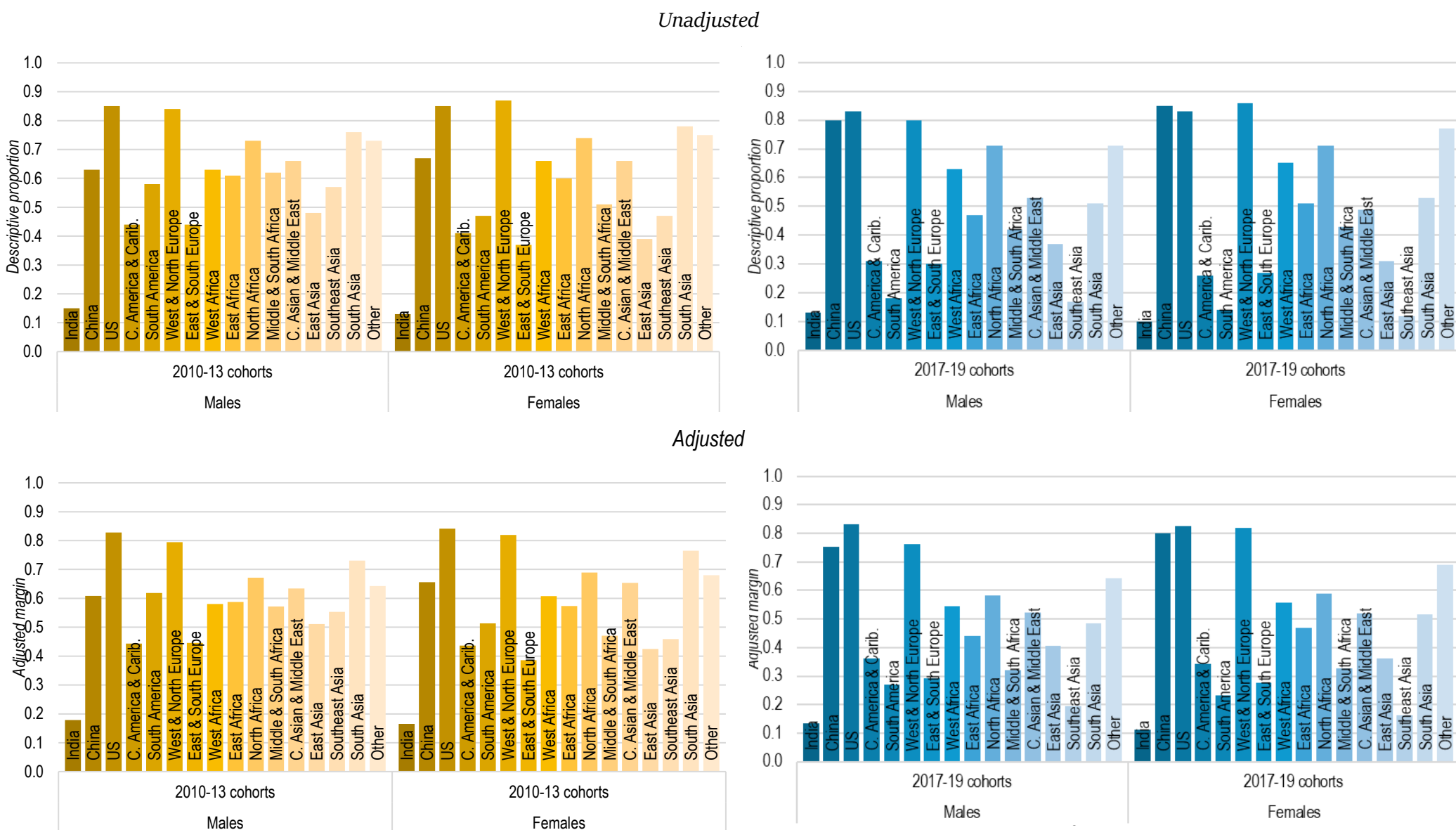
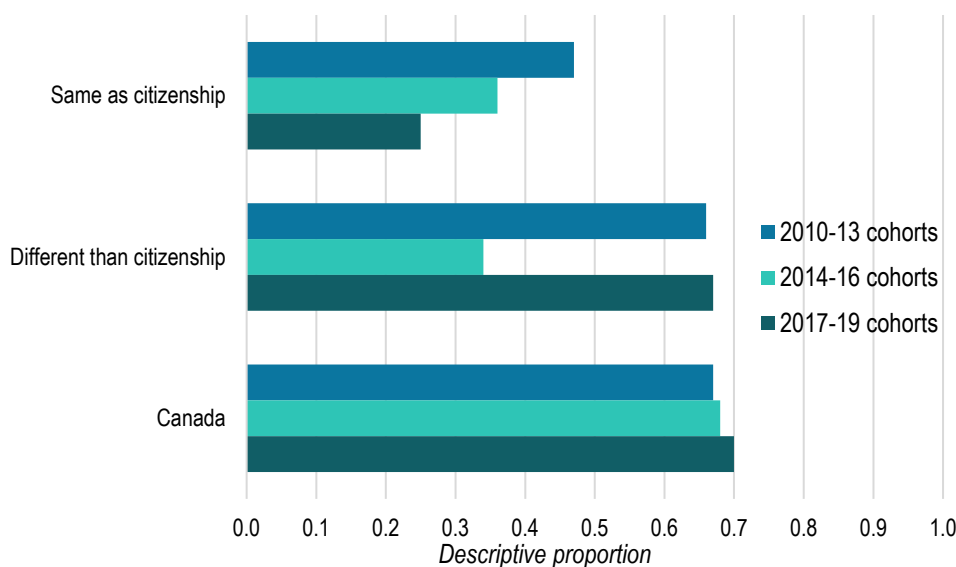


Figure 15 illustrates how entry to a university or college differed by a student's location when applying for a study permit. In the descriptive results, students applying from their country of citizenship were typically the least likely to enter Ontario universities; for example, for the 2017-19 cohorts, 25 per cent of students applying from their country of citizenship entered universities compared to 70 per cent of students applying from within Canada. This and other differences by location diminished when a regression model controlled for other variables, however (e.g., the latter result reduced from an unadjusted 45-percentage point gap to an adjusted 8 percentage point gap). Nevertheless, in the final regression model, students applying from within Canada or a country that differed from their country of citizenship were still more likely to enter a university compared to those applying from their country of citizenship across all years.

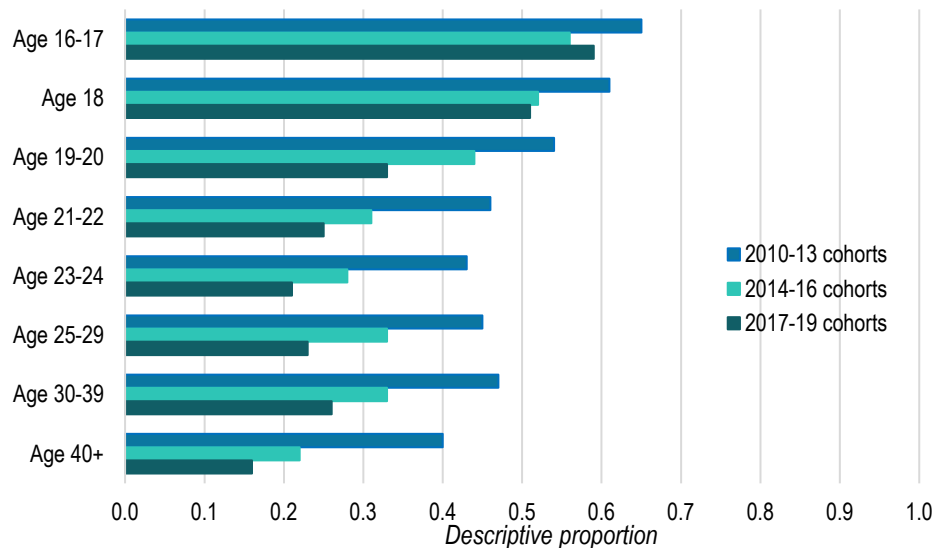
**Figure 15 Entry to university by location when applying for study permit, descriptive results**



Both the descriptive (see Figure 16) and regression results showed that the rate of entry to Ontario universities decreased by age as older international students were more likely to enter an Ontario college instead. International students who were aged 16 to 18 when they obtained their first study permit were the most likely to enter a university, while those who were aged 40 or older were the least likely. This age-based trend increased over time. For example, for the 2011-13 cohorts there was a 21-percentage point gap (which increased to 28 adjusted percentage points in the regression analysis) for university entry. For the 2017-19 cohorts, this difference increased to a 35-percentage point difference (which was confirmed by the regression analysis). For the most recent cohorts, 51 per cent of international students who were aged 18 transitioned to universities compared to just 16 per cent of those aged 40 or older.



**Figure 16 Entry to university by age, descriptive results**



As expected, the credential level of a study permit was highly associated with initially attending a university or college, and therefore not included in this analysis as an explanatory variable. In particular, students with a study permit for an ESL, college-level, trades/vocational, applied degree, or “other” program were far less likely to first attend a university compared to those issued a BA, MA, or PhD permit.

Finally, this set of analyses also examined how the region of study listed in a study permit was associated with university or college entry (see Tables 5 and 6 in Appendix A). The results showed that, among students issued permits from 2010-13, those planning to study in the Toronto region were the least likely to enter a university (39 per cent) while those planning to study in the Kingston-Pembroke region were the most likely (89 per cent). While entry rates to universities decreased in every region over subsequent years, the decrease was largest in the Kingston-Pembroke and Muskoka-Kawarthas regions—a 44 to 47 percentage point difference between the 2010-13 and 2017-19 cohorts—and smallest in the Ottawa and Toronto regions—a 7 to 13 percentage point difference between the earliest and most recent cohorts.

### Credential level of entry

The next analyses examined the credential level students entered when they first attended a public college or university. Corresponding to the results above, entry into BA and graduate level programs decreased over time as certificate and diploma program entry increased:

- For people issued permits between 2010-13, 12 per cent entered “other,” 16 per cent entered certificate, 27 per cent entered diploma, 31 per cent entered BA, and 14 per cent entered graduate programs.

- For people issued permits between 2017-19, 6 per cent entered “other,” 27 per cent entered certificate, 37 per cent entered diploma, 20 per cent entered BA, and 10 per cent entered graduate programs.

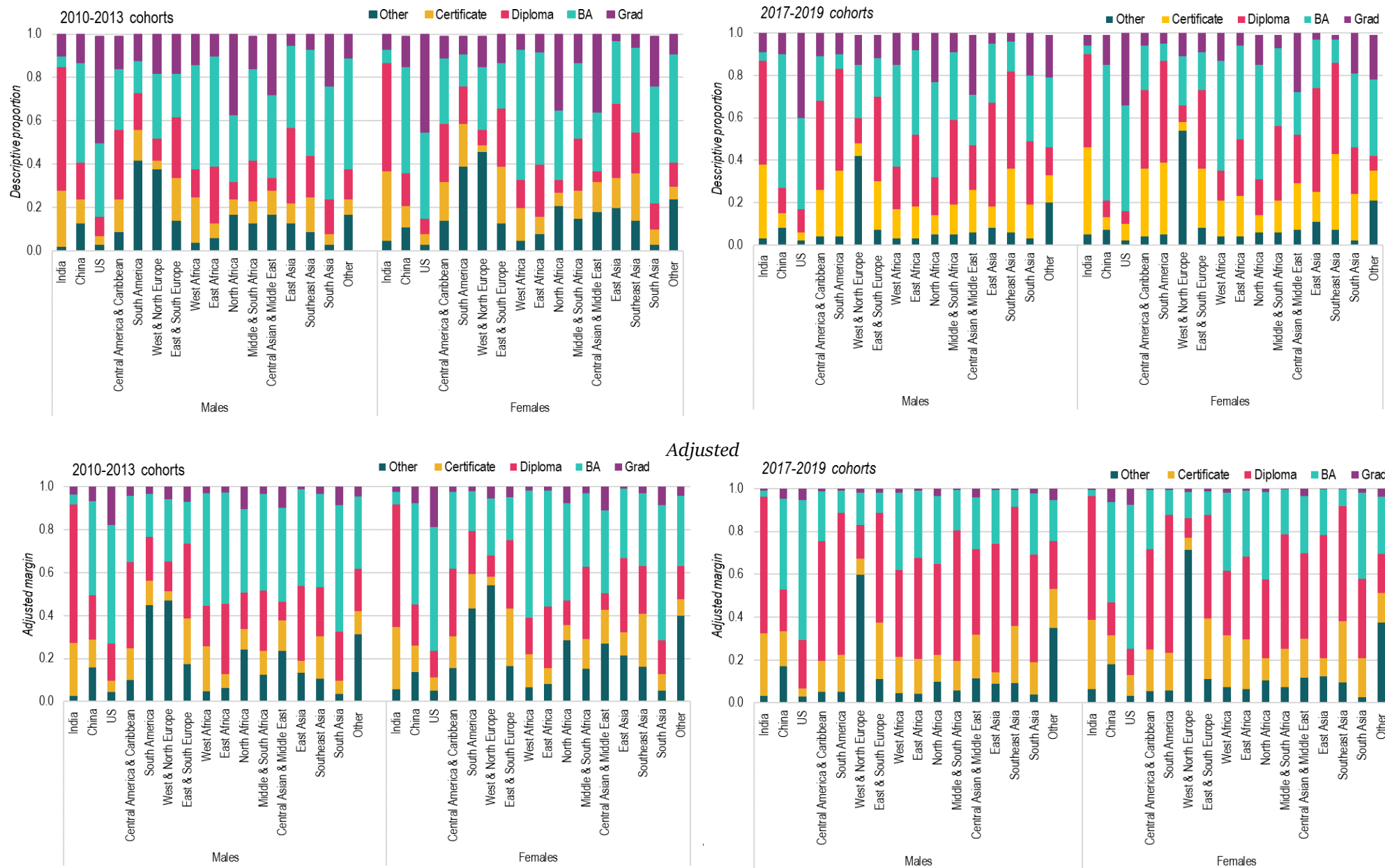
As shown in Figure 17, there were large variations in credential level of entry by region/country of citizenship for both males and females. Across both time periods, males and females from China, the US, North Africa, and West Africa were the most likely to enter BA or graduate-level programs (i.e., ~>60 per cent of these groups). In contrast, only 15 per cent of Indian males and 13 per cent of Indian females issued permits from 2010-13 first entered BA or graduate-level programs—rates that decreased to 13 per cent and 9 per cent respectively for the 2017-19 cohorts. Instead, both males and females from India were more likely to enter certificate and diploma programs. Both male and female students from South America and Southeast Asia followed a similar trend to Indian nationals—they were less likely to enter BA or graduate programs and more likely to enter certificate and diploma programs.

In the analysis of differences between males and females by country of citizenships, the regression-adjusted results showed that:

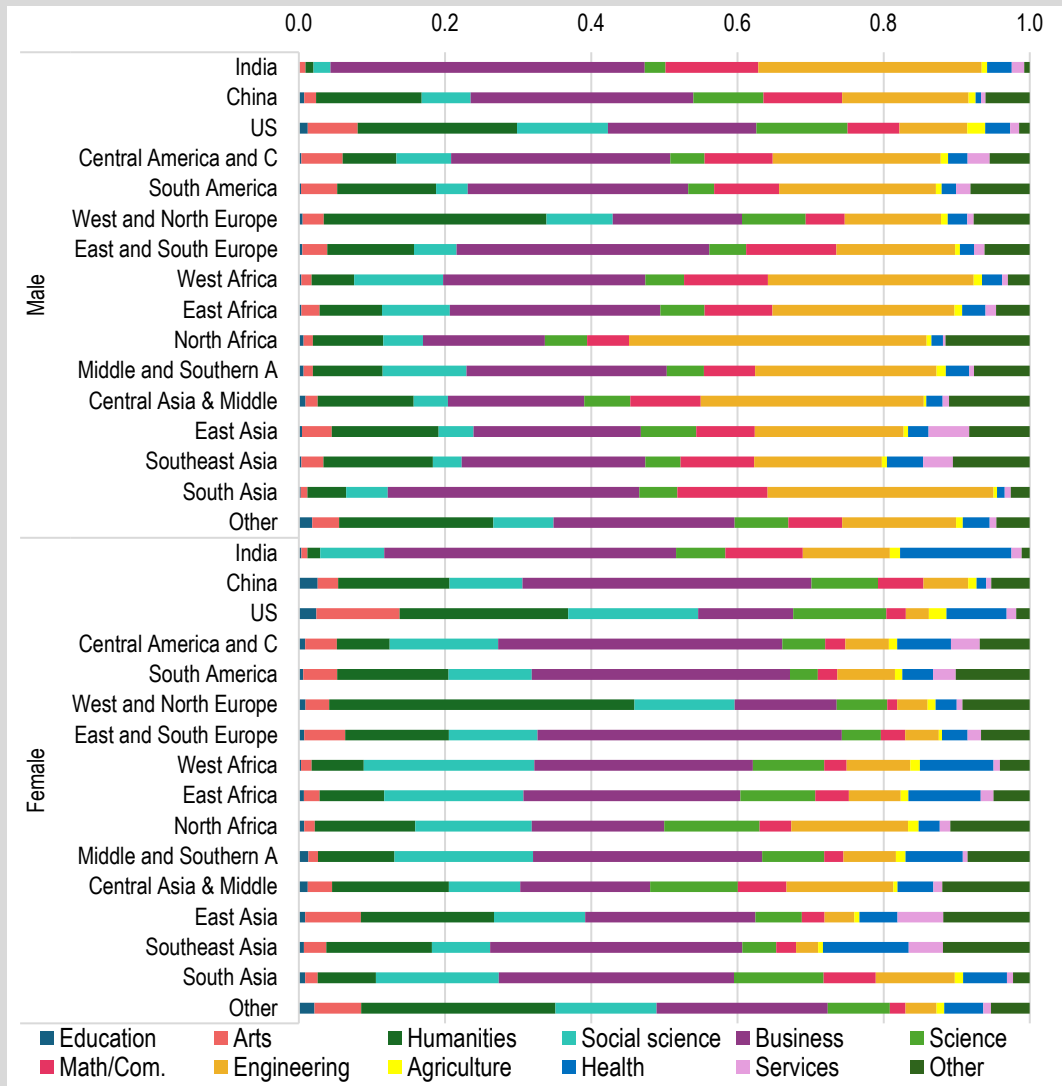
- **For certain groups, males were more likely to enter BA programs.** For those issued permits from 2010-13, East Asian males were 13 adjusted percentage points more likely to enter BA programs than East Asian females. Similarly, males from Southeast Asia were 10 adjusted percentage points more likely to enter BA programs than their female counterparts. This gap decreased to 4 adjusted percentage points for East Asian nationals and completely closed for Southeast Asian nationals issued permits between 2017-19.
- **For certain groups, females were more likely to enter BA programs.** For those issued permits from 2017-19, females from South Asia were 12 adjusted percentage points more likely to enter BA programs than males from South Asia. Similarly, females from North Africa were 9 adjusted percentage points more likely to enter BA programs than their male counterparts.
- **For certain groups, males were more likely to enter diploma programs.** For those issued permits from 2017-19, males from the US, Central America and the Caribbean, West and North Europe, West Africa, East Africa, Middle and South Africa, and South Asia were 7 to 12 adjusted percentage points more likely to enter diploma programs than females from these countries/regions.
- **For certain groups, females were more likely to enter certificate programs.** Females from the US, West Africa, and East Africa were 6 to 7 adjusted percentage points more likely to enter these programs compared to males from these regions.

**Figure 17** Credential level of entry by region/country of citizenship and males/females, descriptive and adjusted results

*Unadjusted*



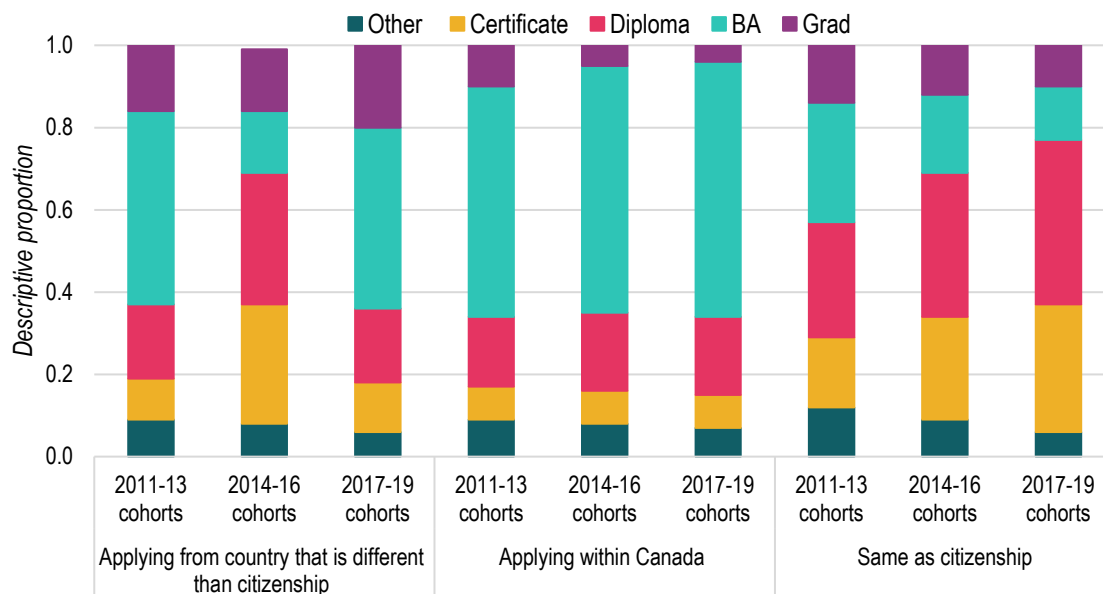
**Figure 18** Variation in field of study of entry (2010-19), descriptive results



While full analysis of the field of study of entry was not part of this study, we did find there was a high level of variation for males and females by region/country of citizenship. Across most regional groups, males were more likely to enter engineering. For example, 31 per cent of males from India entered engineering fields compared to 12 per cent of females from India. In contrast, 15 per cent of females from India entered health fields compared to 3 per cent of males from India. In other fields, there was sometimes a higher percentage of males or females or no major difference. For example, females from Central America and the Caribbean were 9 percentage points more likely to enter business programs compared to males from this region, while the reverse was true for people from China where males were 9 percentage points more likely to enter business fields than females from China.

As the descriptive results in Figure 19 illustrate and the regression results confirm, the location of a person when they applied for their study permit was associated with credential level of entry. Across all three time periods, students applying from within Canada were more likely to enter BA programs compared to those applying from their country of citizenship. People applying abroad from a country that was different from their country of citizenship were more likely to enter graduate programs (e.g., 8 adjusted percentage points between 2017 and 2019) than those applying from their country of citizenship.

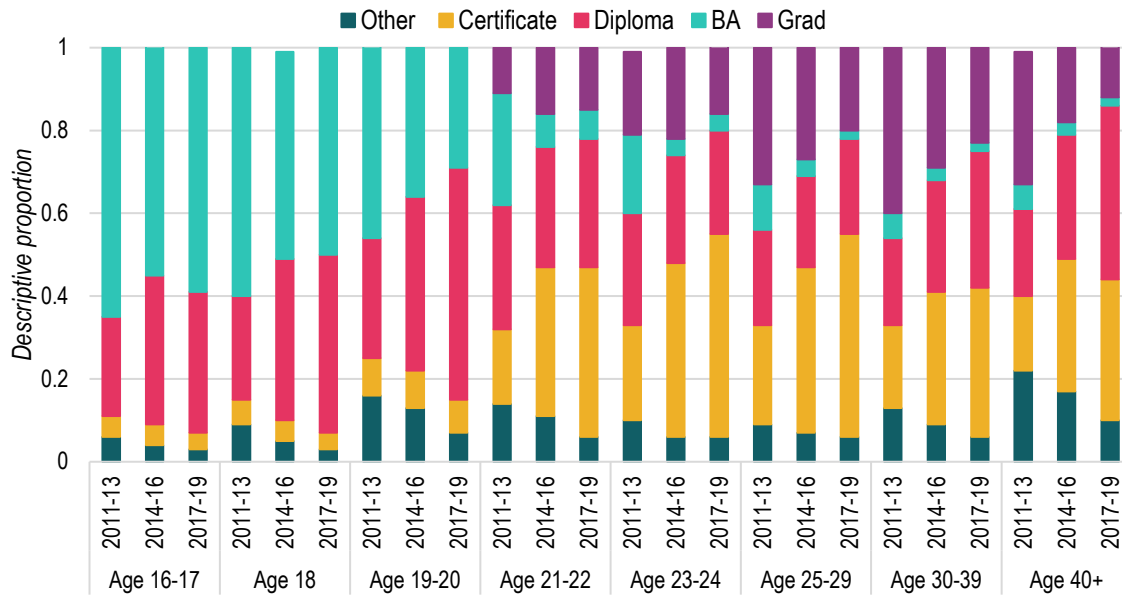
**Figure 19 Program of entry by location when applying for study permit, descriptive results**



There were also sizable differences by age of a study permit applicant, as shown in Figure 20. The results showed that, given the general requirement for previous postsecondary credentials, students aged 21 or older were more likely to enter graduate programs compared to those aged 20 or younger. Graduate program entry was typically highest for international students aged 30 to 39.

In contrast, BA program entry decreased and certificate program entry increased with age. For example, students aged 25 to 29 who received Ontario study permits from 2017 to 2019 were 41 adjusted percentage points more likely to enter certificate programs and 35 adjusted percentage points less likely to enter BA programs compared to people aged 18 in the final regression analysis. The results also indicated that students aged 18 to 20 had the highest rates of entering diploma programs. For example, students aged 25 to 29 who received study permits from 2017 to 2019 were 35 adjusted percentage points less likely to enter diploma programs compared to people aged 18 in the final regression analysis.

**Figure 20 Program of entry by age, descriptive results**



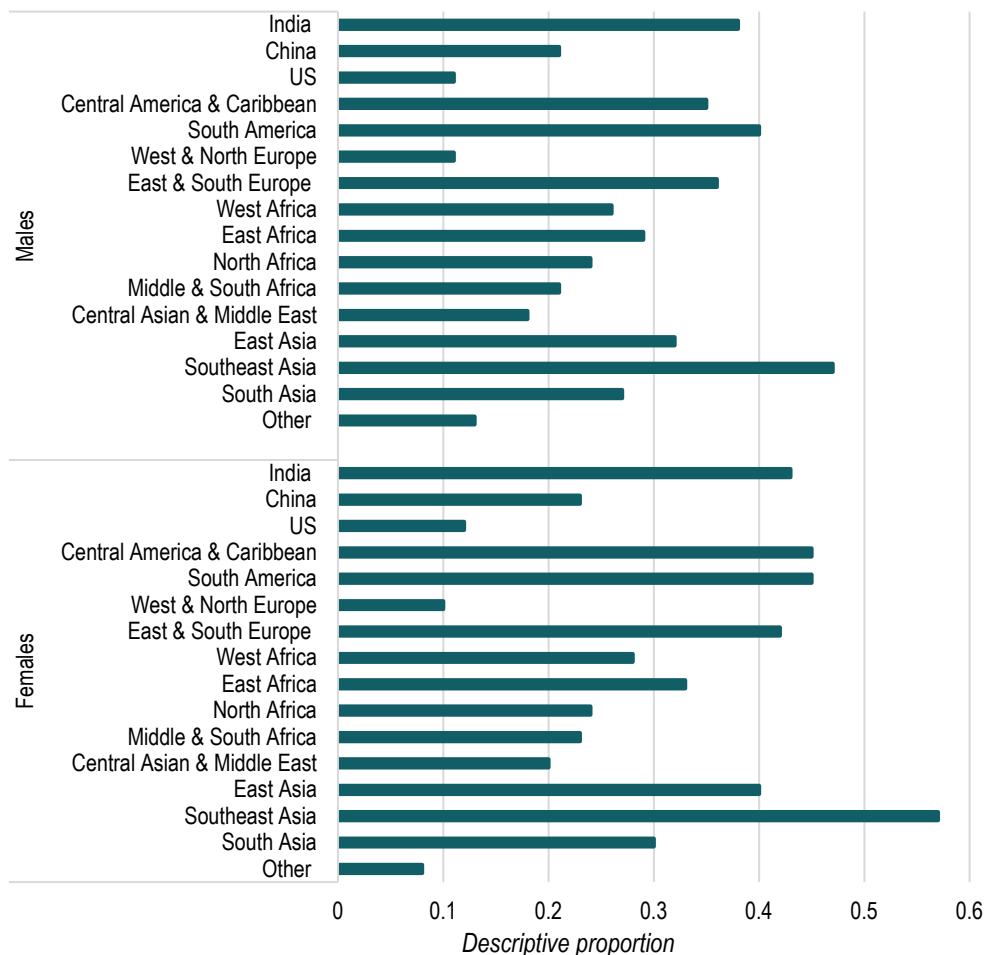
Finally, the analysis also examined how credential level of entry varied by the region of study listed on a student's study permit (see Tables 7-12 in Appendix A). Overall, there was sizable variation in program of entry by region across all three time periods in both the unadjusted and adjusted results. For example, for the most recent cohorts: graduate program entry was highest in the Ottawa and Windsor-Sarnia regions; BA program entry was highest in the Ottawa and Hamilton-Niagara Peninsula regions; diploma program entry was highest in the Toronto and Northern Ontario regions; certificate program entry was highest in the Muskoka-Kawarthas and London regions; and "other" program entry was highest in the Kingston-Pembroke and Northern Ontario regions. As noted above, these results are likely driven by the type of institutions present in each region.

## CO-OP WORK PERMIT EXPERIENCE OF PUBLIC PSE STUDENTS

In 2014, the IMDB began to identify students who received a co-op specific work permit. Using this information, the following analyses examined which observed characteristics were associated with being more likely to apply and receive this type of work permit within four years of being issued a study permit and entering the public Ontario PSE system. Among students who entered between 2014 and 2018, 34 per cent received a co-op permit, with the rate increasing from 25 per cent for the 2014 cohort to 37 per cent for the 2018 cohort.

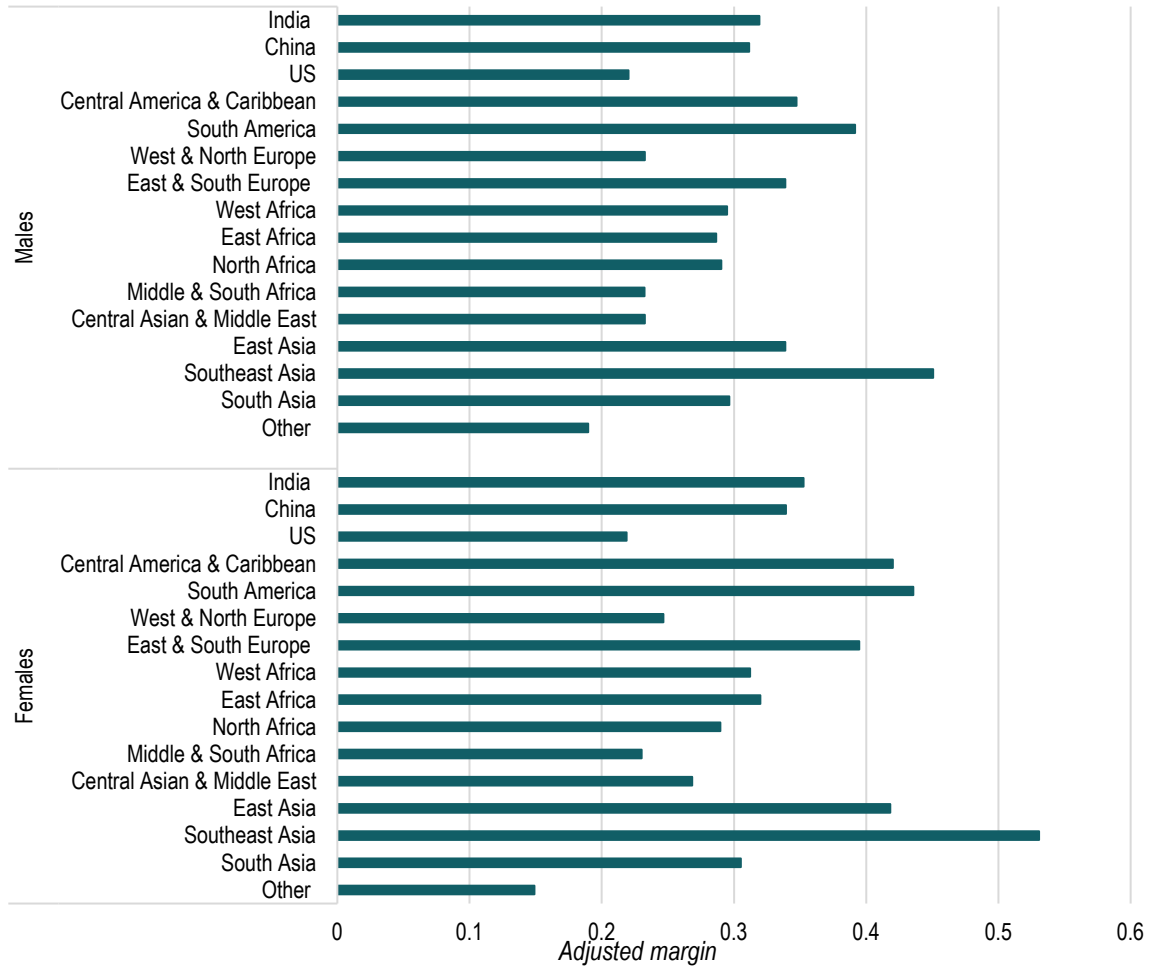
Figures 21 and 22 present the unadjusted and adjusted results examining how receiving a co-op work permit differed for males and females by their region/country of citizenship. In both sets of analyses, there was notable variation in which international students were more or less likely to receive this type of work permit, as well as between males and females.

**Figure 21 Co-op work permit by region/country of citizenship and male/female, descriptive results**





**Figure 22 Co-op work permit by region/country of citizenship and male/female, adjusted results**



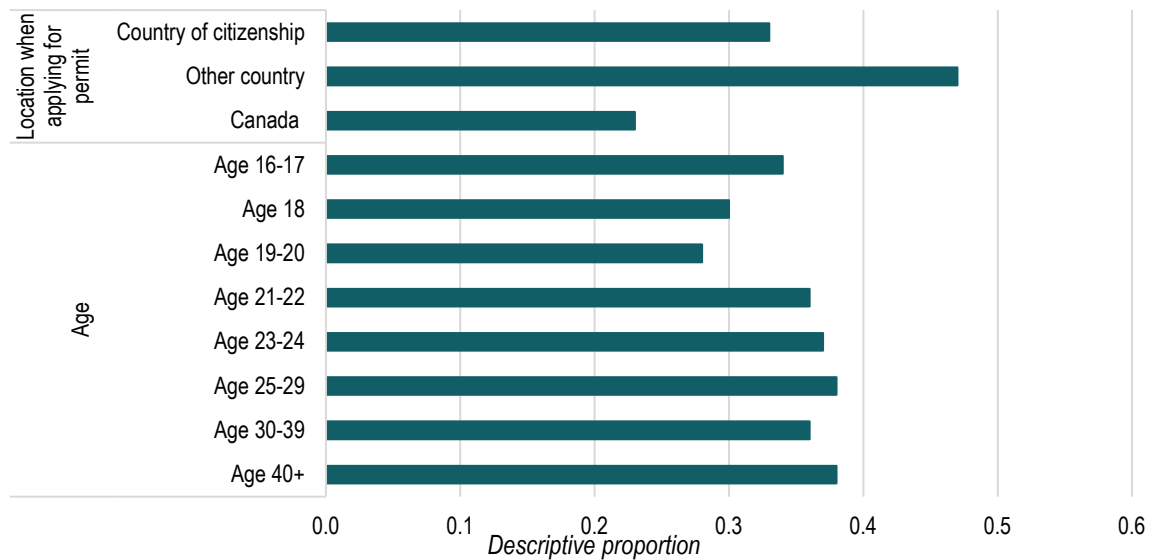
In terms of variation by region/country of citizenship, both males and females from Southeast Asia were the most likely to receive a co-op study permit (47 per cent of males and 57 per cent of females), while those from the US (11 per cent of males and 12 per cent of females) and “other” regions (13 per cent of males and 8 per cent of female) were the least likely.

Overall, 35 per cent of females and 32 per cent of males received a co-op work permit within the period under study; however, this male-female difference varied by region/country of citizenship. For example, females from India, South America, East and South Europe, East Asia, and Southeast Asia were 5 to 10 percentage points more likely to hold this permit compared to their male counterparts.

Figure 23 shows how the rate of receiving a co-op work permit varied by a student’s location when they applied for a study permit, as well as by their age. It shows that students who applied abroad from a country that differed from their country of citizenship were the most likely to hold

a co-op work permit, while those who applied from within Canada were the least likely, results that were confirmed by the regression analysis.

**Figure 23 Co-op work permit by location of study permit application and age, descriptive results**



While there was some age group variation in terms of who was more or less likely to receive a co-op work permit (see Figure 23), these differences typically reduced in the regression-adjusted results. For example, while international students aged 40 or older were 8 percentage points more likely to receive a co-op permit compared to those aged 18 in the descriptive analysis, there was no statistically significant difference between these two age groups in the final regression analysis.

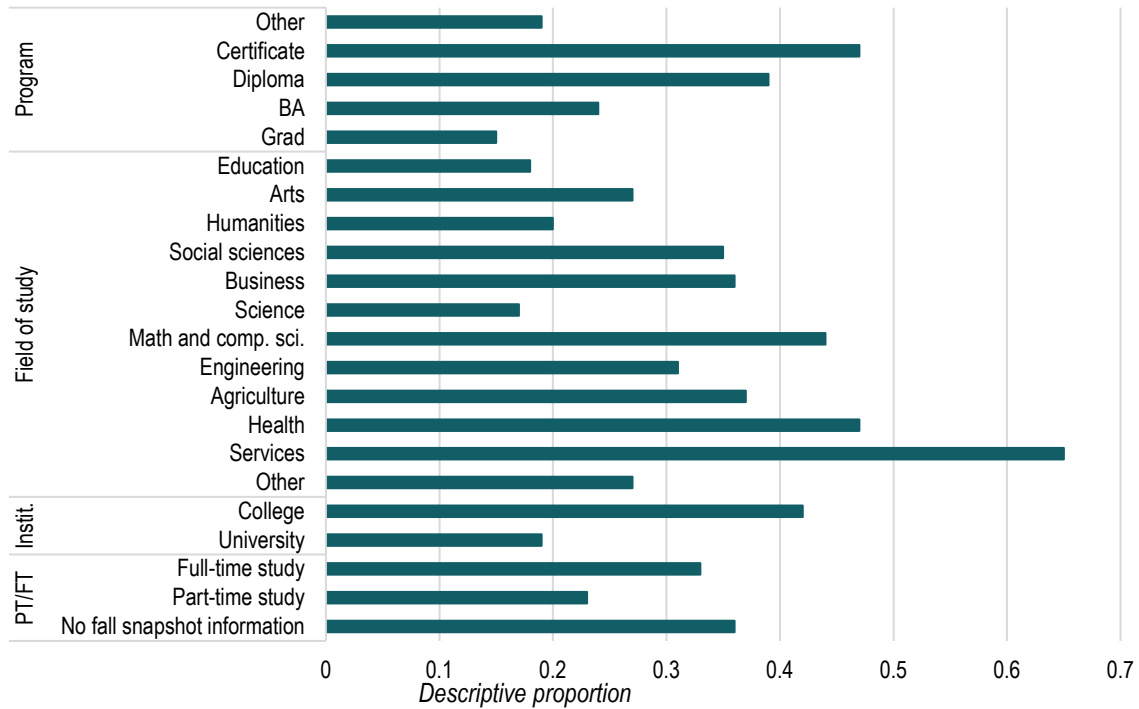
The regression results found larger differences by entry program characteristics. As shown in Figure 24, students who entered certificate programs had the highest rate (47 per cent) of receiving a co-op work permit, while students in graduate programs had the lowest rate (15 per cent). Once a model controlled for other student and program factors, program-level differences reduced considerably, although many remained statistically significant.

There was also variation by field of study, with those who entered service (65 per cent) and health (47 per cent) fields being the most likely to have received this type of work permit in the descriptive results. In contrast, those who entered science (17 per cent), education (18 per cent), and humanities (20 per cent) fields were the least likely.

There was also variation by the type of institution at entry. Overall, 42 per cent of students who entered a college program obtained a co-op work permit compared to 19 per cent of students

who entered a university. This 23 unadjusted percentage point gap reduced only slightly to 21 adjusted percentage points in the final regression analysis.

**Figure 24 Co-op work permit by program characteristics at entry, descriptive results**



Finally, international students who first entered a program part time (23 per cent) were less likely to obtain a co-op permit compared to those who entered a program full time (33 per cent), although in the final regression analysis this 10-percentage point gap reduced by half to approximately 5 adjusted percentage points.

## GRADUATION OUTCOMES OF PUBLIC PSE STUDENTS

To measure graduation outcomes, separate models examined which observed characteristics were associated with having graduated, remaining enrolled, or leaving (without graduation) four, five, six, and seven years after initial entry to a public Ontario college and university. While results across all four years are available in Appendix A, this section presents only the four- and seven-year results to showcase the differences arising when shorter time horizons are used relative to longer-term ones.

This study does not capture international students' intentions upon entering the public postsecondary system. As a result, we cannot distinguish between those who planned to complete a full program and earn a Canadian credential and those who intended only a short-term study abroad experience. These differing intentions may influence both graduation rates and the proportion of students likely to enter the Canadian labour market and remain in the country.

Although data on the overall share of exchange students within the international student population are not available, institutional statistics provide some insight. For example, the University of Toronto reports hosting approximately 600 exchange students and 29,500 international students annually; the University of Ottawa reports 205 exchange students and 10,600 international students; and the University of Waterloo reports 140 exchange students and 8,600 international students. Based on these figures, it is reasonable to assume that exchange students make up a small portion of the international student population—between 1.6 and 2 per cent—and are therefore unlikely to significantly affect the overall graduation rate.

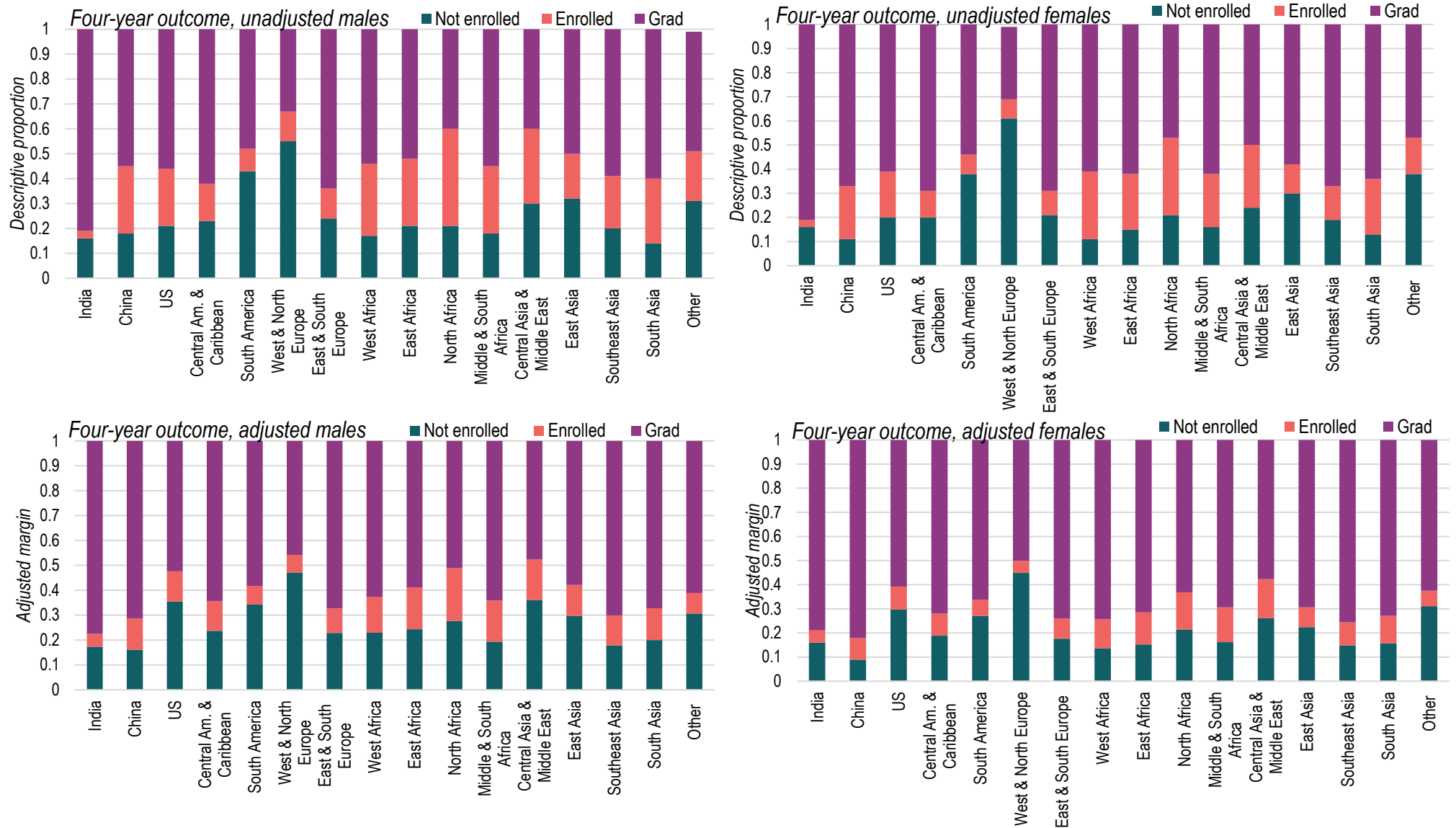
Overall, 65 per cent of international students graduated within four years of entering a public Ontario college or university, a rate that increased to 76 per cent after seven years. After seven years have passed from entry, 22 per cent of international students were non-completers and 2 per cent remained enrolled in the public PSE system. Importantly, an unknown portion of non-completing students could have been enrolled in short-term study abroad programs where the expectations focus on the study experience rather than the achievement of a credential. After study abroad students left Canada, they may have earned a credential in their home or another country in a program that recognized their Ontario credits and experience.

Figure 25 shows how four-year outcomes varied by region/country of citizenship separately for males and females, while Figure 26 presents the corresponding seven-year outcomes. Within four years of entry, 81 per cent of males and females from India had graduated from a public institution within Canada—the groups with the highest completion rate. In contrast only 33 per cent of male students and 30 per cent of female students from West and North Europe were completers in Canada. These two regional groups were also among the most and least likely to be observed as graduating by year seven. By year seven, graduation rates were also high among

males and females from China (78 and 86 per cent, respectively), Middle and Southern Africa (78 and 76 per cent), and South Asia (81 and 82 per cent). In contrast, year seven completion rates were lower among male and female students from South America (48 and 54 per cent) and East Asia (60 and 65 per cent).

Across all international students, female students were slightly more likely to graduate within four and seven years (a 3 unadjusted and a 5-6 adjusted percentage point difference). However, there was variation between males and females by region/country of citizenship. There was no unadjusted male-female difference for those from India when examining both four-year outcomes (and only a 1 percentage point difference in favour of females when examining seven-year outcomes). In contrast, seven years after entering, females from China (8 unadjusted and 7 adjusted percentage points), South America (6 unadjusted and 9 adjusted percentage points), East Africa (7 unadjusted and 8 adjusted percentage points), Central Asia and the Middle East (6 unadjusted and 7 adjusted percentage points), and East Asia (5 unadjusted and 9 adjusted percentage points) were more likely to graduate than males from these corresponding regions/countries.

**Figure 25 Four-year graduation outcomes by region/country of citizenship and males/females, descriptive and adjusted results**



**Figure 26** Seven-year graduation outcomes by region/country of citizenship and males/females, descriptive and adjusted results

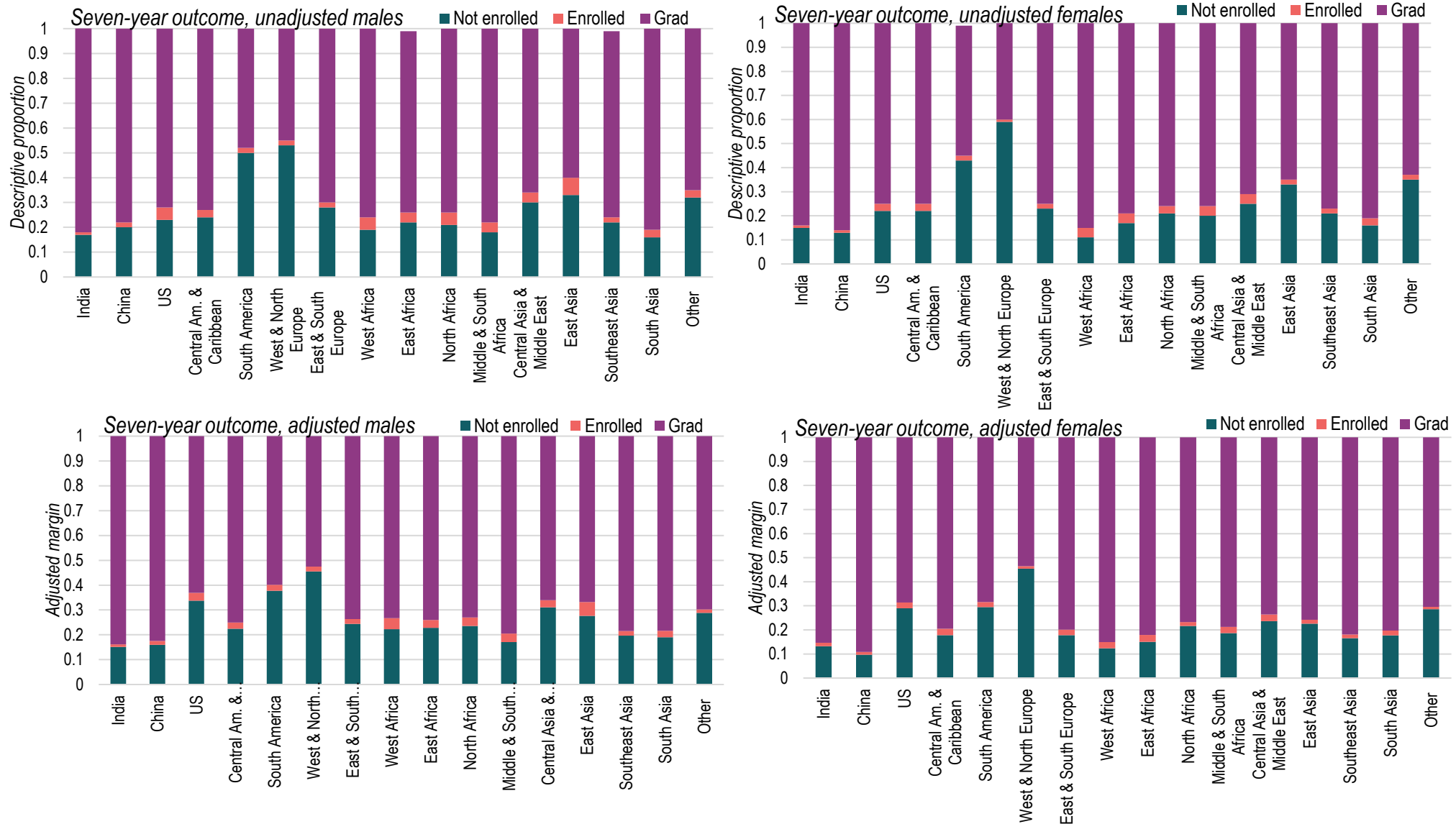
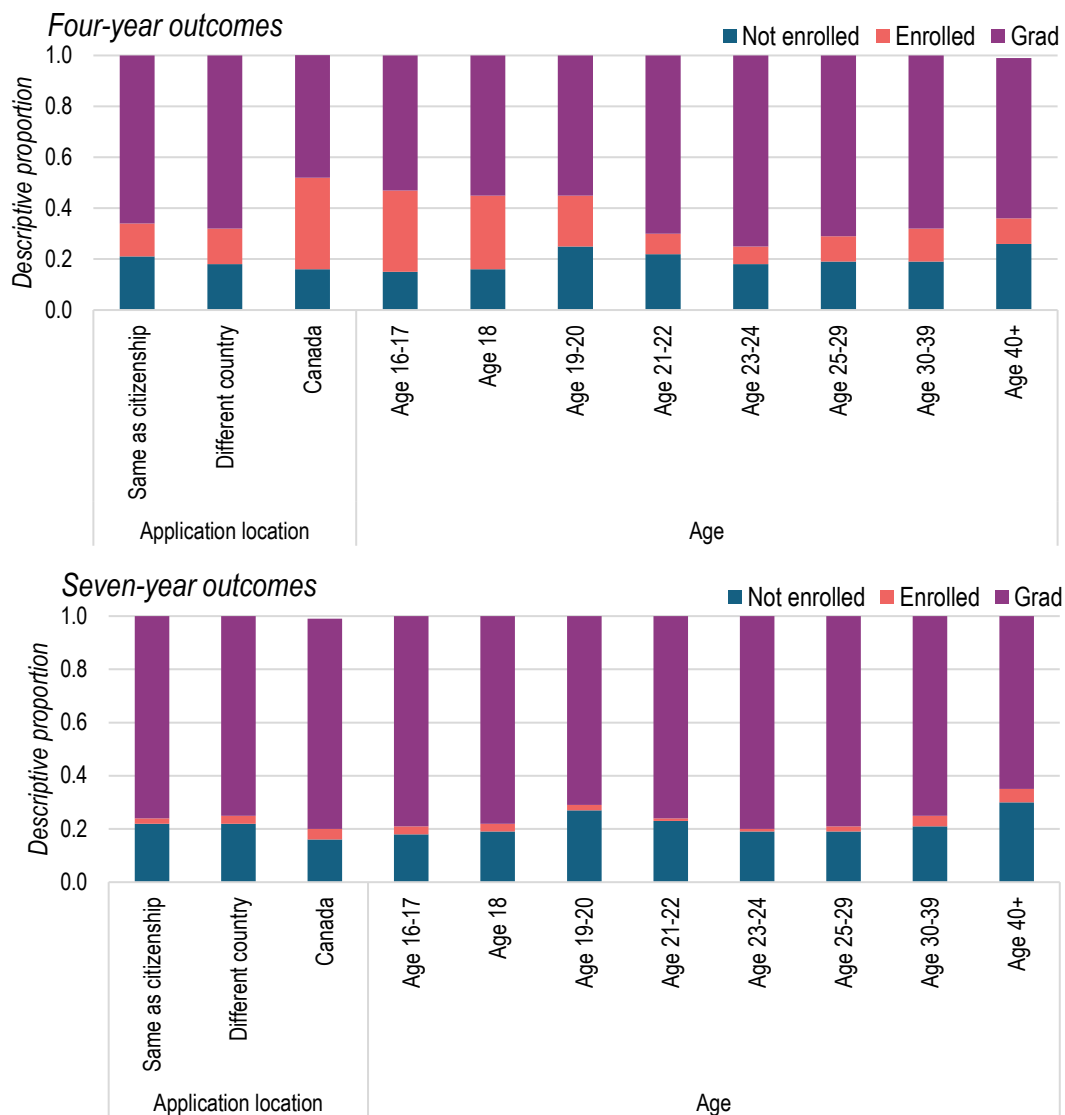


Figure 27 presents four- and seven-year graduation outcomes by application location and age group. Overall, many of the group differences present in the year four analysis reduce and/or are no longer statistically significant in the seven-year analysis. For example, students who applied for their study permit from within Canada were 17 unadjusted and 7 adjusted percentage points less likely to be graduates after four years compared to those who applied from their country of citizenship. However, by year seven, those who applied from within Canada were 3 unadjusted and 1 adjusted percentage points *more* likely to graduate.

**Figure 27 Graduation outcomes by application location and age, descriptive results**



After four years, students who were aged 21 to 39 were 13 to 20 (depending on the group) unadjusted percentage points more likely to be graduates than those aged 18; however, by year



seven, there was little to no statistically significant difference in graduation rates—although students aged 40 or older were 13 unadjusted and 5 adjusted percentage points less likely to be graduates in the final regression analysis.

Several school and program characteristics were also associated with graduation four and seven years after entry, as shown in Figure 28. After four years, graduation rates were lower among students who entered BA programs (49 per cent)—an expected result given that these programs are typically longer than certificate, diploma, and Master’s programs. BA completion rates increased to 81 per cent after seven years, which was higher than graduation rates for students who entered certificate (79 per cent) and diploma (77 per cent) programs. These differences increased in the final regression analysis where students who entered certificate programs were 10 adjusted percentage points (and those who entered diploma programs were 17 adjusted percentage points) less likely to be graduates than students who entered BA programs. A smaller portion of students who entered “other” programs graduated (41 unadjusted per cent), while a larger portion of students who entered graduate programs completed their studies from within Canada (91 unadjusted per cent). It is possible that these “other” programs tend to be shorter, non-traditional PSE programs such as ESL courses, micro-credentials, and others, which may not have a structure that makes a graduate analysis relevant (i.e., they may be a combination of courses not leading to a credential, they may grant course specific digital badges or other unreported recognition) thereby underestimating the number of students who complete these programs successfully.

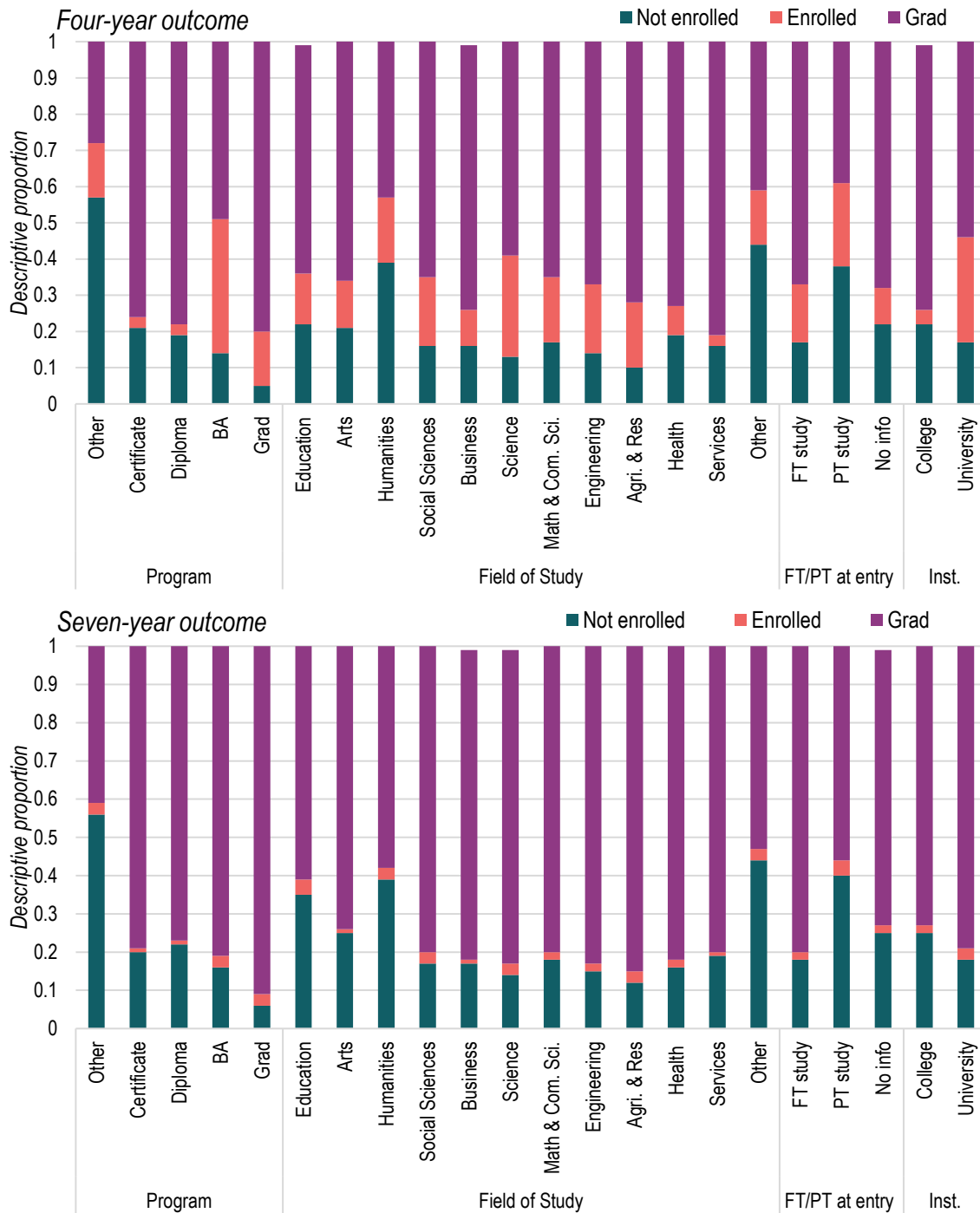
The results in Figure 28 also show variation in graduation rates by field of study at entry. After four years, 81 per cent of students in service fields had graduated while only 44 per cent of students who entered humanities fields were completers—a result that is likely due to the type of programs within these fields and their expected length. By year seven, 80 per cent or more of students who had entered social sciences, business, science, engineering, agriculture and resource, health, and service fields had graduated. In the final regression analysis, students who entered education and humanities programs were 7 to 9 adjusted percentage points less likely to be graduates compared to those who entered business fields.

The results also found that students who entered full-time rather than part-time programs were more likely to graduate by years four and seven. After seven years, graduation rates were 25 unadjusted and 14 adjusted percentage points lower among international students who first entered part-time programs.

The descriptive results showed that students who entered universities were less likely to be graduates by year four (19 unadjusted percentage points), but more likely to be completers by year seven (4 unadjusted percentage points). Once the regression model controlled for all other explanatory variables, however, students who entered universities were 10 adjusted percentage points less likely to be graduates in the seven-year model compared to those who entered

colleges. The large difference between the adjusted and unadjusted results is likely due to the high degree of variation at the program level and how this differs between the two types of institutions. For example, it could be likely that students on short term study abroad and student exchange programs were more likely to study at universities rather than colleges in Ontario.

**Figure 28 Graduation outcome by school and program characteristics, descriptive results**



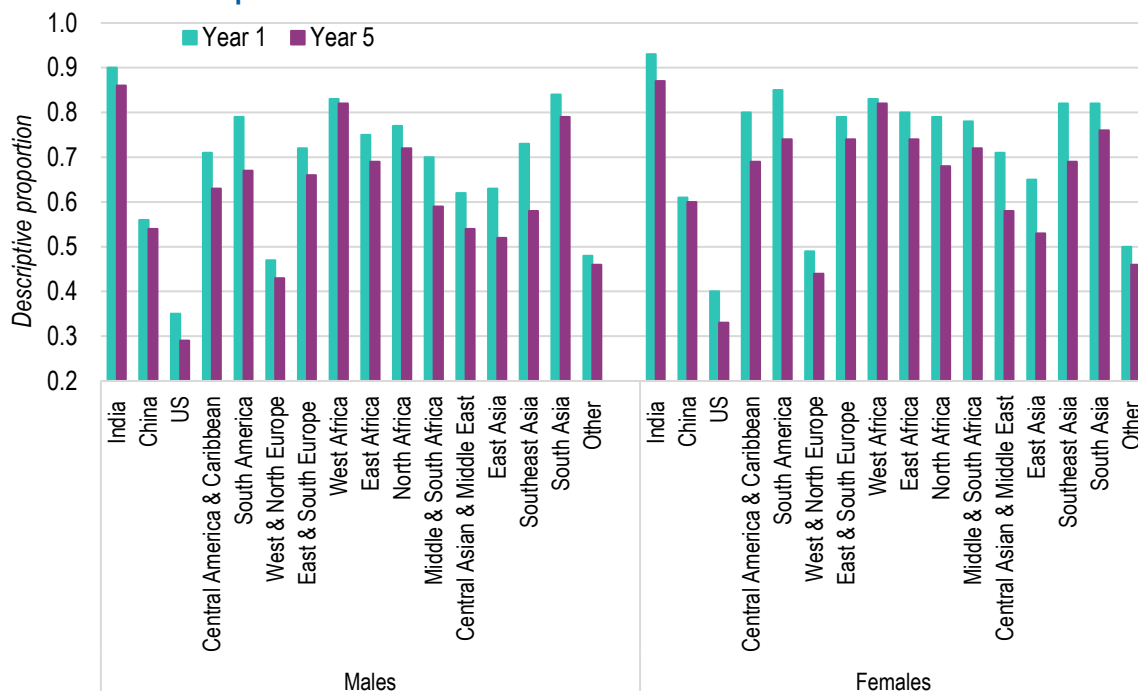
## LABOUR MARKET OUTCOMES OF PUBLIC PSE GRADUATES

### Tax records after graduation

The first labour market outcome analysis considered which characteristics were associated with filing taxes in Canada one to five years after graduation among students observed to graduate from a public college or university in the previous analysis. While Appendix A provides the results across all five years, the following section contrasts results from the one- and five-year post-graduation regression models. Overall, 79 per cent of graduating international students filed a tax return one year after graduation. By year five, this rate had reduced slightly to 72 per cent, a trend that may be due to a proportion of graduates leaving Canada or differences in the underlying graduating cohorts used across the analyses.

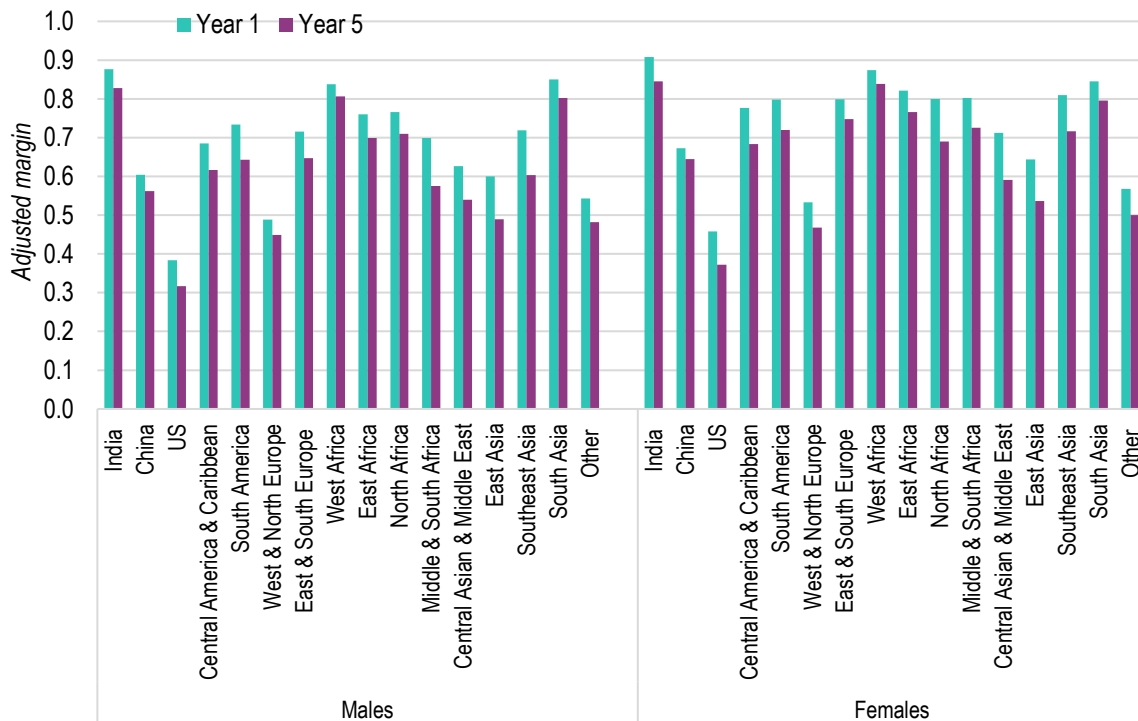
Figures 29 and 30 visualize the descriptive and regression-adjusted differences in filing a tax return one and five years after graduation among males and females by region/country of citizenship. For both males and females, US citizens were the least likely to have tax records in both year one (35 per cent of males, 40 per cent of females) and five (29 per cent of males, 33 per cent of females), while Indian citizens were the most likely in both year one (90 per cent of males, 93 per cent of females) and five (86 per cent of males, 87 per cent of females).

**Figure 29 Tax record outcome by region/country of citizenship and males/females, descriptive results**



In terms of change in the proportion of graduates who had tax records from year one to five, there was a large decrease among South American males and females (12 and 11 percentage points, respectively), Southeast Asian males and females (15 and 13 percentage points), and East Asian males and females (11 and 12 percentage points)—descriptive results that only diminished slightly when adjusting for other explanatory variables. In contrast, certain regional/country groups only had a small decline (1-2 percentage points) in the proportion of graduates with tax data between year one and five (i.e., China, West African regions).

**Figure 30 Tax record outcome by region/country of citizenship and males/females, adjusted results**

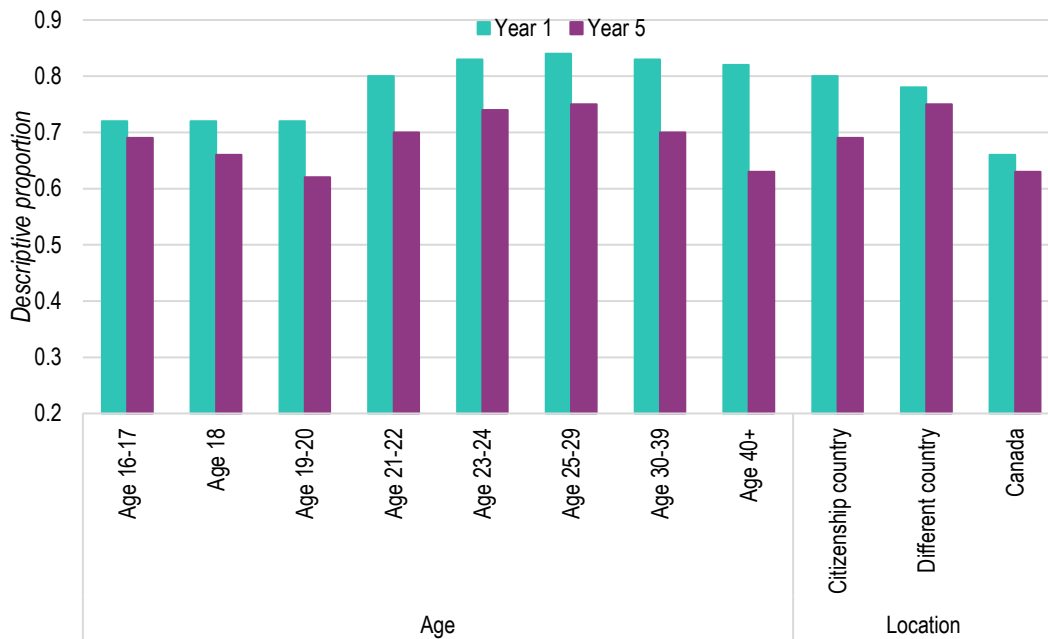


In terms of differences between males and females, most regional/country differences were minimal. However, for some groups, this male-female difference was larger. For example, females from South America, Central Asia, and Southeast Asia were 9 unadjusted percentage points more likely to have tax data in year one compared to males from these regions, a result that was confirmed by the regression analysis. This male-female difference decreased slightly by year five for graduates from South America and Central Asia but increased to a 11 percentage point difference between males and females from Southeast Asia in this later period.

Figure 31 presents the descriptive results contrasting variation in the tax return outcome by age group and location when applying for a study permit. Compared to people aged 20 or younger when they applied for their initial Ontario study permit, both the descriptive and regression

results show that graduates aged 21 or older were more likely to have Canadian tax information in both year one and five, although age group differences were smaller by the latter year. Those who were aged 19 or 20 were slightly less likely to have filed their taxes compared to people aged 18, although both the descriptive and adjusted differences were small (i.e., less than 3 percentage points) across all years.

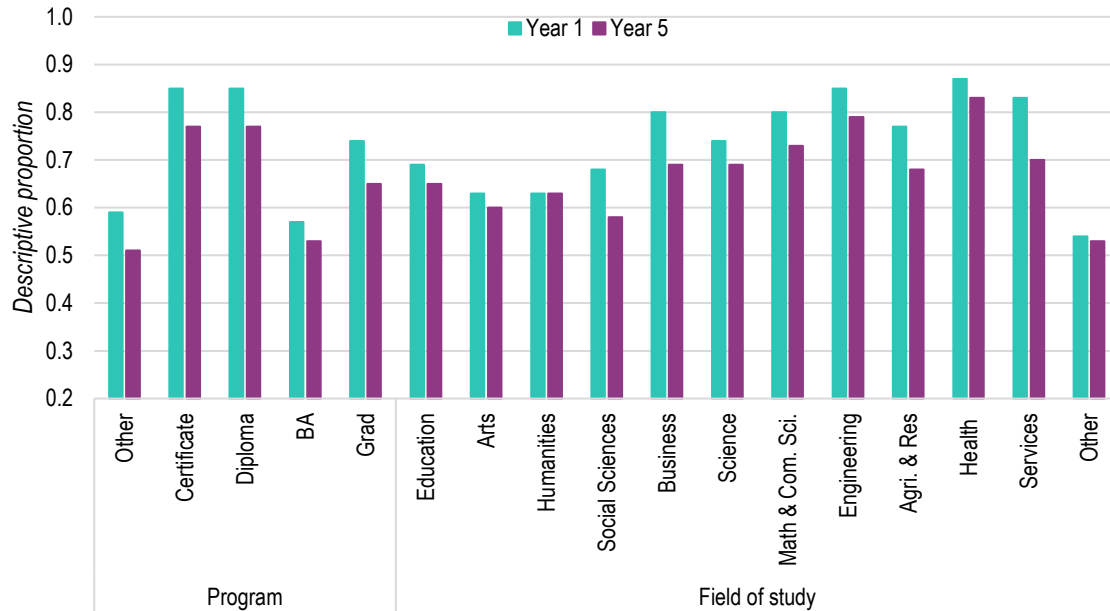
**Figure 31 Tax record outcome by age and location of applicant, descriptive results**



In terms of variation by location of applicant, the large descriptive difference between those applying from within their country of citizenship and Canada decreases substantially in the year one regression model (to less than 1 percentage point) and is not statistically significant across the year two to five models. In contrast, the final regression analysis found that people applying for their study permit from a country that differed from their country of citizenship were 2 to 3 adjusted percentage points more likely to file taxes in Canada across all five years compared to this same reference group.

Figure 32 shows the descriptive difference in tax filing rates by credential level and field of study at graduation. Compared to people who completed a BA program, those who earned a certificate, diploma, or graduate degree were all more likely to have filed tax returns across both year one and five, while those who had an “other” type of credential were less likely. In the final regression analysis, the largest difference was for people with a diploma who were 11 adjusted percentage points more likely to have tax information than BA graduates across both years. In all other cases of comparison, only a 3 to 5 adjusted percentage point difference remained once the regression model controlled for other variables.

**Figure 32 Tax record outcome by credential level and field of study at graduation, descriptive results**



By field of study, people who completed a credential in engineering (85 per cent) and health (87 per cent) were the most likely to have tax data in year one. These rates also remained high by year five. In contrast, those who completed a credential in an “other” field (54 per cent) or arts or humanities (63 per cent) were the least likely to have tax data in year one. In the final regression analysis, graduates from education (only in year five), engineering, math or computer science, health, or service fields were more likely to have tax information compared to people who completed a business credential. In contrast, people who completed an arts, humanities, social sciences, or other credential were less likely to have tax information one year after graduation, although often these differences diminished or became no longer statistically significant compared to business graduates by year five. While science graduates were slightly less likely to have tax records one year after graduation compared to business graduates in the final regression analysis, the reverse was true by year five.

## Earning after graduation among tax filers

The next labour market outcome analysis examines variation in inflation adjusted annual earnings post graduation by student and program characteristics among graduating students who have tax return data and positive earnings. As the outcome variable has been log transformed, each group comparison in the regression analysis can be interpreted as akin to an adjusted percentage difference (after controlling for all other variables in the model). Overall, average earnings among all graduates grew from year to year, from 10.07 log earnings (\$31,700 before log adjustment) in year one to 10.64 log earnings (\$57,600 before log adjustment) in year five. Female graduates earned increasing less than males in the years after graduation, from 4 adjusted per cent less in year one to 17 adjusted per cent less in year five in the final regression analysis.

Figure 33 visualizes the descriptive and adjusted post-graduation earnings of males and females from year one to five by region/country of citizenship. The descriptive results show that males from South Asia earned the most in year one, while males from West and North Europe earned the most by year five. However, once a model controlled for other factors, males from South America earned the most in both year one and five. In the descriptive female results, female US citizens earned the most in year one while female South Asian citizens earned the most in year five. In the adjusted results, however, female Indian citizens earned the most in year one and South American female students earned the most in year five.

In terms of lower earning groups, males from China, East Asia, and Middle and South Africa regions were among the lowest earning males in both the year one and five descriptive results. Females from East Asia were also the lowest earning female group in year one and five compared to females from other regions/countries. In the regression-adjusted results, however, females from China were predicted to earn the least in both year one and five.

In terms of differences between males and females by regional/country groups, the earning gap was smallest among Chinese citizens in both year one and five in both the descriptive and regression adjusted results. The male-female earnings gap was largest for students from North Africa in year one and five in both the descriptive and regression-adjusted results.

There were also differences in earnings growth over time. While all regional groups had higher average earnings in year five compared to year one, growth was largest for both males and females from East and South Europe in the descriptive results. In the regression adjusted results, growth was predicted to be largest among East Asian males and females.



Figure 33 Earnings by region/country of citizenship and males/females, descriptive and adjusted results

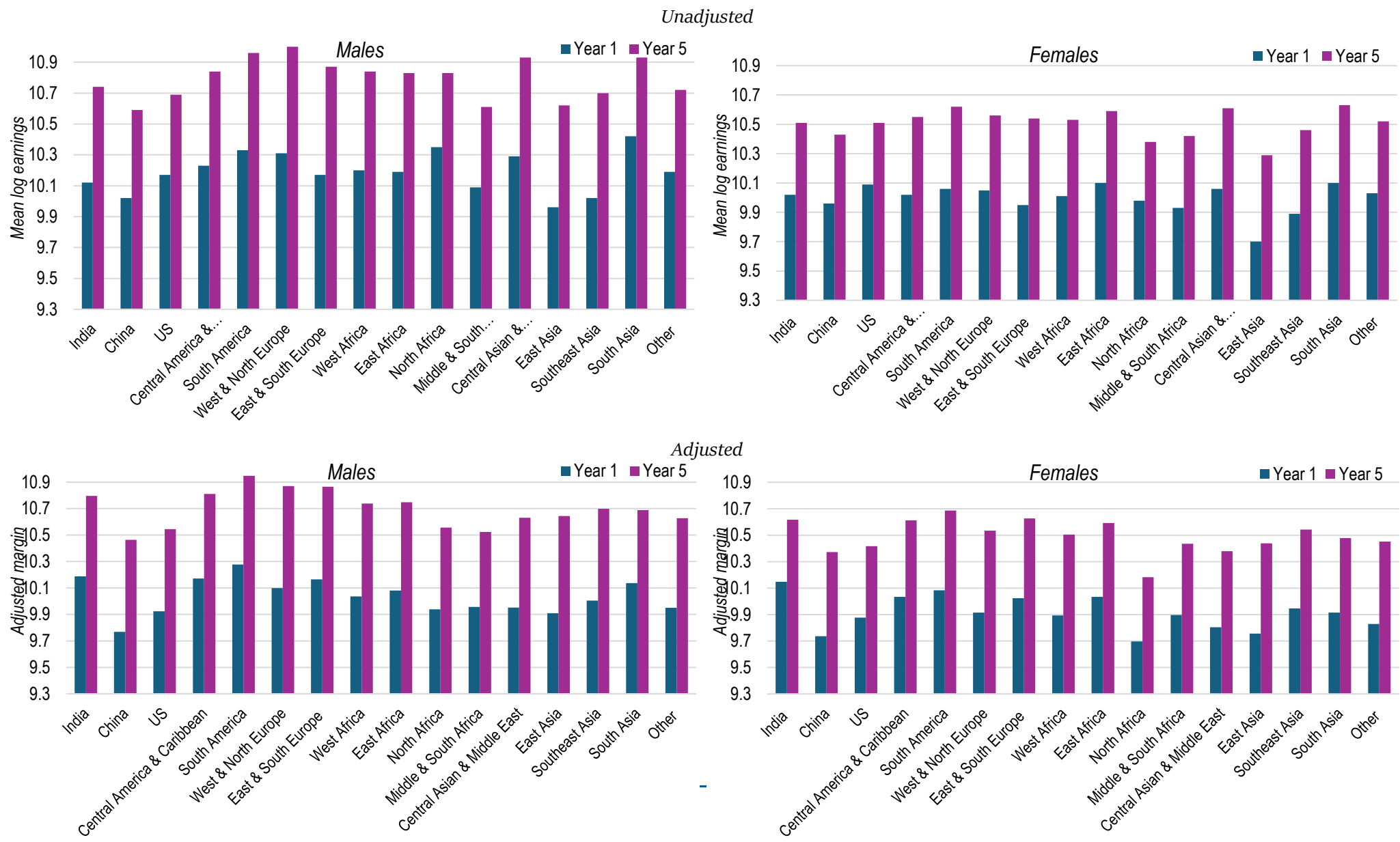
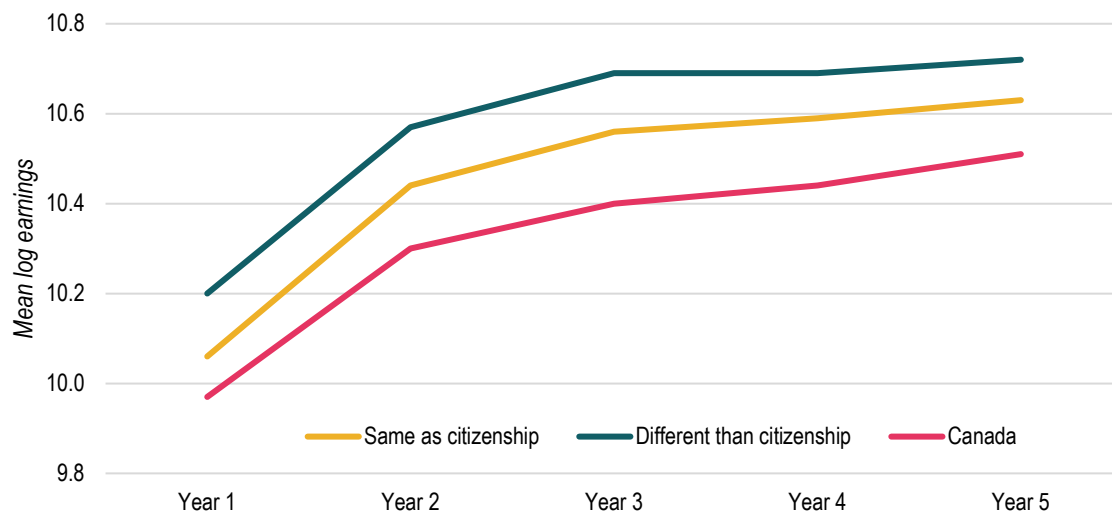


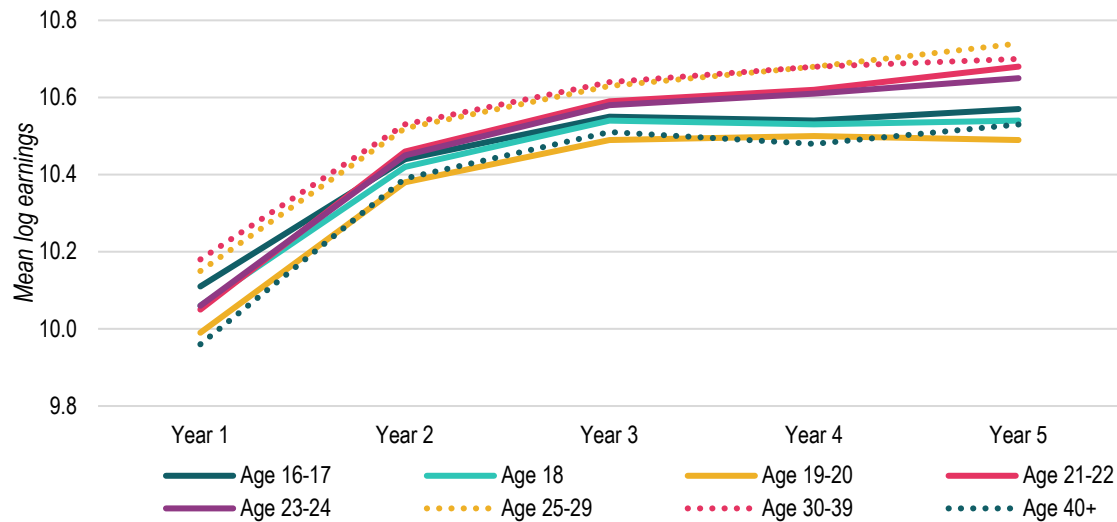
Figure 34 visualizes how earnings differed based on the location of a person when they initially applied for their Ontario study permit. Compared to students who applied from their country of citizenship, those who obtained their study permit from within Canada had *lower* earnings while those who applied from a different country had *higher* earnings. In the final regression analysis, the earnings of applicants from within Canada earned 8 to 9 adjusted per cent lower (across all five years) once a model controlled for other factors, while those who applied from another country outside of Canada had 4 to 10 adjusted per cent higher earnings across all five years.

**Figure 34 Earnings by location when applying for study permit, descriptive results**



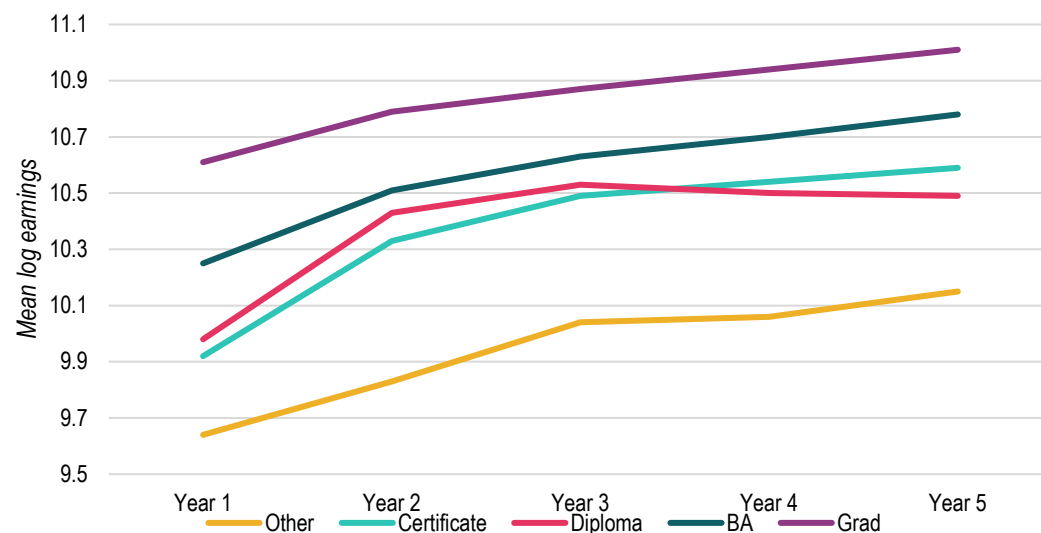
When examining variation in earnings by age group, the descriptive results in Figure 35 show that international students who were first issued an Ontario study permit when they were aged 25 to 39 typically earned the most one to five years after graduation. This group may have entered higher earning graduate programs or entered the Canadian labour market with previous education and work experience. Once a regression model accounted for observed factors like the program of entry, these prime age workers still earned 12 adjusted per cent more by year five compared to people who were aged 18 when they initially applied for their Ontario study permit. In the year five model, those who were aged 19 or 20 earned slightly less (4 per cent) than those aged 18, while all other older groups earned more.

**Figure 35 Earning by age, descriptive results**



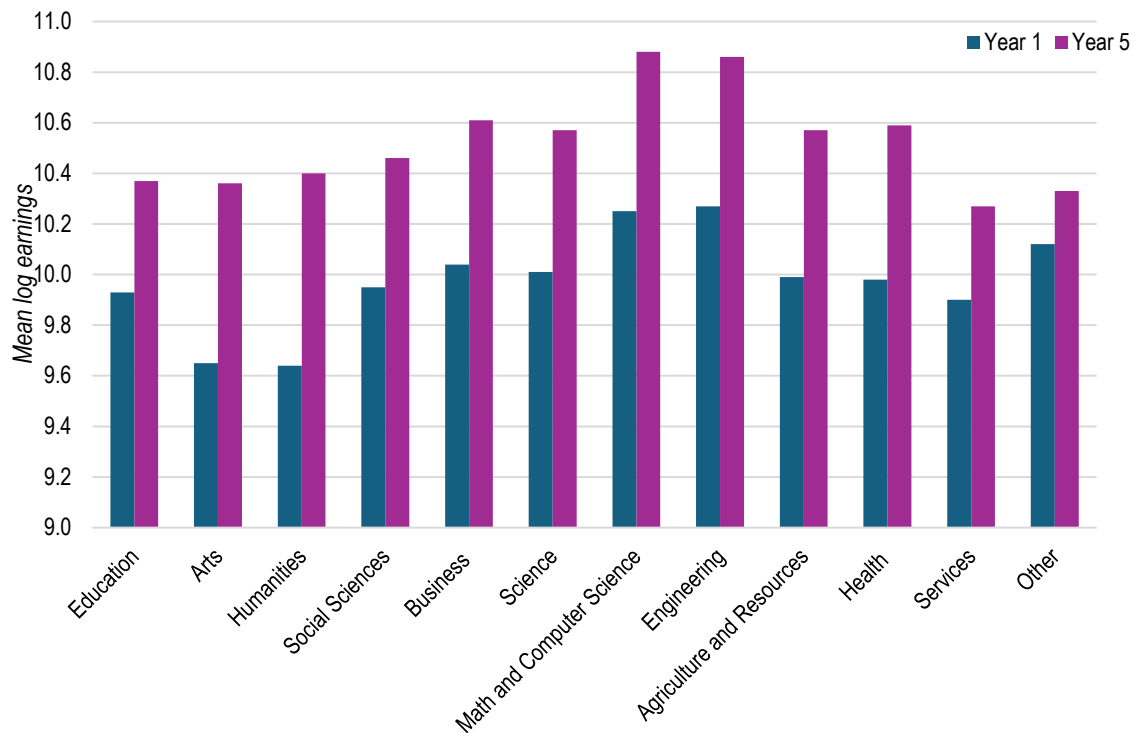
As shown in Figure 36, there was a large variation in earnings by credential level at graduation. Compared to students who completed a BA, people with a certificate, diploma, or “other” credential earned less one to five years after graduation. In the final regression analysis, the largest difference was between people who completed a BA and those who earned an “other” credential, with the latter group earning between 80 and 62 adjusted per cent less from year one to five. There were also large gaps between students with a BA and those with a certificate (who earned 42 adjusted per cent less by year five) or diploma (who earned 50 adjusted per cent less by year five). In contrast, those with a graduate credential earned slightly more (2 to 5 adjusted per cent in the final regression analysis) than people with a BA.

**Figure 36 Earnings by credential level, descriptive results**



Just as there was earnings variation by credential level, Figure 37 shows there were also differences by field of study. In both year one and five, students who graduated from engineering and math and computer science fields had the highest earnings, while students from art fields had the lowest. The regression results largely confirmed the descriptive results. Compared to business graduates, those from math and computer science fields earned 10 adjusted per cent more one year after graduation, a difference that increased to 21 adjusted per cent more by year five. Engineering graduates also earned more than those from business—ranging from 7 per cent more in year one to 14 per cent more by year five. Health graduates earned just slightly more than business graduates in years one and five (i.e., 3 and 5 adjusted per cent), although there was no difference between years two and four. In contrast, graduates from all other fields of study earned less than business graduates. By year five, the largest difference was for those in education fields who earned 31 adjusted per cent less than business graduates.

**Figure 37 Earning by field of study, descriptive results**



## MIGRATION OUTCOMES OF PUBLIC PSE STUDENTS

This final analysis section examines the year-by-year migration outcomes of all students who attended a public Ontario college or university regardless of their graduation status. Using information from the IMDB, this analysis tracked whether students continued to hold a study permit or transitioned to a work permit (alone or in conjunction with a study permit) or became a permanent resident (PR). While Appendix A has separate results that examine this categorical outcome from years one to eight, the following section focuses on biannual outcomes; that is, two, four, six, and eight years after the student was initially issued an Ontario study permit. 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 included in the eight-year outcome model), and therefore longer-term migration outcomes will likely differ for more recent cohorts that do not yet have available information in the IMDB data.

To examine migration outcomes by region/country of citizenship and among males and females, Figures 38 and 39 illustrate two-, four-, six-, and eight-year descriptive and adjusted outcomes. Overall, the descriptive results found that, among all international students:

- Two years after being issued a study permit, 5 per cent had no active study or work permit, 35 held a study permit, 47 per cent held both a work and study permit, 8 per cent had a work permit, and 4 per cent had transitioned to become a PR.
- Four years after being issued a study permit, 15 per cent had no active study or work permit, 19 held a study permit, 16 per cent held both a work and study permit, 30 per cent had a work permit, and 21 per cent had transitioned to become a PR.
- Six years after being issued a study permit, 27 per cent had no active study or work permit, 7 held a study permit, 6 per cent held both a work and study permit, 18 per cent had a work permit, and 42 per cent had transitioned to become a PR.
- Eight years after being issued a study permit, 33 per cent had no active study or work permit, 2 held a study permit, 2 per cent held both a work and study permit, 8 per cent had a work permit, and 54 per cent had transitioned to become a PR.

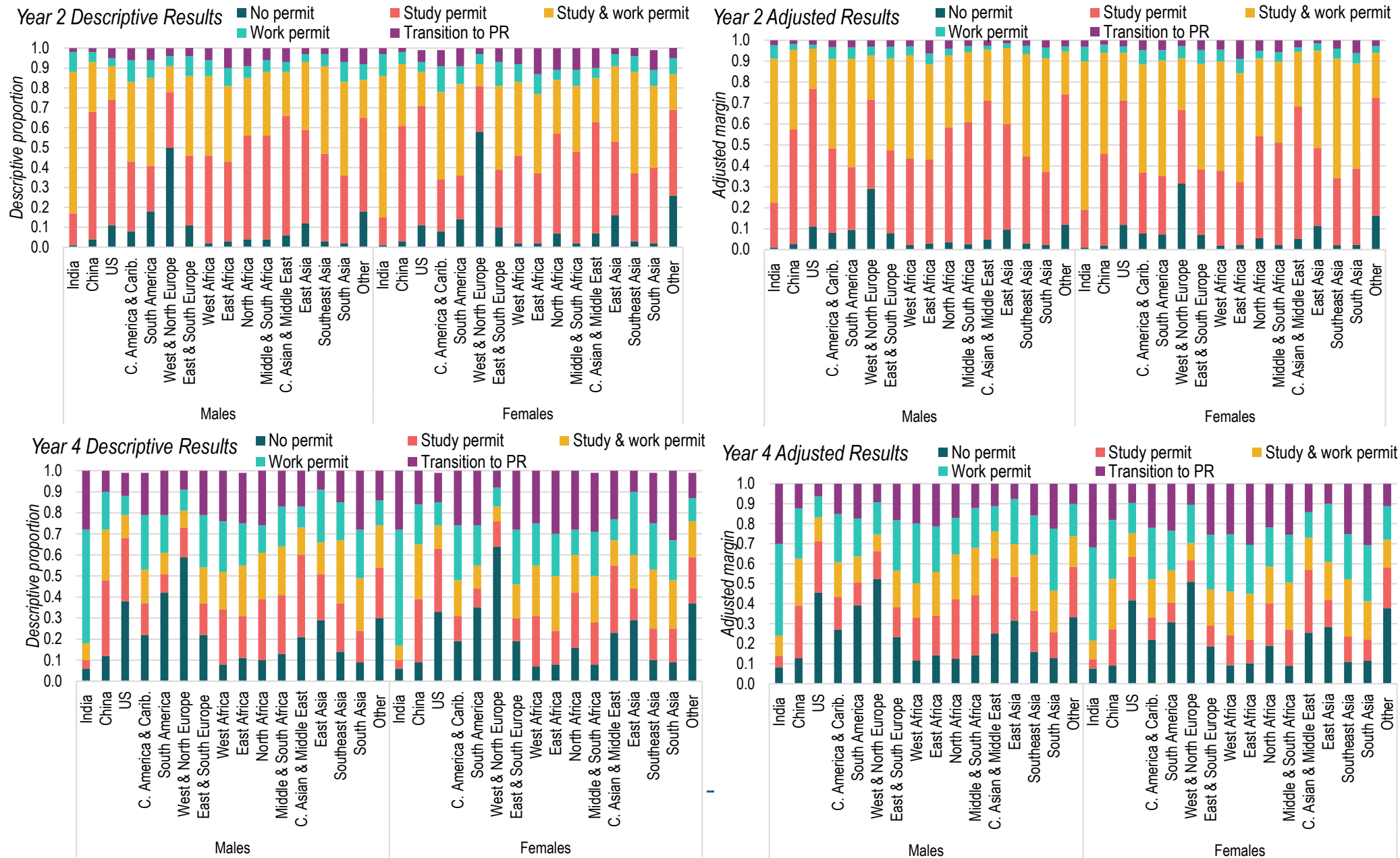
While overall there were few major differences between male and female international students, the final analysis found that females were 4 descriptive and adjusted percentage points more likely to hold both a study and work permit by year two (instead of just a study permit) compared to males. By year four and six, females continued to be slightly more likely to hold work and study permits in conjunction, although there was no difference by year eight. Both males and females had similar transition rates to PR across all years and a similar rate of holding no active permits in these later years.

There were much larger differences by region/country of citizenship. For example, 71 per cent of males and females from India had transitioned to both a work and study permit by year two compared to just 17 per cent males and females from the US. By year four, Indian nationals had the highest rate of transitioning to become a PR (28 per cent of males and females) or only holding a work permit (54 per cent of males and 55 per cent of females). In contrast, only 11 per cent of Chinese males and 16 per cent of Chinese females had become a PR by year four, and only 18 per cent of males and 19 per cent of females held a work permit. These findings correspond to the higher proportion of Indian nationals in shorter-term certificate and diploma programs (rather than longer BA programs), which likely facilitated their earlier transition into the labour market full time and becoming a PR.

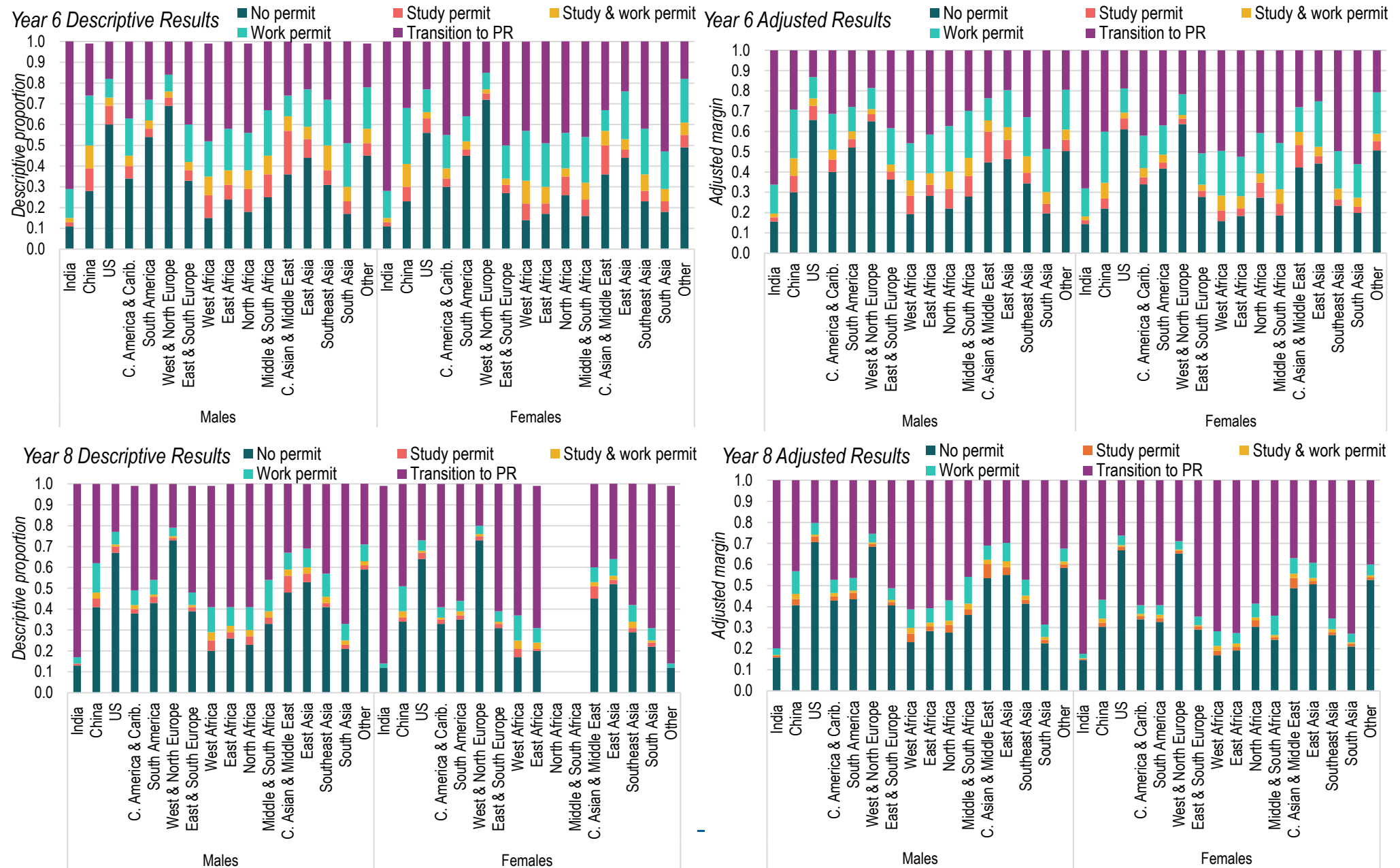
The results also showed that certain regional groups were more likely to have no active study or work permit two and four years after initially being issued their Ontario study permit—a result that would suggest they were more likely to have been enrolled in shorter term study programs and more likely to have left Canada rather than pursue labour market entry. By year two, 50 per cent of males and 59 per cent of females from West and North Europe did not hold an active permit. In contrast, less than 3 per cent of males and females from India, Southeast Asia, and South Asia had no active permit by year two, suggesting that the majority remained in Canada. By year eight, 73 per cent of males and females from West and North Europe did not hold an active permit—a rate that was much higher than students from India (13 per cent of males and 12 per cent of females) and other groups.

Across all years, transition rates to PR incrementally increased. By year eight, 83 per cent of males from India and 85 per cent of females from India had become a PR. Rates were also high among males and females from South Asia (68 per cent of males and 69 per cent of females). In contrast, far fewer US citizens (23 per cent of males and 28 per cent of females) had transitioned to become a PR. There were also some notable differences between males and females by region/country in terms of the proportion who had transitioned to PR by year eight. The largest gap was for students from Southeast Asia—43 per cent of males and 59 per cent of females had become a PR by year eight, a 16-percentage point difference that increased to 18 adjusted percentage points in the final regression model. In addition, for both students from China and East and South Europe, females were 11 percentage points more likely to have become a PR compared to males from these regions.

**Figure 38 Two and four year migration outcomes by region/country of citizenship and males/females, descriptive and adjusted results**

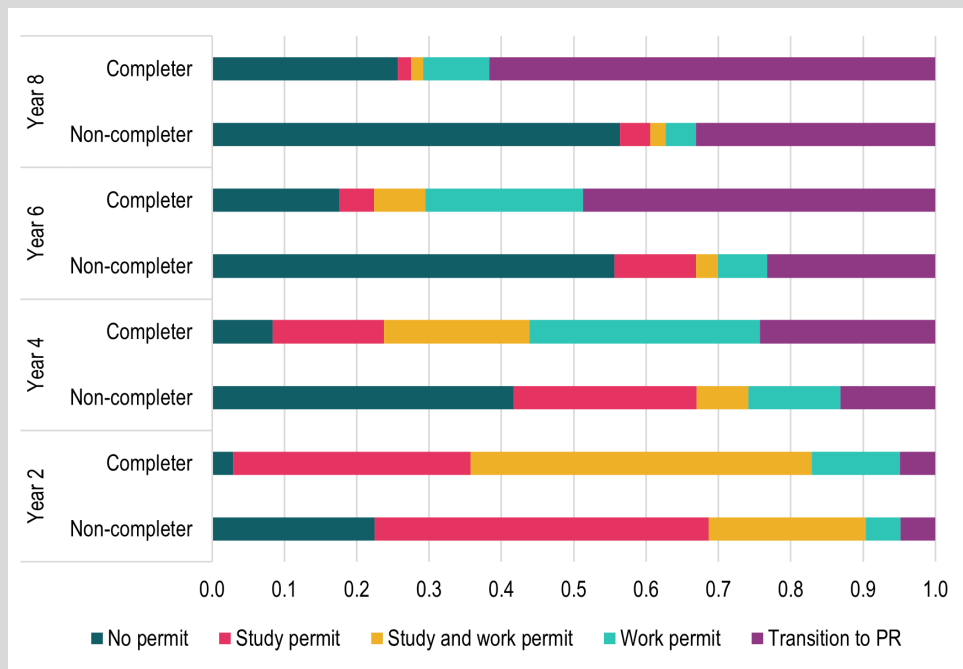


**Figure 39 Six and eight year migration outcomes by region/country of citizenship and males/females, descriptive and adjusted results**





**Figure 40** Variation in migration outcomes among completers and non-completers



The full migration analysis includes both international students who did and did not complete a program at a public institution, as the graduation analysis above explores. However, extended analysis showed that graduation outcomes six years after entry were strongly associated with migration outcomes:

- Two years after being issued an Ontario study permit, a higher percentage of students who would go on to complete a credential held both a study and work permit (47 per cent compared to 22 per cent) compared to those not observed as graduating. A lower percentage also had no active permit (3 per cent compared to 23 per cent).
- Four years after being issued an Ontario study permit, a higher percentage of students who would go on to complete a credential had become a PR (24 per cent compared to 13 per cent) or held only an active work permit (32 per cent compared to 13 per cent).
- Six years after being issued an Ontario study permit, an even higher percentage of graduates had transitioned to PR (48 per cent compared to 23 per cent) and a much lower percentage had no active permit (18 per cent compared to 56 per cent) compared to non-completers.
- This trend continued such that, by year eight, 61 per cent of graduates had transitioned to PR compared to 33 per cent of non-completers.

To focus on which student groups were more likely to make the transition to becoming a PR, Figure 41 presents biannual descriptive results by age group. Compared to people who were aged 18 when they were first issued their Ontario study permit, both the descriptive and regression results showed that people aged 21 or older were more likely to become a PR four, six, and eight years after being issued their study permit—although the difference narrowed in year eight compared to year six, suggesting that younger students may have taken more time to transition to becoming a PR. Students who were slightly older (i.e., 19 or 20) or younger (i.e., 16 or 17) only had small differences compared to those aged 18.

**Figure 41 Transition to PR by age, descriptive results**

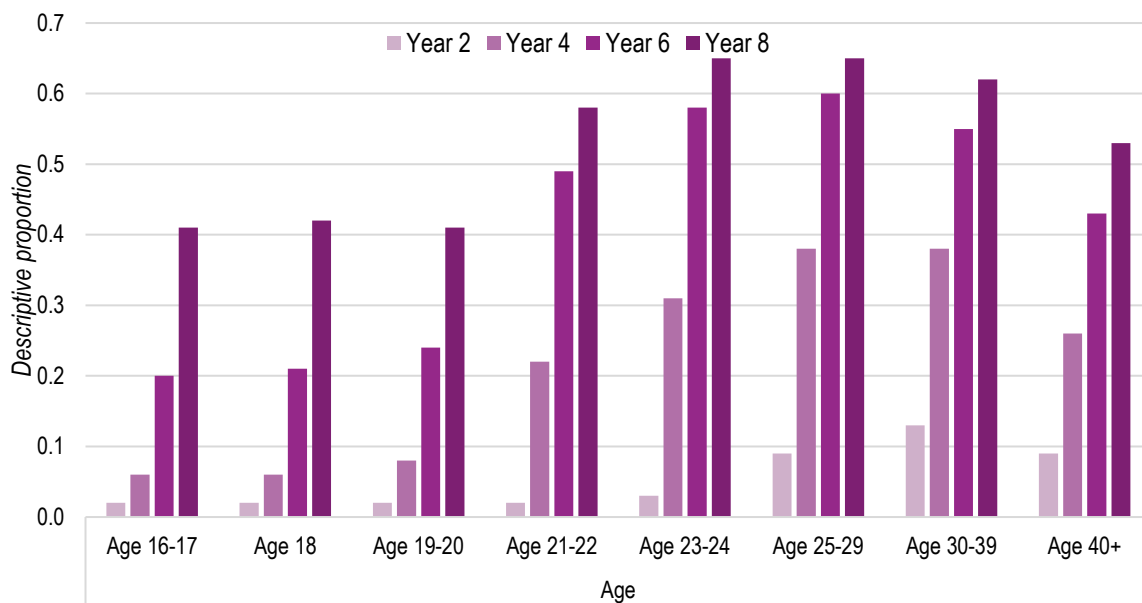
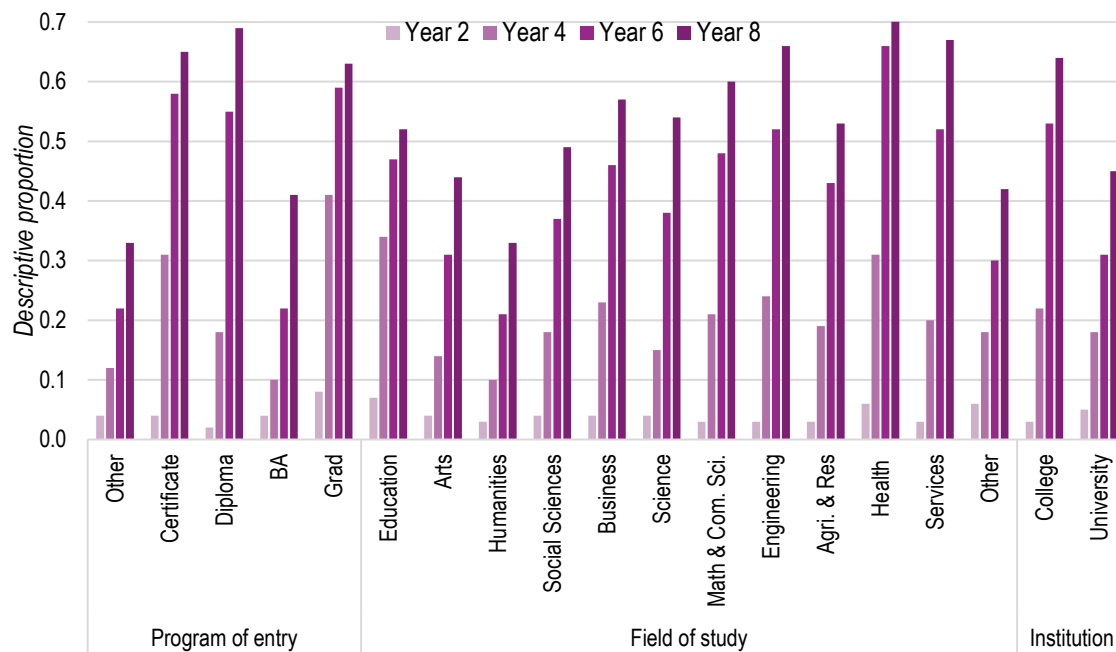


Figure 42 presents the same transition-to-PR results as the previous chart but by program characteristics at entry. While the descriptive results showed that, compared to people who began in a BA program, students who started in a certificate or diploma were more likely to transition to becoming a PR by year eight, the reverse was true in the final regression analysis. In the final eight-year outcome model, students who entered certificate and diploma programs were 8 and 5 adjusted percentage points less likely to transition to PR compared to students who entered BA programs. Conversely, students from graduate programs were more likely to become a PR four, six, and eight years after being issued a study permit compared to those who entered BA programs in both the descriptive and regression analysis.

By field of study, the descriptive results found that students who entered health fields were the most likely to become a PR by year eight (76 per cent), while students who entered humanities fields were the least likely (33 per cent). In the final regression analysis, students who first entered education, math and computer science, engineering, health, and service fields were more likely to become a PR eight years after being issued a study permit compared to students in business fields, with the largest difference for people who entered engineering and health fields who were 9 adjusted percentage points more likely to have made this transition.

The final explanatory variable measured differences in migration outcomes by the institutional type at entry. Both the descriptive and regression results showed that, compared to students who entered a college, those who attended a university were less likely to transition to becoming a PR. In the eight-year outcome model, the difference was 14 adjusted percentage points in favour of college attendees. A possible reason for this difference is that it is likely fewer international students attending colleges were engaging in short-term study abroad or exchange programs.

**Figure 42 Transition to PR by program characteristics at entry, descriptive results**



## DISCUSSION

To contribute to HEQCO's consortium on international education, the objective for the Phase 1 study has been to undertake comprehensive system-level analysis of international students entering a public college or university Ontario. The data allow us to track the outcomes of those with a study permit issued since 2010 to learn how their entry characteristics and graduation, labour market, and immigration outcomes differ by various student and program characteristics. Phase 2 of SRDC's study will track labour market and migration outcomes among individuals who were issued Ontario study permits but never entered the public Ontario higher education system. Once all analyses are complete, combined results and policy implications from both phases will be included in a final report in early 2025.

The overarching goal of HEQCO's consortium on international education is to answer two large-scale 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?

The empirical analysis in this Phase 1 report can inform both guiding questions, although it has the most applicability to the second question. In this final section, we discuss how the results in this Phase 1 report provide insights that could be used to answer each question; although fuller answers to each question will be possible following the culmination of work and sharing of results from the completed research and analysis including other consortium members' projects as well as this one.

To address the first question, our research showed 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 marketed change in the proportion who entered the public PSE system in Ontario. For people issued study permits in 2010, 76 per cent entered the public system. This rate increased slightly to 79 per cent by 2019. While an unknown proportion of people who were issued Ontario study permits went on to study in private institutions, the Phase 1 findings showed that the public Ontario higher education system was the primary destination for those who received a study permit between 2010 and 2020.

While there were no major changes in the proportion of people issued an Ontario study permit and who went on to enter the public PSE system, there was a shift in the type of institutions and programs international students were more or less likely to enter. Overall, international students were more likely to enter certificate and diploma programs at colleges, rather than bachelor's and graduate programs at universities. However, there were large differences in the type of institution and programs students first entered depending on their country of citizenship. For example, just 13 per cent of students from India entered bachelor's or graduate programs compared to 76 per cent of students from China. The large

increases in students from India over the time period helps account for the overall increase in college-level certificate and diploma programs; although it does not completely explain this shift as students from several other regions/countries were also more likely to enter these types of college-level programs.

One important contribution of our study has been to track both the entry characteristics and outcomes of multiple international student groups by their region/country of citizenship. These results often show a large degree of variation in the type of public programs students begin and who goes on to graduate, enter the labour market, and remain in Canada. Table 2 provides an overview of several descriptive results disaggregated by these regions and countries, while the results section earlier in the report provides further disaggregation among males and females from each region/country.

Pathways into and through the public Ontario PSE system can vary considerably according to student's region/country of citizenship. Different proportions of students by citizenship. Once they enter, there is large variation in who initially attends a college or university, which impacts the type of programs they first enter. As is to be expected, when a large share of students from a particular region/country begins their studies at colleges, a corresponding large share typically enter certificate and diploma programs. There are likely multiple reasons for these differences in entry characteristics by region/country, including the relative strengths of home versus Ontario educational programming, the activity of international student recruiters and institutional partnerships, as well as localized education and cultural systems and communication channels that promote certain program pathways over others.

Postsecondary outcomes also differed considerably by a student's region/country of citizenship. They differ in terms of who received a co-op work permit and who went on to graduate. As our study did not capture the intentions of students when they entered a public Ontario college or university, we are unable to discriminate between students who planned to complete an entire program and obtain a Canadian credential versus those whose intent was to visit a school as part of shorter-term study abroad experience. These intentions clearly impact the proportions graduating, entering the labour market, and remaining in Canada. Employment and further education opportunities in a student's region/country of citizenship likely also present push and pull factors influencing later labour market and migration outcomes in Canada.

While the Phase 1 analysis was able to track overarching trends, it did not provide insight into the quality of programs international students entered. Graduation rates provide some evidence in this regard, as does overall persistence, and our results suggest there was little change in these outcomes over time. For example, four-year graduation rates were 65 per cent among people who entered the public system in the 2009-10 school year and 69 per cent for those who entered in the 2016-17 school year—the last cohort the data currently available allow us to track this outcome for. These rates were higher of course for seven-year outcomes; although, as Table 2 shows, they varied considerably by students' region/country of citizenship.

**Table 2** Overview of Phase 1 results by region/country

	2010-20 entry to public PSE system		Recent entry characteristics (2017-19 cohorts)					PSE outcomes		Year 1 labour market outcomes of graduates		Migration outcomes of people who enter public PSE system	
	Overall share	% enter	% enter universities	% enter colleges	% cert. / diploma	% BA	% grad.	% co-op permit	% 7 year grad. rate	% have tax info	Log earnings	% no permit after 6 years	% transition to PR after 8 years
India	0.40	81%	12%	88%	84%	4%	7%	39%	83%	91%	10.08	11%	84%
China	0.20	90%	82%	18%	16%	64%	12%	22%	82%	58%	9.98	25%	44%
US	0.01	80%	83%	17%	14%	46%	38%	12%	73%	38%	10.13	58%	26%
C. America & Caribbean	0.03	72%	28%	72%	67%	21%	8%	41%	74%	76%	10.10	32%	55%
South America	0.05	61%	16%	84%	80%	7%	8%	42%	51%	82%	10.19	50%	51%
West & North Europe	0.03	73%	84%	16%	15%	24%	12%	11%	42%	48%	10.18	71%	20%
East & South Europe	0.02	81%	29%	71%	65%	18%	10%	39%	73%	76%	10.05	30%	57%
West Africa	0.03	89%	64%	36%	32%	50%	15%	27%	79%	83%	10.11	15%	60%
East Africa	0.01	83%	49%	51%	47%	42%	7%	31%	76%	77%	10.14	20%	64%
North Africa	0.01	77%	71%	29%	26%	48%	20%	24%	75%	77%	10.25	20%	60%
Middle & South Africa	0.01	81%	42%	58%	53%	35%	8%	22%	77%	74%	10.01	20%	54%
C. Asian & Middle East	0.06	66%	51%	49%	43%	22%	28%	19%	68%	66%	10.19	36%	36%
East Asia	0.07	55%	33%	67%	61%	25%	4%	37%	63%	64%	9.81	44%	34%
Southeast Asia	0.04	81%	14%	86%	78%	13%	3%	53%	76%	79%	9.94	27%	51%
South Asia	0.02	89%	52%	48%	45%	32%	20%	28%	81%	83%	10.33	17%	68%
Other	0.004	79%	74%	26%	22%	37%	22%	10%	65%	49%	10.12	48%	31%

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 1 study showed that the policy shift to a "two-step" immigration pathway (i.e., where a person initially has temporary study permit and then becomes a permanent resident) discussed in the literature review has clearly been effective as a large portion of students in our analysis remained in Canada. Among students issued Ontario study permits between 2010 and 2012, 54 per cent had become permanent residents eight years after they were issued a study permit, a rate that increased to 61 per cent among students who completed a credential in Canada. However, our study also revealed considerable variation among study permit holders by their region/country of citizenship and the type of PSE program they first entered. Students from India were consistently the most likely to become permanent residents relative to other original citizenships. In terms of program of study, students who first entered graduate programs were the most likely to migrate permanently to Canada, while those who entered "other" programs were the least likely. If there is a policy goal to facilitate this two-step transition to permanent residency, then student groups who had lower transition rates and who may be more in need of more support can be identified.

Beyond just remaining in Canada and transitioning to permanent residency, our research also presents evidence on which graduating student groups entered the Canadian labour market and how their earnings varied. Regardless of whether the analysis controlled for other factors, students in diploma and certificate programs were more likely to remain in Canada and file tax records; yet their annual earnings were much lower than students who completed a bachelor's or graduate degree. This points to the potential to improve immigrant outcomes through articulation policies and programs that promote the transition into bachelor's and graduate degree programs (e.g., certificate-to-degree transfer programs).

Phase 1 of our study offers a first look at a range of evidence on several outcomes among international students who transition to the public PSE sector in Ontario. It will soon be complemented by SRDC's Phase 2 analysis tracking the observable outcomes of people who were issued Ontario study permits but who did not transition to a public college or university. The comparison is likely to lead to more policy insights which will be included in the final report.

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## APPENDIX A: RESULTS

### COMPOSITIONAL ANALYSIS

**Table 3** Descriptive analysis: Proportion who attended a public Ontario college or university

<i>Observations</i>	All Years 682,530	2010 48,570	2011 43,880	2012 42,640	2013 46,490	2014 39,850	2015 48,810	2016 69,060	2017 90,900	2018 101,300	2019 113,580	2020 37,480
<b>Total</b>	0.79	0.76	0.76	0.75	0.78	0.78	0.83	0.82	0.79	0.80	0.79	0.77
<b>Region/country of citizenship</b>												
India	0.81	0.85	0.82	0.85	0.90	0.91	0.90	0.85	0.80	0.80	0.77	0.71
China	0.90	0.88	0.91	0.91	0.91	0.90	0.90	0.88	0.89	0.91	0.91	0.90
US	0.80	0.75	0.78	0.76	0.75	0.81	0.81	0.84	0.86	0.83	0.81	0.79
Central America & Caribbean	0.72	0.67	0.62	0.63	0.66	0.70	0.76	0.78	0.78	0.72	0.78	0.74
South America	0.61	0.50	0.44	0.41	0.52	0.52	0.71	0.72	0.70	0.69	0.69	0.65
West & North Europe	0.73	0.78	0.66	0.66	0.57	0.74	0.77	0.78	0.75	0.75	0.77	0.78
East & South Europe	0.81	0.81	0.79	0.77	0.78	0.77	0.81	0.85	0.84	0.84	0.84	0.81
West Africa	0.89	0.83	0.82	0.85	0.89	0.89	0.92	0.93	0.94	0.89	0.90	0.89
East Africa	0.83	0.79	0.83	0.83	0.80	0.77	0.81	0.88	0.87	0.82	0.88	0.85
North Africa	0.77	0.74	0.79	0.77	0.69	0.67	0.78	0.80	0.84	0.78	0.82	0.79
Middle & South Africa	0.81	0.82	0.60	0.78	0.83	0.85	0.86	0.90	0.89	0.85	0.79	0.79
Central Asian & Middle East	0.66	0.65	0.65	0.63	0.65	0.58	0.56	0.67	0.59	0.70	0.75	0.79
East Asia	0.55	0.51	0.49	0.47	0.51	0.53	0.59	0.57	0.58	0.58	0.61	0.63
Southeast Asia	0.81	0.75	0.75	0.73	0.75	0.79	0.79	0.80	0.83	0.81	0.85	0.81
South Asia	0.89	0.92	0.88	0.88	0.91	0.90	0.88	0.89	0.92	0.87	0.88	0.87
Other	0.79	0.83	0.84	0.79	0.77	0.69	0.71	0.75	0.73	0.83	0.75	0.80
<b>Male/female</b>												
Male	0.80	0.76	0.76	0.76	0.78	0.79	0.83	0.82	0.80	0.81	0.80	0.79
Female	0.78	0.76	0.76	0.75	0.77	0.77	0.82	0.82	0.78	0.79	0.77	0.75
<b>Region*male/female interaction</b>												
<i>Males</i>												
India*M	0.83	0.84	0.82	0.85	0.91	0.91	0.90	0.86	0.81	0.82	0.80	0.75
China*M	0.88	0.86	0.89	0.88	0.89	0.88	0.87	0.85	0.88	0.91	0.90	0.90
US*M	0.80	0.72	0.76	0.76	0.76	0.80	0.80	0.83	0.85	0.84	0.84	0.80

Postsecondary pathways and outcomes of international students in Ontario

<i>Observations</i>	All Years 682,530	2010 48,570	2011 43,880	2012 42,640	2013 46,490	2014 39,850	2015 48,810	2016 69,060	2017 90,900	2018 101,300	2019 113,580	2020 37,480
Central America & Caribbean*M	0.72	0.69	0.63	0.67	0.63	0.71	0.75	0.77	0.76	0.71	0.77	0.72
South America*M	0.60	0.52	0.43	0.40	0.51	0.51	0.70	0.72	0.71	0.68	0.69	0.63
West & North Europe*M	0.73	0.79	0.67	0.67	0.56	0.77	0.75	0.78	0.76	0.74	0.77	0.75
East & South Europe*M	0.81	0.79	0.80	0.73	0.77	0.75	0.81	0.84	0.83	0.83	0.86	0.81
West Africa*M	0.89	0.83	0.82	0.85	0.89	0.91	0.93	0.92	0.93	0.88	0.89	0.91
East Africa*M	0.82	0.78	0.80	0.83	0.77	0.76	0.80	0.83	0.86	0.78	0.88	0.80
North Africa*M	0.75	0.72	0.79	0.74	0.70	0.67	0.75	0.76	0.83	0.76	0.80	0.77
Middle & South Africa*M	0.81	0.87	0.65	0.73	0.81	0.87	0.88	0.87	0.92	0.84	0.78	0.78
Central Asian & Middle East*M	0.63	0.62	0.63	0.61	0.64	0.54	0.53	0.64	0.59	0.68	0.71	0.75
East Asia*M	0.57	0.53	0.52	0.49	0.54	0.56	0.60	0.59	0.60	0.61	0.63	0.69
Southeast Asia*M	0.80	0.78	0.77	0.74	0.77	0.79	0.80	0.78	0.83	0.79	0.84	0.80
South Asia*M	0.88	0.91	0.87	0.88	0.90	0.93	0.89	0.88	0.91	0.86	0.87	0.87
Other*M	0.80	0.83	0.83	0.76	0.83	0.57	0.71	0.71	0.83	0.83	0.80	n.r.
<i>Females</i>												
India*F	0.77	0.85	0.82	0.85	0.89	0.89	0.88	0.83	0.77	0.76	0.73	0.65
China*F	0.92	0.90	0.93	0.93	0.93	0.92	0.92	0.91	0.90	0.92	0.93	0.91
US*F	0.80	0.79	0.80	0.78	0.72	0.81	0.79	0.84	0.85	0.82	0.79	0.79
Central America & Caribbean*F	0.72	0.65	0.62	0.61	0.68	0.69	0.77	0.79	0.79	0.74	0.80	0.76
South America*F	0.62	0.48	0.45	0.42	0.53	0.53	0.71	0.71	0.70	0.70	0.70	0.67
West & North Europe*F	0.73	0.78	0.66	0.66	0.58	0.72	0.78	0.77	0.75	0.76	0.78	0.81
East & South Europe*F	0.82	0.81	0.79	0.80	0.79	0.78	0.81	0.85	0.84	0.85	0.82	0.80
West Africa*F	0.90	0.81	0.83	0.86	0.89	0.89	0.91	0.94	0.94	0.90	0.91	0.89
East Africa*F	0.85	0.77	0.85	0.83	0.83	0.78	0.82	0.92	0.89	0.86	0.89	0.86
North Africa*F	0.81	0.73	0.80	0.88	0.67	0.67	0.81	0.88	0.86	0.82	0.87	0.82
Middle & South Africa*F	0.80	0.79	0.56	0.81	0.83	0.83	0.85	0.88	0.86	0.82	0.79	0.81
Central Asian & Middle East*F	0.71	0.72	0.70	0.65	0.66	0.67	0.61	0.72	0.61	0.74	0.81	0.83
East Asia*F	0.53	0.50	0.48	0.45	0.49	0.50	0.58	0.56	0.56	0.57	0.59	0.58
Southeast Asia*F	0.81	0.72	0.73	0.72	0.72	0.79	0.79	0.81	0.83	0.83	0.87	0.81
South Asia*F	0.90	0.93	0.90	0.88	0.90	0.89	0.91	0.91	0.93	0.90	0.90	0.85
Other*F	0.79	0.83	0.86	0.78	0.75	0.71	0.71	0.83	0.67	0.83	0.71	n.r.
<b>Location when applying for permit</b>												
Same as citizenship	0.78	0.76	0.76	0.75	0.76	0.75	0.80	0.81	0.78	0.78	0.78	0.72
Different than citizenship	0.82		0.74	0.80	0.82	0.81	0.85	0.85	0.88	0.85	0.86	0.86
Canada	0.85	0.81	0.81	0.70	0.84	0.84	0.89	0.85	0.87	0.87	0.87	0.83
<b>Age</b>												
Age 16-17	0.84	0.77	0.77	0.79	0.82	0.84	0.87	0.85	0.86	0.87	0.85	0.87
Age 18	0.85	0.81	0.84	0.85	0.85	0.85	0.88	0.86	0.85	0.85	0.82	0.84
Age 19-20	0.78	0.81	0.79	0.78	0.80	0.80	0.84	0.82	0.78	0.76	0.74	0.74

## Postsecondary pathways and outcomes of international students in Ontario

<b>Observations</b>	<b>All Years</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
	682,530	48,570	43,880	42,640	46,490	39,850	48,810	69,060	90,900	101,300	113,580	37,480
Age 21-22	0.79	0.78	0.76	0.76	0.77	0.79	0.83	0.83	0.81	0.80	0.80	0.73
Age 23-24	0.79	0.76	0.76	0.75	0.78	0.78	0.83	0.82	0.79	0.80	0.81	0.77
Age 25-29	0.76	0.73	0.72	0.70	0.74	0.73	0.79	0.79	0.76	0.77	0.78	0.75
Age 30-39	0.71	0.68	0.68	0.65	0.66	0.67	0.71	0.73	0.69	0.74	0.78	0.75
Age 40+	0.67	0.46	0.54	0.57	0.60	0.65	0.68	0.71	0.68	0.74	0.76	0.71
<b>Permit credential level</b>												
ESL	0.60	-	-	-	-	0.52	0.53	0.56	0.62	0.63	0.63	0.55
College certificate	0.83	-	-	-	-	0.88	0.86	0.86	0.81	0.82	0.83	0.79
College diploma	0.78	-	-	-	-	0.88	0.87	0.82	0.77	0.78	0.75	0.69
Trades, vocational, college program	0.57	0.62	0.60	0.49	0.47	0.40	0.50	0.75	0.67	0.29	0.33	0.29
Applied degree	0.86	-	-	-	-	0.88	0.88	0.89	0.87	0.84	0.82	0.87
BA	0.90	0.90	0.89	0.89	0.90	0.90	0.91	0.91	0.92	0.90	0.87	0.90
MA	0.92	0.93	0.93	0.93	0.93	0.90	0.91	0.92	0.93	0.92	0.93	0.91
PhD	0.88	0.94	0.95	0.91	0.90	0.90	0.86	0.83	0.84	0.82	0.83	0.84
Other/missing	0.74	0.70	0.76	0.75	0.78	0.76	0.83	0.80	0.77	0.80	0.80	0.79
<b>Region of study</b>												
Toronto	0.88	0.74	0.73	0.72	0.74	0.74	0.78	0.79	0.76	0.75	0.74	0.72
Ottawa	0.86	0.83	0.83	0.84	0.86	0.89	0.91	0.89	0.89	0.90	0.91	0.89
Kingston-Pembroke	0.82	n.r	n.r	n.r	n.r	n.r	n.r	0.88	0.84	0.86	0.85	0.81
Muskoka-Kawartha	0.75	n.r	n.r	n.r	n.r	n.r	n.r	0.85	0.80	0.82	0.82	0.76
Kitchener-Waterloo, Barrie & Stratford--Bruce Peninsula	0.86	0.81	0.86	0.85	0.88	0.87	0.89	0.87	0.86	0.85	0.85	0.84
Hamilton-Niagara Peninsula	0.85	0.85	0.84	0.86	0.86	0.89	0.87	0.86	0.85	0.83	0.84	0.83
London	0.84	0.73	0.79	0.81	0.84	0.85	0.83	0.82	0.83	0.87	0.89	0.86
Windsor-Sarnia	0.81	0.79	0.79	0.75	0.77	0.87	0.90	0.88	0.80	0.80	0.80	0.76
Northeast or Northwest Ontario	0.79	0.79	0.78	0.81	0.82	n.r.	0.86	0.83	0.77	0.77	0.78	0.78
<b>Held K-12 permit</b>												
No previous permit	0.78	0.75	0.75	0.74	0.76	0.78	0.82	0.81	0.78	0.78	0.78	0.72
Previously had K-12/CEGEP permit	0.91	0.86	0.87	0.88	0.89	0.85	0.90	0.91	0.93	0.93	0.93	0.91
<b>Had other PSE study permit</b>												
No previous permit	0.79	0.76	0.76	0.75	0.78	0.78	0.82	0.82	0.79	0.79	0.79	0.76
Previously had another region permit	0.85	0.79	0.78	0.79	0.83	0.84	0.89	0.87	0.88	0.90	0.85	0.80

Notes: n.r = Not releasable by Statistics Canada due to disclosure concerns.

**Table 4 Regression analysis: Public Ontario college or university attendance (1=yes), student variables by year of first study permit**

	All Years	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Region/country of citizenship (India)</b>												
China	0.042*** (0.0017)	0.0093 (0.0061)	0.057*** (0.0062)	0.022*** (0.0062)	-0.039*** (0.0056)	-0.024*** (0.0063)	-0.047*** (0.0055)	-0.019*** (0.0053)	0.050*** (0.0050)	0.071*** (0.0046)	0.097*** (0.0046)	0.13*** (0.0088)
US	-0.036*** (0.0056)	-0.12*** (0.018)	-0.051** (0.019)	-0.085*** (0.020)	-0.15*** (0.019)	-0.084*** (0.021)	-0.076*** (0.019)	-0.031 (0.018)	0.052*** (0.015)	0.013 (0.017)	0.018 (0.017)	0.034 (0.029)
Central America & Caribbean	-0.11*** (0.0049)	-0.14*** (0.016)	-0.19*** (0.019)	-0.18*** (0.018)	-0.27*** (0.019)	-0.18*** (0.019)	-0.14*** (0.017)	-0.078*** (0.015)	-0.039** (0.014)	-0.10*** (0.013)	-0.036** (0.013)	-0.037 (0.024)
South America	-0.23*** (0.0038)	-0.29*** (0.017)	-0.39*** (0.017)	-0.45*** (0.013)	-0.39*** (0.011)	-0.39*** (0.011)	-0.19*** (0.013)	-0.12*** (0.012)	-0.086*** (0.011)	-0.14*** (0.011)	-0.12*** (0.010)	-0.13*** (0.019)
West & North Europe	-0.11*** (0.0051)	-0.065*** (0.015)	-0.16*** (0.017)	-0.19*** (0.018)	-0.35*** (0.018)	-0.13*** (0.017)	-0.15*** (0.016)	-0.079*** (0.015)	-0.067*** (0.015)	-0.079*** (0.016)	-0.033* (0.016)	-0.024 (0.031)
East & South Europe	-0.032*** (0.0045)	-0.041* (0.016)	-0.024 (0.017)	-0.11*** (0.017)	-0.15*** (0.015)	-0.15*** (0.017)	-0.092*** (0.015)	-0.019 (0.012)	0.012 (0.013)	-0.00023 (0.013)	0.041*** (0.013)	0.048* (0.024)
West Africa	0.045*** (0.0032)	-0.0010 (0.014)	-0.0000081 (0.015)	-0.0033 (0.014)	-0.030** (0.010)	0.0019 (0.010)	0.011 (0.0085)	0.050*** (0.0092)	0.090*** (0.0093)	0.040*** (0.010)	0.075*** (0.0091)	0.13*** (0.012)
East Africa	-0.020** (0.0065)	-0.042* (0.021)	-0.025 (0.026)	-0.014 (0.024)	-0.17*** (0.027)	-0.15*** (0.028)	-0.095*** (0.023)	-0.024 (0.020)	0.039* (0.017)	-0.028 (0.018)	0.074*** (0.016)	0.050 (0.029)
North Africa	-0.088*** (0.0065)	-0.10*** (0.022)	-0.032 (0.024)	-0.11*** (0.027)	-0.20*** (0.022)	-0.22*** (0.019)	-0.15*** (0.023)	-0.10*** (0.021)	-0.0058 (0.020)	-0.076*** (0.021)	-0.019 (0.018)	0.0042 (0.025)
Middle & South Africa	-0.023** (0.0085)	0.023 (0.029)	-0.18*** (0.037)	-0.13*** (0.030)	-0.12*** (0.031)	-0.032 (0.028)	-0.038 (0.027)	0.023 (0.026)	0.077*** (0.026)	0.024 (0.023)	-0.016 (0.020)	0.040 (0.031)
Central Asian & Middle East	-0.20*** (0.0032)	-0.22*** (0.0086)	-0.20*** (0.0098)	-0.24*** (0.011)	-0.28*** (0.011)	-0.35*** (0.013)	-0.36*** (0.013)	-0.22*** (0.012)	-0.22*** (0.011)	-0.15*** (0.0098)	-0.11*** (0.0092)	-0.0079 (0.014)
East Asia	-0.26*** (0.0036)	-0.31*** (0.011)	-0.30*** (0.012)	-0.35*** (0.012)	-0.37*** (0.012)	-0.33*** (0.013)	-0.29*** (0.012)	-0.27*** (0.011)	-0.21*** (0.011)	-0.22*** (0.011)	-0.18*** (0.011)	-0.065*** (0.017)
Southeast Asia	-0.033*** (0.0039)	-0.073*** (0.017)	-0.065*** (0.018)	-0.12*** (0.020)	-0.15*** (0.018)	-0.12*** (0.021)	-0.12*** (0.019)	-0.078*** (0.013)	0.016 (0.0092)	-0.033*** (0.0087)	0.028*** (0.0086)	0.037** (0.014)
South Asia	0.051*** (0.0033)	0.064*** (0.0087)	0.044*** (0.011)	0.016 (0.012)	-0.023* (0.011)	0.011 (0.012)	-0.028* (0.014)	0.014 (0.013)	0.087*** (0.010)	0.034** (0.010)	0.063*** (0.0086)	0.11*** (0.014)
Other	-0.060*** (0.011)	-0.032 (0.022)	-0.0061 (0.025)	-0.13*** (0.030)	-0.15*** (0.026)	-0.29*** (0.061)	-0.18*** (0.053)	-0.16** (0.057)	-0.032 (0.053)	-0.039 (0.050)	-0.016 (0.053)	-0.012 (0.080)
<b>Male/Female (Male)</b>												
Female	-0.055*** (0.0016)	0.0095 (0.0081)	0.0020 (0.0083)	0.0036 (0.0079)	-0.017* (0.0069)	-0.018** (0.0063)	-0.023*** (0.0054)	-0.029*** (0.0045)	-0.040*** (0.0039)	-0.055*** (0.0037)	-0.077*** (0.0034)	-0.10*** (0.0072)
<b>Region*Female interaction (India*F)</b>												
China*F	0.086***	0.038***	0.039***	0.047***	0.055***	0.058***	0.069***	0.083***	0.055***	0.061***	0.094***	0.10***

	All Years	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
US*F	(0.0023) 0.060***	(0.010) 0.066*	(0.0099) 0.026	(0.0097) 0.0043	(0.0085) -0.018	(0.0089) 0.032	(0.0076) 0.0096	(0.0070) 0.043	(0.0064) 0.024	(0.0058) 0.032	(0.0057) 0.039	(0.010) 0.091*
Central America & Caribbean*F	(0.0081) 0.065***	(0.026) -0.051*	(0.027) -0.016	(0.029) -0.048	(0.029) 0.062*	(0.030) -0.0025	(0.028) 0.048*	(0.025) 0.049*	(0.021) 0.075***	(0.024) 0.075***	(0.024) 0.10***	(0.042) 0.15***
South America*F	(0.0066) 0.073***	(0.023) -0.046	(0.025) 0.020	(0.026) 0.021	(0.025) 0.036*	(0.025) 0.043*	(0.022) 0.031	(0.019) 0.019	(0.019) 0.032*	(0.018) 0.067***	(0.017) 0.088***	(0.032) 0.14***
West & North Europe*F	(0.0055) 0.060***	(0.024) -0.0049	(0.025) -0.011	(0.020) -0.020	(0.017) 0.028	(0.017) -0.024	(0.019) 0.054*	(0.017) 0.013	(0.016) 0.031	(0.015) 0.080***	(0.014) 0.093***	(0.025) 0.18***
East & South Europe*F	(0.0070) 0.064***	(0.021) 0.0046	(0.025) -0.013	(0.025) 0.063**	(0.025) 0.047*	(0.024) 0.033	(0.022) 0.023	(0.020) 0.039*	(0.020) 0.039*	(0.021) 0.067***	(0.021) 0.045*	(0.041) 0.083*
West Africa*F	(0.0063) 0.057***	(0.023) -0.028	(0.023) 0.0034	(0.023) 0.0097	(0.020) 0.015	(0.023) -0.011	(0.020) 0.0089	(0.017) 0.044***	(0.018) 0.048***	(0.018) 0.073***	(0.018) 0.093***	(0.033) 0.084***
East Africa*F	(0.0048) 0.092***	(0.021) -0.018	(0.024) 0.056	(0.021) -0.038	(0.017) 0.089*	(0.016) 0.019	(0.013) 0.030	(0.013) 0.10***	(0.013) 0.072**	(0.014) 0.12***	(0.013) 0.094***	(0.017) 0.16***
North Africa*F	(0.0089) 0.11***	(0.031) 0.024	(0.034) -0.0063	(0.035) 0.11*	(0.036) -0.020	(0.041) 0.044	(0.033) 0.076	(0.025) 0.13***	(0.023) 0.071*	(0.025) 0.11***	(0.021) 0.13***	(0.038) 0.15***
Middle & South Africa*F	(0.011) 0.047***	(0.046) -0.058	(0.048) -0.091	(0.048) 0.063	(0.041) 0.057	(0.040) -0.019	(0.039) 0.027	(0.033) 0.027	(0.031) -0.0018	(0.033) 0.043	(0.027) 0.086**	(0.039) 0.11**
Central Asian & Middle East*F	(0.012) 0.13***	(0.045) 0.091***	(0.052) 0.077***	(0.038) 0.040*	(0.046) 0.047*	(0.044) 0.15***	(0.041) 0.10***	(0.036) 0.11***	(0.038) 0.072***	(0.032) 0.12***	(0.029) 0.18***	(0.044) 0.18***
East Asia*F	(0.0052) 0.021***	(0.016) -0.031	(0.017) -0.039*	(0.019) -0.052**	(0.019) -0.038*	(0.022) -0.046**	(0.021) -0.0030	(0.019) 0.0039	(0.017) 0.0028	(0.015) 0.023	(0.013) 0.051***	(0.019) -0.0020
Southeast Asia*F	(0.0048) 0.070***	(0.016) -0.057*	(0.017) -0.035	(0.017) -0.014	(0.017) -0.040	(0.018) 0.023	(0.016) 0.023	(0.015) 0.061***	(0.014) 0.047***	(0.014) 0.091***	(0.014) 0.10***	(0.022) 0.11***
South Asia*F	(0.0051) 0.072***	(0.024) 0.0034	(0.026) 0.034	(0.028) 0.022	(0.026) 0.022	(0.027) -0.023	(0.026) 0.051*	(0.017) 0.067***	(0.012) 0.047**	(0.011) 0.096***	(0.011) 0.11***	(0.018) 0.075**
Other*F	(0.0058) 0.054***	(0.017) -0.028	(0.021) 0.021	(0.023) 0.027	(0.021) -0.046	(0.028) 0.14	(0.024) 0.040	(0.020) 0.085	(0.017) -0.051	(0.016) 0.077	(0.014) 0.026	(0.025) 0.19
	(0.016)	(0.033)	(0.035)	(0.042)	(0.040)	(0.082)	(0.077)	(0.078)	(0.079)	(0.071)	(0.074)	(0.11)
<b>Location when applying for permit (same as citizenship)</b>												
Different than citizenship	0.059*** (0.0018)		0.016* (0.0068)	0.061*** (0.0078)	0.079*** (0.0086)	0.061*** (0.0042)	0.051*** (0.0038)	0.049*** (0.0071)	0.10*** (0.0069)	0.059*** (0.0067)	0.063*** (0.0061)	0.086*** (0.012)
Canada	0.049*** (0.0016)	(0.0070)	0.16*** (0.026)	0.055*** (0.016)	0.067*** (0.0048)	0.088*** (0.010)	0.073*** (0.0050)	0.033*** (0.0044)	0.052*** (0.0043)	0.039*** (0.0040)	0.033*** (0.0039)	0.023*** (0.0062)
<b>Age (Age 18)</b>												
Age 16-17	-0.0015 (0.0022)	-0.036** (0.011)	-0.045*** (0.011)	-0.041*** (0.0098)	-0.015 (0.0084)	-0.0062 (0.0086)	-0.0028 (0.0072)	-0.0097 (0.0066)	-0.0010 (0.0060)	0.015** (0.0055)	0.021*** (0.0054)	0.0086 (0.0092)
Age 19-20	-0.043***	-0.0076	-0.032***	-0.032***	-0.013*	-0.017**	-0.017***	-0.020***	-0.050***	-0.065***	-0.070***	-0.068***



	All Years	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Age 21-22	(0.0015) -0.020***	(0.0068) -0.030***	(0.0066) -0.060***	(0.0063) -0.049***	(0.0057) -0.025***	(0.0062) -0.037***	(0.0049) -0.032***	(0.0043) -0.0045	(0.0040) -0.010*	(0.0039) -0.019***	(0.0038) 0.013***	(0.0065) -0.034***
Age 23-24	(0.0016) -0.020***	(0.0068) -0.034***	(0.0065) -0.052***	(0.0063) -0.061***	(0.0059) -0.043***	(0.0063) -0.061***	(0.0053) -0.029***	(0.0045) -0.018***	(0.0042) -0.025***	(0.0040) -0.016***	(0.0040) 0.025***	(0.0082) 0.0092
Age 25-29	(0.0016) -0.032***	(0.0071) -0.039***	(0.0068) -0.056***	(0.0066) -0.072***	(0.0060) -0.051***	(0.0065) -0.067***	(0.0055) -0.041***	(0.0049) -0.029***	(0.0045) -0.041***	(0.0042) -0.030***	(0.0041) 0.0035	(0.0080) -0.012
Age 30-39	(0.0017) -0.039***	(0.0072) -0.045***	(0.0072) -0.058***	(0.0071) -0.081***	(0.0064) -0.078***	(0.0069) -0.076***	(0.0060) -0.070***	(0.0054) -0.049***	(0.0049) -0.090***	(0.0045) -0.036***	(0.0043) 0.0015	(0.0078) -0.026**
Age 40+	(0.0026) -0.070***	(0.0100) -0.24***	(0.010) -0.16***	(0.010) -0.15***	(0.0094) -0.12***	(0.0097) -0.068***	(0.0091) -0.081***	(0.0082) -0.055***	(0.0076) -0.086***	(0.0069) -0.020	(0.0061) -0.0075	(0.0097) -0.085***
	(0.0046)	(0.018)	(0.020)	(0.022)	(0.019)	(0.018)	(0.017)	(0.015)	(0.013)	(0.012)	(0.010)	(0.016)
<b>Study permit cohort (2010)</b>												
2011	-0.013*** (0.0027)	-	-	-	-	-	-	-	-	-	-	-
2012	-0.017*** (0.0027)	-	-	-	-	-	-	-	-	-	-	-
2013	0.00023 (0.0026)	-	-	-	-	-	-	-	-	-	-	-
2014	-0.0089** (0.0028)	-	-	-	-	-	-	-	-	-	-	-
2015	0.024*** (0.0025)	-	-	-	-	-	-	-	-	-	-	-
2016	0.029*** (0.0024)	-	-	-	-	-	-	-	-	-	-	-
2017	0.0068** (0.0023)	-	-	-	-	-	-	-	-	-	-	-
2018	0.0086*** (0.0023)	-	-	-	-	-	-	-	-	-	-	-
2019	0.0013 (0.0022)	-	-	-	-	-	-	-	-	-	-	-
2020	-0.033*** (0.0029)	-	-	-	-	-	-	-	-	-	-	-
Intercept	0.84*** (0.0024)	0.87*** (0.0068)	0.87*** (0.0067)	0.89*** (0.0063)	0.93*** (0.0055)	0.91*** (0.0061)	0.91*** (0.0047)	0.87*** (0.0039)	0.84*** (0.0037)	0.84*** (0.0035)	0.81*** (0.0034)	0.77*** (0.0073)
Observations	682,530	48,570	43,880	42,640	46,490	39,850	48,810	69,060	90,900	101,300	113,580	37,480
R2	0.070	0.106	0.122	0.154	0.153	0.152	0.100	0.057	0.052	0.045	0.044	0.058

**Notes:** This table shows the results of a series of linear probability models measuring if a student was observed as attending a public Ontario college or university (=1) as the outcome variable. Separate models measure this outcome across the years a student was first issued an Ontario study permit, from 2010 to 2020, as well as combined across all years six (column 1). 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 5 Regression analysis: Public Ontario college or university attendance (1=yes), study variables by year of first study permit**

	All Years	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Permit credential level (BA)</b>												
ESL	-0.27*** (0.0023)	-	-	-	-	-0.36*** (0.012)	-0.35*** (0.0072)	-0.31*** (0.0061)	-0.25*** (0.0051)	-0.21*** (0.0050)	-0.19*** (0.0053)	-0.26*** (0.010)
College certificate	-0.040*** (0.0019)	-	-	-	-	-0.0063 (0.011)	-0.016* (0.0071)	-0.0074 (0.0049)	-0.062*** (0.0046)	-0.030*** (0.0045)	0.0094* (0.0042)	-0.0000060 (0.0079)
College diploma	-0.089*** (0.0015)	-	-	-	-	-0.0042 (0.0078)	-0.0068 (0.0048)	-0.051*** (0.0039)	-0.10*** (0.0037)	-0.069*** (0.0037)	-0.057*** (0.0036)	-0.094*** (0.0065)
Trades, vocational, college program	-0.27*** (0.0043)	-0.27*** (0.0070)	-0.28*** (0.0083)	-0.37*** (0.010)	-0.40*** (0.015)	-0.49*** (0.034)	-0.40*** (0.098)	-0.16* (0.072)	-0.31*** (0.083)	-0.57*** (0.054)	-0.50*** (0.061)	-0.53*** (0.054)
Applied degree	-0.023*** (0.0050)					0.0022 (0.026)	-0.0083 (0.015)	0.0066 (0.011)	-0.022 (0.011)	-0.025* (0.012)	0.0022 (0.012)	0.026 (0.017)
MA	0.048*** (0.0016)	0.047*** (0.0053)	0.050*** (0.0056)	0.051*** (0.0056)	0.046*** (0.0053)	-0.019* (0.0090)	0.0038 (0.0063)	0.032*** (0.0049)	0.037*** (0.0046)	0.051*** (0.0046)	0.097*** (0.0043)	0.12*** (0.0091)
PhD	0.0030 (0.0031)	0.064*** (0.0065)	0.072*** (0.0067)	0.035*** (0.0089)	0.017 (0.0094)	-0.020 (0.013)	-0.043*** (0.012)	-0.058*** (0.012)	-0.063*** (0.011)	-0.053*** (0.010)	0.0012 (0.0093)	0.041* (0.017)
Other/missing	-0.12*** (0.0015)	-0.19*** (0.0043)	-0.18*** (0.0046)	-0.17*** (0.0046)	-0.16*** (0.0042)	-0.13*** (0.0050)	-0.056*** (0.0046)	-0.077*** (0.0063)	-0.10*** (0.0059)	-0.053*** (0.0055)	-0.017*** (0.0052)	-0.0046 (0.010)
<b>Region of study (Toronto)</b>												
Ottawa	0.086*** (0.0017)	0.029*** (0.0064)	0.041*** (0.0071)	0.058*** (0.0070)	0.054*** (0.0067)	0.13*** (0.0067)	0.091*** (0.0053)	0.057*** (0.0051)	0.085*** (0.0047)	0.11*** (0.0043)	0.14*** (0.0040)	0.11*** (0.0072)
Kingston-Pembroke	0.068*** (0.0029)	0.042** (0.016)	0.015 (0.016)	0.050** (0.016)	0.063*** (0.014)	0.083* (0.040)	0.11*** (0.0087)	0.052*** (0.0078)	0.046*** (0.0071)	0.086*** (0.0066)	0.091*** (0.0064)	0.045*** (0.013)
Muskoka-Kawartha	0.050*** (0.0037)	-0.069** (0.022)	0.0041 (0.021)	0.013 (0.021)	0.089*** (0.019)	0.12*** (0.017)	0.063*** (0.012)	0.032** (0.011)	0.031*** (0.0084)	0.059*** (0.0088)	0.070*** (0.0081)	0.0057 (0.021)
Kitchener-Waterloo, Barrie & Stratford-Bruce Peninsula	0.083*** (0.0016)	0.0037 (0.0081)	0.049*** (0.0078)	0.076*** (0.0077)	0.078*** (0.0068)	0.12*** (0.0097)	0.083*** (0.0054)	0.057*** (0.0048)	0.072*** (0.0043)	0.089*** (0.0037)	0.10*** (0.0035)	0.11*** (0.0067)
Hamilton-Niagara Peninsula	0.067*** (0.0018)	0.055*** (0.0065)	0.051*** (0.0070)	0.095*** (0.0070)	0.080*** (0.0071)	0.15*** (0.0074)	0.060*** (0.0059)	0.047*** (0.0050)	0.053*** (0.0049)	0.055*** (0.0045)	0.073*** (0.0046)	0.064*** (0.0076)
London	0.069*** (0.0020)	-0.054*** (0.0084)	0.021* (0.0085)	0.062*** (0.0094)	0.065*** (0.0088)	0.10*** (0.0091)	0.039*** (0.0071)	0.012* (0.0058)	0.052*** (0.0055)	0.10*** (0.0046)	0.13*** (0.0042)	0.12*** (0.0079)
Windsor-Sarnia	0.024*** (0.0019)	-0.026*** (0.0070)	-0.011 (0.0074)	0.0027 (0.0071)	-0.016** (0.0056)	0.11*** (0.0057)	0.088*** (0.0068)	0.044*** (0.0067)	0.0034 (0.0060)	0.027*** (0.0052)	0.035*** (0.0048)	0.028*** (0.010)
Northeast or Northwest Ontario	0.016*** (0.0028)	-0.010 (0.017)	-0.013 (0.018)	0.064*** (0.017)	0.076*** (0.015)	0.10*** (0.015)	0.053*** (0.010)	0.0099 (0.0085)	-0.014* (0.0070)	0.0056 (0.0061)	0.025*** (0.0056)	0.053*** (0.011)
<b>Held K-12 permit (No)</b>												
Had K-12 or CEGEP permit	0.092***	0.058***	0.078***	0.089***	0.079***	0.019*	0.046***	0.065***	0.088***	0.12***	0.14***	0.17***

Postsecondary pathways and outcomes of international students in Ontario

	All Years	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	(0.0014)	(0.0057)	(0.0059)	(0.0060)	(0.0053)	(0.0087)	(0.0050)	(0.0043)	(0.0040)	(0.0037)	(0.0037)	(0.0060)
<b>Had other PSE study permit (No)</b>												
Previously from other region	0.022*** (0.0024)	-0.0067 (0.010)	-0.012 (0.011)	0.031** (0.012)	0.023* (0.010)	0.042** (0.016)	0.039*** (0.0064)	0.020** (0.0065)	0.024** (0.0073)	0.036*** (0.0058)	0.039*** (0.0071)	0.045*** (0.0074)
<b>Study permit cohort (2010)</b>												
2011	-0.0076** (0.0027)	-	-	-	-	-	-	-	-	-	-	-
2012	-0.017*** (0.0027)	-	-	-	-	-	-	-	-	-	-	-
2013	0.0023 (0.0027)	-	-	-	-	-	-	-	-	-	-	-
2014	0.037*** (0.0028)	-	-	-	-	-	-	-	-	-	-	-
2015	0.053*** (0.0025)	-	-	-	-	-	-	-	-	-	-	-
2016	0.037*** (0.0025)	-	-	-	-	-	-	-	-	-	-	-
2017	0.023*** (0.0024)	-	-	-	-	-	-	-	-	-	-	-
2018	0.019*** (0.0024)	-	-	-	-	-	-	-	-	-	-	-
2019	0.0062** (0.0024)	-	-	-	-	-	-	-	-	-	-	-
2020	-0.036*** (0.0029)	-	-	-	-	-	-	-	-	-	-	-
Intercept	0.82*** (0.0021)	0.88*** (0.0037)	0.86*** (0.0040)	0.84*** (0.0041)	0.86*** (0.0040)	0.85*** (0.0046)	0.85*** (0.0040)	0.86*** (0.0035)	0.86*** (0.0034)	0.81*** (0.0035)	0.77*** (0.0035)	0.74*** (0.0065)
Observations	682,530	48,570	43,880	42,640	46,490	39,850	48,810	69,060	90,900	101,300	113,580	37,480
R2	0.065	0.073	0.075	0.087	0.071	0.068	0.104	0.081	0.058	0.058	0.058	0.094

**Notes:** This table shows the results of a series of linear probability models measuring if a student was observed as attending a public Ontario college or university (=1) as the outcome variable. Separate models measure this outcome across the years a student was first issued an Ontario study permit, from 2010 to 2020, as well as combined across all years six (column 1). 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.

## PUBLIC PSE ENTRY ANALYSIS

### Entry to an Ontario College or University

**Table 6** Descriptive analysis: Proportion who first enrolled in an Ontario college or university

	Permits issued 2010-13		Permits issued 2014-16		Permits issued 2017-19	
	Sample proportion	% enrolled in university	Sample proportion	% enrolled in university	Sample proportion	% enrolled in university
<b>Total</b>	138,600	0.50	128,060	0.39	242,870	0.32
<b>Region/country of citizenship</b>						
India	0.25	0.14	0.38	0.11	0.53	0.12
China	0.31	0.65	0.26	0.72	0.18	0.82
US	0.02	0.86	0.02	0.81	0.01	0.83
Central America & Caribbean	0.03	0.42	0.03	0.27	0.02	0.28
South America	0.04	0.53	0.05	0.33	0.04	0.16
West & North Europe	0.03	0.85	0.03	0.85	0.02	0.84
East & South Europe	0.03	0.40	0.03	0.29	0.02	0.29
West Africa	0.04	0.64	0.04	0.57	0.02	0.64
East Africa	0.01	0.60	0.01	0.45	0.01	0.49
North Africa	0.01	0.73	0.01	0.65	0.01	0.71
Middle & South Africa	0.01	0.56	0.01	0.45	0.01	0.42
Central Asian & Middle East	0.08	0.66	0.04	0.58	0.04	0.51
East Asia	0.07	0.43	0.06	0.30	0.04	0.33
Southeast Asia	0.03	0.52	0.03	0.26	0.05	0.14
South Asia	0.03	0.76	0.02	0.70	0.02	0.52
Other	0.01	0.73	0.01	0.78	0.00	0.74
<b>Male/female</b>						
Male	0.47	0.58	0.56	0.36	0.55	0.31
Female	0.53	0.42	0.44	0.43	0.45	0.35
<b>Region*male/female interaction</b>						
<i>Males</i>						
India*M	0.32	0.15	0.46	0.12	0.59	0.13
China*M	0.26	0.63	0.21	0.69	0.15	0.80
US*M	0.02	0.85	0.01	0.79	0.01	0.83
Central America & Caribbean*M	0.02	0.44	0.02	0.32	0.02	0.31

	Permits issued 2010-13		Permits issued 2014-16		Permits issued 2017-19	
	Sample proportion	% enrolled in university	Sample proportion	% enrolled in university	Sample proportion	% enrolled in university
South America*M	0.03	0.58	0.04	0.36	0.03	0.18
West & North Europe*M	0.03	0.84	0.02	0.83	0.01	0.80
East & South Europe*M	0.03	0.44	0.03	0.30	0.02	0.30
West Africa*M	0.04	0.63	0.04	0.55	0.02	0.63
East Africa*M	0.01	0.61	0.01	0.44	0.01	0.47
North Africa*M	0.01	0.73	0.01	0.64	0.01	0.71
Middle & South Africa*M	0.01	0.62	0.01	0.47	0.00	0.42
Central Asian & Middle East*M	0.09	0.66	0.04	0.57	0.04	0.53
East Asia*M	0.05	0.48	0.04	0.34	0.03	0.37
Southeast Asia*M	0.02	0.57	0.02	0.30	0.04	0.17
South Asia*M	0.05	0.76	0.02	0.71	0.02	0.51
Other*M	0.01	0.73	0.01	0.75	0.00	0.71
<i>Females</i>						
India*F	0.16	0.13	0.29	0.09	0.45	0.10
China*F	0.37	0.67	0.31	0.75	0.21	0.85
US*F	0.03	0.85	0.02	0.82	0.01	0.83
Central America & Caribbean*F	0.04	0.41	0.04	0.24	0.03	0.26
South America*F	0.04	0.47	0.05	0.29	0.04	0.14
West & North Europe*F	0.04	0.87	0.03	0.87	0.02	0.86
East & South Europe*F	0.04	0.37	0.04	0.28	0.02	0.27
West Africa*F	0.04	0.66	0.04	0.59	0.02	0.65
East Africa*F	0.02	0.60	0.01	0.46	0.01	0.51
North Africa*F	0.01	0.74	0.01	0.68	0.01	0.71
Middle & South Africa*F	0.01	0.51	0.01	0.42	0.01	0.43
Central Asian & Middle East*F	0.06	0.66	0.03	0.59	0.03	0.49
East Asia*F	0.09	0.39	0.07	0.27	0.05	0.31
Southeast Asia*F	0.03	0.47	0.04	0.22	0.07	0.12
South Asia*F	0.02	0.78	0.01	0.67	0.02	0.53
Other*F	0.01	0.75	0.01	0.79	0.00	0.77
<b>Location when applying for permit</b>						
Same as citizenship	0.87	0.47	0.64	0.36	0.84	0.25
Different than citizenship	0.08	0.66	0.24	0.34	0.03	0.67
Canada	0.05	0.67	0.12	0.68	0.13	0.70
<b>Age</b>						
Age 16-17	0.04	0.65	0.06	0.56	0.05	0.59
Age 18	0.13	0.61	0.19	0.52	0.19	0.51
Age 19-20	0.21	0.54	0.22	0.44	0.21	0.33

	<i>Permits issued 2010-13</i>		<i>Permits issued 2014-16</i>		<i>Permits issued 2017-19</i>	
	<i>Sample proportion</i>	<i>% enrolled in university</i>	<i>Sample proportion</i>	<i>% enrolled in university</i>	<i>Sample proportion</i>	<i>% enrolled in university</i>
Age 21-22	0.21	0.46	0.18	0.31	0.18	0.25
Age 23-24	0.18	0.43	0.15	0.28	0.16	0.21
Age 25-29	0.16	0.45	0.14	0.33	0.14	0.23
Age 30-39	0.06	0.47	0.06	0.33	0.05	0.26
Age 40+	0.01	0.40	0.02	0.22	0.02	0.16
<b>Region of study</b>						
Ottawa	0.08	0.69	0.08	0.70	0.07	0.62
Kingston-Pembroke	0.01	0.89	0.02	0.63	0.03	0.45
Muskoka-Kawarths	0.01	0.65	0.02	0.24	0.02	0.18
Toronto	0.60	0.39	0.56	0.29	0.49	0.26
Kitchener-Waterloo, Barrie & Stratford, Bruce Peninsula	0.06	0.73	0.08	0.52	0.12	0.32
Hamilton-Niagara Peninsula	0.08	0.59	0.08	0.40	0.08	0.41
London	0.05	0.55	0.06	0.41	0.07	0.33
Windsor-Sarnia	0.10	0.68	0.07	0.61	0.07	0.35
Northeast or Northwest Ontario	0.01	0.64	0.03	0.40	0.05	0.27
<b>Study permit cohort</b>						
2010	0.50	0.27	-	-	-	-
2011	0.50	0.24	-	-	-	-
2012	0.50	0.23	-	-	-	-
2013	0.49	0.26	-	-	-	-
2014	-	-	0.24	0.40	-	-
2015	-	-	0.31	0.43	-	-
2016	-	-	0.44	0.36	-	-
2017	-	-	-	-	0.30	0.32
2018	-	-	-	-	0.33	0.33
2019	-	-	-	-	0.37	0.32

**Table 7**      **Regression analysis: First enrolled in an Ontario college or university (1=University)**

	<i>Permits issued 2010-13</i>	<i>Permits issued 2014-16</i>	<i>Permits issued 2017-19</i>
<b>Region/country of citizenship (India)</b>			
China	0.43*** (0.0040)	0.51*** (0.0043)	0.62*** (0.0034)
US	0.65*** (0.0096)	0.65*** (0.013)	0.70*** (0.011)
Central America & Caribbean	0.27*** (0.011)	0.22*** (0.011)	0.23*** (0.0091)
South America	0.44*** (0.0096)	0.29*** (0.0087)	0.13*** (0.0061)
West & North Europe	0.62*** (0.0085)	0.66*** (0.0094)	0.63*** (0.0100)
East & South Europe	0.27*** (0.010)	0.18*** (0.010)	0.16*** (0.0099)
West Africa	0.40*** (0.0087)	0.34*** (0.0087)	0.41*** (0.0088)
East Africa	0.41*** (0.016)	0.30*** (0.018)	0.31*** (0.014)
North Africa	0.49*** (0.014)	0.45*** (0.014)	0.45*** (0.014)
Middle & South Africa	0.39*** (0.020)	0.28*** (0.025)	0.18*** (0.020)
Central Asian & Middle East	0.46*** (0.0061)	0.42*** (0.0092)	0.39*** (0.0071)
East Asia	0.33*** (0.0078)	0.24*** (0.0082)	0.27*** (0.0072)
Southeast Asia	0.38*** (0.012)	0.18*** (0.012)	0.061*** (0.0052)
South Asia	0.55*** (0.0073)	0.55*** (0.011)	0.35*** (0.0085)
Other	0.46*** (0.016)	0.57*** (0.036)	0.51*** (0.039)
<b>Male/Female (Male)</b>			
Female	-0.013** (0.0039)	-0.021*** (0.0028)	-0.022*** (0.0017)
<b>Region*Female interaction (India*F)</b>			
China*F	0.061*** (0.0059)	0.076*** (0.0055)	0.070*** (0.0040)

	<i>Permits issued 2010-13</i>	<i>Permits issued 2014-16</i>	<i>Permits issued 2017-19</i>
US*F	0.026 (0.014)	0.063*** (0.018)	0.016 (0.016)
Central America & Caribbean*F	0.0059 (0.015)	-0.032* (0.014)	0.0017 (0.012)
South America*F	-0.092*** (0.014)	-0.043*** (0.012)	-0.015* (0.0077)
West & North Europe*F	0.038** (0.011)	0.050*** (0.012)	0.080*** (0.013)
East & South Europe*F	-0.047** (0.014)	0.0098 (0.014)	0.0051 (0.013)
West Africa*F	0.040** (0.013)	0.054*** (0.013)	0.033** (0.012)
East Africa*F	-0.0014 (0.023)	0.023 (0.025)	0.051** (0.019)
North Africa*F	0.031 (0.027)	0.032 (0.025)	0.029 (0.022)
Middle & South Africa*F	-0.088** (0.029)	-0.034 (0.036)	0.028 (0.028)
Central Asian & Middle East*F	0.032** (0.010)	0.053*** (0.015)	0.017 (0.010)
East Asia*F	-0.074*** (0.011)	-0.040*** (0.010)	-0.022* (0.0092)
Southeast Asia*F	-0.082*** (0.016)	-0.039** (0.015)	-0.0098 (0.0064)
South Asia*F	0.047** (0.014)	0.010 (0.021)	0.052*** (0.014)
Other*F	0.050* (0.023)	0.098* (0.049)	0.068 (0.054)
<b>Location when applying for permit (same as citizenship)</b>			
Different than citizenship	0.093*** (0.0047)	0.014*** (0.0031)	0.25*** (0.0054)
Canada	0.087*** (0.0059)	0.10*** (0.0041)	0.082*** (0.0029)
<b>Age (Age 18)</b>			
Age 16-17	0.046*** (0.0062)	0.033*** (0.0052)	0.041*** (0.0039)
Age 19-20	-0.076*** (0.0041)	-0.084*** (0.0034)	-0.11*** (0.0023)
Age 21-22	-0.091***	-0.10***	-0.087***



	<i>Permits issued 2010-13</i>	<i>Permits issued 2014-16</i>	<i>Permits issued 2017-19</i>
Age 23-24	(0.0040) -0.11***	(0.0036) -0.11***	(0.0025) -0.098***
Age 25-29	(0.0042) -0.12***	(0.0037) -0.12***	(0.0025) -0.11***
Age 30-39	(0.0044) -0.17***	(0.0042) -0.19***	(0.0028) -0.20***
Age 40+	(0.0062) -0.28***	(0.0062) -0.32***	(0.0044) -0.35***
	(0.012)	(0.0095)	(0.0067)
<b>Region of study listed in permit (Toronto)</b>			
Ottawa	0.20*** (0.0045)	0.27*** (0.0048)	0.21*** (0.0036)
Kingston-Pembroke	0.40*** (0.0082)	0.24*** (0.0074)	0.14*** (0.0037)
Muskoka-Kawarths	0.23*** (0.010)	0.073*** (0.0066)	0.057*** (0.0040)
Kitchener-Waterloo, Barrie & Stratford, Bruce Peninsula	0.26*** (0.0046)	0.16*** (0.0041)	0.091*** (0.0022)
Hamilton-Niagara Peninsula	0.13*** (0.0043)	0.070*** (0.0039)	0.096*** (0.0028)
London	0.11*** (0.0056)	0.090*** (0.0045)	0.040*** (0.0029)
Windsor-Sarnia	0.22*** (0.0043)	0.29*** (0.0053)	0.23*** (0.0036)
Northeast or Northwest Ontario	0.18*** (0.010)	0.11*** (0.0076)	0.12*** (0.0038)
<b>Study permit cohort</b>			
<b>2010 (Reference in model 1)</b>			
2011	-0.0015 (0.0032)		
2012	-0.0029 (0.0033)		
2013	-0.043*** (0.0033)		
<b>2014 (Reference in model 2)</b>			
2015		0.019*** (0.0032)	
2016		0.0028 (0.0033)	

	<i>Permits issued 2010-13</i>	<i>Permits issued 2014-16</i>	<i>Permits issued 2017-19</i>
<b>2017(Reference in model 2)</b>			
2018			0.0011 (0.0018)
2019			0.010*** (0.0018)
Intercept	0.18*** (0.0043)	0.12*** (0.0040)	0.13*** (0.0023)
Observations	138,600	128,060	242,870
R2	0.272	0.377	0.429

**Notes:** Among students who attended a public Ontario postsecondary institution, this table shows the results of three linear probability models measuring if a student was observed as attending a public Ontario college (=0) or university (=1) as the outcome variable. Separate models measure this outcome across the years a student was first issued an Ontario study permit. 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.

## Credential level at entry

**Table 8** Descriptive analysis: Credential level at entry, students issued permits between 2010-13

<b>N=138,600</b>	<i>Other</i> 0.12	<i>Certificate</i> 0.16	<i>Diploma</i> 0.27	<i>BA</i> 0.31	<i>Grad</i> 0.14
<b>Region/country of citizenship</b>					
India	0.03	0.28	0.55	0.05	0.09
China	0.12	0.11	0.16	0.48	0.13
US	0.03	0.04	0.08	0.37	0.47
Central America & Caribbean	0.12	0.17	0.29	0.29	0.13
South America	0.40	0.17	0.17	0.15	0.10
West & North Europe	0.42	0.04	0.09	0.30	0.16
East & South Europe	0.13	0.23	0.27	0.21	0.15
West Africa	0.05	0.19	0.13	0.53	0.11
East Africa	0.07	0.07	0.25	0.51	0.10
North Africa	0.18	0.06	0.08	0.31	0.36
Middle & South Africa	0.13	0.12	0.22	0.39	0.13
Central Asian & Middle East	0.18	0.12	0.06	0.34	0.30
East Asia	0.17	0.12	0.34	0.33	0.04
Southeast Asia	0.12	0.19	0.19	0.43	0.07
South Asia	0.03	0.05	0.15	0.53	0.24
Other	0.20	0.07	0.12	0.50	0.10
<b>Male/female</b>					
Male	0.11	0.16	0.30	0.29	0.15
Female	0.14	0.16	0.22	0.35	0.13
<b>Region*male/female interaction</b>					
<i>Males</i>					
India*M	0.02	0.26	0.57	0.05	0.10
China*M	0.13	0.11	0.17	0.46	0.13
US*M	0.03	0.04	0.09	0.34	0.49
Central America & Caribbean*M	0.09	0.15	0.32	0.28	0.15
South America*M	0.42	0.14	0.17	0.15	0.12
West & North Europe*M	0.38	0.04	0.10	0.30	0.18
East & South Europe*M	0.14	0.20	0.28	0.20	0.18
West Africa*M	0.04	0.21	0.13	0.48	0.14
East Africa*M	0.06	0.07	0.26	0.51	0.11
North Africa*M	0.17	0.07	0.08	0.31	0.37
Middle & South Africa*M	0.13	0.10	0.19	0.42	0.15

<b>N=138,600</b>	<i>Other</i>	<i>Certificate</i>	<i>Diploma</i>	<i>BA</i>	<i>Grad</i>
	0.12	0.16	0.27	0.31	0.14
Central Asian & Middle East*M	0.17	0.11	0.06	0.38	0.28
East Asia*M	0.13	0.09	0.35	0.38	0.06
Southeast Asia*M	0.09	0.16	0.19	0.49	0.07
South Asia*M	0.03	0.05	0.16	0.52	0.24
Other*M	0.17	0.07	0.14	0.51	0.11
<i>Females</i>					
India*F	0.05	0.32	0.50	0.06	0.07
China*F	0.11	0.10	0.15	0.49	0.14
US*F	0.03	0.05	0.07	0.40	0.45
Central America & Caribbean*F	0.14	0.18	0.27	0.30	0.10
South America*F	0.39	0.20	0.17	0.15	0.08
West & North Europe*F	0.46	0.03	0.07	0.29	0.14
East & South Europe*F	0.13	0.26	0.27	0.21	0.13
West Africa*F	0.05	0.15	0.13	0.60	0.07
East Africa*F	0.08	0.08	0.24	0.52	0.08
North Africa*F	0.21	0.06	0.06	0.32	0.35
Middle & South Africa*F	0.15	0.13	0.24	0.35	0.13
Central Asian & Middle East*F	0.18	0.14	0.05	0.27	0.36
East Asia*F	0.20	0.14	0.34	0.29	0.03
Southeast Asia*F	0.14	0.22	0.19	0.39	0.07
South Asia*F	0.03	0.07	0.12	0.54	0.23
Other*F	0.24	0.06	0.11	0.50	0.09
<b>Location when applying for permit</b>					
Same as citizenship	0.12	0.17	0.28	0.29	0.14
Different than citizenship	0.09	0.10	0.18	0.47	0.16
Canada	0.09	0.08	0.17	0.56	0.10
<b>Age</b>					
Age 16-17	0.06	0.05	0.24	0.65	0.00
Age 18	0.09	0.06	0.25	0.60	0.00
Age 19-20	0.16	0.09	0.29	0.47	0.01
Age 21-22	0.14	0.18	0.30	0.27	0.11
Age 23-24	0.10	0.23	0.27	0.19	0.20
Age 25-29	0.09	0.24	0.23	0.11	0.33
Age 30-39	0.13	0.20	0.21	0.06	0.40
Age 40+	0.22	0.18	0.21	0.06	0.32
<b>Region of study</b>					
Ottawa	0.23	0.05	0.14	0.36	0.22

<b>N=138,600</b>	<i>Other</i> 0.12	<i>Certificate</i> 0.16	<i>Diploma</i> 0.27	<i>BA</i> 0.31	<i>Grad</i> 0.14
Kingston-Pembroke					
Muskoka-Kawarthas					
Toronto	0.11	0.19	0.34	0.27	0.09
Kitchener-Waterloo, Barrie & Stratford, Bruce Peninsula	0.12	0.10	0.12	0.41	0.25
Hamilton-Niagara Peninsula	0.04	0.20	0.20	0.41	0.15
London	0.18	0.12	0.17	0.31	0.22
Windsor-Sarnia	0.09	0.11	0.16	0.41	0.23
Northeast or Northwest Ontario	0.20	0.07	0.23	0.34	0.16
<b>Study permit cohort</b>					
2010	0.11	0.14	0.28	0.33	0.14
2011	0.11	0.16	0.27	0.33	0.14
2012	0.12	0.16	0.26	0.31	0.15
2013	0.14	0.18	0.26	0.29	0.14

**Table 9**      **Regression analysis: Credential level at entry, students issued permits between 2010-13**

	<i>Other</i>	<i>Certificate</i>	<i>Diploma</i>	<i>BA</i>	<i>Grad</i>
<b>Region/country of citizenship (India)</b>					
China	0.082*** (0.0021)	-0.13*** (0.0028)	-0.38*** (0.0033)	0.34*** (0.0026)	0.093*** (0.0024)
US	-0.0053 (0.0038)	-0.21*** (0.0046)	-0.43*** (0.0070)	0.40*** (0.0087)	0.24*** (0.0068)
Central America & Caribbean	0.070*** (0.0050)	-0.10*** (0.0058)	-0.24*** (0.0078)	0.26*** (0.0075)	0.015*** (0.0043)
South America	0.34*** (0.0064)	-0.11*** (0.0050)	-0.37*** (0.0060)	0.14*** (0.0063)	-0.0051 (0.0035)
West & North Europe	0.37*** (0.0072)	-0.21*** (0.0040)	-0.44*** (0.0058)	0.21*** (0.0065)	0.068*** (0.0051)
East & South Europe	0.11*** (0.0054)	-0.041*** (0.0061)	-0.27*** (0.0070)	0.14*** (0.0060)	0.060*** (0.0048)
West Africa	0.012** (0.0036)	-0.055*** (0.0061)	-0.39*** (0.0062)	0.43*** (0.0066)	-0.0015 (0.0038)
East Africa	0.027*** (0.0061)	-0.17*** (0.0074)	-0.27*** (0.012)	0.42*** (0.012)	-0.0026 (0.0061)
North Africa	0.17*** (0.012)	-0.18*** (0.0087)	-0.43*** (0.011)	0.31*** (0.013)	0.13*** (0.0091)
Middle & South Africa	0.082*** (0.010)	-0.13*** (0.012)	-0.29*** (0.015)	0.31*** (0.015)	0.016* (0.0081)
Central Asian & Middle East	0.15*** (0.0042)	-0.12*** (0.0042)	-0.48*** (0.0038)	0.31*** (0.0049)	0.14*** (0.0036)
East Asia	0.12*** (0.0039)	-0.16*** (0.0036)	-0.23*** (0.0055)	0.32*** (0.0053)	-0.045*** (0.0025)
Southeast Asia	0.076*** (0.0055)	-0.037*** (0.0077)	-0.36*** (0.0071)	0.31*** (0.0077)	0.0077 (0.0054)
South Asia	-0.0054 (0.0033)	-0.19*** (0.0048)	-0.39*** (0.0064)	0.45*** (0.0066)	0.13*** (0.0055)
Other	0.25*** (0.014)	-0.16*** (0.0097)	-0.39*** (0.011)	0.25*** (0.012)	0.039*** (0.0092)
<b>Male/Female (Male)</b>					
Female	0.014*** (0.0017)	0.022*** (0.0020)	-0.028*** (0.0022)	0.0041* (0.0021)	-0.012*** (0.0016)
<b>Region*Female interaction (India*F)</b>					
China*F	0.053*** (0.0033)	-0.16*** (0.0047)	-0.36*** (0.0055)	0.34*** (0.0041)	0.12*** (0.0037)

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	<i>Other</i>	<i>Certificate</i>	<i>Diploma</i>	<i>BA</i>	<i>Grad</i>
US*F	-0.020*** (0.0059)	-0.23*** (0.0072)	-0.42*** (0.0094)	0.40*** (0.012)	0.27*** (0.0100)
Central America & Caribbean*F	0.082*** (0.0076)	-0.12*** (0.0080)	-0.24*** (0.010)	0.27*** (0.010)	0.011* (0.0052)
South America*F	0.32*** (0.0095)	-0.11*** (0.0081)	-0.33*** (0.0091)	0.13*** (0.0092)	-0.0059 (0.0048)
West & North Europe*F	0.39*** (0.010)	-0.24*** (0.0063)	-0.42*** (0.0081)	0.19*** (0.0087)	0.082*** (0.0076)
East & South Europe*F	0.087*** (0.0074)	-0.035*** (0.0089)	-0.25*** (0.0097)	0.14*** (0.0082)	0.055*** (0.0063)
West Africa*F	0.0044 (0.0063)	-0.10*** (0.0097)	-0.36*** (0.0096)	0.46*** (0.010)	0.0020 (0.0059)
East Africa*F	0.020* (0.0093)	-0.19*** (0.011)	-0.25*** (0.016)	0.42*** (0.017)	0.0016 (0.0081)
North Africa*F	0.17*** (0.023)	-0.21*** (0.015)	-0.42*** (0.019)	0.33*** (0.024)	0.13*** (0.016)
Middle & South Africa*F	0.078*** (0.015)	-0.14*** (0.017)	-0.23*** (0.021)	0.26*** (0.020)	0.028* (0.012)
Central Asian & Middle East*F	0.15*** (0.0075)	-0.14*** (0.0071)	-0.45*** (0.0066)	0.28*** (0.0084)	0.16*** (0.0058)
East Asia*F	0.14*** (0.0060)	-0.16*** (0.0061)	-0.20*** (0.0079)	0.25*** (0.0071)	-0.035*** (0.0036)
Southeast Asia*F	0.086*** (0.0085)	-0.039*** (0.011)	-0.32*** (0.010)	0.26*** (0.010)	0.017* (0.0071)
South Asia*F	-0.017* (0.0066)	-0.21*** (0.0091)	-0.38*** (0.011)	0.45*** (0.012)	0.15*** (0.010)
Other*F	0.28*** (0.020)	-0.20*** (0.013)	-0.38*** (0.015)	0.24*** (0.016)	0.053*** (0.014)
<b>Location when applying for permit (same as citizenship)</b>					
Different than citizenship	-0.056*** (0.0026)	-0.032*** (0.0036)	-0.047*** (0.0043)	0.12*** (0.0043)	0.010** (0.0031)
Canada	-0.053*** (0.0031)	-0.075*** (0.0039)	0.0038 (0.0055)	0.20*** (0.0054)	-0.072*** (0.0027)
<b>Age (Age 18)</b>					
Age 16-17	-0.026*** (0.0039)	-0.015*** (0.0033)	-0.0048 (0.0054)	0.045*** (0.0061)	0.00084 (0.00084)
Age 19-20	0.054*** (0.0028)	0.032*** (0.0026)	0.028*** (0.0035)	-0.12*** (0.0040)	0.0036*** (0.00060)
Age 21-22	0.053***	0.10***	-0.022***	-0.25***	0.12***

	<i>Other</i>	<i>Certificate</i>	<i>Diploma</i>	<i>BA</i>	<i>Grad</i>
	(0.0029)	(0.0027)	(0.0036)	(0.0041)	(0.0019)
Age 23-24	0.019***	0.16***	-0.043***	-0.33***	0.20***
	(0.0029)	(0.0031)	(0.0037)	(0.0041)	(0.0024)
Age 25-29	-0.0017	0.18***	-0.071***	-0.44***	0.33***
	(0.0029)	(0.0033)	(0.0038)	(0.0038)	(0.0030)
Age 30-39	0.0091*	0.16***	-0.068***	-0.50***	0.39***
	(0.0038)	(0.0052)	(0.0056)	(0.0039)	(0.0055)
Age 40+	0.054***	0.17***	-0.048***	-0.50***	0.32***
	(0.0081)	(0.012)	(0.012)	(0.0057)	(0.013)
<b>Region of study (Toronto)</b>					
Ottawa	0.098***	-0.13***	-0.11***	0.039***	0.095***
	(0.0036)	(0.0027)	(0.0041)	(0.0039)	(0.0034)
Kingston-Pembroke	0.15***	-0.15***	-0.20***	-0.059***	0.26***
	(0.010)	(0.0051)	(0.0084)	(0.0085)	(0.0092)
Muskoka-Kawarths	-0.031***	-0.036***	-0.13***	0.21***	-0.014
	(0.0078)	(0.0093)	(0.0097)	(0.011)	(0.0076)
Kitchener-Waterloo, Barrie & Stratford, Bruce Peninsula	0.0045	-0.060***	-0.16***	0.075***	0.14***
	(0.0034)	(0.0038)	(0.0042)	(0.0042)	(0.0040)
Hamilton-Niagara Peninsula	-0.070***	0.036***	-0.080***	0.051***	0.063***
	(0.0023)	(0.0042)	(0.0040)	(0.0038)	(0.0033)
London	0.070***	-0.059***	-0.11***	0.00096	0.097***
	(0.0043)	(0.0039)	(0.0047)	(0.0046)	(0.0038)
Windsor-Sarnia	-0.024***	-0.059***	-0.11***	0.084***	0.11***
	(0.0026)	(0.0031)	(0.0038)	(0.0038)	(0.0032)
Northeast or Northwest Ontario	0.047***	-0.11***	-0.030**	0.061***	0.032***
	(0.0074)	(0.0062)	(0.0099)	(0.0095)	(0.0065)
<b>Study permit cohort (2010)</b>					
2011	0.0051*	0.014***	-0.014***	-0.014***	0.0100***
	(0.0022)	(0.0025)	(0.0029)	(0.0029)	(0.0021)
2012	0.016***	0.020***	-0.020***	-0.047***	0.031***
	(0.0023)	(0.0025)	(0.0030)	(0.0029)	(0.0022)
2013	0.034***	0.051***	-0.012***	-0.10***	0.030***
	(0.0023)	(0.0027)	(0.0031)	(0.0029)	(0.0023)
Observations			138,600		

**Notes:** This table shows the average marginal effects produced through a multinomial logistic regression model that measures credential level at entry. Each column represents the five 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 10** Descriptive analysis: Credential level at entry, students issued permits between 2014-16

N=128,060	Other 0.08	Certificate 0.24	Diploma 0.33	BA 0.23	Grad 0.12
<b>Region/country of citizenship</b>					
India	0.02	0.36	0.52	0.03	0.08
China	0.10	0.10	0.13	0.52	0.15
US	0.02	0.05	0.11	0.39	0.42
Central America & Caribbean	0.06	0.30	0.36	0.18	0.10
South America	0.23	0.29	0.30	0.08	0.09
West & North Europe	0.53	0.05	0.08	0.21	0.13
East & South Europe	0.11	0.31	0.33	0.15	0.10
West Africa	0.03	0.23	0.17	0.41	0.16
East Africa	0.05	0.16	0.32	0.39	0.08
North Africa	0.18	0.13	0.08	0.42	0.20
Middle & South Africa	0.09	0.19	0.31	0.33	0.08
Central Asian & Middle East	0.12	0.19	0.13	0.27	0.29
East Asia	0.16	0.15	0.45	0.21	0.04
Southeast Asia	0.10	0.32	0.32	0.20	0.06
South Asia	0.02	0.08	0.19	0.40	0.31
Other	0.31	0.07	0.14	0.28	0.21
<b>Male/female</b>					
Male	0.07	0.24	0.36	0.20	0.13
Female	0.10	0.24	0.28	0.27	0.11
<b>Region*male/female interaction</b>					
<i>Males</i>					
India*M	0.01	0.33	0.53	0.03	0.09
China*M	0.10	0.11	0.15	0.50	0.14
US*M	0.03	0.04	0.13	0.35	0.45
Central America & Caribbean*M	0.06	0.26	0.37	0.17	0.14
South America*M	0.24	0.27	0.29	0.09	0.11
West & North Europe*M	0.47	0.04	0.10	0.22	0.16
East & South Europe*M	0.10	0.29	0.34	0.15	0.12
West Africa*M	0.03	0.23	0.19	0.38	0.17
East Africa*M	0.05	0.14	0.35	0.36	0.09
North Africa*M	0.17	0.14	0.08	0.40	0.21
Middle & South Africa*M	0.10	0.16	0.32	0.32	0.10
Central Asian & Middle East*M	0.12	0.19	0.13	0.30	0.27
East Asia*M	0.13	0.12	0.46	0.24	0.05
Southeast Asia*M	0.09	0.28	0.33	0.22	0.08

N=128,060	Other 0.08	Certificate 0.24	Diploma 0.33	BA 0.23	Grad 0.12
South Asia*M	0.02	0.06	0.20	0.38	0.33
Other*M	0.29	0.06	0.14	0.26	0.26
<i>Females</i>					
India*F	0.03	0.40	0.48	0.03	0.05
China*F	0.09	0.10	0.11	0.54	0.16
US*F	0.03	0.06	0.09	0.43	0.39
Central America & Caribbean*F	0.06	0.34	0.35	0.18	0.07
South America*F	0.22	0.32	0.32	0.08	0.06
West & North Europe*F	0.57	0.05	0.07	0.21	0.10
East & South Europe*F	0.11	0.32	0.32	0.15	0.09
West Africa*F	0.04	0.24	0.14	0.45	0.14
East Africa*F	0.05	0.17	0.29	0.42	0.06
North Africa*F	0.19	0.12	0.06	0.47	0.16
Middle & South Africa*F	0.09	0.23	0.28	0.34	0.06
Central Asian & Middle East*F	0.12	0.20	0.12	0.24	0.32
East Asia*F	0.18	0.17	0.44	0.18	0.03
Southeast Asia*F	0.10	0.35	0.32	0.18	0.05
South Asia*F	0.02	0.12	0.17	0.45	0.25
Other*F	0.36	0.05	0.12	0.30	0.17
<b>Location when applying for permit</b>					
Same as citizenship	0.09	0.25	0.35	0.19	0.12
Different than citizenship	0.08	0.29	0.32	0.15	0.15
Canada	0.08	0.08	0.19	0.60	0.05
<b>Age</b>					
Age 16-17	0.04	0.05	0.36	0.56	
Age 18	0.05	0.05	0.39	0.50	0.00
Age 19-20	0.13	0.09	0.42	0.36	0.00
Age 21-22	0.11	0.36	0.29	0.08	0.16
Age 23-24	0.06	0.42	0.26	0.04	0.22
Age 25-29	0.07	0.40	0.22	0.04	0.27
Age 30-39	0.09	0.32	0.27	0.03	0.29
Age 40+	0.17	0.32	0.30	0.03	0.18
<b>Region of study</b>					
Ottawa	0.15	0.09	0.16	0.37	0.23
Kingston-Pembroke	0.20	0.06	0.26	0.25	0.23
Muskoka-Kawartha	n.r.	n.r.	n.r.	n.r.	n.r.
Toronto	0.07	0.26	0.39	0.21	0.06

<b>N=128,060</b>	<i>Other</i> 0.08	<i>Certificate</i> 0.24	<i>Diploma</i> 0.33	<i>BA</i> 0.23	<i>Grad</i> 0.12
Kitchener-Waterloo, Barrie & Stratford, Bruce Peninsula	0.11	0.22	0.22	0.31	0.14
Hamilton-Niagara Peninsula	0.05	0.23	0.36	0.23	0.12
London	0.08	0.32	0.21	0.24	0.15
Windsor-Sarnia	0.08	0.19	0.18	0.19	0.36
Northeast or Northwest Ontario	0.12	0.16	0.38	0.21	0.13
<b>Study permit cohort</b>					
2014	0.13	0.23	0.30	0.21	0.14
2015	0.09	0.22	0.31	0.26	0.12
2016	0.06	0.26	0.35	0.23	0.11

**Table 11**      **Regression analysis: Credential level at entry, students issued permits between 2014-16**

	<i>Other</i>	<i>Certificate</i>	<i>Diploma</i>	<i>BA</i>	<i>Grad</i>
<b>Region/country of citizenship (India)</b>					
China	0.070*** (0.0019)	-0.16*** (0.0032)	-0.40*** (0.0031)	0.33*** (0.0025)	0.16*** (0.0028)
US	0.0024 (0.0038)	-0.27*** (0.0053)	-0.40*** (0.0085)	0.44*** (0.0100)	0.23*** (0.0081)
Central America & Caribbean	0.045*** (0.0045)	-0.088*** (0.0065)	-0.18*** (0.0084)	0.21*** (0.0075)	0.012*** (0.0041)
South America	0.22*** (0.0058)	-0.11*** (0.0048)	-0.22*** (0.0068)	0.12*** (0.0061)	-0.012*** (0.0028)
West & North Europe	0.41*** (0.0079)	-0.26*** (0.0048)	-0.44*** (0.0059)	0.21*** (0.0065)	0.069*** (0.0057)
East & South Europe	0.092*** (0.0052)	-0.043*** (0.0067)	-0.21*** (0.0076)	0.13*** (0.0059)	0.031*** (0.0045)
West Africa	0.0082** (0.0027)	-0.040*** (0.0064)	-0.32*** (0.0067)	0.31*** (0.0058)	0.042*** (0.0039)
East Africa	0.024*** (0.0058)	-0.15*** (0.010)	-0.21*** (0.013)	0.32*** (0.012)	0.0086 (0.0070)
North Africa	0.14*** (0.0100)	-0.16*** (0.011)	-0.44*** (0.0093)	0.39*** (0.011)	0.073*** (0.0086)
Middle & South Africa	0.044*** (0.0082)	-0.099*** (0.015)	-0.20*** (0.018)	0.26*** (0.016)	-0.012 (0.0076)
Central Asian & Middle East	0.097*** (0.0050)	-0.13*** (0.0060)	-0.39*** (0.0059)	0.30*** (0.0069)	0.13*** (0.0047)
East Asia	0.13*** (0.0043)	-0.19*** (0.0043)	-0.12*** (0.0062)	0.22*** (0.0051)	-0.031*** (0.0028)
Southeast Asia	0.086*** (0.0059)	-0.020* (0.0082)	-0.23*** (0.0084)	0.16*** (0.0066)	0.00077 (0.0048)
South Asia	-0.0019 (0.0034)	-0.22*** (0.0070)	-0.34*** (0.0090)	0.39*** (0.0085)	0.18*** (0.0076)
Other	0.27*** (0.027)	-0.26*** (0.016)	-0.39*** (0.024)	0.26*** (0.026)	0.11*** (0.021)
<b>Male/Female (Male)</b>					
Female	0.012*** (0.0015)	0.033*** (0.0022)	-0.037*** (0.0023)	0.010*** (0.0018)	-0.019*** (0.0015)
<b>Region*Female interaction (India*F)</b>					
China*F	0.050*** (0.0027)	-0.20*** (0.0045)	-0.39*** (0.0045)	0.34*** (0.0034)	0.19*** (0.0038)

	<i>Other</i>	<i>Certificate</i>	<i>Diploma</i>	<i>BA</i>	<i>Grad</i>
US*F	-0.013* (0.0054)	-0.29*** (0.0083)	-0.41*** (0.010)	0.45*** (0.014)	0.26*** (0.012)
Central America & Caribbean*F	0.036*** (0.0062)	-0.088*** (0.0086)	-0.16*** (0.011)	0.21*** (0.0099)	0.0040 (0.0047)
South America*F	0.20*** (0.0082)	-0.12*** (0.0072)	-0.17*** (0.0097)	0.094*** (0.0085)	-0.0048 (0.0038)
West & North Europe*F	0.44*** (0.011)	-0.28*** (0.0072)	-0.42*** (0.0076)	0.20*** (0.0087)	0.065*** (0.0075)
East & South Europe*F	0.086*** (0.0074)	-0.059*** (0.0093)	-0.19*** (0.010)	0.12*** (0.0081)	0.038*** (0.0059)
West Africa*F	0.0019 (0.0048)	-0.057*** (0.010)	-0.33*** (0.0095)	0.32*** (0.0086)	0.064*** (0.0060)
East Africa*F	0.010 (0.0085)	-0.16*** (0.015)	-0.21*** (0.018)	0.34*** (0.016)	0.0091 (0.0090)
North Africa*F	0.15*** (0.018)	-0.19*** (0.019)	-0.43*** (0.015)	0.40*** (0.019)	0.070*** (0.015)
Middle & South Africa*F	0.030* (0.012)	-0.088*** (0.024)	-0.19*** (0.027)	0.25*** (0.024)	-0.0020 (0.011)
Central Asian & Middle East*F	0.089*** (0.0084)	-0.17*** (0.0094)	-0.37*** (0.0094)	0.29*** (0.011)	0.16*** (0.0073)
East Asia*F	0.14*** (0.0059)	-0.20*** (0.0063)	-0.094*** (0.0082)	0.17*** (0.0061)	-0.025*** (0.0032)
Southeast Asia*F	0.083*** (0.0080)	-0.032** (0.011)	-0.20*** (0.011)	0.15*** (0.0086)	0.00060 (0.0052)
South Asia*F	-0.019** (0.0058)	-0.22*** (0.013)	-0.34*** (0.015)	0.41*** (0.015)	0.17*** (0.013)
Other*F	0.28*** (0.038)	-0.30*** (0.020)	-0.38*** (0.029)	0.29*** (0.038)	0.10*** (0.025)
<b>Location when applying for permit (same as citizenship)</b>					
Different than citizenship	-0.024*** (0.0017)	0.0096*** (0.0028)	-0.0051 (0.0032)	0.016*** (0.0025)	0.0036 (0.0020)
Canada	-0.0038 (0.0025)	-0.059*** (0.0046)	0.028*** (0.0048)	0.095*** (0.0030)	-0.060*** (0.0024)
<b>Age (Age 18)</b>					
Age 16-17	-0.013*** (0.0028)	-0.0073* (0.0032)	-0.0095 (0.0050)	0.030*** (0.0053)	-0.00037 (0.00049)
Age 19-20	0.056*** (0.0022)	0.039*** (0.0025)	0.025*** (0.0034)	-0.12*** (0.0035)	0.0021*** (0.00045)
Age 21-22	0.067***	0.27***	-0.18***	-0.32***	0.16***

	<i>Other</i>	<i>Certificate</i>	<i>Diploma</i>	<i>BA</i>	<i>Grad</i>
Age 23-24	(0.0026) 0.030***	(0.0032) 0.32***	(0.0038) -0.20***	(0.0036) -0.38***	(0.0022) 0.23***
Age 25-29	(0.0027) 0.012***	(0.0035) 0.33***	(0.0039) -0.22***	(0.0034) -0.40***	(0.0028) 0.28***
Age 30-39	(0.0025) 0.0031	(0.0038) 0.29***	(0.0040) -0.18***	(0.0032) -0.41***	(0.0033) 0.30***
Age 40+	(0.0028) 0.043***	(0.0060) 0.33***	(0.0060) -0.17***	(0.0033) -0.42***	(0.0055) 0.21***
	(0.0054)	(0.012)	(0.011)	(0.0041)	(0.0098)
<b>Region of study (Toronto)</b>					
Ottawa	0.051*** (0.0030)	-0.13*** (0.0041)	-0.13*** (0.0045)	0.060*** (0.0032)	0.15*** (0.0039)
Kingston-Pembroke	0.13*** (0.0072)	-0.18*** (0.0056)	-0.10*** (0.0069)	-0.0056 (0.0053)	0.17*** (0.0073)
Muskoka-Kawarthas	-0.025*** (0.0056)	0.063*** (0.0082)	-0.11*** (0.0089)	0.11*** (0.0098)	-0.044*** (0.0039)
Kitchener-Waterloo, Barrie & Stratford, Bruce Peninsula	0.048*** (0.0031)	-0.022*** (0.0039)	-0.14*** (0.0039)	0.045*** (0.0033)	0.070*** (0.0031)
Hamilton-Niagara Peninsula	-0.021*** (0.0024)	-0.024*** (0.0041)	-0.0086* (0.0044)	0.0077* (0.0031)	0.046*** (0.0029)
London	0.019*** (0.0034)	0.031*** (0.0042)	-0.12*** (0.0046)	0.013*** (0.0036)	0.060*** (0.0030)
Windsor-Sarnia	-0.0021 (0.0026)	-0.087*** (0.0040)	-0.13*** (0.0047)	0.040*** (0.0040)	0.18*** (0.0036)
Northeast or Northwest Ontario	0.055*** (0.0055)	-0.11*** (0.0061)	-0.028*** (0.0075)	0.039*** (0.0061)	0.043*** (0.0048)
<b>Study permit cohort (2014)</b>					
2015	-0.041*** (0.0022)	0.0089** (0.0029)	0.010*** (0.0031)	0.011*** (0.0024)	0.011*** (0.0020)
2016	-0.061*** (0.0021)	0.038*** (0.0031)	0.0061 (0.0032)	0.0093*** (0.0024)	0.0085*** (0.0022)
Observations			128,060		

**Notes:** This table shows the average marginal effects produced through a multinomial logistic regression model that measures credential level at entry. Each column represents the five 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 12** Descriptive analysis: Credential level at entry, students issued permits between 2017-19

N=242,870	Other 0.06	Certificate 0.27	Diploma 0.37	BA 0.20	Grad 0.10
<b>Region/country of citizenship</b>					
India	0.04	0.37	0.47	0.04	0.07
China	0.08	0.06	0.10	0.64	0.12
US	0.02	0.06	0.08	0.46	0.38
Central America & Caribbean	0.04	0.28	0.39	0.21	0.08
South America	0.05	0.32	0.48	0.07	0.08
West & North Europe	0.49	0.05	0.10	0.24	0.12
East & South Europe	0.07	0.26	0.39	0.18	0.10
West Africa	0.03	0.15	0.17	0.50	0.15
East Africa	0.03	0.17	0.30	0.42	0.07
North Africa	0.05	0.08	0.18	0.48	0.20
Middle & South Africa	0.05	0.15	0.38	0.35	0.08
Central Asian & Middle East	0.07	0.21	0.22	0.22	0.28
East Asia	0.10	0.12	0.49	0.25	0.04
Southeast Asia	0.07	0.34	0.44	0.13	0.03
South Asia	0.02	0.18	0.27	0.32	0.20
Other	0.19	0.11	0.11	0.37	0.22
<b>Male/female</b>					
Male	0.05	0.27	0.40	0.18	0.10
Female	0.07	0.28	0.33	0.23	0.09
<b>Region*male/female interaction</b>					
<i>Males</i>					
India*M	0.03	0.35	0.49	0.04	0.09
China*M	0.08	0.07	0.12	0.63	0.10
US*M	0.02	0.04	0.11	0.43	0.41
Central America & Caribbean*M	0.04	0.22	0.42	0.21	0.11
South America*M	0.04	0.31	0.48	0.07	0.10
West & North Europe*M	0.42	0.06	0.12	0.25	0.14
East & South Europe*M	0.07	0.23	0.40	0.18	0.11
West Africa*M	0.03	0.14	0.20	0.48	0.15
East Africa*M	0.03	0.15	0.34	0.40	0.08
North Africa*M	0.05	0.09	0.18	0.45	0.23
Middle & South Africa*M	0.05	0.14	0.40	0.32	0.09
Central Asian & Middle East*M	0.06	0.20	0.21	0.24	0.28
East Asia*M	0.08	0.10	0.49	0.28	0.05
Southeast Asia*M	0.06	0.30	0.46	0.14	0.04

N=242,870	Other 0.06	Certificate 0.27	Diploma 0.37	BA 0.20	Grad 0.10
South Asia*M	0.03	0.16	0.30	0.31	0.21
Other*M	0.20	0.13	0.13	0.33	0.20
<i>Females</i>					
India*F	0.05	0.41	0.44	0.04	0.05
China*F	0.07	0.06	0.08	0.64	0.14
US*F	0.02	0.08	0.06	0.50	0.35
Central America & Caribbean*F	0.04	0.32	0.37	0.21	0.06
South America*F	0.05	0.34	0.48	0.08	0.06
West & North Europe*F	0.54	0.04	0.08	0.23	0.11
East & South Europe*F	0.08	0.28	0.37	0.18	0.09
West Africa*F	0.04	0.17	0.14	0.52	0.14
East Africa*F	0.04	0.19	0.27	0.44	0.06
North Africa*F	0.06	0.08	0.17	0.54	0.14
Middle & South Africa*F	0.06	0.15	0.35	0.37	0.06
Central Asian & Middle East*F	0.07	0.22	0.23	0.20	0.28
East Asia*F	0.11	0.14	0.49	0.23	0.03
Southeast Asia*F	0.07	0.36	0.43	0.11	0.02
South Asia*F	0.02	0.22	0.22	0.35	0.19
Other*F	0.21	0.14	0.07	0.36	0.21
<b>Location when applying for permit</b>					
Same as citizenship	0.06	0.31	0.40	0.13	0.10
Different than citizenship	0.06	0.12	0.18	0.44	0.20
Canada	0.07	0.08	0.19	0.62	0.04
<b>Age</b>					
Age 16-17	0.03	0.04	0.34	0.59	
Age 18	0.03	0.04	0.43	0.50	
Age 19-20	0.07	0.08	0.56	0.29	0.00
Age 21-22	0.06	0.41	0.31	0.07	0.15
Age 23-24	0.06	0.49	0.25	0.04	0.17
Age 25-29	0.06	0.49	0.23	0.02	0.20
Age 30-39	0.06	0.36	0.33	0.02	0.23
Age 40+	0.10	0.34	0.42	0.02	0.13
<b>Region of study</b>					
Ottawa	0.07	0.13	0.23	0.38	0.20
Kingston-Pembroke	0.11	0.18	0.34	0.21	0.16
Muskoka-Kawartha	0.02	0.52	0.30	0.12	0.03
Toronto	0.06	0.26	0.43	0.21	0.05



N=242,870	<i>Other</i> 0.06	<i>Certificate</i> 0.27	<i>Diploma</i> 0.37	<i>BA</i> 0.20	<i>Grad</i> 0.10
Kitchener-Waterloo, Barrie & Stratford, Bruce Peninsula	0.06	0.37	0.28	0.19	0.10
Hamilton-Niagara Peninsula	0.04	0.24	0.35	0.26	0.11
London	0.03	0.38	0.27	0.19	0.12
Windsor-Sarnia	0.05	0.24	0.36	0.05	0.29
Northeast or Northwest Ontario	0.07	0.28	0.41	0.15	0.09
<b>Study permit cohort</b>					
2017	0.07	0.27	0.37	0.20	0.10
2018	0.05	0.26	0.37	0.21	0.09
2019	0.05	0.28	0.37	0.20	0.10

**Table 13**      **Regression analysis: Credential level at entry, students issued permits between 2017-19**

	<i>Other</i>	<i>Certificate</i>	<i>Diploma</i>	<i>BA</i>	<i>Grad</i>
<b>Region/country of citizenship (India)</b>					
China	0.058*** (0.0018)	-0.20*** (0.0027)	-0.41*** (0.0022)	0.34*** (0.0022)	0.21*** (0.0029)
US	-0.019*** (0.0028)	-0.28*** (0.0048)	-0.41*** (0.0064)	0.42*** (0.0090)	0.28*** (0.0074)
Central America & Caribbean	0.0045 (0.0029)	-0.12*** (0.0050)	-0.14*** (0.0067)	0.22*** (0.0062)	0.035*** (0.0039)
South America	0.0077** (0.0025)	-0.11*** (0.0040)	-0.0090 (0.0061)	0.099*** (0.0052)	0.014*** (0.0027)
West & North Europe	0.43*** (0.0082)	-0.26*** (0.0049)	-0.40*** (0.0055)	0.15*** (0.0058)	0.079*** (0.0060)
East & South Europe	0.040*** (0.0043)	-0.061*** (0.0065)	-0.13*** (0.0072)	0.096*** (0.0048)	0.059*** (0.0052)
West Africa	0.0020 (0.0030)	-0.11*** (0.0063)	-0.28*** (0.0065)	0.30*** (0.0059)	0.091*** (0.0047)
East Africa	0.00048 (0.0042)	-0.095*** (0.0092)	-0.21*** (0.0095)	0.27*** (0.0078)	0.039*** (0.0068)
North Africa	0.033*** (0.0074)	-0.20*** (0.010)	-0.25*** (0.013)	0.29*** (0.010)	0.13*** (0.0096)
Middle & South Africa	0.016* (0.0065)	-0.12*** (0.013)	-0.081*** (0.015)	0.18*** (0.011)	0.0041 (0.0065)
Central Asian & Middle East	0.032*** (0.0030)	-0.16*** (0.0040)	-0.26*** (0.0052)	0.22*** (0.0051)	0.16*** (0.0036)
East Asia	0.058*** (0.0033)	-0.22*** (0.0035)	-0.050*** (0.0055)	0.21*** (0.0043)	0.0020 (0.0031)
Southeast Asia	0.037*** (0.0027)	-0.016*** (0.0047)	-0.072*** (0.0050)	0.071*** (0.0030)	-0.020*** (0.0022)
South Asia	-0.014*** (0.0022)	-0.14*** (0.0052)	-0.22*** (0.0069)	0.27*** (0.0059)	0.11*** (0.0044)
Other	0.17*** (0.027)	-0.20*** (0.022)	-0.37*** (0.023)	0.22*** (0.025)	0.18*** (0.023)
<b>Male/Female (Male)</b>					
Female	0.017*** (0.00095)	0.026*** (0.0016)	-0.032*** (0.0017)	0.0089*** (0.0011)	-0.020*** (0.0010)
<b>Region*Female interaction (India*F)</b>					
China*F	0.043*** (0.0025)	-0.24*** (0.0034)	-0.40*** (0.0029)	0.34*** (0.0028)	0.25*** (0.0037)

	<i>Other</i>	<i>Certificate</i>	<i>Diploma</i>	<i>BA</i>	<i>Grad</i>
US*F	-0.034*** (0.0039)	-0.27*** (0.0081)	-0.42*** (0.0072)	0.42*** (0.012)	0.31*** (0.011)
Central America & Caribbean*F	-0.0078* (0.0038)	-0.10*** (0.0068)	-0.16*** (0.0084)	0.24*** (0.0084)	0.024*** (0.0044)
South America*F	-0.0021 (0.0035)	-0.12*** (0.0056)	0.0068 (0.0083)	0.11*** (0.0074)	0.010** (0.0033)
West & North Europe*F	0.48*** (0.010)	-0.29*** (0.0063)	-0.41*** (0.0062)	0.14*** (0.0068)	0.083*** (0.0078)
East & South Europe*F	0.028*** (0.0059)	-0.063*** (0.0089)	-0.12*** (0.0098)	0.10*** (0.0070)	0.056*** (0.0065)
West Africa*F	-0.0027 (0.0050)	-0.10*** (0.0096)	-0.30*** (0.0089)	0.30*** (0.0082)	0.10*** (0.0068)
East Africa*F	-0.0057 (0.0065)	-0.081*** (0.013)	-0.23*** (0.013)	0.26*** (0.011)	0.049*** (0.0092)
North Africa*F	0.028* (0.013)	-0.21*** (0.017)	-0.24*** (0.021)	0.32*** (0.017)	0.10*** (0.015)
Middle & South Africa*F	0.0094 (0.0098)	-0.11*** (0.020)	-0.093*** (0.021)	0.19*** (0.015)	0.0066 (0.0081)
Central Asian & Middle East*F	0.022*** (0.0045)	-0.18*** (0.0058)	-0.23*** (0.0078)	0.23*** (0.0079)	0.16*** (0.0051)
East Asia*F	0.061*** (0.0046)	-0.22*** (0.0049)	-0.039*** (0.0069)	0.19*** (0.0053)	0.0014 (0.0035)
Southeast Asia*F	0.026*** (0.0034)	-0.021*** (0.0057)	-0.055*** (0.0062)	0.068*** (0.0038)	-0.018*** (0.0022)
South Asia*F	-0.034*** (0.0034)	-0.14*** (0.0087)	-0.25*** (0.011)	0.32*** (0.0099)	0.10*** (0.0069)
Other*F	0.17*** (0.038)	-0.23*** (0.030)	-0.37*** (0.030)	0.24*** (0.035)	0.18*** (0.033)
<b>Location when applying for permit (same as citizenship)</b>					
Different than citizenship	-0.012*** (0.0025)	-0.075*** (0.0051)	-0.14*** (0.0054)	0.15*** (0.0037)	0.081*** (0.0042)
Canada	0.010*** (0.0017)	-0.059*** (0.0038)	0.020*** (0.0040)	0.086*** (0.0021)	-0.058*** (0.0015)
<b>Age (Age 18)</b>					
Age 16-17	-0.0035 (0.0019)	0.0016 (0.0027)	-0.034*** (0.0044)	0.036*** (0.0042)	-0.000063 (0.00010)
Age 19-20	0.025*** (0.0013)	0.034*** (0.0018)	0.066*** (0.0026)	-0.13*** (0.0024)	0.0018*** (0.00022)
Age 21-22	0.040***	0.31***	-0.24***	-0.27***	0.16***

	<i>Other</i>	<i>Certificate</i>	<i>Diploma</i>	<i>BA</i>	<i>Grad</i>
	(0.0015)	(0.0023)	(0.0029)	(0.0025)	(0.0016)
Age 23-24	0.042***	0.37***	-0.29***	-0.31***	0.19***
	(0.0017)	(0.0025)	(0.0028)	(0.0024)	(0.0019)
Age 25-29	0.039***	0.41***	-0.31***	-0.35***	0.22***
	(0.0018)	(0.0028)	(0.0029)	(0.0022)	(0.0022)
Age 30-39	0.022***	0.37***	-0.25***	-0.37***	0.22***
	(0.0023)	(0.0049)	(0.0047)	(0.0021)	(0.0038)
Age 40+	0.038***	0.38***	-0.18***	-0.37***	0.13***
	(0.0040)	(0.0089)	(0.0085)	(0.0023)	(0.0053)
<b>Region of study (Toronto)</b>					
Ottawa	-0.0046**	-0.082***	-0.090***	0.047***	0.13***
	(0.0017)	(0.0037)	(0.0037)	(0.0022)	(0.0031)
Kingston-Pembroke	0.039***	-0.075***	-0.056***	-0.013***	0.10***
	(0.0032)	(0.0043)	(0.0047)	(0.0026)	(0.0034)
Muskoka-Kawarthas	-0.032***	0.096***	-0.11***	0.060***	-0.013***
	(0.0022)	(0.0049)	(0.0055)	(0.0048)	(0.0026)
Kitchener-Waterloo, Barrie & Stratford, Bruce Peninsula	0.0026	0.061***	-0.14***	0.031***	0.042***
	(0.0016)	(0.0024)	(0.0025)	(0.0019)	(0.0016)
Hamilton-Niagara Peninsula	-0.021***	-0.027***	-0.023***	0.019***	0.052***
	(0.0015)	(0.0032)	(0.0035)	(0.0021)	(0.0021)
London	-0.032***	0.084***	-0.081***	-0.016***	0.045***
	(0.0014)	(0.0031)	(0.0034)	(0.0022)	(0.0019)
Windsor-Sarnia	0.015***	-0.10***	-0.071***	-0.023***	0.18***
	(0.0024)	(0.0027)	(0.0034)	(0.0032)	(0.0025)
Northeast or Northwest Ontario	0.021***	-0.043***	-0.074***	0.047***	0.048***
	(0.0027)	(0.0035)	(0.0040)	(0.0032)	(0.0025)
<b>Study permit cohort (2017)</b>					
2018	-0.014***	-0.0079***	0.019***	0.012***	-0.0082***
	(0.0012)	(0.0020)	(0.0021)	(0.0014)	(0.0013)
2019	-0.015***	-0.0043*	0.012***	0.012***	-0.0049***
	(0.0012)	(0.0019)	(0.0020)	(0.0014)	(0.0013)
Observations			242,870		

**Notes:** This table shows the average marginal effects produced through a multinomial logistic regression model that measures credential level at entry. Each column represents the five 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. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

## CO-OP EXPERIENCE ANALYSIS

Table 14 Descriptive analysis: Received a co-op work permit

	Sample proportion	% received co-op work permit
<i>Observations</i>	282,520	0.34
<b>Region/country of citizenship</b>		
India	0.45	0.39
China	0.22	0.22
US	0.01	0.12
Central America & Caribbean	0.03	0.41
South America	0.04	0.42
West & North Europe	0.02	0.11
East & South Europe	0.02	0.39
West Africa	0.03	0.27
East Africa	0.01	0.31
North Africa	0.01	0.24
Middle & South Africa	0.01	0.22
Central Asian & Middle East	0.04	0.19
East Asia	0.05	0.37
Southeast Asia	0.04	0.53
South Asia	0.02	0.28
Other	0.002	0.10
<b>Male/female</b>		
Male	0.56	0.32
Female	0.44	0.35
<b>Region*male/female interaction</b>		
<i>Males</i>		
India*M	0.53	0.38
China*M	0.18	0.21
US*M	0.01	0.11
Central America & Caribbean*M	0.02	0.35
South America*M	0.04	0.40
West & North Europe*M	0.02	0.11
East & South Europe*M	0.02	0.36
West Africa*M	0.03	0.26
East Africa*M	0.01	0.29
North Africa*M	0.01	0.24

	<i>Sample proportion</i>	<i>% received co-op work permit</i>
<i>Observations</i>	<i>282,520</i>	<i>0.34</i>
Middle & South Africa*M	0.01	0.21
Central Asian & Middle East*M	0.04	0.18
East Asia*M	0.04	0.32
Southeast Asia*M	0.03	0.47
South Asia*M	0.02	0.27
Other*M	0.002	0.13
<i>Females</i>		
India*F	0.36	0.43
China*F	0.26	0.23
US*F	0.01	0.12
Central America & Caribbean*F	0.03	0.45
South America*F	0.05	0.45
West & North Europe*F	0.03	0.10
East & South Europe*F	0.03	0.42
West Africa*F	0.03	0.28
East Africa*F	0.01	0.33
North Africa*F	0.01	0.24
Middle & South Africa*F	0.01	0.23
Central Asian & Middle East*F	0.03	0.20
East Asia*F	0.06	0.40
Southeast Asia*F	0.06	0.57
South Asia*F	0.01	0.30
Other*F	0.002	0.08
<b>Location when applying for permit</b>		
Same as citizenship	0.75	0.33
Different than citizenship	0.12	0.47
Canada	0.13	0.23
<b>Age</b>		
Age 16-17	0.06	0.34
Age 18	0.19	0.30
Age 19-20	0.21	0.28
Age 21-22	0.18	0.36
Age 23-24	0.16	0.37
Age 25-29	0.13	0.38
Age 30-39	0.05	0.36
Age 40+	0.02	0.38

<i>Observations</i>	<i>Sample proportion</i>	<i>% received co-op work permit</i>
	<i>282,520</i>	<i>0.34</i>
<b>Initial PSIS program of entry</b>		
Other	0.07	0.19
Certificate	0.25	0.47
Diploma	0.35	0.39
BA	0.22	0.24
Grad	0.11	0.15
<b>Field of study at entry</b>		
Education	0.01	0.18
Arts	0.02	0.27
Humanities	0.08	0.20
Social Sciences	0.07	0.35
Business	0.35	0.36
Science	0.06	0.17
Math and Computer Science	0.10	0.44
Engineering	0.19	0.31
Agriculture and Resources	0.01	0.37
Health	0.05	0.47
Services	0.02	0.65
Other	0.04	0.27
<b>PT/FT at entry</b>		
Full-time study	0.64	0.33
Part-time study	0.05	0.23
No fall snapshot information	0.31	0.36
<b>Institution at entry</b>		
College	0.64	0.42
University	0.36	0.19
<b>Study permit cohort</b>		
2014	0.13	0.25
2015	0.14	0.30
2016	0.20	0.33
2017	0.26	0.37
2018	0.27	0.37

**Table 15**      **Regression analysis: Received a co-op work permit (1=Within 4 years of entry)**

	Student variables	Study variables	Student & study variables
<b>Region/country of citizenship (India)</b>			
China	-0.12*** (0.0031)		-0.0079* (0.0034)
US	-0.26*** (0.0075)		-0.099*** (0.0075)
Central America & Caribbean	-0.018* (0.0086)		0.028*** (0.0084)
South America	0.011 (0.0065)		0.072*** (0.0065)
West & North Europe	-0.26*** (0.0061)		-0.087*** (0.0066)
East & South Europe	-0.023** (0.0084)		0.019* (0.0080)
West Africa	-0.096*** (0.0066)		-0.024*** (0.0065)
East Africa	-0.090*** (0.012)		-0.033** (0.012)
North Africa	-0.15*** (0.010)		-0.029** (0.010)
Middle & South Africa	-0.16*** (0.015)		-0.087*** (0.015)
Central Asian & Middle East	-0.19*** (0.0052)		-0.087*** (0.0052)
East Asia	-0.035*** (0.0064)		0.020** (0.0062)
Southeast Asia	0.100*** (0.0074)		0.13*** (0.0073)
South Asia	-0.12*** (0.0078)		-0.023** (0.0077)
Other	-0.27*** (0.022)		-0.13*** (0.022)
<b>Male/Female (Male)</b>			
Female	0.047*** (0.0028)		0.033*** (0.0029)
<b>Region*Female interaction (India*F)</b>			
China*F	-0.033*** (0.0044)		-0.0055 (0.0043)



	Student variables	Study variables	Student & study variables
US*F	-0.040*** (0.011)		-0.035*** (0.010)
Central America & Caribbean*F	0.047*** (0.012)		0.039*** (0.011)
South America*F	0.0066 (0.0094)		0.011 (0.0091)
West & North Europe*F	-0.053*** (0.0082)		-0.019* (0.0079)
East & South Europe*F	0.010 (0.012)		0.023* (0.011)
West Africa*F	-0.034*** (0.0099)		-0.016 (0.0097)
East Africa*F	-0.012 (0.017)		0.000036 (0.017)
North Africa*F	-0.045* (0.019)		-0.034 (0.018)
Middle & South Africa*F	-0.038 (0.022)		-0.036 (0.022)
Central Asian & Middle East*F	-0.030*** (0.0084)		0.0025 (0.0080)
East Asia*F	0.034*** (0.0086)		0.046*** (0.0082)
Southeast Asia*F	0.042*** (0.0097)		0.047*** (0.0094)
South Asia*F	-0.031* (0.014)		-0.025 (0.013)
Other*F	-0.10*** (0.028)		-0.074** (0.028)
<b>Location when applying for first permit (same as citizenship)</b>			
Different than citizenship	0.23*** (0.0030)		0.22*** (0.0029)
Canada	-0.018*** (0.0027)		-0.020*** (0.0026)
<b>Age when first permit issued (Age 18)</b>			
Age 16-17	0.031*** (0.0042)		0.031*** (0.0041)
Age 19-20	-0.018*** (0.0026)		-0.025*** (0.0026)
Age 21-22	0.022***		0.011***

	Student variables	Study variables	Student & study variables
Age 23-24	(0.0029) 0.031***		(0.0031) 0.011**
Age 25-29	(0.0030) 0.035***		(0.0033) 0.013***
Age 30-39	(0.0032) 0.021***		(0.0036) -0.0044
Age 40+	(0.0044) 0.046***		(0.0047) 0.0056
	(0.0076)		(0.0075)
<b>Initial program of entry in public Ontario school (BA)</b>			
Other		-0.096*** (0.0041)	-0.089*** (0.0045)
Certificate		-0.013* (0.0054)	-0.028*** (0.0056)
Diploma		-0.11*** (0.0054)	-0.11*** (0.0055)
Grad		-0.087*** (0.0029)	-0.12*** (0.0036)
<b>Entry field of study (Business)</b>			
Education		-0.017 (0.0091)	-0.034*** (0.0092)
Arts		-0.082*** (0.0056)	-0.089*** (0.0057)
Humanities		-0.070*** (0.0034)	-0.069*** (0.0034)
Social sciences		0.055*** (0.0035)	0.047*** (0.0034)
Science		-0.086*** (0.0033)	-0.087*** (0.0033)
Math and computer science		0.11*** (0.0033)	0.11*** (0.0032)
Engineering		0.0026 (0.0026)	0.0096*** (0.0026)
Agriculture		0.052*** (0.0090)	0.050*** (0.0089)
Health		0.078*** (0.0044)	0.061*** (0.0044)
Services		0.26*** (0.0070)	0.24*** (0.0070)

	Student variables	Study variables	Student & study variables
Other		-0.087*** (0.0048)	-0.090*** (0.0049)
<b>Entry to college or university (College)</b>			
University		-0.25*** (0.0051)	-0.21*** (0.0053)
<b>Full time or part-time in first fall snapshot (full time)</b>			
Part time		-0.048*** (0.0038)	-0.046*** (0.0038)
Unknown		-0.042*** (0.0020)	-0.037*** (0.0020)
<b>First Ontario study year (2014)</b>			
2015	0.075*** (0.0030)	0.037*** (0.0031)	0.068*** (0.0029)
2016	0.14*** (0.0030)	0.049*** (0.0029)	0.13*** (0.0029)
2017	0.17*** (0.0029)	0.075*** (0.0028)	0.15*** (0.0028)
2018	0.17*** (0.0029)	0.079*** (0.0028)	0.16*** (0.0028)
Intercept	0.20*** (0.0035)	0.43*** (0.0057)	0.32*** (0.0063)
Observations	282,520	282,520	282,520
R2	0.072	0.087	0.121

**Notes:** Among students who attended a public Ontario postsecondary institution, this table shows the results of three linear probability models measuring if a student was issued a co-op work permit (1=yes) within four years of attending a public Ontario college or university. 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.

## PUBLIC PSE GRADUATION ANALYSIS

Table 16 Descriptive analysis: Graduation after public PSE enrollment (4 years after entry)

Observations	Proportion 268,380	% not enrolled 0.20	% enrolled 0.15	% graduated 0.65
<b>Region/country of citizenship</b>				
India	0.32	0.16	0.03	0.81
China	0.28	0.14	0.24	0.62
US	0.02	0.21	0.21	0.58
Central America & Caribbean	0.03	0.21	0.13	0.66
South America	0.04	0.41	0.08	0.51
West & North Europe	0.03	0.58	0.10	0.32
East & South Europe	0.03	0.22	0.11	0.67
West Africa	0.04	0.15	0.29	0.57
East Africa	0.01	0.18	0.25	0.57
North Africa	0.01	0.21	0.37	0.42
Middle & South Africa	0.01	0.18	0.24	0.58
Central Asian & Middle East	0.06	0.28	0.29	0.43
East Asia	0.06	0.31	0.14	0.54
Southeast Asia	0.03	0.19	0.17	0.64
South Asia	0.03	0.14	0.25	0.61
Other	0.01	0.34	0.18	0.48
<b>Male/female</b>				
Male	0.57	0.21	0.16	0.63
Female	0.43	0.19	0.15	0.66
<b>Region*male/female interaction</b>				
<i>Males</i>				
India*M	0.39	0.16	0.03	0.81
China*M	0.24	0.18	0.27	0.55
US*M	0.02	0.21	0.23	0.56
Central America & Caribbean*M	0.02	0.23	0.15	0.63
South America*M	0.04	0.43	0.09	0.48
West & North Europe*M	0.03	0.55	0.12	0.33
East & South Europe*M	0.03	0.24	0.12	0.64
West Africa*M	0.04	0.17	0.29	0.54
East Africa*M	0.01	0.21	0.27	0.52
North Africa*M	0.01	0.21	0.39	0.40
Middle & South Africa*M	0.01	0.18	0.27	0.55

Observations	Proportion 268,380	% not enrolled 0.20	% enrolled 0.15	% graduated 0.65
Central Asian & Middle East*M	0.07	0.30	0.30	0.40
East Asia*M	0.05	0.32	0.18	0.50
Southeast Asia*M	0.02	0.20	0.21	0.59
South Asia*M	0.03	0.14	0.26	0.60
Other*M	0.01	0.31	0.20	0.48
<i>Females</i>				
India*F	0.23	0.16	0.03	0.81
China*F	0.35	0.11	0.22	0.67
US*F	0.02	0.20	0.19	0.61
Central America & Caribbean*F	0.04	0.20	0.11	0.69
South America*F	0.04	0.38	0.08	0.54
West & North Europe*F	0.04	0.61	0.08	0.30
East & South Europe*F	0.04	0.21	0.10	0.69
West Africa*F	0.04	0.11	0.28	0.61
East Africa*F	0.01	0.15	0.23	0.62
North Africa*F	0.01	0.21	0.32	0.47
Middle & South Africa*F	0.01	0.16	0.22	0.62
Central Asian & Middle East*F	0.04	0.24	0.26	0.50
East Asia*F	0.08	0.30	0.12	0.58
Southeast Asia*F	0.03	0.19	0.14	0.67
South Asia*F	0.02	0.13	0.23	0.65
Other*F	0.01	0.38	0.15	0.48
<b>Location when applying for permit</b>				
Same as citizenship	0.75	0.21	0.13	0.66
Different than citizenship	0.15	0.18	0.14	0.68
Canada	0.10	0.16	0.36	0.49
<b>Age</b>				
Age 16-17	0.05	0.15	0.32	0.53
Age 18	0.15	0.16	0.29	0.55
Age 19-20	0.21	0.25	0.20	0.55
Age 21-22	0.20	0.22	0.08	0.70
Age 23-24	0.17	0.18	0.07	0.75
Age 25-29	0.15	0.19	0.10	0.71
Age 30-39	0.06	0.19	0.13	0.68
Age 40+	0.01	0.26	0.10	0.63
<b>Initial PSIS program of entry</b>				
Other	0.10	0.57	0.15	0.28

Observations	<i>Proportion</i> 268,380	<i>% not enrolled</i> 0.20	<i>% enrolled</i> 0.15	<i>% graduated</i> 0.65
Certificate	0.20	0.21	0.03	0.76
Diploma	0.29	0.19	0.03	0.78
BA	0.28	0.14	0.37	0.49
Grad	0.13	0.05	0.15	0.80
<b>Field of study at entry</b>				
Education	0.01	0.22	0.14	0.63
Arts	0.02	0.21	0.13	0.66
Humanities	0.12	0.39	0.18	0.44
Social Sciences	0.07	0.16	0.19	0.66
Business	0.33	0.16	0.10	0.73
Science	0.07	0.13	0.28	0.59
Math and Computer Science	0.08	0.17	0.18	0.65
Engineering	0.18	0.14	0.19	0.67
Agriculture and Resources	0.01	0.10	0.18	0.72
Health	0.04	0.19	0.08	0.73
Services	0.01	0.16	0.03	0.81
Other	0.06	0.44	0.15	0.41
<b>PT/FT at entry</b>				
Full-time study	0.66	0.17	0.16	0.67
Part-time study	0.08	0.38	0.23	0.39
No fall snapshot information	0.26	0.22	0.10	0.68
<b>Institution at entry</b>				
College	0.55	0.22	0.04	0.73
University	0.45	0.17	0.29	0.54
<b>Initial PSIS entry year</b>				
2009	0.09	0.17	0.19	0.65
2010	0.09	0.26	0.15	0.58
2011	0.09	0.24	0.17	0.59
2012	0.10	0.20	0.18	0.62
2013	0.14	0.18	0.14	0.67
2014	0.14	0.19	0.16	0.64
2015	0.15	0.20	0.15	0.65
2016	0.21	0.19	0.12	0.69

**Table 17**      **Regression analysis: Graduation after public PSE enrollment (4 years after entry)**

	<i>Not enrolled</i>	<i>Enrolled</i>	<i>Grad</i>
<i>Variables derived from permit</i>			
<b>Region/country of citizenship (India)</b>			
China	-0.045*** (0.0024)	0.076*** (0.0022)	-0.031*** (0.0029)
US	0.13*** (0.0076)	0.070*** (0.0046)	-0.20*** (0.0077)
Central America & Caribbean	0.036*** (0.0049)	0.069*** (0.0044)	-0.11*** (0.0056)
South America	0.12*** (0.0044)	0.025*** (0.0037)	-0.15*** (0.0050)
West & North Europe	0.25*** (0.0060)	0.010** (0.0037)	-0.26*** (0.0066)
East & South Europe	0.029*** (0.0044)	0.053*** (0.0042)	-0.082*** (0.0053)
West Africa	0.0083 (0.0045)	0.10*** (0.0037)	-0.11*** (0.0049)
East Africa	0.020** (0.0074)	0.12*** (0.0063)	-0.14*** (0.0083)
North Africa	0.060*** (0.0094)	0.15*** (0.0070)	-0.21*** (0.010)
Middle & South Africa	-0.0011 (0.0096)	0.12*** (0.0085)	-0.12*** (0.011)
Central Asian & Middle East	0.12*** (0.0046)	0.12*** (0.0034)	-0.24*** (0.0047)
East Asia	0.080*** (0.0037)	0.066*** (0.0033)	-0.15*** (0.0043)
Southeast Asia	-0.0099* (0.0046)	0.074*** (0.0043)	-0.064*** (0.0056)
South Asia	0.0029 (0.0057)	0.088*** (0.0042)	-0.091*** (0.0061)
Other	0.12*** (0.011)	0.028*** (0.0064)	-0.15*** (0.012)
<b>Male/Female (Male)</b>			
Female	-0.041*** (0.0015)	-0.024*** (0.0013)	0.064*** (0.0018)
<b>Region*Female interaction (India*F)</b>			
China*F	-0.076***	0.057***	0.019***

	<i>Not enrolled</i>	<i>Enrolled</i>	<i>Grad</i>
US*F	(0.0031) 0.12***	(0.0032) 0.055***	(0.0039) -0.17***
Central America & Caribbean*F	(0.011) 0.020***	(0.0065) 0.053***	(0.011) -0.074***
South America*F	(0.0061) 0.097***	(0.0060) 0.021***	(0.0074) -0.12***
West & North Europe*F	(0.0059) 0.25***	(0.0054) -0.0036	(0.0070) -0.25***
East & South Europe*F	(0.0080) 0.0096	(0.0050) 0.046***	(0.0090) -0.055***
West Africa*F	(0.0057) -0.032***	(0.0058) 0.089***	(0.0071) -0.057***
East Africa*F	(0.0062) -0.018	(0.0055) 0.10***	(0.0071) -0.084***
North Africa*F	(0.0095) 0.037*	(0.0088) 0.12***	(0.011) -0.16***
Middle & South Africa*F	(0.016) -0.0096	(0.012) 0.11***	(0.018) -0.10***
Central Asian & Middle East*F	(0.013) 0.078***	(0.012) 0.13***	(0.016) -0.20***
East Asia*F	(0.0070) 0.054***	(0.0055) 0.041***	(0.0076) -0.094***
Southeast Asia*F	(0.0046) -0.018**	(0.0044) 0.061***	(0.0057) -0.043***
South Asia*F	(0.0058) -0.011	(0.0060) 0.081***	(0.0074) -0.069***
Other*F	(0.0098) 0.13***	(0.0073) 0.015	(0.011) -0.15***
	(0.015)	(0.0091)	(0.017)
<b>Location when applying for permit (same as citizenship)</b>			
Different than citizenship	-0.030***	0.010***	0.020***
	(0.0020)	(0.0019)	(0.0025)
Canada	-0.020***	0.091***	-0.071***
	(0.0028)	(0.0023)	(0.0031)
<b>Age (Age 18)</b>			
Age 16-17	-0.0077*	0.011**	-0.0034
	(0.0037)	(0.0035)	(0.0043)
Age 19-20	0.035***	-0.051***	0.016***
	(0.0024)	(0.0022)	(0.0029)



	<i>Not enrolled</i>	<i>Enrolled</i>	<i>Grad</i>
Age 21-22	0.029*** (0.0025)	-0.13*** (0.0025)	0.099*** (0.0031)
Age 23-24	0.023*** (0.0027)	-0.14*** (0.0026)	0.12*** (0.0033)
Age 25-29	0.026*** (0.0029)	-0.12*** (0.0028)	0.090*** (0.0036)
Age 30-39	0.0031 (0.0037)	-0.090*** (0.0036)	0.087*** (0.0045)
Age 40+	0.012 (0.0062)	-0.11*** (0.0059)	0.097*** (0.0077)
<b>PSIS derived variables</b>			
<b>Initial PSIS program of entry (BA)</b>			
Other	0.30*** (0.0044)	-0.048*** (0.0034)	-0.25*** (0.0048)
Certificate	0.15*** (0.0044)	-0.12*** (0.0036)	-0.037*** (0.0055)
Diploma	0.15*** (0.0045)	-0.12*** (0.0036)	-0.025*** (0.0055)
Grad	-0.098*** (0.0018)	-0.064*** (0.0026)	0.16*** (0.0030)
<b>Field of study at entry (Business)</b>			
Education	0.022* (0.0092)	0.043*** (0.0067)	-0.064*** (0.0097)
Arts	0.0055 (0.0050)	0.024*** (0.0046)	-0.029*** (0.0059)
Humanities	0.042*** (0.0029)	0.042*** (0.0023)	-0.084*** (0.0034)
Social Sciences	-0.0073* (0.0032)	0.013*** (0.0022)	-0.0056 (0.0034)
Science	-0.023*** (0.0032)	0.053*** (0.0024)	-0.029*** (0.0036)
Math and Computer Science	-0.0012 (0.0029)	0.057*** (0.0025)	-0.056*** (0.0033)
Engineering	-0.037*** (0.0021)	0.083*** (0.0020)	-0.046*** (0.0025)
Agriculture and Resources	-0.066*** (0.0070)	0.047*** (0.0065)	0.019* (0.0082)
Health	0.0020 (0.0037)	0.032*** (0.0043)	-0.034*** (0.0047)

	<i>Not enrolled</i>	<i>Enrolled</i>	<i>Grad</i>
Services	-0.040*** (0.0059)	-0.019* (0.0086)	0.059*** (0.0087)
Other	0.056*** (0.0041)	0.073*** (0.0037)	-0.13*** (0.0050)
<b>PT/FT at entry (Full time)</b>			
Part-time study	0.096*** (0.0031)	0.080*** (0.0026)	-0.18*** (0.0036)
No fall snapshot information	0.012*** (0.0017)	0.034*** (0.0018)	-0.046*** (0.0021)
<b>Institution at entry (College)</b>			
University	0.12*** (0.0043)	0.10*** (0.0030)	-0.22*** (0.0052)
<b>Min PSIS year (2009)</b>			
2010	0.070*** (0.0034)	-0.012*** (0.0031)	-0.059*** (0.0041)
2011	0.056*** (0.0033)	-0.0091** (0.0030)	-0.047*** (0.0040)
2012	0.012*** (0.0032)	-0.019*** (0.0029)	0.0067 (0.0038)
2013	0.0013 (0.0029)	-0.036*** (0.0028)	0.035*** (0.0036)
2014	0.020*** (0.0031)	-0.025*** (0.0028)	0.0044 (0.0037)
2015	0.050*** (0.0031)	-0.037*** (0.0028)	-0.013*** (0.0037)
2016	0.037*** (0.0029)	-0.044*** (0.0027)	0.0073* (0.0035)
Observations		268,380	

**Notes:** This table shows the average marginal effects produced through a multinomial logistic regression model that measures graduation and enrollment outcomes after entry. 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 18** Descriptive analysis: Graduation after public PSE enrollment (5 years after entry)

Observations	Proportion 212,950	% not enrolled 0.21	% enrolled 0.07	% graduated 0.72
<b>Region/country of citizenship</b>				
India	0.28	0.16	0.02	0.83
China	0.30	0.15	0.08	0.77
US	0.02	0.21	0.12	0.67
Central America & Caribbean	0.03	0.22	0.07	0.72
South America	0.04	0.47	0.05	0.48
West & North Europe	0.03	0.58	0.05	0.37
East & South Europe	0.03	0.23	0.05	0.71
West Africa	0.04	0.15	0.14	0.71
East Africa	0.01	0.19	0.10	0.71
North Africa	0.01	0.23	0.18	0.59
Middle & South Africa	0.01	0.18	0.12	0.70
Central Asian & Middle East	0.06	0.30	0.15	0.55
East Asia	0.06	0.32	0.09	0.59
Southeast Asia	0.03	0.20	0.08	0.72
South Asia	0.03	0.15	0.11	0.74
Other	0.01	0.34	0.07	0.59
<b>Male/female</b>				
Male	0.57	0.22	0.08	0.70
Female	0.43	0.20	0.06	0.74
<b>Region*male/female interaction</b>				
<i>Males</i>				
India*M	0.35	0.16	0.02	0.83
China*M	0.25	0.19	0.10	0.71
US*M	0.02	0.22	0.13	0.65
Central America & Caribbean*M	0.02	0.23	0.07	0.70
South America*M	0.04	0.49	0.05	0.45
West & North Europe*M	0.03	0.56	0.06	0.38
East & South Europe*M	0.03	0.26	0.06	0.69
West Africa*M	0.04	0.18	0.16	0.66
East Africa*M	0.01	0.22	0.11	0.66
North Africa*M	0.01	0.23	0.20	0.57
Middle & South Africa*M	0.01	0.20	0.12	0.68
Central Asian & Middle East*M	0.07	0.32	0.16	0.52
East Asia*M	0.05	0.33	0.12	0.55
Southeast Asia*M	0.02	0.20	0.09	0.70

Observations	Proportion 212,950	% not enrolled 0.21	% enrolled 0.07	% graduated 0.72
South Asia*M	0.04	0.15	0.11	0.74
Other*M	0.01	0.31	0.09	0.60
<i>Females</i>				
India*F	0.19	0.15	0.02	0.83
China*F	0.37	0.12	0.07	0.82
US*F	0.02	0.21	0.10	0.69
Central America & Caribbean*F	0.04	0.21	0.06	0.73
South America*F	0.04	0.44	0.05	0.52
West & North Europe*F	0.04	0.61	0.04	0.36
East & South Europe*F	0.04	0.22	0.05	0.74
West Africa*F	0.04	0.12	0.11	0.77
East Africa*F	0.01	0.16	0.08	0.76
North Africa*F	0.01	0.23	0.15	0.62
Middle & South Africa*F	0.01	0.16	0.11	0.73
Central Asian & Middle East*F	0.05	0.25	0.14	0.61
East Asia*F	0.08	0.32	0.05	0.63
Southeast Asia*F	0.03	0.19	0.07	0.74
South Asia*F	0.02	0.14	0.10	0.76
Other*F	0.01	0.37	0.05	0.58
<b>Location when applying for permit</b>				
Same as citizenship	0.73	0.22	0.06	0.71
Different than citizenship	0.18	0.17	0.05	0.77
Canada	0.09	0.17	0.15	0.68
<b>Age</b>				
Age 16-17	0.05	0.17	0.12	0.71
Age 18	0.14	0.17	0.11	0.72
Age 19-20	0.21	0.26	0.08	0.65
Age 21-22	0.20	0.23	0.04	0.73
Age 23-24	0.17	0.18	0.04	0.78
Age 25-29	0.16	0.19	0.06	0.75
Age 30-39	0.06	0.20	0.09	0.71
Age 40+	0.01	0.29	0.08	0.63
<b>Initial PSIS program of entry</b>				
Other	0.11	0.57	0.08	0.34
Certificate	0.18	0.20	0.02	0.78
Diploma	0.28	0.20	0.02	0.78
BA	0.30	0.16	0.13	0.71

Observations	<i>Proportion</i> 212,950	<i>% not enrolled</i> 0.21	<i>% enrolled</i> 0.07	<i>% graduated</i> 0.72
Grad	0.14	0.05	0.09	0.86
<b>Field of study at entry</b>				
Education	0.01	0.27	0.09	0.64
Arts	0.02	0.22	0.06	0.72
Humanities	0.13	0.40	0.08	0.52
Social Sciences	0.07	0.16	0.09	0.75
Business	0.32	0.16	0.04	0.79
Science	0.07	0.14	0.12	0.74
Math and Computer Science	0.08	0.17	0.08	0.76
Engineering	0.18	0.15	0.08	0.77
Agriculture and Resources	0.01	0.11	0.08	0.81
Health	0.04	0.17	0.05	0.78
Services	0.01	0.16	0.02	0.82
Other	0.06	0.46	0.08	0.46
<b>PT/FT at entry</b>				
Full-time study	0.68	0.17	0.07	0.76
Part-time study	0.09	0.39	0.11	0.50
No fall snapshot information	0.23	0.25	0.06	0.69
<b>Institution at entry</b>				
College	0.52	0.23	0.03	0.74
University	0.48	0.18	0.11	0.70
<b>Initial PSIS entry year</b>				
2009	0.12	0.18	0.09	0.73
2010	0.11	0.27	0.07	0.66
2011	0.12	0.24	0.08	0.68
2012	0.12	0.20	0.08	0.72
2013	0.17	0.19	0.06	0.75
2014	0.17	0.20	0.07	0.73
2015	0.19	0.21	0.06	0.74

**Table 19**      **Regression analysis: Graduation after public PSE enrollment (5 years after entry)**

	<i>Not enrolled</i>	<i>Enrolled</i>	<i>Grad</i>
<i>Variables derived from permit</i>			
<b>Region/country of citizenship (India)</b>			
China	-0.025*** (0.0026)	0.031*** (0.0017)	-0.0060* (0.0029)
US	0.16*** (0.0082)	0.050*** (0.0038)	-0.21*** (0.0082)
Central America & Caribbean	0.054*** (0.0055)	0.039*** (0.0037)	-0.093*** (0.0060)
South America	0.18*** (0.0052)	0.024*** (0.0031)	-0.20*** (0.0056)
West & North Europe	0.28*** (0.0064)	0.013*** (0.0030)	-0.30*** (0.0067)
East & South Europe	0.056*** (0.0050)	0.027*** (0.0033)	-0.083*** (0.0056)
West Africa	0.023*** (0.0049)	0.068*** (0.0032)	-0.091*** (0.0052)
East Africa	0.045*** (0.0083)	0.052*** (0.0053)	-0.097*** (0.0090)
North Africa	0.084*** (0.010)	0.089*** (0.0062)	-0.17*** (0.011)
Middle & South Africa	0.017 (0.010)	0.070*** (0.0076)	-0.086*** (0.012)
Central Asian & Middle East	0.14*** (0.0048)	0.078*** (0.0029)	-0.22*** (0.0051)
East Asia	0.097*** (0.0041)	0.058*** (0.0029)	-0.16*** (0.0046)
Southeast Asia	0.019*** (0.0055)	0.038*** (0.0036)	-0.056*** (0.0061)
South Asia	0.028*** (0.0063)	0.049*** (0.0036)	-0.077*** (0.0067)
Other	0.15*** (0.011)	0.015** (0.0048)	-0.17*** (0.011)
<b>Male/Female (Male)</b>			
Female	-0.045*** (0.0017)	-0.020*** (0.0011)	0.065*** (0.0019)
<b>Region*Female interaction (India*F)</b>			
China*F	-0.050***	0.015***	0.034***

	<i>Not enrolled</i>	<i>Enrolled</i>	<i>Grad</i>
US*F	(0.0035) 0.15***	(0.0024) 0.038***	(0.0040) -0.18***
Central America & Caribbean*F	(0.012) 0.040***	(0.0053) 0.033***	(0.012) -0.073***
South America*F	(0.0068) 0.15***	(0.0049) 0.020***	(0.0077) -0.17***
West & North Europe*F	(0.0070) 0.29***	(0.0044) 0.0013	(0.0077) -0.29***
East & South Europe*F	(0.0085) 0.039***	(0.0038) 0.022***	(0.0090) -0.062***
West Africa*F	(0.0064) -0.014*	(0.0046) 0.044***	(0.0074) -0.030***
East Africa*F	(0.0068) 0.017	(0.0044) 0.035***	(0.0075) -0.051***
North Africa*F	(0.011) 0.071***	(0.0071) 0.067***	(0.012) -0.14***
Middle & South Africa*F	(0.018) 0.016	(0.010) 0.061***	(0.019) -0.076***
Central Asian & Middle East*F	(0.014) 0.11***	(0.011) 0.072***	(0.017) -0.18***
East Asia*F	(0.0077) 0.080***	(0.0047) 0.020***	(0.0082) -0.100***
Southeast Asia*F	(0.0051) 0.016*	(0.0034) 0.027***	(0.0058) -0.044***
South Asia*F	(0.0071) 0.023*	(0.0049) 0.043***	(0.0081) -0.066***
Other*F	(0.011) 0.17***	(0.0063) 0.00042	(0.012) -0.17***
	(0.015)	(0.0063)	(0.016)
<b>Location when applying for permit (same as citizenship)</b>			
Different than citizenship	-0.045***	-0.0020	0.047***
	(0.0022)	(0.0015)	(0.0024)
Canada	-0.027***	0.053***	-0.026***
	(0.0032)	(0.0023)	(0.0036)
<b>Age (Age 18)</b>			
Age 16-17	-0.0012	0.0058	-0.0046
	(0.0043)	(0.0033)	(0.0049)
Age 19-20	0.039***	-0.019***	-0.020***
	(0.0028)	(0.0021)	(0.0032)

	<i>Not enrolled</i>	<i>Enrolled</i>	<i>Grad</i>
Age 21-22	0.028*** (0.0029)	-0.052*** (0.0022)	0.024*** (0.0033)
Age 23-24	0.015*** (0.0031)	-0.058*** (0.0023)	0.043*** (0.0035)
Age 25-29	0.019*** (0.0033)	-0.046*** (0.0024)	0.027*** (0.0038)
Age 30-39	0.0018 (0.0042)	-0.027*** (0.0031)	0.025*** (0.0048)
Age 40+	0.022** (0.0073)	-0.035*** (0.0048)	0.013 (0.0082)
<b>PSIS derived variables</b>			
<b>Initial PSIS program of entry</b>			
Other	0.27*** (0.0047)	-0.0065* (0.0029)	-0.26*** (0.0051)
Certificate	0.12*** (0.0048)	-0.042*** (0.0027)	-0.081*** (0.0055)
Diploma	0.15*** (0.0051)	-0.041*** (0.0028)	-0.11*** (0.0056)
Grad	-0.099*** (0.0021)	0.0031 (0.0023)	0.096*** (0.0029)
<b>Field of study at entry (Business)</b>			
Education	0.056*** (0.010)	0.024*** (0.0056)	-0.080*** (0.011)
Arts	0.014* (0.0057)	0.015*** (0.0040)	-0.028*** (0.0064)
Humanities	0.055*** (0.0033)	0.027*** (0.0020)	-0.083*** (0.0036)
Social Sciences	-0.0035 (0.0036)	0.015*** (0.0020)	-0.012** (0.0038)
Science	-0.024*** (0.0036)	0.037*** (0.0022)	-0.013*** (0.0039)
Math and Computer Science	-0.0017 (0.0034)	0.022*** (0.0021)	-0.020*** (0.0037)
Engineering	-0.033*** (0.0024)	0.029*** (0.0017)	0.0040 (0.0027)
Agriculture and Resources	-0.056*** (0.0082)	0.020*** (0.0055)	0.036*** (0.0091)
Health	-0.012** (0.0042)	0.025*** (0.0036)	-0.013** (0.0050)



	<i>Not enrolled</i>	<i>Enrolled</i>	<i>Grad</i>
Services	-0.045*** (0.0065)	-0.014* (0.0057)	0.059*** (0.0079)
Other	0.075*** (0.0046)	0.040*** (0.0033)	-0.12*** (0.0053)
<b>PT/FT at entry (Full time)</b>			
Part-time study	0.10*** (0.0033)	0.048*** (0.0024)	-0.15*** (0.0038)
No fall snapshot information	0.035*** (0.0021)	0.027*** (0.0017)	-0.061*** (0.0024)
<b>Institution at entry (College)</b>			
University	0.099*** (0.0044)	0.035*** (0.0024)	-0.13*** (0.0050)
<b>Min PSIS year (2009)</b>			
2010	0.063*** (0.0035)	-0.0084** (0.0026)	-0.054*** (0.0039)
2011	0.049*** (0.0034)	-0.0096*** (0.0025)	-0.039*** (0.0039)
2012	0.0051 (0.0033)	-0.017*** (0.0024)	0.012** (0.0037)
2013	-0.0060* (0.0030)	-0.026*** (0.0023)	0.032*** (0.0035)
2014	0.018*** (0.0032)	-0.024*** (0.0023)	0.0051 (0.0036)
2015	0.044*** (0.0032)	-0.030*** (0.0023)	-0.014*** (0.0036)
Observations		212,950	

**Notes:** This table shows the average marginal effects produced through a multinomial logistic regression model that measures graduation and enrollment outcomes after entry. 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 20** Descriptive analysis: Graduation after public PSE enrollment (6 years after entry)

Observations	Proportion 172,020	% not enrolled 0.21	% enrolled 0.04	% graduated 0.75
<b>Region/country of citizenship</b>				
India	0.26	0.15	0.01	0.84
China	0.31	0.16	0.03	0.81
US	0.02	0.22	0.07	0.71
Central America & Caribbean	0.03	0.22	0.04	0.74
South America	0.04	0.49	0.03	0.48
West & North Europe	0.03	0.57	0.03	0.40
East & South Europe	0.04	0.24	0.03	0.73
West Africa	0.04	0.15	0.07	0.77
East Africa	0.01	0.19	0.06	0.75
North Africa	0.01	0.25	0.10	0.65
Middle & South Africa	0.01	0.18	0.06	0.76
Central Asian & Middle East	0.07	0.30	0.08	0.63
East Asia	0.06	0.32	0.06	0.62
Southeast Asia	0.03	0.21	0.04	0.75
South Asia	0.03	0.15	0.05	0.79
Other	0.01	0.34	0.04	0.62
<b>Male/female</b>				
Male	0.57	0.22	0.04	0.74
Female	0.43	0.20	0.03	0.77
<b>Region*male/female interaction</b>				
<i>Males</i>				
India*M	0.33	0.15	0.01	0.84
China*M	0.26	0.19	0.04	0.77
US*M	0.02	0.23	0.07	0.70
Central America & Caribbean*M	0.02	0.23	0.04	0.73
South America*M	0.04	0.52	0.03	0.45
West & North Europe*M	0.03	0.55	0.03	0.42
East & South Europe*M	0.03	0.26	0.04	0.70
West Africa*M	0.04	0.18	0.09	0.73
East Africa*M	0.01	0.22	0.06	0.71
North Africa*M	0.01	0.25	0.10	0.65
Middle & South Africa*M	0.01	0.18	0.08	0.74
Central Asian & Middle East*M	0.08	0.32	0.08	0.61
East Asia*M	0.05	0.32	0.10	0.58
Southeast Asia*M	0.02	0.22	0.05	0.74

Observations	Proportion 172,020	% not enrolled 0.21	% enrolled 0.04	% graduated 0.75
South Asia*M	0.04	0.15	0.06	0.79
Other*M	0.01	0.32	0.05	0.63
<i>Females</i>				
India*F	0.17	0.14	0.01	0.85
China*F	0.37	0.12	0.03	0.85
US*F	0.02	0.21	0.07	0.73
Central America & Caribbean*F	0.04	0.22	0.04	0.75
South America*F	0.04	0.46	0.03	0.51
West & North Europe*F	0.04	0.60	0.02	0.38
East & South Europe*F	0.04	0.22	0.03	0.75
West Africa*F	0.04	0.12	0.06	0.83
East Africa*F	0.01	0.16	0.05	0.79
North Africa*F	0.01	0.24	0.08	0.67
Middle & South Africa*F	0.01	0.18	0.05	0.77
Central Asian & Middle East*F	0.05	0.25	0.07	0.67
East Asia*F	0.08	0.33	0.03	0.64
Southeast Asia*F	0.03	0.20	0.03	0.77
South Asia*F	0.02	0.15	0.05	0.80
Other*F	0.01	0.37	0.03	0.61
<b>Location when applying for permit</b>				
Same as citizenship	0.77	0.23	0.03	0.74
Different than citizenship	0.16	0.17	0.03	0.80
Canada	0.07	0.16	0.08	0.76
<b>Age</b>				
Age 16-17	0.04	0.17	0.06	0.77
Age 18	0.13	0.18	0.05	0.77
Age 19-20	0.21	0.27	0.04	0.69
Age 21-22	0.21	0.23	0.02	0.75
Age 23-24	0.18	0.18	0.02	0.79
Age 25-29	0.16	0.19	0.04	0.78
Age 30-39	0.06	0.20	0.06	0.74
Age 40+	0.01	0.29	0.06	0.64
<b>Initial PSIS program of entry</b>				
Other	0.12	0.57	0.05	0.39
Certificate	0.17	0.19	0.01	0.80
Diploma	0.27	0.21	0.02	0.78
BA	0.30	0.16	0.06	0.78

Observations	<i>Proportion</i> 172,020	<i>% not enrolled</i> 0.21	<i>% enrolled</i> 0.04	<i>% graduated</i> 0.75
Grad	0.14	0.05	0.05	0.90
<b>Field of study at entry</b>				
Education	0.01	0.31	0.06	0.63
Arts	0.02	0.23	0.03	0.74
Humanities	0.14	0.40	0.05	0.55
Social Sciences	0.07	0.16	0.04	0.79
Business	0.32	0.17	0.02	0.81
Science	0.07	0.14	0.06	0.80
Math and Computer Science	0.07	0.17	0.04	0.80
Engineering	0.18	0.14	0.04	0.82
Agriculture and Resources	0.01	0.12	0.04	0.84
Health	0.04	0.17	0.03	0.81
Services	0.01	0.17	0.01	0.82
Other	0.06	0.45	0.04	0.51
<b>PT/FT at entry</b>				
Full-time study	0.68	0.17	0.03	0.79
Part-time study	0.10	0.40	0.06	0.54
No fall snapshot information	0.22	0.25	0.04	0.72
<b>Institution at entry</b>				
College	0.51	0.24	0.02	0.74
University	0.49	0.19	0.05	0.76
<b>Initial PSIS entry year</b>				
2009	0.15	0.18	0.05	0.77
2010	0.13	0.27	0.04	0.69
2011	0.15	0.25	0.04	0.72
2012	0.15	0.21	0.04	0.76
2013	0.21	0.19	0.03	0.78
2014	0.21	0.20	0.03	0.77

**Table 21**      **Regression analysis: Graduation after public PSE enrollment (6 years after entry)**

	<i>Not enrolled</i>	<i>Enrolled</i>	<i>Grad</i>
<i>Variables derived from permit</i>			
<b>Region/country of citizenship (India)</b>			
China	-0.016*** (0.0029)	0.012*** (0.0013)	0.0037 (0.0030)
US	0.17*** (0.0088)	0.032*** (0.0032)	-0.20*** (0.0088)
Central America & Caribbean	0.066*** (0.0061)	0.022*** (0.0029)	-0.088*** (0.0064)
South America	0.21*** (0.0060)	0.018*** (0.0026)	-0.22*** (0.0062)
West & North Europe	0.30*** (0.0071)	0.012*** (0.0025)	-0.31*** (0.0072)
East & South Europe	0.068*** (0.0056)	0.019*** (0.0028)	-0.088*** (0.0060)
West Africa	0.034*** (0.0056)	0.042*** (0.0029)	-0.076*** (0.0058)
East Africa	0.055*** (0.0093)	0.032*** (0.0046)	-0.088*** (0.0098)
North Africa	0.10*** (0.012)	0.054*** (0.0056)	-0.15*** (0.012)
Middle & South Africa	0.030* (0.012)	0.041*** (0.0065)	-0.070*** (0.013)
Central Asian & Middle East	0.14*** (0.0052)	0.042*** (0.0023)	-0.19*** (0.0053)
East Asia	0.100*** (0.0045)	0.047*** (0.0026)	-0.15*** (0.0048)
Southeast Asia	0.036*** (0.0061)	0.019*** (0.0029)	-0.055*** (0.0064)
South Asia	0.040*** (0.0068)	0.029*** (0.0030)	-0.069*** (0.0070)
Other	0.17*** (0.012)	0.015*** (0.0041)	-0.19*** (0.012)
<b>Male/Female (Male)</b>			
Female	-0.044*** (0.0019)	-0.012*** (0.00094)	0.056*** (0.0020)
<b>Region*Female interaction (India*F)</b>			
China*F	-0.041***	0.0068***	0.034***

	<i>Not enrolled</i>	<i>Enrolled</i>	<i>Grad</i>
US*F	(0.0039) 0.15***	(0.0018) 0.030***	(0.0042) -0.18***
Central America & Caribbean*F	(0.012) 0.054***	(0.0046) 0.023***	(0.013) -0.077***
South America*F	(0.0077) 0.18***	(0.0040) 0.018***	(0.0082) -0.19***
West & North Europe*F	(0.0081) 0.30***	(0.0038) 0.0077*	(0.0086) -0.31***
East & South Europe*F	(0.0095) 0.050***	(0.0032) 0.017***	(0.0097) -0.066***
West Africa*F	(0.0072) -0.0049	(0.0036) 0.026***	(0.0078) -0.021*
East Africa*F	(0.0079) 0.022	(0.0038) 0.029***	(0.0083) -0.051***
North Africa*F	(0.013) 0.088***	(0.0063) 0.045***	(0.013) -0.13***
Middle & South Africa*F	(0.020) 0.040*	(0.0094) 0.030***	(0.021) -0.071***
Central Asian & Middle East*F	(0.016) 0.12***	(0.0084) 0.041***	(0.017) -0.16***
East Asia*F	(0.0083) 0.089***	(0.0037) 0.011***	(0.0087) -0.100***
Southeast Asia*F	(0.0058) 0.029***	(0.0026) 0.015***	(0.0061) -0.044***
South Asia*F	(0.0080) 0.040***	(0.0038) 0.026***	(0.0085) -0.067***
Other*F	(0.012) 0.18***	(0.0053) 0.0061	(0.013) -0.19***
	(0.016)	(0.0053)	(0.017)
<b>Location when applying for permit (same as citizenship)</b>			
Different than citizenship	-0.061***	-0.0025*	0.063***
	(0.0025)	(0.0013)	(0.0027)
Canada	-0.036***	0.032***	0.0035
	(0.0037)	(0.0022)	(0.0040)
<b>Age (Age 18)</b>			
Age 16-17	-0.0034	0.0018	0.0016
	(0.0050)	(0.0028)	(0.0054)
Age 19-20	0.037***	-0.0082***	-0.029***
	(0.0032)	(0.0018)	(0.0034)

	<i>Not enrolled</i>	<i>Enrolled</i>	<i>Grad</i>
Age 21-22	0.021*** (0.0032)	-0.021*** (0.0019)	-0.000026 (0.0035)
Age 23-24	0.0096** (0.0035)	-0.024*** (0.0019)	0.015*** (0.0037)
Age 25-29	0.014*** (0.0037)	-0.017*** (0.0021)	0.0023 (0.0040)
Age 30-39	0.0081 (0.0048)	-0.0062* (0.0027)	-0.0019 (0.0052)
Age 40+	0.026** (0.0086)	-0.0038 (0.0042)	-0.022* (0.0091)
<b>PSIS derived variables</b>			
<b>Initial PSIS program of entry</b>			
Other	0.26*** (0.0052)	-0.0035 (0.0023)	-0.26*** (0.0054)
Certificate	0.11*** (0.0052)	-0.021*** (0.0022)	-0.084*** (0.0056)
Diploma	0.16*** (0.0056)	-0.013*** (0.0025)	-0.15*** (0.0060)
Grad	-0.096*** (0.0023)	0.0029 (0.0018)	0.093*** (0.0028)
<b>Field of study at entry (Business)</b>			
Education	0.065*** (0.011)	0.025*** (0.0052)	-0.091*** (0.011)
Arts	0.021** (0.0065)	0.0031 (0.0030)	-0.024*** (0.0069)
Humanities	0.061*** (0.0036)	0.020*** (0.0017)	-0.081*** (0.0038)
Social Sciences	-0.0054 (0.0040)	0.0069*** (0.0016)	-0.0015 (0.0041)
Science	-0.024*** (0.0040)	0.020*** (0.0020)	0.0036 (0.0042)
Math and Computer Science	-0.0040 (0.0039)	0.0076*** (0.0018)	-0.0036 (0.0041)
Engineering	-0.038*** (0.0027)	0.0090*** (0.0013)	0.029*** (0.0029)
Agriculture and Resources	-0.050*** (0.0096)	0.011* (0.0047)	0.039*** (0.010)
Health	-0.019*** (0.0047)	0.012*** (0.0029)	0.0073 (0.0052)

	<i>Not enrolled</i>	<i>Enrolled</i>	<i>Grad</i>
Services	-0.046*** (0.0073)	-0.011** (0.0036)	0.058*** (0.0079)
Other	0.066*** (0.0051)	0.019*** (0.0027)	-0.085*** (0.0055)
<b>PT/FT at entry (Full time)</b>			
Part-time study	0.11*** (0.0035)	0.027*** (0.0020)	-0.14*** (0.0038)
No fall snapshot information	0.032*** (0.0023)	0.014*** (0.0014)	-0.046*** (0.0025)
<b>Institution at entry (College)</b>			
University	0.097*** (0.0047)	0.013*** (0.0020)	-0.11*** (0.0050)
<b>Min PSIS year (2009)</b>			
2010	0.061*** (0.0035)	-0.0029 (0.0019)	-0.059*** (0.0038)
2011	0.048*** (0.0035)	-0.0064*** (0.0019)	-0.042*** (0.0037)
2012	0.0041 (0.0033)	-0.0093*** (0.0018)	0.0051 (0.0036)
2013	-0.0063* (0.0031)	-0.016*** (0.0017)	0.022*** (0.0034)
2014	0.022*** (0.0034)	-0.015*** (0.0017)	-0.0070* (0.0036)
Observations		172,020	

**Notes:** This table shows the average marginal effects produced through a multinomial logistic regression model that measures graduation and enrollment outcomes after entry. 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 22** Descriptive analysis: Graduation after public PSE enrollment (7 years after entry)

Observations	Proportion 135,710	% not enrolled 0.22	% enrolled 0.02	% graduated 0.76
<b>Region/country of citizenship</b>				
India	0.26	0.16	0.01	0.83
China	0.31	0.16	0.02	0.82
US	0.02	0.23	0.04	0.73
Central America & Caribbean	0.03	0.23	0.03	0.74
South America	0.03	0.47	0.02	0.51
West & North Europe	0.03	0.56	0.02	0.42
East & South Europe	0.03	0.25	0.02	0.73
West Africa	0.04	0.16	0.05	0.79
East Africa	0.01	0.20	0.04	0.76
North Africa	0.01	0.21	0.04	0.75
Middle & South Africa	0.01	0.19	0.04	0.77
Central Asian & Middle East	0.07	0.28	0.04	0.68
East Asia	0.07	0.33	0.04	0.63
Southeast Asia	0.03	0.22	0.02	0.76
South Asia	0.03	0.16	0.03	0.81
Other	0.01	0.33	0.01	0.65
<b>Male/female</b>				
Male	0.58	0.23	0.02	0.75
Female	0.42	0.20	0.02	0.78
<b>Region*male/female interaction</b>				
<i>Males</i>				
India*M	0.32	0.17	0.01	0.83
China*M	0.25	0.20	0.02	0.78
US*M	0.02	0.23	0.05	0.72
Central America & Caribbean*M	0.03	0.24	0.03	0.73
South America*M	0.03	0.50	0.02	0.48
West & North Europe*M	0.03	0.53	0.02	0.45
East & South Europe*M	0.03	0.28	0.02	0.70
West Africa*M	0.04	0.19	0.05	0.76
East Africa*M	0.01	0.22	0.04	0.73
North Africa*M	0.01	0.21	0.05	0.74
Middle & South Africa*M	0.01	0.18	0.04	0.78
Central Asian & Middle East*M	0.09	0.30	0.04	0.66
East Asia*M	0.05	0.33	0.07	0.60
Southeast Asia*M	0.02	0.22	0.02	0.75

Observations	Proportion 135,710	% not enrolled 0.22	% enrolled 0.02	% graduated 0.76
South Asia*M	0.05	0.16	0.03	0.81
Other*M	0.01	0.32	0.03	0.66
<i>Females</i>				
India*F	0.17	0.15	0.01	0.84
China*F	0.38	0.13	0.01	0.86
US*F	0.03	0.22	0.03	0.75
Central America & Caribbean*F	0.04	0.22	0.03	0.75
South America*F	0.04	0.43	0.02	0.54
West & North Europe*F	0.04	0.59	0.01	0.40
East & South Europe*F	0.04	0.23	0.02	0.75
West Africa*F	0.04	0.11	0.04	0.85
East Africa*F	0.01	0.17	0.04	0.80
North Africa*F	0.01	0.21	0.03	0.76
Middle & South Africa*F	0.01	0.20	0.04	0.76
Central Asian & Middle East*F	0.06	0.25	0.04	0.72
East Asia*F	0.08	0.33	0.02	0.65
Southeast Asia*F	0.03	0.21	0.02	0.77
South Asia*F	0.02	0.16	0.03	0.82
Other*F	0.01	0.35	0.02	0.64
<b>Location when applying for permit</b>				
Same as citizenship	0.85	0.22	0.02	0.76
Different than citizenship	0.09	0.22	0.03	0.76
Canada	0.06	0.16	0.04	0.79
<b>Age</b>				
Age 16-17	0.04	0.18	0.03	0.79
Age 18	0.13	0.19	0.03	0.78
Age 19-20	0.20	0.27	0.02	0.71
Age 21-22	0.21	0.23	0.01	0.76
Age 23-24	0.18	0.19	0.01	0.80
Age 25-29	0.17	0.19	0.02	0.79
Age 30-39	0.06	0.21	0.04	0.75
Age 40+	0.01	0.30	0.05	0.65
<b>Initial PSIS program of entry</b>				
Other	0.12	0.56	0.03	0.41
Certificate	0.16	0.20	0.01	0.79
Diploma	0.26	0.22	0.01	0.77
BA	0.32	0.16	0.03	0.81

Observations	<i>Proportion</i> 135,710	<i>% not enrolled</i> 0.22	<i>% enrolled</i> 0.02	<i>% graduated</i> 0.76
Grad	0.14	0.06	0.03	0.91
<b>Field of study at entry</b>				
Education	0.01	0.35	0.04	0.61
Arts	0.02	0.25	0.01	0.74
Humanities	0.14	0.39	0.03	0.58
Social Sciences	0.07	0.17	0.03	0.81
Business	0.32	0.17	0.01	0.81
Science	0.07	0.14	0.03	0.82
Math and Computer Science	0.07	0.18	0.02	0.80
Engineering	0.17	0.15	0.02	0.83
Agriculture and Resources	0.01	0.12	0.03	0.86
Health	0.04	0.16	0.02	0.82
Services	0.01	0.19	0.01	0.81
Other	0.06	0.44	0.03	0.53
<b>PT/FT at entry</b>				
Full-time study	0.68	0.18	0.02	0.81
Part-time study	0.10	0.40	0.04	0.56
No fall snapshot information	0.21	0.25	0.02	0.72
<b>Institution at entry</b>				
College	0.50	0.25	0.02	0.74
University	0.50	0.18	0.03	0.79
<b>Initial PSIS entry year</b>				
2009	0.19	0.18	0.03	0.79
2010	0.17	0.27	0.02	0.71
2011	0.18	0.25	0.02	0.73
2012	0.19	0.21	0.02	0.77
2013	0.27	0.19	0.02	0.79

**Table 23**      **Regression analysis: Graduation after public PSE enrollment (7 years after entry)**

	<i>Not enrolled</i>	<i>Enrolled</i>	<i>Grad</i>
<i>Variables derived from permit</i>			
<b>Region/country of citizenship (India)</b>			
China	-0.013*** (0.0033)	0.0026* (0.0012)	0.0099** (0.0034)
US	0.16*** (0.0097)	0.017*** (0.0029)	-0.18*** (0.0097)
Central America & Caribbean	0.060*** (0.0067)	0.015*** (0.0027)	-0.075*** (0.0070)
South America	0.19*** (0.0069)	0.012*** (0.0025)	-0.20*** (0.0071)
West & North Europe	0.28*** (0.0079)	0.0037 (0.0022)	-0.29*** (0.0080)
East & South Europe	0.071*** (0.0064)	0.0097*** (0.0024)	-0.080*** (0.0067)
West Africa	0.033*** (0.0065)	0.027*** (0.0029)	-0.061*** (0.0067)
East Africa	0.049*** (0.010)	0.020*** (0.0042)	-0.069*** (0.011)
North Africa	0.082*** (0.014)	0.016*** (0.0043)	-0.097*** (0.014)
Middle & South Africa	0.033* (0.013)	0.020*** (0.0055)	-0.054*** (0.014)
Central Asian & Middle East	0.13*** (0.0056)	0.017*** (0.0020)	-0.15*** (0.0058)
East Asia	0.11*** (0.0051)	0.028*** (0.0024)	-0.13*** (0.0054)
Southeast Asia	0.040*** (0.0069)	0.0059* (0.0024)	-0.046*** (0.0071)
South Asia	0.041*** (0.0074)	0.013*** (0.0026)	-0.054*** (0.0075)
Other	0.14*** (0.012)	-0.00017 (0.0029)	-0.14*** (0.012)
<b>Male/Female (Male)</b>			
Female	-0.045*** (0.0022)	-0.0064*** (0.00083)	0.051*** (0.0022)
<b>Region*Female interaction (India*F)</b>			
China*F	-0.038***	-0.0029	0.041***

	<i>Not enrolled</i>	<i>Enrolled</i>	<i>Grad</i>
US*F	(0.0045) 0.15***	(0.0018) 0.010**	(0.0047) -0.16***
Central America & Caribbean*F	(0.014) 0.046***	(0.0040) 0.014***	(0.014) -0.060***
South America*F	(0.0087) 0.15***	(0.0038) 0.0080*	(0.0092) -0.16***
West & North Europe*F	(0.0095) 0.29***	(0.0037) -0.0037	(0.0099) -0.29***
East & South Europe*F	(0.011) 0.045***	(0.0028) 0.010**	(0.011) -0.056***
West Africa*F	(0.0082) -0.011	(0.0036) 0.014***	(0.0086) -0.0035
East Africa*F	(0.0091) 0.017	(0.0038) 0.017**	(0.0095) -0.034*
North Africa*F	(0.014) 0.084**	(0.0059) 0.0019	(0.014) -0.086***
Middle & South Africa*F	(0.026) 0.054**	(0.0064) 0.013	(0.026) -0.067***
Central Asian & Middle East*F	(0.019) 0.10***	(0.0072) 0.014***	(0.019) -0.12***
East Asia*F	(0.0090) 0.092***	(0.0032) 0.0022	(0.0092) -0.095***
Southeast Asia*F	(0.0066) 0.034***	(0.0024) 0.0018	(0.0069) -0.036***
South Asia*F	(0.0092) 0.045***	(0.0033) 0.0075	(0.0095) -0.052***
Other*F	(0.013) 0.15***	(0.0044) -0.0046	(0.013) -0.14***
	(0.017)	(0.0040)	(0.017)
<b>Location when applying for permit (same as citizenship)</b>			
Different than citizenship	-0.029*** (0.0035)	0.00065 (0.0013)	0.029*** (0.0036)
Canada	-0.031*** (0.0046)	0.020*** (0.0022)	0.011* (0.0049)
<b>Age (Age 18)</b>			
Age 16-17	-0.0035 (0.0058)	-0.00044 (0.0026)	0.0040 (0.0061)
Age 19-20	0.037*** (0.0037)	-0.0067*** (0.0017)	-0.031*** (0.0038)

	<i>Not enrolled</i>	<i>Enrolled</i>	<i>Grad</i>
Age 21-22	0.019*** (0.0037)	-0.013*** (0.0017)	-0.0059 (0.0039)
Age 23-24	0.012** (0.0040)	-0.016*** (0.0017)	0.0046 (0.0042)
Age 25-29	0.018*** (0.0042)	-0.0086*** (0.0019)	-0.0098* (0.0044)
Age 30-39	0.019*** (0.0056)	-0.0022 (0.0024)	-0.017** (0.0059)
Age 40+	0.043*** (0.011)	0.0033 (0.0042)	-0.046*** (0.011)
<b>PSIS derived variables</b>			
<b>Initial PSIS program of entry (BA)</b>			
Other	0.27*** (0.0060)	0.00058 (0.0021)	-0.27*** (0.0062)
Certificate	0.11*** (0.0060)	-0.011*** (0.0019)	-0.097*** (0.0063)
Diploma	0.17*** (0.0064)	-0.0013 (0.0025)	-0.17*** (0.0067)
Grad	-0.095*** (0.0026)	0.00077 (0.0015)	0.094*** (0.0029)
<b>Field of study at entry (Business)</b>			
Education	0.070*** (0.011)	0.016*** (0.0046)	-0.085*** (0.012)
Arts	0.024** (0.0074)	-0.0029 (0.0024)	-0.021** (0.0076)
Humanities	0.062*** (0.0040)	0.011*** (0.0015)	-0.072*** (0.0042)
Social Sciences	-0.0062 (0.0045)	0.0040** (0.0015)	0.0022 (0.0046)
Science	-0.025*** (0.0046)	0.0081*** (0.0017)	0.017*** (0.0047)
Math and Computer Science	0.00057 (0.0045)	0.0031 (0.0016)	-0.0037 (0.0046)
Engineering	-0.041*** (0.0031)	0.0020 (0.0012)	0.039*** (0.0032)
Agriculture and Resources	-0.054*** (0.011)	0.0025 (0.0041)	0.051*** (0.011)
Health	-0.034*** (0.0052)	0.0089*** (0.0025)	0.025*** (0.0055)

	<i>Not enrolled</i>	<i>Enrolled</i>	<i>Grad</i>
Services	-0.050*** (0.0082)	-0.0079** (0.0028)	0.057*** (0.0085)
Other	0.059*** (0.0058)	0.0084*** (0.0024)	-0.068*** (0.0062)
<b>PT/FT at entry (Full time)</b>			
Part-time study	0.12*** (0.0040)	0.019*** (0.0018)	-0.14*** (0.0042)
No fall snapshot information	0.035*** (0.0027)	0.0077*** (0.0012)	-0.043*** (0.0028)
<b>Institution at entry (College)</b>			
University	0.095*** (0.0052)	0.0065*** (0.0019)	-0.10*** (0.0055)
<b>Min PSIS year (2009)</b>			
2010	0.061*** (0.0036)	-0.0016 (0.0015)	-0.060*** (0.0038)
2011	0.050*** (0.0036)	-0.0044** (0.0015)	-0.046*** (0.0037)
2012	0.0065 (0.0035)	-0.0061*** (0.0014)	-0.00034 (0.0036)
2013	-0.0064* (0.0032)	-0.0096*** (0.0013)	0.016*** (0.0034)
Observations		135,710	

**Notes:** This table shows the average marginal effects produced through a multinomial logistic regression model that measures graduation and enrollment outcomes after entry. 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.

## GRADUATE LABOUR MARKET OUTCOMES ANALYSIS (GRAD ONLY SAMPLE)

Table 24 Descriptive analysis: Tax information in years after graduation

Observations	Year 1		Year 2		Year 3		Year 4		Year 5	
	Proportion	% with tax data	Proportion	% with tax data	Proportion	% with tax data	Proportion	% with tax data	Proportion	% with tax data
	338,880	0.79	275,480	0.79	214,470	0.76	158,820	0.72	122,460	0.72
<b>Region/country of citizenship</b>										
India	0.49	0.91	0.48	0.92	0.44	0.90	0.39	0.88	0.37	0.86
China	0.20	0.58	0.21	0.60	0.23	0.59	0.25	0.58	0.27	0.57
US	0.01	0.38	0.01	0.37	0.02	0.35	0.02	0.33	0.02	0.31
Central America & Caribbean	0.03	0.76	0.03	0.75	0.03	0.73	0.03	0.70	0.03	0.66
South America	0.04	0.82	0.03	0.81	0.03	0.78	0.03	0.75	0.03	0.70
West & North Europe	0.01	0.48	0.01	0.47	0.01	0.46	0.02	0.44	0.02	0.43
East & South Europe	0.03	0.76	0.03	0.76	0.03	0.74	0.04	0.72	0.04	0.71
West Africa	0.03	0.83	0.03	0.85	0.03	0.84	0.04	0.83	0.04	0.82
East Africa	0.01	0.77	0.01	0.78	0.01	0.76	0.01	0.74	0.01	0.72
North Africa	0.01	0.77	0.01	0.76	0.01	0.76	0.01	0.73	0.01	0.71
Middle & South Africa	0.01	0.74	0.01	0.75	0.01	0.71	0.01	0.67	0.01	0.65
Central Asian & Middle East	0.04	0.66	0.04	0.63	0.04	0.59	0.05	0.56	0.05	0.56
East Asia	0.04	0.64	0.05	0.63	0.05	0.60	0.05	0.55	0.06	0.53
Southeast Asia	0.04	0.79	0.04	0.78	0.03	0.75	0.03	0.70	0.03	0.65
South Asia	0.02	0.83	0.02	0.83	0.02	0.80	0.03	0.78	0.03	0.78
Other	0.003	0.49	0.004	0.50	0.005	0.51	0.01	0.47	0.01	0.45
<b>Male/female</b>										
Male	0.56	0.79	0.57	0.79	0.57	0.77	0.57	0.73	0.57	0.71
Female	0.44	0.78	0.43	0.78	0.43	0.75	0.43	0.71	0.43	0.69
<b>Region*male/female interaction</b>										
<i>Males</i>										
India*M	0.57	0.90	0.56	0.91	0.53	0.90	0.47	0.87	0.45	0.86
China*M	0.16	0.56	0.16	0.57	0.18	0.56	0.20	0.54	0.21	0.54
US*M	0.01	0.35	0.01	0.34	0.01	0.33	0.02	0.30	0.02	0.29
Central America & Caribbean*M	0.02	0.71	0.02	0.71	0.02	0.68	0.02	0.66	0.03	0.63
South America*M	0.03	0.79	0.03	0.78	0.03	0.75	0.03	0.71	0.03	0.67
West & North Europe*M	0.01	0.47	0.01	0.46	0.01	0.46	0.01	0.44	0.01	0.43
East & South Europe*M	0.02	0.72	0.02	0.72	0.02	0.71	0.03	0.69	0.03	0.66
West Africa*M	0.03	0.83	0.03	0.84	0.03	0.83	0.03	0.83	0.04	0.82



Observations	Year 1		Year 2		Year 3		Year 4		Year 5	
	Proportion	% with tax data	Proportion	% with tax data	Proportion	% with tax data	Proportion	% with tax data	Proportion	% with tax data
	338,880	0.79	275,480	0.79	214,470	0.76	158,820	0.72	122,460	0.72
East Africa*M	0.01	0.75	0.01	0.76	0.01	0.73	0.01	0.71	0.01	0.69
North Africa*M	0.01	0.77	0.01	0.77	0.01	0.77	0.01	0.74	0.01	0.72
Middle & South Africa*M	0.005	0.70	0.005	0.71	0.01	0.67	0.01	0.63	0.01	0.59
Central Asian & Middle East*M	0.04	0.62	0.04	0.60	0.05	0.58	0.05	0.55	0.05	0.54
East Asia*M	0.03	0.63	0.03	0.62	0.04	0.59	0.04	0.54	0.04	0.52
Southeast Asia*M	0.03	0.73	0.02	0.72	0.02	0.69	0.02	0.64	0.02	0.58
South Asia*M	0.03	0.84	0.03	0.83	0.03	0.81	0.04	0.79	0.04	0.79
Other*M	0.003	0.48	0.004	0.49	0.005	0.52	0.01	0.47	0.01	0.46
<i>Females</i>										
India*F	0.39	0.93	0.37	0.93	0.34	0.91	0.28	0.89	0.25	0.87
China*F	0.25	0.61	0.27	0.62	0.29	0.62	0.33	0.60	0.34	0.60
US*F	0.01	0.40	0.02	0.40	0.02	0.38	0.02	0.36	0.02	0.33
Central America & Caribbean*F	0.04	0.80	0.04	0.78	0.04	0.76	0.04	0.73	0.04	0.69
South America*F	0.04	0.85	0.04	0.84	0.04	0.81	0.04	0.78	0.03	0.74
West & North Europe*F	0.01	0.49	0.01	0.49	0.02	0.46	0.02	0.45	0.02	0.44
East & South Europe*F	0.03	0.79	0.04	0.79	0.04	0.77	0.04	0.75	0.05	0.74
West Africa*F	0.03	0.83	0.03	0.86	0.03	0.84	0.04	0.84	0.04	0.82
East Africa*F	0.01	0.80	0.01	0.80	0.01	0.79	0.01	0.76	0.01	0.74
North Africa*F	0.004	0.79	0.004	0.75	0.004	0.76	0.005	0.71	0.004	0.68
Middle & South Africa*F	0.01	0.78	0.01	0.78	0.01	0.75	0.01	0.72	0.01	0.72
Central Asian & Middle East*F	0.03	0.71	0.03	0.67	0.04	0.63	0.04	0.58	0.04	0.58
East Asia*F	0.06	0.65	0.06	0.64	0.07	0.61	0.07	0.56	0.07	0.53
Southeast Asia*F	0.05	0.82	0.05	0.81	0.04	0.79	0.04	0.75	0.03	0.69
South Asia*F	0.01	0.82	0.01	0.82	0.02	0.79	0.02	0.76	0.02	0.76
Other*F	0.003	0.50	0.004	0.52	0.01	0.51	0.01	0.47	0.01	0.46
<b>Location when applying for permit</b>										
Same as citizenship	0.82	0.80	0.82	0.79	0.80	0.76	0.78	0.72	0.76	0.69
Different than citizenship	0.10	0.78	0.12	0.79	0.14	0.78	0.17	0.77	0.19	0.75
Canada	0.07	0.66	0.06	0.68	0.06	0.67	0.05	0.64	0.05	0.63
<b>Age</b>										
Age 16-17	0.04	0.72	0.04	0.74	0.04	0.73	0.03	0.70	0.03	0.69
Age 18	0.13	0.72	0.13	0.74	0.12	0.72	0.11	0.68	0.09	0.66
Age 19-20	0.18	0.72	0.18	0.72	0.17	0.70	0.17	0.65	0.16	0.62
Age 21-22	0.21	0.80	0.22	0.80	0.22	0.77	0.22	0.72	0.23	0.70
Age 23-24	0.19	0.83	0.20	0.82	0.20	0.80	0.20	0.76	0.22	0.74

Observations	Year 1		Year 2		Year 3		Year 4		Year 5	
	Proportion	% with tax data	Proportion	% with tax data	Proportion	% with tax data	Proportion	% with tax data	Proportion	% with tax data
	338,880	0.79	275,480	0.79	214,470	0.76	158,820	0.72	122,460	0.72
Age 25-29	0.17	0.84	0.17	0.83	0.17	0.80	0.18	0.77	0.19	0.75
Age 30-39	0.06	0.83	0.06	0.80	0.06	0.77	0.06	0.73	0.07	0.70
Age 40+	0.01	0.82	0.01	0.78	0.01	0.73	0.01	0.68	0.01	0.63
<b>PSIS program of graduation</b>										
Other	0.002	0.59	0.003	0.59	0.003	0.56	0.004	0.52	0.004	0.51
Certificate	0.28	0.85	0.29	0.85	0.29	0.83	0.26	0.79	0.25	0.77
Diploma	0.41	0.85	0.39	0.86	0.38	0.83	0.38	0.80	0.37	0.77
BA	0.17	0.57	0.17	0.58	0.18	0.56	0.20	0.54	0.20	0.53
Grad	0.14	0.74	0.14	0.72	0.15	0.69	0.16	0.67	0.17	0.65
<b>Field of study at graduation</b>										
Education	0.01	0.69	0.01	0.68	0.01	0.67	0.01	0.65	0.01	0.65
Arts	0.02	0.63	0.02	0.65	0.02	0.64	0.03	0.62	0.03	0.60
Humanities	0.04	0.63	0.05	0.66	0.05	0.66	0.06	0.63	0.06	0.63
Social Sciences	0.09	0.68	0.09	0.68	0.09	0.65	0.10	0.61	0.10	0.58
Business	0.42	0.80	0.42	0.80	0.41	0.77	0.40	0.71	0.40	0.69
Science	0.04	0.74	0.04	0.74	0.04	0.72	0.05	0.71	0.05	0.69
Math and Computer Science	0.09	0.80	0.09	0.80	0.09	0.78	0.08	0.75	0.08	0.73
Engineering	0.19	0.85	0.19	0.85	0.19	0.83	0.19	0.80	0.19	0.79
Agriculture and Resources	0.01	0.77	0.01	0.77	0.01	0.74	0.01	0.70	0.01	0.68
Health	0.05	0.87	0.05	0.87	0.05	0.86	0.05	0.85	0.05	0.83
Services	0.02	0.83	0.02	0.82	0.02	0.79	0.02	0.73	0.02	0.70
Other	0.01	0.54	0.01	0.56	0.01	0.55	0.01	0.53	0.01	0.53
<b>Year of graduation</b>										
2009	0.004	0.64	0.01	0.67	0.01	0.66	0.01	0.65	0.01	0.65
2010	0.01	0.70	0.02	0.71	0.02	0.71	0.03	0.70	0.04	0.69
2011	0.03	0.73	0.04	0.73	0.05	0.72	0.07	0.70	0.09	0.69
2012	0.04	0.72	0.05	0.73	0.06	0.70	0.08	0.68	0.10	0.67
2013	0.05	0.73	0.07	0.73	0.08	0.72	0.11	0.70	0.15	0.70
2014	0.07	0.71	0.08	0.72	0.10	0.72	0.14	0.71	0.18	0.70
2015	0.07	0.73	0.09	0.75	0.11	0.74	0.15	0.72	0.20	0.70
2016	0.08	0.76	0.10	0.77	0.13	0.76	0.18	0.74	0.23	0.72
2017	0.11	0.79	0.13	0.80	0.17	0.78	0.23	0.76	-	-
2018	0.16	0.84	0.20	0.83	0.26	0.82	-	-	-	-
2019	0.18	0.83	0.22	0.83	-	-	-	-	-	-
2020	0.19	0.82	-	-	-	-	-	-	-	-

**Table 25**      **Regression analysis: Tax information in years after graduation (tax return = 1)**

	Year 1	Year 2	Year 3	Year 4	Year 5
<i>Variables derived from permit</i>					
<b>Region/country of citizenship (India)</b>					
China	-0.27*** (0.0033)	-0.27*** (0.0035)	-0.26*** (0.0039)	-0.27*** (0.0043)	-0.27*** (0.0048)
US	-0.49*** (0.010)	-0.51*** (0.011)	-0.50*** (0.011)	-0.51*** (0.012)	-0.51*** (0.013)
Central America & Caribbean	-0.19*** (0.0073)	-0.19*** (0.0080)	-0.20*** (0.0090)	-0.20*** (0.010)	-0.21*** (0.012)
South America	-0.14*** (0.0054)	-0.15*** (0.0061)	-0.16*** (0.0074)	-0.17*** (0.0091)	-0.18*** (0.011)
West & North Europe	-0.39*** (0.011)	-0.39*** (0.012)	-0.38*** (0.013)	-0.38*** (0.014)	-0.38*** (0.016)
East & South Europe	-0.16*** (0.0072)	-0.17*** (0.0076)	-0.17*** (0.0084)	-0.16*** (0.0094)	-0.18*** (0.011)
West Africa	-0.039*** (0.0054)	-0.032*** (0.0057)	-0.029*** (0.0063)	-0.015* (0.0069)	-0.021** (0.0078)
East Africa	-0.12*** (0.011)	-0.11*** (0.012)	-0.12*** (0.014)	-0.12*** (0.016)	-0.13*** (0.018)
North Africa	-0.11*** (0.011)	-0.11*** (0.012)	-0.10*** (0.013)	-0.11*** (0.015)	-0.12*** (0.018)
Middle & South Africa	-0.18*** (0.015)	-0.17*** (0.016)	-0.20*** (0.019)	-0.22*** (0.021)	-0.25*** (0.024)
Central Asian & Middle East	-0.25*** (0.0055)	-0.27*** (0.0061)	-0.27*** (0.0067)	-0.28*** (0.0075)	-0.29*** (0.0085)
East Asia	-0.28*** (0.0061)	-0.29*** (0.0066)	-0.31*** (0.0073)	-0.33*** (0.0083)	-0.34*** (0.0094)
Southeast Asia	-0.16*** (0.0061)	-0.17*** (0.0071)	-0.17*** (0.0087)	-0.18*** (0.011)	-0.22*** (0.013)
South Asia	-0.026*** (0.0051)	-0.027*** (0.0057)	-0.027*** (0.0065)	-0.029*** (0.0074)	-0.025** (0.0081)
Other	-0.33*** (0.019)	-0.34*** (0.020)	-0.30*** (0.020)	-0.33*** (0.021)	-0.35*** (0.023)
<b>Male/Female (Male)</b>					
Female	0.032*** (0.0015)	0.026*** (0.0017)	0.023*** (0.0021)	0.022*** (0.0029)	0.018*** (0.0036)
<b>Region*Female interaction (India*F)</b>					
China*F	0.037***	0.045***	0.049***	0.061***	0.064***

	Year 1	Year 2	Year 3	Year 4	Year 5
US*F	(0.0040) 0.043** (0.015)	(0.0044) 0.049** (0.015)	(0.0049) 0.049** (0.017)	(0.0057) 0.045* (0.018)	(0.0065) 0.037 (0.019)
Central America & Caribbean*F	0.060*** (0.0090)	0.055*** (0.0099)	0.059*** (0.011)	0.060*** (0.013)	0.049** (0.015)
South America*F	0.032*** (0.0069)	0.038*** (0.0079)	0.046*** (0.0097)	0.061*** (0.012)	0.060*** (0.015)
West & North Europe*F	0.013 (0.016)	0.017 (0.017)	-0.0035 (0.018)	0.0046 (0.020)	0.00087 (0.022)
East & South Europe*F	0.051*** (0.0093)	0.055*** (0.0098)	0.059*** (0.011)	0.060*** (0.012)	0.083*** (0.014)
West Africa*F	0.0053 (0.0077)	0.015 (0.0081)	0.020* (0.0091)	0.016 (0.010)	0.014 (0.012)
East Africa*F	0.029 (0.015)	0.031 (0.016)	0.051** (0.018)	0.041 (0.021)	0.048* (0.025)
North Africa*F	0.0024 (0.019)	-0.030 (0.022)	-0.0066 (0.025)	-0.035 (0.030)	-0.038 (0.036)
Middle & South Africa*F	0.072*** (0.020)	0.060** (0.022)	0.074** (0.025)	0.081** (0.029)	0.13*** (0.033)
Central Asian & Middle East*F	0.054*** (0.0082)	0.045*** (0.0093)	0.028** (0.011)	0.016 (0.012)	0.033* (0.014)
East Asia*F	0.012 (0.0078)	0.0090 (0.0085)	0.025** (0.0095)	0.025* (0.011)	0.029* (0.012)
Southeast Asia*F	0.059*** (0.0073)	0.062*** (0.0087)	0.070*** (0.011)	0.079*** (0.014)	0.095*** (0.017)
South Asia*F	-0.036*** (0.0094)	-0.035** (0.011)	-0.035** (0.013)	-0.033* (0.015)	-0.024 (0.016)
Other*F	-0.0064 (0.029)	0.018 (0.029)	-0.017 (0.030)	-0.0074 (0.032)	0.000019 (0.034)
<b>Location when applying for permit (same as citizenship)</b>					
Different than citizenship	0.025*** (0.0024)	0.024*** (0.0025)	0.019*** (0.0027)	0.024*** (0.0029)	0.027*** (0.0033)
Canada	-0.0085** (0.0031)	-0.0016 (0.0036)	0.0023 (0.0044)	0.0010 (0.0053)	0.0039 (0.0066)
<b>Age (Age 18)</b>					
Age 16-17	-0.00043 (0.0042)	0.0033 (0.0046)	0.0020 (0.0054)	0.0019 (0.0067)	0.011 (0.0083)
Age 19-20	-0.0062* (0.0025)	-0.012*** (0.0028)	-0.012*** (0.0034)	-0.019*** (0.0042)	-0.023*** (0.0052)

	Year 1	Year 2	Year 3	Year 4	Year 5
Age 21-22	0.058*** (0.0025)	0.047*** (0.0028)	0.041*** (0.0033)	0.028*** (0.0041)	0.024*** (0.0049)
Age 23-24	0.082*** (0.0026)	0.072*** (0.0028)	0.068*** (0.0034)	0.061*** (0.0042)	0.059*** (0.0050)
Age 25-29	0.12*** (0.0027)	0.10*** (0.0030)	0.096*** (0.0036)	0.092*** (0.0044)	0.091*** (0.0053)
Age 30-39	0.16*** (0.0035)	0.13*** (0.0040)	0.12*** (0.0048)	0.11*** (0.0058)	0.099*** (0.0069)
Age 40+	0.17*** (0.0058)	0.14*** (0.0068)	0.11*** (0.0084)	0.087*** (0.011)	0.067*** (0.013)
<b>PSIS derived variables</b>					
<b>PSIS program of graduation</b>					
Other	-0.056*** (0.015)	-0.037* (0.016)	-0.024 (0.018)	-0.024 (0.020)	-0.019 (0.021)
Certificate	0.054*** (0.0031)	0.061*** (0.0033)	0.076*** (0.0037)	0.075*** (0.0042)	0.071*** (0.0047)
Diploma	0.11*** (0.0027)	0.12*** (0.0029)	0.14*** (0.0033)	0.13*** (0.0037)	0.11*** (0.0042)
Grad	0.031*** (0.0032)	0.022*** (0.0035)	0.032*** (0.0040)	0.035*** (0.0044)	0.028*** (0.0050)
<b>Field of study at grad (Business)</b>					
Education	-0.0020 (0.0091)	0.0062 (0.010)	0.027* (0.011)	0.042** (0.013)	0.069*** (0.015)
Arts	-0.070*** (0.0054)	-0.048*** (0.0059)	-0.029*** (0.0067)	-0.011 (0.0077)	-0.0050 (0.0088)
Humanities	-0.086*** (0.0039)	-0.060*** (0.0041)	-0.035*** (0.0045)	-0.020*** (0.0051)	-0.0100 (0.0056)
Social Sciences	-0.037*** (0.0027)	-0.032*** (0.0030)	-0.026*** (0.0035)	-0.019*** (0.0042)	-0.018*** (0.0049)
Science	-0.016*** (0.0036)	-0.011** (0.0040)	-0.0037 (0.0045)	0.020*** (0.0052)	0.018*** (0.0059)
Math and Computer Science	0.021*** (0.0023)	0.028*** (0.0026)	0.037*** (0.0032)	0.051*** (0.0039)	0.054*** (0.0047)
Engineering	0.048*** (0.0018)	0.053*** (0.0020)	0.061*** (0.0024)	0.081*** (0.0029)	0.090*** (0.0035)
Agriculture and Resources	-0.013 (0.0066)	-0.0059 (0.0071)	-0.0073 (0.0084)	0.0035 (0.010)	0.020 (0.012)
Health	0.018*** (0.0027)	0.027*** (0.0029)	0.045*** (0.0034)	0.073*** (0.0042)	0.079*** (0.0050)

	Year 1	Year 2	Year 3	Year 4	Year 5
Services	0.031*** (0.0042)	0.025*** (0.0049)	0.031*** (0.0060)	0.026*** (0.0077)	0.025** (0.0090)
Other	-0.12*** (0.011)	-0.096*** (0.012)	-0.076*** (0.013)	-0.055*** (0.014)	-0.039* (0.016)
<b>Min grad year (2009)</b>					
2010	0.0031 (0.014)	-0.012 (0.014)	0.00045 (0.014)	0.0025 (0.014)	-0.0034 (0.014)
2011	0.031* (0.014)	0.0078 (0.013)	0.011 (0.014)	0.0038 (0.014)	-0.0038 (0.014)
2012	0.035** (0.013)	0.018 (0.013)	0.011 (0.014)	0.0018 (0.014)	-0.0071 (0.014)
2013	0.039** (0.013)	0.011 (0.013)	0.015 (0.013)	0.0100 (0.013)	0.0081 (0.013)
2014	0.032* (0.013)	0.017 (0.013)	0.031* (0.013)	0.029* (0.013)	0.018 (0.013)
2015	0.042** (0.013)	0.032* (0.013)	0.044** (0.013)	0.032* (0.013)	0.017 (0.013)
2016	0.069*** (0.013)	0.052*** (0.013)	0.056*** (0.013)	0.045*** (0.013)	0.031* (0.013)
2017	0.085*** (0.013)	0.061*** (0.013)	0.060*** (0.013)	0.049*** (0.013)	
2018	0.10*** (0.013)	0.064*** (0.013)	0.064*** (0.013)		
2019	0.089*** (0.013)	0.057*** (0.013)			
2020	0.086*** (0.013)				
Intercepts	0.68*** (0.013)	0.71*** (0.013)	0.68*** (0.014)	0.67*** (0.014)	0.68*** (0.014)
Observations	338,880	275,480	214,470	158,820	122,460
R2	0.159	0.160	0.151	0.141	0.132

**Notes:** This table presents the results of separate linear probability models examining if a student had a tax return and declared employment earnings (1=yes) one to five years after a student graduated from a PSE program. 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 26** Descriptive analysis: Log earnings after graduation

Observations	Year 1		Year 2		Year 3		Year 4		Year 5	
	Proportion	Mean earnings	Proportion	Mean earnings	Proportion	Mean earnings	Proportion	Mean earnings	Proportion	Mean earnings
	251,140	10.07	207,110	10.45	155,380	10.57	107,410	10.60	79,070	10.64
<b>Declared study in tax return</b>										
Not studying in tax year	0.55	10.32	0.88	10.53	0.90	10.63	0.88	10.66	0.87	10.70
Studying in tax year	0.45	9.76	0.12	9.87	0.10	10.01	0.12	10.14	0.13	10.23
<b>Region/country of citizenship</b>										
India	0.60	10.08	0.57	10.50	0.55	10.63	0.50	10.65	0.48	10.67
China	0.13	9.98	0.14	10.31	0.16	10.41	0.19	10.45	0.20	10.50
US	0.01	10.13	0.01	10.35	0.01	10.40	0.01	10.50	0.01	10.60
Central America & Caribbean	0.03	10.10	0.03	10.46	0.03	10.58	0.03	10.62	0.03	10.67
South America	0.04	10.19	0.04	10.58	0.03	10.71	0.03	10.77	0.03	10.78
West & North Europe	0.01	10.18	0.01	10.46	0.01	10.60	0.01	10.67	0.01	10.79
East & South Europe	0.02	10.05	0.03	10.47	0.03	10.59	0.04	10.66	0.04	10.68
West Africa	0.03	10.11	0.03	10.42	0.03	10.58	0.04	10.60	0.04	10.71
East Africa	0.01	10.14	0.01	10.47	0.01	10.58	0.01	10.62	0.01	10.70
North Africa	0.01	10.25	0.01	10.53	0.01	10.63	0.01	10.66	0.01	10.73
Middle & South Africa	0.005	10.01	0.005	10.27	0.01	10.45	0.01	10.53	0.01	10.51
Central Asian & Middle East	0.03	10.19	0.03	10.48	0.03	10.60	0.03	10.68	0.04	10.81
East Asia	0.03	9.81	0.04	10.30	0.04	10.40	0.04	10.42	0.04	10.44
Southeast Asia	0.04	9.94	0.03	10.24	0.03	10.36	0.03	10.46	0.02	10.55
South Asia	0.02	10.33	0.02	10.63	0.03	10.74	0.03	10.78	0.03	10.86
Other	0.002	10.12	0.002	10.46	0.003	10.49	0.004	10.56	0.004	10.63
<b>Male/female</b>										
Male	0.57	10.13	0.58	10.53	0.58	10.67	0.59	10.70	0.59	10.75
Female	0.43	9.99	0.42	10.34	0.42	10.45	0.41	10.47	0.41	10.49
<b>Region*male/female interaction</b>										
<i>Males</i>										
India*M	0.67	10.12	0.65	10.55	0.63	10.69	0.58	10.71	0.57	10.74
China*M	0.09	10.02	0.10	10.37	0.12	10.48	0.13	10.52	0.15	10.59
US*M	0.01	10.17	0.01	10.46	0.01	10.53	0.01	10.61	0.01	10.69
Central America & Caribbean*M	0.02	10.23	0.02	10.58	0.02	10.73	0.02	10.77	0.02	10.84
South America*M	0.03	10.33	0.03	10.73	0.03	10.87	0.03	10.93	0.02	10.96
West & North Europe*M	0.01	10.31	0.01	10.59	0.01	10.74	0.01	10.91	0.01	11.00
East & South Europe*M	0.02	10.17	0.02	10.62	0.02	10.75	0.03	10.85	0.03	10.87
West Africa*M	0.03	10.20	0.03	10.52	0.03	10.71	0.04	10.73	0.04	10.84
East Africa*M	0.01	10.19	0.01	10.54	0.01	10.64	0.01	10.68	0.01	10.83

Observations	Year 1		Year 2		Year 3		Year 4		Year 5	
	Proportion	Mean earnings	Proportion	Mean earnings	Proportion	Mean earnings	Proportion	Mean earnings	Proportion	Mean earnings
	251,140	10.07	207,110	10.45	155,380	10.57	107,410	10.60	79,070	10.64
North Africa*M	0.01	10.35	0.01	10.61	0.01	10.70	0.01	10.73	0.01	10.83
Middle & South Africa*M	0.004	10.09	0.004	10.41	0.004	10.56	0.005	10.67	0.004	10.61
Central Asian & Middle East*M	0.03	10.29	0.03	10.57	0.03	10.69	0.04	10.77	0.04	10.93
East Asia*M	0.02	9.96	0.03	10.45	0.03	10.57	0.03	10.61	0.03	10.62
Southeast Asia*M	0.02	10.02	0.02	10.33	0.02	10.46	0.02	10.57	0.02	10.70
South Asia*M	0.03	10.42	0.03	10.70	0.03	10.83	0.04	10.86	0.05	10.93
Other*M	0.002	10.19	0.002	10.53	0.003	10.60	0.004	10.63	0.004	10.72
<i>Females</i>										
India*F	0.50	10.02	0.47	10.40	0.43	10.52	0.37	10.52	0.34	10.51
China*F	0.17	9.96	0.20	10.27	0.22	10.36	0.26	10.40	0.28	10.43
US*F	0.01	10.09	0.01	10.25	0.01	10.27	0.01	10.39	0.01	10.51
Central America & Caribbean*F	0.04	10.02	0.04	10.37	0.04	10.48	0.05	10.52	0.05	10.55
South America*F	0.04	10.06	0.04	10.44	0.04	10.56	0.04	10.61	0.04	10.62
West & North Europe*F	0.01	10.05	0.01	10.34	0.01	10.46	0.01	10.41	0.01	10.56
East & South Europe*F	0.03	9.95	0.04	10.36	0.04	10.48	0.05	10.51	0.05	10.54
West Africa*F	0.03	10.01	0.03	10.29	0.04	10.41	0.04	10.44	0.05	10.53
East Africa*F	0.01	10.10	0.01	10.41	0.01	10.53	0.01	10.57	0.01	10.59
North Africa*F	0.004	9.98	0.004	10.31	0.004	10.41	0.004	10.39	0.004	10.38
Middle & South Africa*F	0.01	9.93	0.01	10.14	0.01	10.36	0.01	10.42	0.01	10.42
Central Asian & Middle East*F	0.03	10.06	0.03	10.34	0.03	10.44	0.03	10.53	0.03	10.61
East Asia*F	0.04	9.70	0.05	10.19	0.05	10.28	0.05	10.27	0.05	10.29
Southeast Asia*F	0.06	9.89	0.05	10.19	0.05	10.30	0.04	10.39	0.04	10.46
South Asia*F	0.02	10.10	0.02	10.41	0.02	10.49	0.02	10.51	0.02	10.63
Other*F	0.002	10.03	0.003	10.38	0.003	10.36	0.004	10.48	0.005	10.52
<b>Location when applying for permit</b>										
Same as citizenship	0.84	10.06	0.83	10.44	0.81	10.56	0.77	10.59	0.75	10.63
Different than citizenship	0.10	10.20	0.12	10.57	0.14	10.69	0.19	10.69	0.21	10.72
Canada	0.06	9.97	0.05	10.30	0.05	10.40	0.04	10.44	0.04	10.51
<b>Age</b>										
Age 16-17	0.03	10.11	0.03	10.44	0.03	10.55	0.03	10.54	0.03	10.57
Age 18	0.12	10.06	0.12	10.42	0.11	10.54	0.10	10.53	0.09	10.54
Age 19-20	0.17	9.99	0.16	10.38	0.16	10.49	0.15	10.50	0.14	10.49
Age 21-22	0.22	10.05	0.22	10.46	0.23	10.59	0.23	10.62	0.24	10.68
Age 23-24	0.20	10.06	0.21	10.45	0.21	10.58	0.22	10.61	0.23	10.65
Age 25-29	0.18	10.15	0.18	10.52	0.18	10.63	0.19	10.68	0.20	10.74



Observations	Year 1		Year 2		Year 3		Year 4		Year 5	
	Proportion	Mean earnings	Proportion	Mean earnings	Proportion	Mean earnings	Proportion	Mean earnings	Proportion	Mean earnings
	251,140	10.07	207,110	10.45	155,380	10.57	107,410	10.60	79,070	10.64
Age 30-39	0.06	10.18	0.06	10.53	0.06	10.64	0.06	10.68	0.06	10.70
Age 40+	0.01	9.96	0.01	10.39	0.01	10.51	0.01	10.48	0.01	10.53
<b>PSIS program of graduation</b>										
Other	0.001	9.64	0.002	9.83	0.002	10.04	0.003	10.06	0.003	10.15
Certificate	0.31	9.92	0.32	10.33	0.31	10.49	0.28	10.54	0.28	10.59
Diploma	0.45	9.98	0.43	10.43	0.43	10.53	0.43	10.50	0.41	10.49
BA	0.11	10.25	0.12	10.51	0.13	10.63	0.14	10.70	0.15	10.78
Grad	0.13	10.61	0.13	10.79	0.13	10.87	0.15	10.94	0.16	11.01
<b>Field of study at graduation</b>										
Education	0.01	9.93	0.01	10.15	0.01	10.26	0.01	10.34	0.01	10.37
Arts	0.02	9.65	0.02	10.14	0.02	10.28	0.02	10.31	0.02	10.36
Humanities	0.03	9.64	0.04	9.98	0.04	10.17	0.05	10.29	0.05	10.40
Social Sciences	0.08	9.95	0.08	10.32	0.08	10.42	0.08	10.42	0.08	10.46
Business	0.44	10.04	0.43	10.44	0.42	10.57	0.39	10.59	0.39	10.61
Science	0.04	10.01	0.04	10.33	0.04	10.45	0.05	10.47	0.05	10.57
Math and Computer Science	0.09	10.25	0.09	10.63	0.09	10.77	0.09	10.81	0.08	10.88
Engineering	0.21	10.27	0.20	10.65	0.21	10.77	0.22	10.80	0.22	10.86
Agriculture and Resources	0.01	9.99	0.01	10.42	0.01	10.54	0.01	10.57	0.01	10.57
Health	0.06	9.98	0.06	10.37	0.06	10.49	0.06	10.54	0.06	10.59
Services	0.03	9.90	0.02	10.24	0.02	10.33	0.02	10.27	0.02	10.27
Other	0.003	10.12	0.003	10.16	0.004	10.27	0.005	10.29	0.01	10.33
<b>Year of graduation</b>										
2009	0.002	9.30	0.003	9.74	0.005	9.81	0.01	9.96	0.01	10.10
2010	0.01	9.72	0.02	10.23	0.02	10.33	0.03	10.40	0.04	10.50
2011	0.03	9.96	0.03	10.39	0.05	10.50	0.06	10.53	0.08	10.56
2012	0.03	9.96	0.04	10.41	0.05	10.53	0.07	10.55	0.10	10.62
2013	0.05	9.94	0.06	10.39	0.08	10.53	0.11	10.57	0.15	10.66
2014	0.06	9.94	0.07	10.37	0.10	10.55	0.14	10.63	0.18	10.68
2015	0.06	9.98	0.08	10.44	0.11	10.63	0.15	10.66	0.20	10.63
2016	0.08	10.04	0.10	10.52	0.13	10.63	0.18	10.57	0.24	10.70
2017	0.11	10.13	0.14	10.51	0.17	10.55	0.24	10.66	-	-
2018	0.18	10.10	0.22	10.39	0.28	10.62	-	-	-	-
2019	0.19	10.02	0.24	10.53	-	-	-	-	-	-
2020	0.20	10.24	-	-	-	-	-	-	-	-

**Table 27**      **Regression analysis: Log earnings after graduation**

	Year 1	Year 2	Year 3	Year 4	Year 5
<i>T1FF derived variable</i>					
<b>Declared FT/PT study in tax return (No)</b>					
Studying in tax year	-0.45*** (0.0034)	-0.58*** (0.0064)	-0.57*** (0.0093)	-0.50*** (0.010)	-0.44*** (0.012)
<i>Variables derived from permit</i>					
<b>Region/country of citizenship (India)</b>					
China	-0.41*** (0.0096)	-0.32*** (0.0089)	-0.31*** (0.0097)	-0.32*** (0.012)	-0.30*** (0.014)
US	-0.24*** (0.036)	-0.19*** (0.035)	-0.23*** (0.041)	-0.21*** (0.047)	-0.21** (0.062)
Central America & Caribbean	-0.015 (0.017)	-0.026 (0.016)	0.0096 (0.018)	0.017 (0.021)	0.042 (0.026)
South America	0.084*** (0.013)	0.11*** (0.013)	0.15*** (0.015)	0.18*** (0.020)	0.17*** (0.028)
West & North Europe	-0.068* (0.035)	-0.097** (0.034)	-0.051 (0.035)	0.056 (0.037)	0.092* (0.046)
East & South Europe	-0.014 (0.018)	0.029 (0.016)	0.037* (0.017)	0.12*** (0.020)	0.089*** (0.026)
West Africa	-0.14*** (0.015)	-0.13*** (0.014)	-0.061*** (0.014)	-0.084*** (0.019)	-0.011 (0.020)
East Africa	-0.095*** (0.025)	-0.080** (0.025)	-0.089** (0.029)	-0.082* (0.037)	-0.0071 (0.040)
North Africa	-0.23*** (0.033)	-0.19*** (0.031)	-0.19*** (0.037)	-0.23*** (0.044)	-0.19*** (0.054)
Middle & South Africa	-0.19*** (0.039)	-0.20*** (0.040)	-0.16*** (0.045)	-0.092 (0.058)	-0.20* (0.083)
Central Asian & Middle East	-0.22*** (0.015)	-0.19*** (0.016)	-0.19*** (0.019)	-0.20*** (0.023)	-0.12*** (0.026)
East Asia	-0.26*** (0.015)	-0.17*** (0.014)	-0.15*** (0.016)	-0.11*** (0.019)	-0.12*** (0.026)
Southeast Asia	-0.17*** (0.014)	-0.17*** (0.016)	-0.16*** (0.020)	-0.12*** (0.025)	-0.070* (0.033)
South Asia	-0.058*** (0.012)	-0.074*** (0.013)	-0.057*** (0.014)	-0.093*** (0.019)	-0.080*** (0.021)
Other	-0.24*** (0.057)	-0.18*** (0.045)	-0.20*** (0.051)	-0.21** (0.065)	-0.15* (0.068)
<b>Male/Female (Male)</b>					

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	Year 1	Year 2	Year 3	Year 4	Year 5
Female	-0.040*** (0.0039)	-0.095*** (0.0038)	-0.12*** (0.0046)	-0.13*** (0.0072)	-0.17*** (0.0099)
<b>Region*Female interaction (India*F)</b>					
China*F	0.020 (0.012)	0.043*** (0.011)	0.045*** (0.013)	0.069*** (0.016)	0.083*** (0.020)
US*F	0.0019 (0.049)	-0.063 (0.050)	-0.088 (0.059)	-0.051 (0.070)	0.028 (0.083)
Central America & Caribbean*F	-0.089*** (0.022)	-0.041 (0.022)	-0.047 (0.024)	-0.026 (0.030)	-0.0074 (0.038)
South America*F	-0.15*** (0.018)	-0.12*** (0.018)	-0.12*** (0.023)	-0.11*** (0.028)	-0.078* (0.040)
West & North Europe*F	-0.13** (0.049)	-0.053 (0.048)	-0.060 (0.051)	-0.25*** (0.066)	-0.14* (0.068)
East & South Europe*F	-0.095*** (0.024)	-0.076*** (0.021)	-0.067** (0.024)	-0.11*** (0.028)	-0.054 (0.036)
West Africa*F	-0.11*** (0.021)	-0.063** (0.022)	-0.11*** (0.024)	-0.081** (0.030)	-0.056 (0.032)
East Africa*F	-0.014 (0.034)	0.025 (0.035)	0.066 (0.040)	0.064 (0.051)	0.0042 (0.060)
North Africa*F	-0.21*** (0.063)	-0.079 (0.063)	-0.064 (0.072)	-0.15 (0.11)	-0.20 (0.11)
Middle & South Africa*F	-0.030 (0.054)	-0.078 (0.061)	-0.013 (0.068)	-0.029 (0.081)	0.063 (0.11)
Central Asian & Middle East*F	-0.11*** (0.024)	-0.064* (0.027)	-0.064* (0.032)	-0.049 (0.039)	-0.073 (0.044)
East Asia*F	-0.12*** (0.021)	-0.047* (0.019)	-0.058** (0.022)	-0.089** (0.028)	-0.041 (0.036)
Southeast Asia*F	-0.0038 (0.018)	0.026 (0.020)	0.034 (0.025)	0.037 (0.032)	0.025 (0.043)
South Asia*F	-0.17*** (0.025)	-0.097*** (0.027)	-0.15*** (0.032)	-0.12** (0.042)	-0.039 (0.047)
Other*F	-0.075 (0.081)	-0.0014 (0.069)	-0.084 (0.087)	0.020 (0.090)	0.012 (0.100)
<b>Location when applying for permit (same as citizenship)</b>					
Different than citizenship	0.099*** (0.0060)	0.078*** (0.0055)	0.078*** (0.0058)	0.054*** (0.0071)	0.041*** (0.0086)
Canada	-0.092*** (0.0086)	-0.079*** (0.0093)	-0.076*** (0.011)	-0.077*** (0.015)	-0.082*** (0.019)
<b>Age (Age 18)</b>					

	Year 1	Year 2	Year 3	Year 4	Year 5
Age 16-17	0.0097 (0.0098)	0.0068 (0.0095)	0.0082 (0.011)	0.0068 (0.016)	0.0088 (0.022)
Age 19-20	-0.021*** (0.0059)	-0.019** (0.0058)	-0.036*** (0.0072)	-0.023* (0.010)	-0.041** (0.014)
Age 21-22	0.069*** (0.0060)	0.069*** (0.0058)	0.047*** (0.0070)	0.053*** (0.0099)	0.074*** (0.013)
Age 23-24	0.092*** (0.0062)	0.077*** (0.0061)	0.048*** (0.0074)	0.047*** (0.010)	0.039** (0.014)
Age 25-29	0.18*** (0.0067)	0.15*** (0.0066)	0.10*** (0.0080)	0.11*** (0.011)	0.12*** (0.014)
Age 30-39	0.25*** (0.0095)	0.20*** (0.0099)	0.15*** (0.012)	0.15*** (0.015)	0.12*** (0.019)
Age 40+	0.14*** (0.017)	0.15*** (0.018)	0.099*** (0.022)	0.044 (0.030)	0.074* (0.037)
<b>PSIS derived variables</b>					
<b>PSIS program of graduation (BA)</b>					
Other	-0.80*** (0.049)	-0.77*** (0.048)	-0.64*** (0.055)	-0.68*** (0.066)	-0.62*** (0.072)
Certificate	-0.59*** (0.0084)	-0.47*** (0.0082)	-0.44*** (0.0093)	-0.43*** (0.011)	-0.42*** (0.013)
Diploma	-0.45*** (0.0073)	-0.38*** (0.0070)	-0.37*** (0.0081)	-0.45*** (0.010)	-0.50*** (0.012)
Grad	0.042*** (0.0085)	0.021* (0.0087)	0.040*** (0.010)	0.049*** (0.012)	0.043** (0.014)
<b>Field of study at grad (Business)</b>					
Education	-0.35*** (0.023)	-0.37*** (0.025)	-0.34*** (0.030)	-0.30*** (0.035)	-0.31*** (0.046)
Arts	-0.32*** (0.015)	-0.25*** (0.014)	-0.24*** (0.017)	-0.22*** (0.022)	-0.21*** (0.026)
Humanities	-0.34*** (0.012)	-0.30*** (0.011)	-0.24*** (0.012)	-0.19*** (0.014)	-0.13*** (0.016)
Social Sciences	-0.15*** (0.0068)	-0.14*** (0.0069)	-0.15*** (0.0082)	-0.17*** (0.012)	-0.17*** (0.015)
Science	-0.12*** (0.0091)	-0.16*** (0.0095)	-0.15*** (0.011)	-0.13*** (0.014)	-0.067*** (0.017)
Math and Computer Science	0.093*** (0.0058)	0.12*** (0.0057)	0.14*** (0.0069)	0.17*** (0.0095)	0.21*** (0.012)
Engineering	0.066*** (0.0044)	0.075*** (0.0043)	0.085*** (0.0052)	0.12*** (0.0069)	0.14*** (0.0089)

Postsecondary pathways and outcomes of international students in Ontario

	Year 1	Year 2	Year 3	Year 4	Year 5
Agriculture and Resources	-0.051** (0.017)	-0.055*** (0.015)	-0.065*** (0.019)	-0.042 (0.025)	-0.075* (0.034)
Health	0.026*** (0.0072)	0.0024 (0.0076)	-0.011 (0.0090)	0.014 (0.012)	0.050*** (0.015)
Services	0.012 (0.0097)	-0.13*** (0.0100)	-0.16*** (0.012)	-0.21*** (0.018)	-0.21*** (0.022)
Other	-0.12*** (0.033)	-0.18*** (0.036)	-0.14*** (0.036)	-0.11** (0.039)	-0.13** (0.042)
<b>Min grad year (2009)</b>					
2010	0.37*** (0.048)	0.32*** (0.039)	0.33*** (0.043)	0.31*** (0.043)	0.30*** (0.045)
2011	0.54*** (0.046)	0.41*** (0.037)	0.45*** (0.041)	0.40*** (0.042)	0.34*** (0.043)
2012	0.52*** (0.046)	0.43*** (0.037)	0.46*** (0.041)	0.41*** (0.041)	0.38*** (0.043)
2013	0.53*** (0.046)	0.44*** (0.037)	0.49*** (0.041)	0.45*** (0.041)	0.45*** (0.043)
2014	0.52*** (0.046)	0.42*** (0.037)	0.51*** (0.041)	0.51*** (0.041)	0.47*** (0.042)
2015	0.53*** (0.046)	0.45*** (0.037)	0.54*** (0.041)	0.50*** (0.041)	0.38*** (0.043)
2016	0.62*** (0.046)	0.54*** (0.037)	0.55*** (0.041)	0.41*** (0.041)	0.47*** (0.042)
2017	0.75*** (0.045)	0.56*** (0.036)	0.48*** (0.041)	0.54*** (0.041)	
2018	0.76*** (0.045)	0.44*** (0.036)	0.58*** (0.040)		
2019	0.66*** (0.045)	0.59*** (0.036)			
2020	0.89*** (0.045)				
Intercept	9.99*** (0.046)	10.4*** (0.037)	10.5*** (0.042)	10.6*** (0.043)	10.7*** (0.045)
Observations	251,140	207,110	155,380	107,410	79,070
R2	0.198	0.171	0.145	0.128	0.118

**Notes:** This table presents the results of separate OLS models examining CIP adjusted log earnings (excluding those who earned \$0) one to five years after a student graduated from a PSE program. 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 28 Descriptive analysis: Migration outcomes 1 year after initial Ontario study permit

	<i>Proportion</i> 509,530	<i>% no permit</i> 0.005	<i>% study permit</i> 0.61	<i>% study &amp; work permit</i> 0.37	<i>% work permit</i> 0.01	<i>% transition to PR</i> 0.01
<b>Region/country of citizenship</b>						
India	0.42	0.001	0.51	0.48	0.005	0.005
China	0.23	0.002	0.78	0.20	0.01	0.01
US	0.02	0.01	0.79	0.17	0.004	0.03
Central America & Caribbean	0.03	0.01	0.49	0.45	0.01	0.03
South America	0.04	0.02	0.40	0.55	0.01	0.03
West & North Europe	0.02	0.03	0.82	0.13	0.004	0.02
East & South Europe	0.03	0.01	0.54	0.41	0.01	0.02
West Africa	0.03	0.003	0.62	0.34	0.01	0.03
East Africa	0.01	0.01	0.53	0.40	0.01	0.05
North Africa	0.01	0.01	0.70	0.24	0.01	0.04
Middle & South Africa	0.01	0.003	0.64	0.31	0.01	0.04
Central Asian & Middle East	0.05	0.01	0.73	0.21	0.01	0.04
East Asia	0.05	0.02	0.65	0.31	0.01	0.02
Southeast Asia	0.04	0.003	0.55	0.43	0.005	0.01
South Asia	0.02	0.003	0.57	0.39	0.01	0.03
Other	0.004	0.04	0.68	0.22	0.01	0.04
<b>Male/female</b>						
Male	0.56	0.004	0.61	0.37	0.01	0.01
Female	0.44	0.01	0.60	0.37	0.01	0.02
<b>Region*male/female interaction</b>						
<i>Males</i>						
India*M	0.48	0.001	0.52	0.47	0.005	0.004
China*M	0.20	0.003	0.81	0.17	0.01	0.01
US*M	0.01	0.01	0.80	0.16	0.005	0.03
Central America & Caribbean*M	0.02	0.01	0.55	0.40	0.01	0.02
South America*M	0.04	0.02	0.41	0.55	0.01	0.02
West & North Europe*M	0.02	0.03	0.81	0.14	0.004	0.02
East & South Europe*M	0.02	0.01	0.58	0.39	0.01	0.01
West Africa*M	0.03	0.003	0.63	0.34	0.01	0.02
East Africa*M	0.01	0.01	0.55	0.38	0.01	0.05
North Africa*M	0.01	0.01	0.70	0.24	0.01	0.04

	<i>Proportion</i>	<i>% no permit</i>	<i>% study permit</i>	<i>% study &amp; work permit</i>	<i>% work permit</i>	<i>% transition to PR</i>
	509,530	0.005	0.61	0.37	0.01	0.01
Middle & South Africa*M	0.01	0.000	0.66	0.30	0.01	0.03
Central Asian & Middle East*M	0.05	0.01	0.75	0.20	0.01	0.04
East Asia*M	0.04	0.01	0.69	0.27	0.01	0.02
Southeast Asia*M	0.03	0.004	0.60	0.38	0.004	0.01
South Asia*M	0.03	0.002	0.56	0.40	0.01	0.03
Other*M	0.004	0.04	0.67	0.21	0.02	0.06
<i>Females</i>						
India*F	0.33	0.001	0.50	0.49	0.005	0.01
China*F	0.28	0.002	0.76	0.22	0.01	0.01
US*F	0.02	0.01	0.78	0.18	0.003	0.03
Central America & Caribbean*F	0.04	0.01	0.45	0.49	0.01	0.04
South America*F	0.04	0.02	0.39	0.55	0.01	0.03
West & North Europe*F	0.03	0.03	0.82	0.13	0.005	0.02
East & South Europe*F	0.03	0.01	0.51	0.43	0.01	0.03
West Africa*F	0.03	0.003	0.62	0.33	0.01	0.03
East Africa*F						
North Africa*F	0.01	0.01	0.68	0.23	0.02	0.05
Middle & South Africa*F	0.04	0.01	0.71	0.22	0.01	0.04
Central Asian & Middle East*F	0.07	0.02	0.62	0.34	0.01	0.01
East Asia*F	0.05	0.003	0.51	0.46	0.01	0.02
Southeast Asia*F	0.02	0.003	0.59	0.36	0.01	0.04
South Asia*F	0.004	0.04	0.69	0.22	0.01	0.03
Other*F						
<b>Location when applying for permit</b>						
Same as citizenship	0.79	0.004	0.61	0.37	0.01	0.01
Different than citizenship	0.10	0.01	0.47	0.49	0.01	0.02
Canada	0.11	0.01	0.72	0.22	0.01	0.04
<b>Age</b>						
Age 16-17	0.05	0.00	0.75	0.24		0.01
Age 18	0.17	0.001	0.76	0.23	0.0001	0.01
Age 19-20	0.21	0.004	0.73	0.26	0.002	0.01
Age 21-22	0.19	0.01	0.55	0.43	0.01	0.01
Age 23-24	0.16	0.01	0.50	0.47	0.01	0.01
Age 25-29	0.15	0.01	0.47	0.48	0.01	0.03
Age 30-39	0.06	0.01	0.47	0.46	0.01	0.05
Age 40+	0.01	0.01	0.51	0.43	0.01	0.05

	<i>Proportion</i>	<i>% no permit</i>	<i>% study permit</i>	<i>% study &amp; work permit</i>	<i>% work permit</i>	<i>% transition to PR</i>
	509,530	0.005	0.61	0.37	0.01	0.01
<b>PSIS entry program</b>						
Other	0.08	0.03	0.72	0.23	0.01	0.02
Certificate	0.23	0.004	0.44	0.54	0.01	0.01
Diploma	0.33	0.002	0.56	0.42	0.01	0.01
BA	0.24	0.003	0.78	0.20	0.01	0.02
Grad	0.11	0.003	0.64	0.32	0.005	0.03
<b>Field of study at entry</b>						
Education	0.01	0.01	0.64	0.32	0.01	0.03
Arts	0.02	0.01	0.72	0.25	0.01	0.02
Humanities	0.09	0.01	0.78	0.19	0.005	0.02
Social Sciences	0.07	0.005	0.62	0.35	0.01	0.02
Business	0.35	0.003	0.56	0.41	0.01	0.01
Science	0.06	0.003	0.79	0.19	0.004	0.02
Math and Computer Science	0.09	0.001	0.54	0.44	0.004	0.01
Engineering	0.18	0.003	0.62	0.36	0.005	0.01
Agriculture and Resources	0.01	0.002	0.57	0.41	0.01	0.01
Health	0.05	0.003	0.44	0.53	0.01	0.02
Services	0.02	0.003	0.36	0.62	0.01	0.01
Other	0.04	0.02	0.68	0.27	0.01	0.03
<b>PT/FT at entry</b>						
Full-time study	0.66	0.003	0.61	0.37	0.01	0.02
Part-time study	0.06	0.01	0.70	0.26	0.01	0.02
No fall snapshot information	0.28	0.01	0.59	0.39	0.01	0.01
<b>Institution at entry</b>						
College	0.61	0.004	0.52	0.46	0.01	0.01
University	0.39	0.01	0.74	0.22	0.01	0.02
<b>Study permit cohort</b>						
2010	0.07	0.01	0.51	0.42	0.02	0.03
2011	0.07	0.01	0.50	0.44	0.02	0.03
2012	0.06	0.01	0.49	0.47	0.01	0.02
2013	0.07	0.01	0.60	0.37	0.01	0.02
2014	0.06	0.01	0.72	0.26	0.002	0.01
2015	0.08	0.01	0.68	0.30	0.003	0.01
2016	0.11	0.003	0.68	0.30	0.004	0.01
2017	0.14	0.003	0.63	0.35	0.003	0.01
2018	0.16	0.002	0.61	0.38	0.004	0.01
2019	0.18	0.003	0.59	0.40	0.003	0.01



**Table 29**      **Regression analysis: Migration outcomes 1 year after initial Ontario study permit**

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
<b>Region/country of citizenship (India)</b>					
China	0.0017*** (0.00020)	0.18*** (0.0022)	-0.18*** (0.0022)	0.00011 (0.00041)	-0.0018** (0.00058)
US	0.011*** (0.0016)	0.23*** (0.0052)	-0.25*** (0.0049)	-0.0026*** (0.00076)	0.0041*** (0.0012)
Central America & Caribbean	0.012*** (0.0010)	0.0031 (0.0043)	-0.027*** (0.0043)	0.0017* (0.00075)	0.011*** (0.0012)
South America	0.0087*** (0.00070)	-0.10*** (0.0039)	0.087*** (0.0039)	0.000063 (0.00059)	0.0090*** (0.0010)
West & North Europe	0.015*** (0.0012)	0.25*** (0.0044)	-0.27*** (0.0042)	-0.0018* (0.00070)	0.0049*** (0.0012)
East & South Europe	0.011*** (0.00093)	0.036*** (0.0044)	-0.054*** (0.0043)	0.0013 (0.00075)	0.0058*** (0.0011)
West Africa	0.0017*** (0.00042)	0.069*** (0.0040)	-0.080*** (0.0040)	0.0030*** (0.00078)	0.0063*** (0.0010)
East Africa	0.0049*** (0.0012)	-0.0077 (0.0066)	-0.030*** (0.0067)	0.0051*** (0.0013)	0.028*** (0.0023)
North Africa	0.0054*** (0.0012)	0.15*** (0.0077)	-0.17*** (0.0076)	0.00036 (0.0012)	0.012*** (0.0020)
Middle & South Africa	0.0037*** (0.0012)	0.13*** (0.0084)	-0.15*** (0.0083)	0.0015 (0.0014)	0.012*** (0.0023)
Central Asian & Middle East	0.0066*** (0.00055)	0.22*** (0.0031)	-0.23*** (0.0030)	-0.0014** (0.00050)	0.0077*** (0.00085)
East Asia	0.014*** (0.00081)	0.12*** (0.0033)	-0.14*** (0.0032)	-0.0018*** (0.00045)	-0.0016* (0.00070)
Southeast Asia	0.0026*** (0.00047)	0.0090* (0.0037)	-0.014*** (0.0037)	-0.00015 (0.00070)	0.0023* (0.00096)
South Asia	0.0028*** (0.00066)	0.052*** (0.0047)	-0.072*** (0.0047)	0.0031*** (0.00088)	0.014*** (0.0015)
Other	0.026*** (0.0032)	0.27*** (0.0080)	-0.30*** (0.0071)	-0.00062 (0.0012)	0.0062** (0.0020)
<b>Male/Female (Male)</b>					
Female	-0.00031 (0.00019)	-0.030*** (0.0013)	0.027*** (0.0013)	0.00042 (0.00023)	0.0030*** (0.00035)
<b>Region*Female interaction (India*F)</b>					
China*F	0.0014***	0.15***	-0.15***	0.00052	-0.0041***

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
US*F	(0.00024) 0.011***	(0.0029) 0.22***	(0.0029) -0.23***	(0.00055) -0.0033***	(0.00086) 0.0044*
Central America & Caribbean*F	(0.0022) 0.011***	(0.0076) -0.039***	(0.0073) 0.013*	(0.00097) 0.0024*	(0.0019) 0.012***
South America*F	(0.0013) 0.0095***	(0.0056) -0.096***	(0.0056) 0.079***	(0.00100) -0.000078	(0.0017) 0.0079***
West & North Europe*F	(0.00091) 0.014***	(0.0055) 0.25***	(0.0055) -0.26***	(0.00081) -0.00029	(0.0015) 0.0017
East & South Europe*F	(0.0014) 0.011***	(0.0060) 0.014*	(0.0058) -0.035***	(0.0012) 0.0014	(0.0017) 0.0084***
West Africa*F	(0.0013) 0.00097	(0.0060) 0.061***	(0.0059) -0.075***	(0.00098) 0.0049***	(0.0017) 0.0073***
East Africa*F	(0.00052) 0.0026*	(0.0059) -0.026**	(0.0060) -0.011	(0.0013) 0.0045*	(0.0016) 0.030***
North Africa*F	(0.0012) 0.0069**	(0.0092) 0.14***	(0.0094) -0.16***	(0.0018) -0.0012	(0.0034) 0.013***
Middle & South Africa*F	(0.0022) 0.0039*	(0.013) 0.12***	(0.013) -0.14***	(0.0020) 0.0020	(0.0035) 0.014***
Central Asian & Middle East*F	(0.0017) 0.0064***	(0.012) 0.21***	(0.012) -0.22***	(0.0020) -0.0017*	(0.0036) 0.0061***
East Asia*F	(0.00082) 0.013***	(0.0049) 0.093***	(0.0048) -0.100***	(0.00072) -0.0010	(0.0013) -0.0056***
Southeast Asia*F	(0.00095) 0.0016***	(0.0044) -0.022***	(0.0044) 0.017***	(0.00064) 0.00097	(0.00095) 0.0025
South Asia*F	(0.00046) 0.0040**	(0.0046) 0.068***	(0.0046) -0.090***	(0.00097) 0.0021	(0.0014) 0.017***
Other*F	(0.0012) 0.025***	(0.0082) 0.27***	(0.0081) -0.29***	(0.0015) -0.00075	(0.0027) -0.00034
	(0.0041)	(0.012)	(0.011)	(0.0017)	(0.0027)
<b>Location when applying for first permit (same as citizenship)</b>					
Different than citizenship	-0.0011*** (0.00028)	-0.25*** (0.0024)	0.25*** (0.0024)	0.0028*** (0.00042)	0.0043*** (0.00050)
Canada	0.0026*** (0.00047)	-0.12*** (0.0025)	0.040*** (0.0027)	0.032*** (0.0018)	0.043*** (0.0013)
<b>Age when first permit issued (Age 18)</b>					
Age 16-17	0.00092* (0.00041)	0.0015 (0.0033)	-0.0016 (0.0032)	-0.000045 (0.000064)	-0.00081 (0.00051)
Age 19-20	0.0025***	-0.0088***	0.0060**	0.0012***	-0.00081*

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
Age 21-22	(0.00025) 0.0046***	(0.0021) -0.13***	(0.0020) 0.11***	(0.00012) 0.0078***	(0.00037) -0.00090*
Age 23-24	(0.00032) 0.0054***	(0.0023) -0.15***	(0.0023) 0.13***	(0.00031) 0.013***	(0.00042) 0.0036***
Age 25-29	(0.00038) 0.0043***	(0.0024) -0.19***	(0.0024) 0.14***	(0.00046) 0.015***	(0.00053) 0.027***
Age 30-39	(0.00036) 0.0023***	(0.0026) -0.21***	(0.0026) 0.15***	(0.00056) 0.012***	(0.00095) 0.040***
Age 40+	(0.00036) 0.0016***	(0.0037) -0.18***	(0.0036) 0.14***	(0.00079) 0.0093***	(0.0015) 0.032***
	(0.00047)	(0.0061)	(0.0059)	(0.0012)	(0.0022)
<b>Entry program (BA)</b>					
Other	0.0081*** (0.00060)	0.014** (0.0043)	-0.0056 (0.0043)	-0.0036*** (0.00072)	-0.013*** (0.0012)
Certificate	0.0057*** (0.00060)	-0.078*** (0.0047)	0.089*** (0.0047)	-0.0013 (0.00080)	-0.015*** (0.0012)
Diploma	0.00098** (0.00035)	-0.018*** (0.0045)	0.035*** (0.0045)	-0.0031*** (0.00073)	-0.015*** (0.0012)
Grad	-0.00059** (0.00021)	-0.0083** (0.0029)	0.020*** (0.0029)	-0.0059*** (0.00049)	-0.0056*** (0.00086)
<b>Entry field of study (Business)</b>					
Education	-0.0016* (0.00075)	0.0092 (0.0079)	-0.0058 (0.0078)	-0.00098 (0.0013)	-0.00081 (0.0015)
Arts	0.0021** (0.00076)	0.12*** (0.0042)	-0.12*** (0.0041)	-0.0012 (0.00077)	0.00040 (0.0011)
Humanities	0.00054 (0.00036)	0.14*** (0.0026)	-0.14*** (0.0026)	-0.0033*** (0.00038)	-0.0013* (0.00063)
Social sciences	0.0011* (0.00047)	-0.012*** (0.0026)	0.015*** (0.0026)	-0.0013** (0.00045)	-0.0022*** (0.00059)
Science	0.000080 (0.00051)	0.12*** (0.0029)	-0.12*** (0.0028)	-0.0019*** (0.00054)	0.000030 (0.00071)
Math and computer science	-0.0017*** (0.00038)	-0.057*** (0.0024)	0.065*** (0.0024)	-0.0024*** (0.00042)	-0.0038*** (0.00062)
Engineering	-0.00071* (0.00034)	0.025*** (0.0019)	-0.019*** (0.0019)	-0.0019*** (0.00036)	-0.0030*** (0.00052)
Agriculture	-0.00081 (0.0010)	-0.023*** (0.0070)	0.031*** (0.0070)	-0.0020 (0.0011)	-0.0055*** (0.0013)
Health	0.0000074	-0.038***	0.034***	-0.00050	0.0049***

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
Services	(0.00056) 0.0011 (0.00097)	(0.0031) -0.16*** (0.0052)	(0.0030) 0.16*** (0.0051)	(0.00052) -0.0016 (0.00087)	(0.00092) 0.0012 (0.0016)
Other	0.0014** (0.00042)	0.068*** (0.0038)	-0.072*** (0.0037)	-0.0023*** (0.00055)	0.0044*** (0.00098)
<b>Entry to college or university (College)</b>					
University	0.0056*** (0.00059)	0.10*** (0.0043)	-0.10*** (0.0043)	-0.00067 (0.00055)	-0.0018 (0.00091)
<b>Full time or part-time in first fall snapshot (full time)</b>					
Part time	0.0018*** (0.00031)	0.058*** (0.0029)	-0.063*** (0.0029)	0.0011** (0.00041)	0.0022** (0.00067)
Unknown	0.0077*** (0.00038)	0.040*** (0.0014)	-0.048*** (0.0014)	0.0021*** (0.00027)	-0.0019*** (0.00040)
<b>Initial permit year (2010)</b>					
2011	0.00025 (0.00054)	-0.0045 (0.0033)	0.0074* (0.0034)	-0.0023 (0.0013)	-0.00090 (0.0014)
2012	-0.0015** (0.00051)	-0.019*** (0.0033)	0.047*** (0.0034)	-0.014*** (0.0012)	-0.013*** (0.0013)
2013	-0.0037*** (0.00045)	0.11*** (0.0033)	-0.056*** (0.0034)	-0.023*** (0.0011)	-0.025*** (0.0012)
2014	-0.0013* (0.00056)	0.37*** (0.0032)	-0.32*** (0.0032)	-0.026*** (0.0011)	-0.025*** (0.0012)
2015	-0.0017** (0.00053)	0.29*** (0.0031)	-0.24*** (0.0031)	-0.024*** (0.0011)	-0.025*** (0.0012)
2016	-0.0034*** (0.00046)	0.24*** (0.0030)	-0.19*** (0.0031)	-0.024*** (0.0011)	-0.024*** (0.0012)
2017	-0.0036*** (0.00046)	0.21*** (0.0029)	-0.15*** (0.0030)	-0.025*** (0.0011)	-0.025*** (0.0012)
2018	-0.0036*** (0.00045)	0.19*** (0.0029)	-0.13*** (0.0029)	-0.024*** (0.0011)	-0.027*** (0.0011)
2019	-0.0033*** (0.00047)	0.18*** (0.0028)	-0.12*** (0.0029)	-0.025*** (0.0011)	-0.030*** (0.0011)
Observations	509,530				

**Notes:** This table shows the average marginal effects produced through a multinomial logistic regression model that measures migration outcomes after a student's initial Ontario study permit was issued. Each column represents the five 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 30** Descriptive analysis: Migration outcomes 2 years after initial Ontario study permit

	<i>Proportion</i> 419,690	<i>% no permit</i> 0.05	<i>% study permit</i> 0.35	<i>% study &amp; work permit</i> 0.47	<i>% work permit</i> 0.08	<i>% transition to PR</i> 0.04
<b>Region/country of citizenship</b>						
India	0.39	0.01	0.15	0.71	0.10	0.02
China	0.25	0.03	0.61	0.28	0.05	0.03
US	0.02	0.11	0.61	0.17	0.05	0.06
Central America & Caribbean	0.03	0.08	0.30	0.42	0.12	0.07
South America	0.04	0.16	0.23	0.45	0.09	0.07
West & North Europe	0.03	0.54	0.25	0.12	0.05	0.03
East & South Europe	0.03	0.10	0.32	0.41	0.11	0.06
West Africa	0.03	0.02	0.44	0.39	0.09	0.07
East Africa	0.01	0.03	0.37	0.39	0.10	0.11
North Africa	0.01	0.05	0.51	0.28	0.06	0.10
Middle & South Africa	0.01	0.03	0.49	0.33	0.07	0.08
Central Asian & Middle East	0.05	0.07	0.59	0.22	0.05	0.08
East Asia	0.05	0.14	0.41	0.36	0.05	0.03
Southeast Asia	0.04	0.03	0.38	0.48	0.07	0.04
South Asia	0.02	0.02	0.35	0.45	0.09	0.08
Other	0.005	0.22	0.44	0.19	0.08	0.07
<b>Male/female</b>						
Male	0.57	0.05	0.35	0.49	0.08	0.03
Female	0.43	0.06	0.36	0.45	0.08	0.04
<b>Region*male/female interaction</b>						
<i>Males</i>						
India*M	0.46	0.01	0.16	0.71	0.10	0.02
China*M	0.21	0.04	0.64	0.25	0.05	0.02
US*M	0.02	0.11	0.63	0.17	0.04	0.05
Central America & Caribbean*M	0.02	0.08	0.35	0.40	0.11	0.06
South America*M	0.04	0.18	0.23	0.44	0.09	0.06
West & North Europe*M	0.02	0.50	0.28	0.13	0.05	0.04
East & South Europe*M	0.02	0.11	0.35	0.40	0.10	0.05
West Africa*M	0.03	0.02	0.44	0.40	0.08	0.06
East Africa*M	0.01	0.03	0.40	0.38	0.09	0.10
North Africa*M	0.01	0.04	0.52	0.29	0.06	0.09
Middle & South Africa*M	0.01	0.04	0.52	0.32	0.06	0.06
Central Asian & Middle East*M	0.06	0.06	0.60	0.22	0.05	0.07
East Asia*M	0.04	0.12	0.47	0.34	0.04	0.03

	<i>Proportion</i>	<i>% no permit</i>	<i>% study permit</i>	<i>% study &amp; work permit</i>	<i>% work permit</i>	<i>% transition to PR</i>
	419,690	0.05	0.35	0.47	0.08	0.04
Southeast Asia*M	0.03	0.03	0.44	0.44	0.06	0.03
South Asia*M	0.03	0.02	0.34	0.47	0.10	0.07
Other*M	0.004	0.18	0.47	0.19	0.08	0.08
<i>Females</i>						
India*F	0.30	0.01	0.14	0.71	0.11	0.03
China*F	0.30	0.03	0.58	0.31	0.06	0.03
US*F	0.02	0.11	0.60	0.17	0.05	0.06
Central America & Caribbean*F	0.04	0.08	0.26	0.44	0.13	0.08
South America*F	0.04	0.14	0.22	0.46	0.09	0.09
West & North Europe*F	0.03	0.58	0.23	0.11	0.05	0.03
East & South Europe*F	0.03	0.10	0.29	0.42	0.12	0.07
West Africa*F	0.03	0.02	0.44	0.37	0.09	0.08
East Africa*F	0.01	0.02	0.35	0.40	0.10	0.13
North Africa*F	0.01	0.07	0.50	0.27	0.05	0.11
Middle & South Africa*F	0.01	0.02	0.46	0.33	0.08	0.11
Central Asian & Middle East*F	0.04	0.07	0.56	0.22	0.05	0.10
East Asia*F	0.07	0.16	0.37	0.38	0.06	0.03
Southeast Asia*F	0.05	0.03	0.34	0.51	0.08	0.05
South Asia*F	0.01	0.02	0.38	0.41	0.08	0.10
Other*F	0.005	0.26	0.43	0.18	0.08	0.06
<b>Location when applying for permit</b>						
Same as citizenship	0.79	0.06	0.34	0.50	0.08	0.03
Different than citizenship	0.11	0.06	0.23	0.55	0.11	0.06
Canada	0.10	0.03	0.61	0.21	0.07	0.07
<b>Age</b>						
Age 16-17	0.05	0.01	0.59	0.36	0.01	0.02
Age 18	0.17	0.01	0.59	0.37	0.01	0.02
Age 19-20	0.21	0.08	0.48	0.40	0.03	0.02
Age 21-22	0.19	0.08	0.22	0.58	0.10	0.02
Age 23-24	0.16	0.05	0.19	0.59	0.14	0.03
Age 25-29	0.14	0.05	0.22	0.49	0.15	0.09
Age 30-39	0.05	0.06	0.25	0.43	0.13	0.13
Age 40+	0.01	0.07	0.28	0.45	0.11	0.09
<b>PSIS entry program</b>						
Other	0.09	0.30	0.35	0.24	0.06	0.04
Certificate	0.22	0.04	0.16	0.59	0.16	0.04

	<i>Proportion</i>	<i>% no permit</i>	<i>% study permit</i>	<i>% study &amp; work permit</i>	<i>% work permit</i>	<i>% transition to PR</i>
	419,690	0.05	0.35	0.47	0.08	0.04
Diploma	0.32	0.02	0.25	0.65	0.06	0.02
BA	0.25	0.03	0.67	0.23	0.04	0.04
Grad	0.12	0.04	0.33	0.46	0.08	0.08
<b>Field of study at entry</b>						
Education	0.01	0.06	0.34	0.41	0.13	0.07
Arts	0.02	0.06	0.50	0.32	0.08	0.04
Humanities	0.10	0.20	0.51	0.22	0.04	0.03
Social Sciences	0.07	0.05	0.44	0.40	0.07	0.04
Business	0.34	0.03	0.30	0.52	0.11	0.04
Science	0.06	0.04	0.59	0.31	0.04	0.04
Math and Computer Science	0.09	0.02	0.29	0.59	0.07	0.03
Engineering	0.18	0.03	0.30	0.58	0.06	0.03
Agriculture and Resources	0.01	0.04	0.31	0.54	0.08	0.03
Health	0.05	0.02	0.18	0.60	0.14	0.06
Services	0.02	0.03	0.17	0.66	0.11	0.03
Other	0.05	0.16	0.43	0.28	0.07	0.06
<b>PT/FT at entry</b>						
Full-time study	0.66	0.06	0.36	0.46	0.08	0.04
Part-time study	0.07	0.09	0.51	0.28	0.07	0.05
No fall snapshot information	0.28	0.04	0.29	0.55	0.09	0.03
<b>Institution at entry</b>						
College	0.60	0.03	0.23	0.60	0.10	0.03
University	0.40	0.09	0.54	0.28	0.05	0.05
<b>Study permit cohort</b>						
2010	0.09	0.08	0.08	0.32	0.39	0.13
2011	0.08	0.07	0.07	0.33	0.42	0.12
2012	0.08	0.07	0.07	0.36	0.44	0.09
2013	0.09	0.07	0.07	0.45	0.37	0.08
2014	0.07	0.09	0.09	0.39	0.44	0.06
2015	0.10	0.06	0.06	0.41	0.44	0.06
2016	0.13	0.04	0.04	0.37	0.50	0.05
2017	0.17	0.03	0.03	0.33	0.54	0.06
2018	0.19	0.04	0.04	0.30	0.55	0.09

**Table 31**      **Regression analysis: Migration outcomes 2 years after initial Ontario study permit**

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
<b>Region/country of citizenship (India)</b>					
China	0.017*** (0.00089)	0.25*** (0.0024)	-0.22*** (0.0026)	-0.033*** (0.0015)	-0.0077*** (0.0010)
US	0.13*** (0.0047)	0.33*** (0.0061)	-0.40*** (0.0057)	-0.053*** (0.0030)	0.0013 (0.0021)
Central America & Caribbean	0.078*** (0.0028)	0.12*** (0.0045)	-0.21*** (0.0048)	-0.0044 (0.0027)	0.013*** (0.0019)
South America	0.080*** (0.0023)	0.084*** (0.0039)	-0.15*** (0.0044)	-0.030*** (0.0021)	0.016*** (0.0017)
West & North Europe	0.27*** (0.0048)	0.15*** (0.0055)	-0.40*** (0.0055)	-0.027*** (0.0034)	0.0021 (0.0022)
East & South Europe	0.073*** (0.0023)	0.13*** (0.0044)	-0.20*** (0.0047)	-0.0070* (0.0028)	0.012*** (0.0020)
West Africa	0.013*** (0.0018)	0.15*** (0.0042)	-0.16*** (0.0046)	-0.020*** (0.0026)	0.013*** (0.0018)
East Africa	0.019*** (0.0032)	0.12*** (0.0066)	-0.19*** (0.0074)	-0.0061 (0.0044)	0.056*** (0.0039)
North Africa	0.040*** (0.0041)	0.26*** (0.0085)	-0.28*** (0.0085)	-0.041*** (0.0044)	0.026*** (0.0036)
Middle & South Africa	0.017*** (0.0039)	0.28*** (0.0096)	-0.28*** (0.0097)	-0.041*** (0.0046)	0.020*** (0.0039)
Central Asian & Middle East	0.049*** (0.0019)	0.37*** (0.0038)	-0.36*** (0.0036)	-0.061*** (0.0018)	0.0080*** (0.0015)
East Asia	0.11*** (0.0022)	0.20*** (0.0035)	-0.24*** (0.0037)	-0.056*** (0.0018)	-0.014*** (0.0012)
Southeast Asia	0.020*** (0.0017)	0.14*** (0.0038)	-0.14*** (0.0042)	-0.028*** (0.0024)	0.0084*** (0.0019)
South Asia	0.014*** (0.0023)	0.13*** (0.0050)	-0.15*** (0.0055)	-0.020*** (0.0029)	0.026*** (0.0025)
Other	0.14*** (0.0076)	0.31*** (0.011)	-0.41*** (0.0099)	-0.050*** (0.0046)	0.0046 (0.0036)
<b>Male/Female (Male)</b>					
Female	-0.0031*** (0.00060)	-0.047*** (0.0013)	0.035*** (0.0014)	0.0059*** (0.00086)	0.0092*** (0.00061)
<b>Region*Female interaction (India*F)</b>					
China*F	0.011***	0.22***	-0.19***	-0.029***	-0.012***



	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
US*F	(0.0011) 0.13*** (0.0064)	(0.0030) 0.32*** (0.0087)	(0.0035) -0.40*** (0.0083)	(0.0021) -0.045*** (0.0046)	(0.0015) -0.000068 (0.0033)
Central America & Caribbean*F	0.074*** (0.0034)	0.090*** (0.0056)	-0.18*** (0.0062)	-0.0033 (0.0035)	0.016*** (0.0027)
South America*F	0.068*** (0.0029)	0.094*** (0.0055)	-0.14*** (0.0061)	-0.036*** (0.0029)	0.018*** (0.0026)
West & North Europe*F	0.28*** (0.0063)	0.14*** (0.0072)	-0.39*** (0.0078)	-0.020*** (0.0051)	-0.0064* (0.0030)
East & South Europe*F	0.068*** (0.0030)	0.11*** (0.0059)	-0.19*** (0.0064)	-0.0054 (0.0038)	0.016*** (0.0030)
West Africa*F	0.010*** (0.0026)	0.15*** (0.0060)	-0.16*** (0.0070)	-0.012** (0.0041)	0.017*** (0.0030)
East Africa*F	0.013** (0.0040)	0.10*** (0.0087)	-0.17*** (0.010)	-0.0028 (0.0062)	0.063*** (0.0058)
North Africa*F	0.051*** (0.0073)	0.25*** (0.015)	-0.28*** (0.015)	-0.042*** (0.0078)	0.025*** (0.0063)
Middle & South Africa*F	0.013* (0.0052)	0.26*** (0.014)	-0.27*** (0.014)	-0.036*** (0.0068)	0.031*** (0.0064)
Central Asian & Middle East*F	0.048*** (0.0029)	0.37*** (0.0059)	-0.36*** (0.0057)	-0.064*** (0.0026)	0.0067** (0.0023)
East Asia*F	0.11*** (0.0027)	0.16*** (0.0045)	-0.21*** (0.0049)	-0.051*** (0.0025)	-0.021*** (0.0016)
Southeast Asia*F	0.013*** (0.0020)	0.12*** (0.0048)	-0.12*** (0.0054)	-0.026*** (0.0031)	0.011*** (0.0026)
South Asia*F	0.013*** (0.0039)	0.15*** (0.0087)	-0.17*** (0.0096)	-0.029*** (0.0050)	0.036*** (0.0047)
Other*F	0.16*** (0.011)	0.30*** (0.016)	-0.41*** (0.015)	-0.048*** (0.0073)	-0.0051 (0.0052)
<b>Location when applying for first permit (same as citizenship)</b>					
Different than citizenship	-0.012*** (0.00084)	-0.17*** (0.0020)	0.12*** (0.0025)	0.049*** (0.0016)	0.015*** (0.00095)
Canada	-0.0089*** (0.0011)	-0.026*** (0.0021)	-0.11*** (0.0029)	0.081*** (0.0025)	0.069*** (0.0019)
<b>Age when first permit issued (Age 18)</b>					
Age 16-17	-0.0011 (0.0014)	-0.0042 (0.0035)	0.013*** (0.0035)	-0.0055*** (0.00091)	-0.0017 (0.00092)
Age 19-20	0.035***	-0.054***	0.0018	0.017***	-0.00047

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
Age 21-22	(0.00095) 0.045***	(0.0022) -0.22***	(0.0023) 0.093***	(0.00084) 0.081***	(0.00067) 0.0026***
Age 23-24	(0.0011) 0.038***	(0.0024) -0.26***	(0.0025) 0.089***	(0.0012) 0.11***	(0.00075) 0.021***
Age 25-29	(0.0012) 0.029***	(0.0026) -0.25***	(0.0026) 0.036***	(0.0014) 0.12***	(0.00098) 0.066***
Age 30-39	(0.0012) 0.020***	(0.0027) -0.26***	(0.0028) 0.034***	(0.0016) 0.12***	(0.0015) 0.091***
Age 40+	(0.0013) 0.011***	(0.0033) -0.24***	(0.0038) 0.077***	(0.0026) 0.099***	(0.0023) 0.058***
	(0.0017)	(0.0054)	(0.0062)	(0.0044)	(0.0033)
<b>Entry program (BA)</b>					
Other	0.15*** (0.0024)	-0.14*** (0.0042)	-0.0015 (0.0050)	0.012*** (0.0029)	-0.014*** (0.0020)
Certificate	0.10*** (0.0023)	-0.18*** (0.0045)	0.053*** (0.0053)	0.032*** (0.0029)	-0.014*** (0.0021)
Diploma	0.046*** (0.0017)	-0.095*** (0.0047)	0.093*** (0.0054)	-0.020*** (0.0025)	-0.024*** (0.0019)
Grad	0.0015* (0.00065)	-0.056*** (0.0028)	0.084*** (0.0030)	-0.023*** (0.0017)	-0.0059*** (0.0013)
<b>Entry field of study (Business)</b>					
Education	-0.016*** (0.0027)	0.0072 (0.0068)	-0.0020 (0.0079)	0.011* (0.0053)	0.00010 (0.0029)
Arts	-0.0039* (0.0019)	0.12*** (0.0045)	-0.10*** (0.0049)	-0.0081** (0.0030)	-0.0043* (0.0020)
Humanities	-0.0022* (0.0011)	0.15*** (0.0028)	-0.091*** (0.0030)	-0.046*** (0.0015)	-0.0094*** (0.0011)
Social sciences	-0.0044*** (0.0013)	0.038*** (0.0025)	-0.018*** (0.0029)	-0.0079*** (0.0019)	-0.0075*** (0.0011)
Science	-0.012*** (0.0014)	0.11*** (0.0029)	-0.057*** (0.0032)	-0.033*** (0.0020)	-0.0025 (0.0014)
Math and computer science	-0.019*** (0.0012)	-0.029*** (0.0024)	0.080*** (0.0026)	-0.023*** (0.0015)	-0.0093*** (0.0011)
Engineering	-0.019*** (0.00098)	-0.0053** (0.0019)	0.054*** (0.0021)	-0.022*** (0.0013)	-0.0078*** (0.00092)
Agriculture	-0.015*** (0.0030)	-0.018** (0.0066)	0.067*** (0.0073)	-0.018*** (0.0041)	-0.016*** (0.0024)
Health	-0.017***	0.00047	0.020***	-0.0077***	0.0044**

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	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
	(0.0016)	(0.0035)	(0.0034)	(0.0018)	(0.0014)
Services	-0.011***	-0.076***	0.072***	0.017***	-0.0020
	(0.0025)	(0.0051)	(0.0056)	(0.0038)	(0.0026)
Other	0.010***	0.093***	-0.070***	-0.034***	0.00088
	(0.0016)	(0.0038)	(0.0040)	(0.0020)	(0.0015)
<b>Entry to college or university (College)</b>					
University	0.084***	0.051***	-0.13***	-0.0066**	-0.0017
	(0.0023)	(0.0042)	(0.0052)	(0.0025)	(0.0017)
<b>Full time or part-time in first fall snapshot (full time)</b>					
Part time	-0.0068***	0.078***	-0.075***	-0.00037	0.0044***
	(0.0010)	(0.0027)	(0.0030)	(0.0018)	(0.0012)
Unknown	-0.0088***	0.050***	-0.041***	0.0017	-0.0013
	(0.00075)	(0.0015)	(0.0016)	(0.00091)	(0.00068)
<b>Initial permit year (2010)</b>					
2011	-0.0021	0.0021	0.022***	-0.017***	-0.0055**
	(0.0013)	(0.0028)	(0.0035)	(0.0025)	(0.0019)
2012	-0.0080***	0.027***	0.053***	-0.048***	-0.024***
	(0.0013)	(0.0028)	(0.0034)	(0.0025)	(0.0018)
2013	-0.011***	0.11***	0.0037	-0.061***	-0.042***
	(0.0013)	(0.0029)	(0.0035)	(0.0024)	(0.0016)
2014	0.0095***	0.17***	-0.032***	-0.10***	-0.047***
	(0.0015)	(0.0033)	(0.0035)	(0.0021)	(0.0016)
2015	-0.0032*	0.15***	-0.0063	-0.099***	-0.037***
	(0.0014)	(0.0030)	(0.0033)	(0.0021)	(0.0017)
2016	-0.013***	0.100***	0.043***	-0.093***	-0.036***
	(0.0012)	(0.0027)	(0.0031)	(0.0021)	(0.0016)
2017	-0.014***	0.083***	0.057***	-0.087***	-0.039***
	(0.0012)	(0.0026)	(0.0030)	(0.0021)	(0.0016)
2018	-0.0088***	0.051***	0.068***	-0.059***	-0.051***
	(0.0012)	(0.0025)	(0.0030)	(0.0021)	(0.0015)
Observations			419,690		

**Notes:** This table shows the average marginal effects produced through a multinomial logistic regression model that measures migration outcomes after a student's initial Ontario study permit was issued. Each column represents the five 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 32** Descriptive analysis: Migration outcomes 3 years after initial Ontario study permit

	<i>Proportion</i> 338,930	<i>% no permit</i> 0.11	<i>% study permit</i> 0.26	<i>% study &amp; work permit</i> 0.24	<i>% work permit</i> 0.31	<i>% transition to PR</i> 0.09
<b>Region/country of citizenship</b>						
India	0.36	0.04	0.07	0.25	0.56	0.08
China	0.26	0.07	0.47	0.24	0.15	0.07
US	0.02	0.29	0.42	0.11	0.09	0.09
Central America & Caribbean	0.03	0.16	0.20	0.24	0.25	0.15
South America	0.04	0.32	0.13	0.19	0.20	0.16
West & North Europe	0.03	0.59	0.19	0.08	0.09	0.05
East & South Europe	0.03	0.16	0.21	0.25	0.23	0.15
West Africa	0.03	0.05	0.36	0.24	0.22	0.13
East Africa	0.01	0.06	0.28	0.29	0.19	0.18
North Africa	0.01	0.09	0.40	0.23	0.11	0.17
Middle & South Africa	0.01	0.07	0.35	0.26	0.16	0.16
Central Asian & Middle East	0.05	0.15	0.46	0.16	0.10	0.13
East Asia	0.06	0.22	0.28	0.26	0.19	0.05
Southeast Asia	0.03	0.07	0.27	0.36	0.19	0.11
South Asia	0.02	0.05	0.25	0.30	0.22	0.17
Other	0.01	0.29	0.34	0.16	0.10	0.10
<b>Male/female</b>						
Male	0.57	0.10	0.25	0.24	0.32	0.09
Female	0.43	0.11	0.27	0.23	0.28	0.10
<b>Region*male/female interaction</b>						
<i>Males</i>						
India*M	0.43	0.04	0.07	0.26	0.55	0.08
China*M	0.22	0.08	0.50	0.23	0.13	0.06
US*M	0.02	0.30	0.42	0.12	0.09	0.08
Central America & Caribbean*M	0.02	0.17	0.22	0.24	0.24	0.12
South America*M	0.04	0.35	0.13	0.18	0.20	0.14
West & North Europe*M	0.02	0.56	0.21	0.08	0.09	0.06
East & South Europe*M	0.02	0.17	0.23	0.26	0.22	0.12
West Africa*M	0.03	0.05	0.35	0.25	0.22	0.13
East Africa*M	0.01	0.07	0.29	0.29	0.18	0.16
North Africa*M	0.01	0.08	0.40	0.25	0.11	0.16
Middle & South Africa*M	0.01	0.09	0.38	0.29	0.13	0.11
Central Asian & Middle East*M	0.06	0.14	0.48	0.16	0.10	0.12
East Asia*M	0.05	0.21	0.32	0.25	0.17	0.05

	<i>Proportion</i>	<i>% no permit</i>	<i>% study permit</i>	<i>% study &amp; work permit</i>	<i>% work permit</i>	<i>% transition to PR</i>
	338,930	0.11	0.26	0.24	0.31	0.09
Southeast Asia*M	0.02	0.08	0.32	0.35	0.16	0.08
South Asia*M	0.03	0.05	0.24	0.32	0.23	0.15
Other*M	0.01	0.26	0.36	0.17	0.10	0.11
<i>Females</i>						
India*F	0.27	0.04	0.07	0.22	0.59	0.09
China*F	0.32	0.06	0.45	0.25	0.16	0.07
US*F	0.02	0.27	0.42	0.11	0.10	0.10
Central America & Caribbean*F	0.04	0.15	0.18	0.23	0.26	0.17
South America*F	0.05	0.29	0.13	0.20	0.21	0.18
West & North Europe*F	0.03	0.62	0.17	0.07	0.09	0.05
East & South Europe*F	0.04	0.15	0.19	0.25	0.25	0.17
West Africa*F	0.03	0.04	0.37	0.24	0.21	0.14
East Africa*F	0.01	0.05	0.27	0.28	0.19	0.21
North Africa*F	0.01	0.11	0.39	0.20	0.11	0.19
Middle & South Africa*F	0.01	0.06	0.31	0.25	0.18	0.21
Central Asian & Middle East*F	0.04	0.16	0.42	0.16	0.10	0.16
East Asia*F	0.07	0.22	0.25	0.27	0.20	0.06
Southeast Asia*F	0.04	0.06	0.23	0.37	0.21	0.13
South Asia*F	0.02	0.06	0.28	0.24	0.20	0.22
Other*F	0.01	0.33	0.32	0.15	0.11	0.08
<b>Location when applying for permit</b>						
Same as citizenship	0.78	0.11	0.24	0.24	0.32	0.08
Different than citizenship	0.13	0.11	0.16	0.25	0.33	0.14
Canada	0.09	0.07	0.51	0.19	0.13	0.11
<b>Age</b>						
Age 16-17	0.05	0.04	0.49	0.34	0.10	0.03
Age 18	0.17	0.04	0.49	0.31	0.13	0.03
Age 19-20	0.21	0.12	0.37	0.28	0.19	0.03
Age 21-22	0.19	0.14	0.13	0.21	0.44	0.07
Age 23-24	0.16	0.11	0.10	0.19	0.48	0.12
Age 25-29	0.15	0.11	0.14	0.16	0.38	0.21
Age 30-39	0.06	0.14	0.14	0.17	0.29	0.25
Age 40+	0.01	0.18	0.14	0.22	0.29	0.16
<b>PSIS entry program</b>						
Other	0.10	0.39	0.25	0.14	0.15	0.07
Certificate	0.21	0.10	0.10	0.16	0.50	0.13

	<i>Proportion</i>	<i>% no permit</i>	<i>% study permit</i>	<i>% study &amp; work permit</i>	<i>% work permit</i>	<i>% transition to PR</i>
	338,930	0.11	0.26	0.24	0.31	0.09
Diploma	0.31	0.06	0.13	0.34	0.42	0.06
BA	0.26	0.06	0.56	0.25	0.07	0.06
Grad	0.12	0.11	0.21	0.16	0.31	0.21
<b>Field of study at entry</b>						
Education	0.01	0.15	0.21	0.16	0.29	0.20
Arts	0.02	0.13	0.34	0.24	0.20	0.08
Humanities	0.11	0.27	0.38	0.19	0.10	0.06
Social Sciences	0.07	0.10	0.34	0.20	0.25	0.09
Business	0.34	0.09	0.22	0.21	0.37	0.10
Science	0.06	0.07	0.47	0.21	0.18	0.07
Math and Computer Science	0.09	0.05	0.22	0.29	0.36	0.08
Engineering	0.18	0.06	0.18	0.33	0.34	0.09
Agriculture and Resources	0.01	0.09	0.25	0.23	0.35	0.08
Health	0.05	0.06	0.12	0.19	0.48	0.14
Services	0.01	0.10	0.10	0.25	0.47	0.09
Other	0.05	0.23	0.29	0.23	0.14	0.11
<b>PT/FT at entry</b>						
Full-time study	0.66	0.11	0.28	0.22	0.30	0.10
Part-time study	0.07	0.15	0.38	0.21	0.16	0.10
No fall snapshot information	0.27	0.09	0.18	0.28	0.37	0.09
<b>Institution at entry</b>						
College	0.58	0.08	0.13	0.26	0.43	0.09
University	0.42	0.14	0.43	0.20	0.14	0.10
<b>Study permit cohort</b>						
2010	0.11	0.13	0.23	0.27	0.22	0.15
2011	0.10	0.12	0.24	0.26	0.23	0.14
2012	0.09	0.12	0.29	0.23	0.26	0.10
2013	0.11	0.14	0.31	0.23	0.25	0.07
2014	0.09	0.13	0.27	0.24	0.28	0.08
2015	0.12	0.10	0.29	0.23	0.28	0.09
2016	0.17	0.08	0.26	0.23	0.35	0.09
2017	0.21	0.07	0.22	0.23	0.42	0.06

**Table 33**      **Regression analysis: Migration outcomes 3 years after initial Ontario study permit**

	No permit	Study permit	Study & work permit	Work permit	Transition to PR
<b>Region/country of citizenship (India)</b>					
China	0.017*** (0.0015)	0.19*** (0.0023)	0.033*** (0.0026)	-0.21*** (0.0026)	-0.036*** (0.0017)
US	0.26*** (0.0062)	0.21*** (0.0057)	-0.096*** (0.0053)	-0.32*** (0.0050)	-0.050*** (0.0032)
Central America & Caribbean	0.12*** (0.0040)	0.10*** (0.0045)	-0.000041 (0.0047)	-0.21*** (0.0044)	-0.0063* (0.0031)
South America	0.18*** (0.0035)	0.070*** (0.0040)	-0.0087* (0.0043)	-0.25*** (0.0036)	0.012*** (0.0029)
West & North Europe	0.32*** (0.0057)	0.11*** (0.0050)	-0.11*** (0.0049)	-0.27*** (0.0055)	-0.049*** (0.0032)
East & South Europe	0.087*** (0.0033)	0.10*** (0.0042)	0.022*** (0.0046)	-0.22*** (0.0043)	0.0060 (0.0033)
West Africa	0.0064* (0.0028)	0.15*** (0.0040)	0.021*** (0.0046)	-0.18*** (0.0045)	0.000084 (0.0030)
East Africa	0.024*** (0.0050)	0.12*** (0.0064)	0.027*** (0.0070)	-0.22*** (0.0070)	0.051*** (0.0058)
North Africa	0.042*** (0.0058)	0.23*** (0.0084)	0.0048 (0.0082)	-0.29*** (0.0074)	0.0100 (0.0056)
Middle & South Africa	0.020** (0.0064)	0.22*** (0.0097)	0.023* (0.0098)	-0.27*** (0.0084)	0.0064 (0.0064)
Central Asian & Middle East	0.093*** (0.0030)	0.32*** (0.0040)	-0.069*** (0.0036)	-0.31*** (0.0033)	-0.030*** (0.0023)
East Asia	0.15*** (0.0031)	0.16*** (0.0036)	0.014*** (0.0036)	-0.25*** (0.0034)	-0.065*** (0.0020)
Southeast Asia	0.027*** (0.0030)	0.12*** (0.0041)	0.098*** (0.0047)	-0.25*** (0.0042)	0.0037 (0.0035)
South Asia	0.018*** (0.0036)	0.095*** (0.0047)	0.038*** (0.0054)	-0.18*** (0.0054)	0.026*** (0.0041)
Other	0.19*** (0.0099)	0.22*** (0.010)	-0.081*** (0.0088)	-0.28*** (0.0099)	-0.043*** (0.0055)
<b>Male/Female (Male)</b>					
Female	-0.014*** (0.00096)	-0.040*** (0.0013)	0.013*** (0.0015)	0.020*** (0.0015)	0.021*** (0.0010)
<b>Region*Female interaction (India*F)</b>					
China*F	0.0050**	0.16***	0.062***	-0.19***	-0.035***

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
US*F	(0.0019) 0.24***	(0.0029) 0.20***	(0.0035) -0.080***	(0.0036) -0.32***	(0.0025) -0.047***
Central America & Caribbean*F	(0.0086) 0.10***	(0.0078) 0.083***	(0.0077) 0.025***	(0.0076) -0.21***	(0.0049) 0.0061
South America*F	(0.0049) 0.15***	(0.0056) 0.068***	(0.0063) 0.028***	(0.0059) -0.26***	(0.0044) 0.020***
West & North Europe*F	(0.0045) 0.32***	(0.0056) 0.091***	(0.0063) -0.091***	(0.0052) -0.26***	(0.0043) -0.054***
East & South Europe*F	(0.0076) 0.074***	(0.0063) 0.081***	(0.0071) 0.039***	(0.0081) -0.21***	(0.0047) 0.018***
West Africa*F	(0.0042) 0.00048	(0.0055) 0.13***	(0.0064) 0.040***	(0.0060) -0.18***	(0.0048) 0.0091
East Africa*F	(0.0039) 0.010	(0.0056) 0.095***	(0.0069) 0.050***	(0.0070) -0.22***	(0.0048) 0.067***
North Africa*F	(0.0063) 0.058***	(0.0081) 0.21***	(0.0099) 0.0071	(0.0099) -0.29***	(0.0086) 0.019
Middle & South Africa*F	(0.010) 0.0043	(0.015) 0.18***	(0.015) 0.028*	(0.014) -0.25***	(0.010) 0.040***
Central Asian & Middle East*F	(0.0079) 0.094***	(0.013) 0.30***	(0.014) -0.041***	(0.013) -0.32***	(0.010) -0.028***
East Asia*F	(0.0046) 0.13***	(0.0064) 0.12***	(0.0059) 0.059***	(0.0051) -0.25***	(0.0037) -0.069***
Southeast Asia*F	(0.0037) 0.012***	(0.0044) 0.088***	(0.0050) 0.13***	(0.0047) -0.25***	(0.0029) 0.018***
South Asia*F	(0.0034) 0.026***	(0.0051) 0.10***	(0.0061) 0.030**	(0.0053) -0.21***	(0.0048) 0.050***
Other*F	(0.0065) 0.22***	(0.0080) 0.20***	(0.0096) -0.070***	(0.0096) -0.29***	(0.0076) -0.055***
	(0.014)	(0.014)	(0.013)	(0.015)	(0.0080)
<b>Location when applying for first permit (same as citizenship)</b>					
Different than citizenship	-0.022*** (0.0013)	-0.10*** (0.0019)	0.027*** (0.0024)	0.052*** (0.0024)	0.045*** (0.0017)
Canada	-0.013*** (0.0018)	-0.0053** (0.0020)	-0.056*** (0.0025)	-0.028*** (0.0031)	0.10*** (0.0029)
<b>Age when first permit issued (Age 18)</b>					
Age 16-17	-0.0012 (0.0024)	0.0022 (0.0036)	0.026*** (0.0040)	-0.025*** (0.0031)	-0.0015 (0.0018)
Age 19-20	0.053***	-0.069***	-0.033***	0.045***	0.0046***



	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
Age 21-22	(0.0016) 0.075***	(0.0023) -0.24***	(0.0025) -0.089***	(0.0021) 0.21***	(0.0012) 0.039***
Age 23-24	(0.0018) 0.058***	(0.0026) -0.27***	(0.0027) -0.11***	(0.0025) 0.24***	(0.0014) 0.080***
Age 25-29	(0.0019) 0.044***	(0.0026) -0.25***	(0.0029) -0.13***	(0.0027) 0.19***	(0.0017) 0.15***
Age 30-39	(0.0019) 0.032***	(0.0027) -0.26***	(0.0029) -0.13***	(0.0028) 0.19***	(0.0022) 0.17***
Age 40+	(0.0021) 0.032***	(0.0033) -0.26***	(0.0038) -0.083***	(0.0039) 0.21***	(0.0034) 0.11***
	(0.0032)	(0.0052)	(0.0068)	(0.0069)	(0.0052)
<b>Entry program (BA)</b>					
Other	0.23*** (0.0031)	-0.11*** (0.0036)	-0.18*** (0.0053)	0.085*** (0.0049)	-0.019*** (0.0033)
Certificate	0.19*** (0.0031)	-0.13*** (0.0040)	-0.17*** (0.0058)	0.12*** (0.0050)	-0.0054 (0.0035)
Diploma	0.11*** (0.0027)	-0.098*** (0.0042)	-0.088*** (0.0063)	0.12*** (0.0050)	-0.047*** (0.0031)
Grad	0.015*** (0.0011)	-0.028*** (0.0028)	-0.12*** (0.0034)	0.10*** (0.0033)	0.027*** (0.0024)
<b>Entry field of study (Business)</b>					
Education	-0.019*** (0.0048)	-0.013 (0.0066)	0.0026 (0.0085)	0.011 (0.0079)	0.018*** (0.0053)
Arts	-0.0096** (0.0032)	0.070*** (0.0045)	0.029*** (0.0048)	-0.068*** (0.0051)	-0.022*** (0.0034)
Humanities	-0.012*** (0.0018)	0.099*** (0.0026)	0.058*** (0.0030)	-0.11*** (0.0031)	-0.033*** (0.0019)
Social sciences	-0.0072*** (0.0022)	0.029*** (0.0024)	-0.0021 (0.0027)	-0.00030 (0.0031)	-0.020*** (0.0019)
Science	-0.031*** (0.0022)	0.073*** (0.0028)	0.029*** (0.0031)	-0.060*** (0.0033)	-0.011*** (0.0024)
Math and computer science	-0.046*** (0.0018)	-0.020*** (0.0024)	0.095*** (0.0028)	-0.0097*** (0.0026)	-0.020*** (0.0018)
Engineering	-0.047*** (0.0014)	-0.042*** (0.0019)	0.13*** (0.0023)	-0.027*** (0.0020)	-0.011*** (0.0015)
Agriculture	-0.020*** (0.0050)	0.0052 (0.0068)	0.060*** (0.0076)	-0.0096 (0.0070)	-0.035*** (0.0044)
Health	-0.039***	0.011**	0.030***	-0.0030	0.00091

Postsecondary pathways and outcomes of international students in Ontario

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
	(0.0024)	(0.0039)	(0.0038)	(0.0033)	(0.0023)
Services	-0.013**	-0.053***	0.023***	0.047***	-0.0045
	(0.0041)	(0.0060)	(0.0057)	(0.0057)	(0.0044)
Other	0.0029	0.053***	0.064***	-0.11***	-0.0077**
	(0.0025)	(0.0037)	(0.0044)	(0.0038)	(0.0026)
<b>Entry to college or university (College)</b>					
University	0.15***	0.071***	-0.12***	-0.092***	-0.014***
	(0.0034)	(0.0037)	(0.0050)	(0.0048)	(0.0029)
<b>Full time or part-time in first fall snapshot (full time)</b>					
Part time	-0.016***	0.058***	0.00087	-0.047***	0.0040
	(0.0017)	(0.0024)	(0.0029)	(0.0031)	(0.0021)
Unknown	-0.013***	0.024***	0.042***	-0.043***	-0.011***
	(0.0011)	(0.0016)	(0.0017)	(0.0015)	(0.0011)
<b>Initial permit year (2010)</b>					
2011	-0.00018	0.014***	-0.013***	0.0095**	-0.010***
	(0.0020)	(0.0025)	(0.0032)	(0.0032)	(0.0026)
2012	-0.0062**	0.053***	-0.039***	0.037***	-0.044***
	(0.0019)	(0.0026)	(0.0032)	(0.0032)	(0.0025)
2013	0.00070	0.066***	-0.036***	0.051***	-0.082***
	(0.0019)	(0.0026)	(0.0032)	(0.0032)	(0.0023)
2014	0.012***	0.11***	-0.045***	0.0080*	-0.081***
	(0.0023)	(0.0030)	(0.0034)	(0.0032)	(0.0024)
2015	-0.00028	0.091***	-0.051***	0.027***	-0.066***
	(0.0020)	(0.0027)	(0.0031)	(0.0030)	(0.0023)
2016	-0.020***	0.065***	-0.060***	0.070***	-0.056***
	(0.0018)	(0.0024)	(0.0029)	(0.0028)	(0.0023)
2017	-0.017***	0.051***	-0.054***	0.11***	-0.090***
	(0.0018)	(0.0024)	(0.0028)	(0.0027)	(0.0021)
Observations			338,930		

**Notes:** This table shows the average marginal effects produced through a multinomial logistic regression model that measures migration outcomes after a student's initial Ontario study permit was issued. Each column represents the five 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 34** Descriptive analysis: Migration outcomes 4 years after initial Ontario study permit

	<i>Proportion</i> 266,660	<i>% no permit</i> 0.15	<i>% study permit</i> 0.19	<i>% study &amp; work permit</i> 0.16	<i>% work permit</i> 0.30	<i>% transition to PR</i> 0.21
<b>Region/country of citizenship</b>						
India	0.32	0.06	0.04	0.08	0.54	0.28
China	0.28	0.10	0.33	0.25	0.18	0.14
US	0.02	0.36	0.30	0.11	0.10	0.13
Central America & Caribbean	0.03	0.20	0.13	0.17	0.26	0.24
South America	0.04	0.39	0.09	0.10	0.18	0.23
West & North Europe	0.03	0.62	0.13	0.07	0.09	0.08
East & South Europe	0.03	0.20	0.13	0.16	0.26	0.25
West Africa	0.04	0.08	0.25	0.21	0.22	0.24
East Africa	0.01	0.09	0.18	0.25	0.20	0.27
North Africa	0.01	0.12	0.28	0.21	0.13	0.26
Middle & South Africa	0.01	0.10	0.24	0.23	0.20	0.23
Central Asian & Middle East	0.06	0.21	0.36	0.13	0.10	0.20
East Asia	0.06	0.29	0.18	0.16	0.28	0.10
Southeast Asia	0.03	0.12	0.19	0.29	0.21	0.20
South Asia	0.03	0.09	0.15	0.25	0.22	0.30
Other	0.01	0.33	0.24	0.19	0.11	0.13
<b>Male/female</b>						
Male	0.57	0.14	0.19	0.15	0.32	0.20
Female	0.43	0.15	0.18	0.18	0.28	0.21
<b>Region*male/female interaction</b>						
<i>Males</i>						
India*M	0.39	0.06	0.04	0.08	0.54	0.28
China*M	0.24	0.12	0.36	0.24	0.18	0.11
US*M	0.02	0.38	0.30	0.11	0.09	0.11
Central America & Caribbean*M	0.02	0.22	0.15	0.16	0.26	0.20
South America*M	0.04	0.42	0.09	0.10	0.18	0.21
West & North Europe*M	0.03	0.59	0.14	0.08	0.10	0.09
East & South Europe*M	0.03	0.22	0.15	0.17	0.25	0.21
West Africa*M	0.04	0.08	0.26	0.18	0.24	0.24
East Africa*M	0.01	0.11	0.20	0.24	0.20	0.24
North Africa*M	0.01	0.10	0.29	0.22	0.13	0.26
Middle & South Africa*M	0.01	0.13	0.28	0.23	0.19	0.17
Central Asian & Middle East*M	0.07	0.21	0.39	0.13	0.10	0.18
East Asia*M	0.05	0.29	0.22	0.15	0.25	0.10

	<i>Proportion</i>	<i>% no permit</i>	<i>% study permit</i>	<i>% study &amp; work permit</i>	<i>% work permit</i>	<i>% transition to PR</i>
	266,660	0.15	0.19	0.16	0.30	0.21
Southeast Asia*M	0.02	0.14	0.23	0.30	0.18	0.15
South Asia*M	0.03	0.09	0.15	0.25	0.23	0.29
Other*M	0.01	0.30	0.24	0.20	0.12	0.14
<i>Females</i>						
India*F	0.22	0.06	0.04	0.07	0.55	0.28
China*F	0.34	0.09	0.30	0.26	0.19	0.16
US*F	0.02	0.33	0.30	0.11	0.11	0.14
Central America & Caribbean*F	0.04	0.19	0.12	0.17	0.26	0.27
South America*F	0.05	0.35	0.09	0.11	0.19	0.26
West & North Europe*F	0.04	0.64	0.12	0.07	0.09	0.08
East & South Europe*F	0.04	0.19	0.11	0.16	0.26	0.28
West Africa*F	0.04	0.07	0.24	0.24	0.20	0.25
East Africa*F	0.01	0.08	0.16	0.26	0.20	0.30
North Africa*F	0.01	0.16	0.26	0.18	0.12	0.28
Middle & South Africa*F	0.01	0.08	0.20	0.22	0.21	0.28
Central Asian & Middle East*F	0.05	0.23	0.32	0.12	0.10	0.23
East Asia*F	0.08	0.29	0.15	0.16	0.30	0.11
Southeast Asia*F	0.03	0.10	0.15	0.28	0.22	0.24
South Asia*F	0.02	0.09	0.16	0.23	0.19	0.33
Other*F	0.01	0.37	0.22	0.17	0.11	0.12
<b>Location when applying for permit</b>						
Same as citizenship	0.76	0.15	0.18	0.16	0.32	0.19
Different than citizenship	0.16	0.13	0.10	0.16	0.30	0.30
Canada	0.08	0.12	0.34	0.23	0.15	0.16
<b>Age</b>						
Age 16-17	0.05	0.06	0.37	0.34	0.17	0.06
Age 18	0.16	0.06	0.37	0.31	0.20	0.06
Age 19-20	0.21	0.17	0.27	0.24	0.24	0.08
Age 21-22	0.20	0.19	0.09	0.09	0.40	0.22
Age 23-24	0.16	0.15	0.07	0.07	0.40	0.31
Age 25-29	0.15	0.15	0.09	0.07	0.30	0.38
Age 30-39	0.06	0.18	0.10	0.08	0.26	0.38
Age 40+	0.01	0.23	0.10	0.09	0.32	0.26
<b>PSIS entry program</b>						
Other	0.10	0.44	0.18	0.11	0.14	0.12
Certificate	0.20	0.15	0.07	0.08	0.41	0.31

	<i>Proportion</i>	<i>% no permit</i>	<i>% study permit</i>	<i>% study &amp; work permit</i>	<i>% work permit</i>	<i>% transition to PR</i>
	266,660	0.15	0.19	0.16	0.30	0.21
Diploma	0.29	0.10	0.08	0.12	0.52	0.18
BA	0.28	0.09	0.40	0.33	0.09	0.10
Grad	0.13	0.14	0.16	0.07	0.22	0.41
<b>Field of study at entry</b>						
Education	0.01	0.18	0.14	0.09	0.25	0.34
Arts	0.02	0.19	0.22	0.19	0.27	0.14
Humanities	0.12	0.33	0.26	0.16	0.15	0.10
Social Sciences	0.07	0.15	0.26	0.16	0.26	0.18
Business	0.33	0.12	0.16	0.15	0.34	0.23
Science	0.07	0.09	0.33	0.21	0.21	0.15
Math and Computer Science	0.08	0.08	0.17	0.19	0.36	0.21
Engineering	0.18	0.09	0.13	0.19	0.35	0.24
Agriculture and Resources	0.01	0.13	0.21	0.15	0.32	0.19
Health	0.04	0.08	0.09	0.09	0.42	0.31
Services	0.01	0.13	0.06	0.10	0.50	0.20
Other	0.06	0.29	0.19	0.16	0.19	0.18
<b>PT/FT at entry</b>						
Full-time study	0.67	0.15	0.19	0.18	0.27	0.21
Part-time study	0.08	0.19	0.27	0.15	0.22	0.17
No fall snapshot information	0.25	0.13	0.13	0.12	0.41	0.21
<b>Institution at entry</b>						
College	0.55	0.13	0.09	0.12	0.45	0.22
University	0.45	0.17	0.31	0.22	0.12	0.18
<b>Study permit cohort</b>						
2010	0.14	0.18	0.16	0.18	0.23	0.26
2011	0.12	0.16	0.19	0.16	0.27	0.22
2012	0.12	0.15	0.20	0.18	0.30	0.17
2013	0.14	0.16	0.21	0.18	0.26	0.19
2014	0.12	0.16	0.18	0.16	0.29	0.21
2015	0.15	0.13	0.20	0.16	0.29	0.23
2016	0.21	0.11	0.17	0.14	0.41	0.17

**Table 35**      **Regression analysis: Migration outcomes 4 years after initial Ontario study permit**

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
<b>Region/country of citizenship (India)</b>					
China	0.027*** (0.0019)	0.15*** (0.0023)	0.088*** (0.0024)	-0.14*** (0.0030)	-0.12*** (0.0026)
US	0.31*** (0.0071)	0.16*** (0.0056)	-0.0081 (0.0049)	-0.27*** (0.0058)	-0.20*** (0.0044)
Central America & Caribbean	0.14*** (0.0049)	0.075*** (0.0045)	0.055*** (0.0045)	-0.17*** (0.0050)	-0.100*** (0.0045)
South America	0.21*** (0.0044)	0.061*** (0.0041)	0.034*** (0.0044)	-0.22*** (0.0042)	-0.084*** (0.0041)
West & North Europe	0.36*** (0.0064)	0.078*** (0.0047)	-0.026*** (0.0043)	-0.23*** (0.0060)	-0.18*** (0.0046)
East & South Europe	0.11*** (0.0042)	0.064*** (0.0041)	0.056*** (0.0044)	-0.16*** (0.0048)	-0.071*** (0.0046)
West Africa	0.021*** (0.0036)	0.12*** (0.0039)	0.055*** (0.0040)	-0.13*** (0.0050)	-0.060*** (0.0044)
East Africa	0.037*** (0.0064)	0.091*** (0.0064)	0.083*** (0.0065)	-0.18*** (0.0078)	-0.028*** (0.0077)
North Africa	0.058*** (0.0076)	0.18*** (0.0086)	0.061*** (0.0078)	-0.22*** (0.0090)	-0.078*** (0.0079)
Middle & South Africa	0.030*** (0.0078)	0.17*** (0.0100)	0.089*** (0.0092)	-0.19*** (0.0098)	-0.097*** (0.0088)
Central Asian & Middle East	0.14*** (0.0038)	0.27*** (0.0042)	0.0019 (0.0034)	-0.27*** (0.0038)	-0.14*** (0.0034)
East Asia	0.19*** (0.0037)	0.11*** (0.0036)	0.045*** (0.0035)	-0.16*** (0.0040)	-0.19*** (0.0031)
Southeast Asia	0.052*** (0.0044)	0.090*** (0.0045)	0.13*** (0.0051)	-0.20*** (0.0054)	-0.071*** (0.0054)
South Asia	0.035*** (0.0047)	0.054*** (0.0045)	0.072*** (0.0048)	-0.13*** (0.0063)	-0.030*** (0.0058)
Other	0.23*** (0.011)	0.16*** (0.0095)	0.017* (0.0077)	-0.24*** (0.011)	-0.17*** (0.0079)
<b>Male/Female (Male)</b>					
Female	-0.022*** (0.0013)	-0.044*** (0.0014)	0.020*** (0.0014)	0.011*** (0.0017)	0.036*** (0.0016)
<b>Region*Female interaction (India*F)</b>					
China*F	0.0098***	0.12***	0.10***	-0.13***	-0.10***

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
US*F	(0.0025) 0.29*** (0.0099)	(0.0030) 0.15*** (0.0077)	(0.0034) -0.0053 (0.0070)	(0.0041) -0.25*** (0.0089)	(0.0038) -0.19*** (0.0068)
Central America & Caribbean*F	0.12*** (0.0060)	0.060*** (0.0057)	0.071*** (0.0062)	-0.17*** (0.0066)	-0.075*** (0.0063)
South America*F	0.18*** (0.0057)	0.057*** (0.0058)	0.054*** (0.0065)	-0.23*** (0.0060)	-0.061*** (0.0061)
West & North Europe*F	0.35*** (0.0085)	0.069*** (0.0061)	-0.018** (0.0061)	-0.22*** (0.0086)	-0.18*** (0.0068)
East & South Europe*F	0.093*** (0.0053)	0.049*** (0.0054)	0.062*** (0.0060)	-0.16*** (0.0066)	-0.045*** (0.0066)
West Africa*F	0.012* (0.0052)	0.090*** (0.0054)	0.085*** (0.0062)	-0.15*** (0.0078)	-0.041*** (0.0070)
East Africa*F	0.018* (0.0081)	0.064*** (0.0081)	0.099*** (0.0094)	-0.19*** (0.011)	0.0049 (0.011)
North Africa*F	0.088*** (0.014)	0.15*** (0.015)	0.049*** (0.014)	-0.22*** (0.016)	-0.067*** (0.015)
Middle & South Africa*F	0.0037 (0.0096)	0.13*** (0.014)	0.099*** (0.013)	-0.19*** (0.014)	-0.041** (0.014)
Central Asian & Middle East*F	0.14*** (0.0059)	0.25*** (0.0067)	0.020*** (0.0058)	-0.28*** (0.0060)	-0.13*** (0.0055)
East Asia*F	0.17*** (0.0045)	0.084*** (0.0044)	0.065*** (0.0050)	-0.13*** (0.0055)	-0.19*** (0.0045)
Southeast Asia*F	0.027*** (0.0051)	0.062*** (0.0056)	0.14*** (0.0069)	-0.19*** (0.0070)	-0.035*** (0.0075)
South Asia*F	0.031*** (0.0081)	0.054*** (0.0075)	0.072*** (0.0086)	-0.15*** (0.011)	-0.0023 (0.011)
Other*F	0.25*** (0.016)	0.15*** (0.013)	0.017 (0.011)	-0.24*** (0.016)	-0.17*** (0.012)
<b>Location when applying for first permit (same as citizenship)</b>					
Different than citizenship	-0.032*** (0.0017)	-0.078*** (0.0019)	0.027*** (0.0021)	0.0042 (0.0025)	0.078*** (0.0024)
Canada	-0.0078** (0.0025)	-0.015*** (0.0021)	-0.020*** (0.0021)	-0.056*** (0.0035)	0.099*** (0.0038)
<b>Age when first permit issued (Age 18)</b>					
Age 16-17	-0.00028 (0.0032)	0.010* (0.0040)	0.0060 (0.0040)	-0.0073* (0.0036)	-0.0088** (0.0030)
Age 19-20	0.067***	-0.074***	-0.052***	0.044***	0.014***

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
Age 21-22	(0.0021) 0.091***	(0.0026) -0.21***	(0.0026) -0.15***	(0.0025) 0.14***	(0.0021) 0.13***
Age 23-24	(0.0023) 0.074***	(0.0027) -0.24***	(0.0027) -0.17***	(0.0028) 0.14***	(0.0024) 0.19***
Age 25-29	(0.0024) 0.051***	(0.0027) -0.22***	(0.0028) -0.16***	(0.0030) 0.087***	(0.0027) 0.25***
Age 30-39	(0.0025) 0.035***	(0.0029) -0.23***	(0.0029) -0.16***	(0.0031) 0.079***	(0.0031) 0.27***
Age 40+	(0.0028) 0.038***	(0.0034) -0.23***	(0.0037) -0.14***	(0.0043) 0.14***	(0.0046) 0.19***
	(0.0045)	(0.0055)	(0.0063)	(0.0079)	(0.0081)
<b>Entry program (BA)</b>					
Other	0.25*** (0.0036)	-0.076*** (0.0034)	-0.18*** (0.0049)	0.041*** (0.0050)	-0.028*** (0.0050)
Certificate	0.20*** (0.0038)	-0.093*** (0.0038)	-0.20*** (0.0052)	0.093*** (0.0055)	-0.0059 (0.0053)
Diploma	0.14*** (0.0036)	-0.079*** (0.0040)	-0.19*** (0.0052)	0.19*** (0.0060)	-0.054*** (0.0051)
Grad	0.011*** (0.0016)	0.016*** (0.0031)	-0.17*** (0.0035)	0.053*** (0.0036)	0.093*** (0.0036)
<b>Entry field of study (Business)</b>					
Education	-0.026*** (0.0062)	-0.0048 (0.0071)	-0.015 (0.0078)	0.018 (0.0092)	0.028*** (0.0080)
Arts	-0.0086* (0.0042)	0.041*** (0.0049)	0.023*** (0.0045)	0.00066 (0.0057)	-0.056*** (0.0050)
Humanities	-0.0038 (0.0024)	0.066*** (0.0027)	0.022*** (0.0025)	-0.015*** (0.0034)	-0.069*** (0.0029)
Social sciences	-0.0060* (0.0028)	0.029*** (0.0025)	-0.012*** (0.0024)	0.021*** (0.0035)	-0.032*** (0.0031)
Science	-0.038*** (0.0029)	0.057*** (0.0029)	0.022*** (0.0027)	-0.026*** (0.0037)	-0.016*** (0.0036)
Math and computer science	-0.055*** (0.0025)	-0.0024 (0.0026)	0.055*** (0.0027)	0.017*** (0.0030)	-0.015*** (0.0028)
Engineering	-0.059*** (0.0019)	-0.032*** (0.0019)	0.088*** (0.0022)	-0.0036 (0.0023)	0.0064** (0.0022)
Agriculture	-0.014* (0.0069)	0.028*** (0.0073)	0.014 (0.0072)	0.017 (0.0089)	-0.044*** (0.0073)
Health	-0.050***	0.016***	0.012**	0.015***	0.0066



	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
	(0.0032)	(0.0046)	(0.0042)	(0.0039)	(0.0036)
Services	-0.027***	-0.034***	0.014*	0.052***	-0.0054
	(0.0053)	(0.0074)	(0.0067)	(0.0065)	(0.0065)
Other	0.0073*	0.036***	0.018***	-0.035***	-0.026***
	(0.0033)	(0.0038)	(0.0038)	(0.0044)	(0.0039)
<b>Entry to college or university (College)</b>					
University	0.15***	0.063***	-0.081***	-0.095***	-0.040***
	(0.0038)	(0.0034)	(0.0038)	(0.0054)	(0.0047)
<b>Full time or part-time in first fall snapshot (full time)</b>					
Part time	-0.014***	0.056***	-0.028***	-0.011***	-0.0036
	(0.0021)	(0.0025)	(0.0024)	(0.0032)	(0.0030)
Unknown	-0.011***	0.030***	-0.013***	0.011***	-0.017***
	(0.0015)	(0.0019)	(0.0018)	(0.0018)	(0.0017)
<b>Initial permit year (2010)</b>					
2011	-0.0020	0.026***	-0.022***	0.037***	-0.038***
	(0.0023)	(0.0024)	(0.0026)	(0.0031)	(0.0030)
2012	-0.013***	0.032***	-0.0062*	0.071***	-0.084***
	(0.0023)	(0.0024)	(0.0027)	(0.0032)	(0.0030)
2013	-0.0092***	0.042***	-0.0087**	0.047***	-0.071***
	(0.0023)	(0.0024)	(0.0027)	(0.0031)	(0.0030)
2014	0.0065*	0.065***	-0.016***	0.034***	-0.090***
	(0.0026)	(0.0029)	(0.0029)	(0.0033)	(0.0031)
2015	-0.0069**	0.057***	-0.026***	0.034***	-0.058***
	(0.0024)	(0.0025)	(0.0026)	(0.0031)	(0.0030)
2016	-0.024***	0.043***	-0.030***	0.11***	-0.10***
	(0.0022)	(0.0023)	(0.0025)	(0.0028)	(0.0027)
Observations			266,660		

**Notes:** This table shows the average marginal effects produced through a multinomial logistic regression model that measures migration outcomes after a student's initial Ontario study permit was issued. Each column represents the five 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 36** Descriptive analysis: Migration outcomes 5 years after initial Ontario study permit

	<i>Proportion</i> 210,090	<i>% no permit</i> 0.21	<i>% study permit</i> 0.11	<i>% study &amp; work permit</i> 0.11	<i>% work permit</i> 0.24	<i>% transition to PR</i> 0.33
<b>Region/country of citizenship</b>						
India	0.28	0.08	0.02	0.03	0.32	0.55
China	0.29	0.18	0.18	0.19	0.24	0.21
US	0.02	0.52	0.15	0.05	0.12	0.16
Central America & Caribbean	0.03	0.26	0.07	0.10	0.24	0.33
South America	0.04	0.46	0.06	0.06	0.14	0.28
West & North Europe	0.03	0.68	0.06	0.04	0.10	0.12
East & South Europe	0.03	0.26	0.07	0.08	0.24	0.35
West Africa	0.04	0.12	0.15	0.16	0.21	0.36
East Africa	0.01	0.16	0.11	0.14	0.22	0.37
North Africa	0.01	0.16	0.17	0.17	0.16	0.34
Middle & South Africa	0.01	0.16	0.16	0.14	0.23	0.31
Central Asian & Middle East	0.07	0.30	0.27	0.10	0.10	0.24
East Asia	0.07	0.37	0.10	0.09	0.28	0.16
Southeast Asia	0.03	0.21	0.11	0.17	0.23	0.28
South Asia	0.03	0.14	0.09	0.15	0.22	0.40
Other	0.01	0.43	0.12	0.10	0.18	0.17
<b>Male/female</b>						
Male	0.57	0.21	0.12	0.10	0.24	0.34
Female	0.43	0.22	0.10	0.12	0.25	0.32
<b>Region*male/female interaction</b>						
<i>Males</i>						
India*M	0.35	0.08	0.02	0.03	0.32	0.55
China*M	0.25	0.20	0.21	0.18	0.23	0.18
US*M	0.02	0.53	0.17	0.06	0.10	0.15
Central America & Caribbean*M	0.02	0.29	0.09	0.10	0.24	0.29
South America*M	0.04	0.50	0.07	0.05	0.14	0.24
West & North Europe*M	0.03	0.66	0.07	0.04	0.10	0.12
East & South Europe*M	0.03	0.29	0.08	0.08	0.24	0.31
West Africa*M	0.04	0.13	0.16	0.14	0.20	0.37
East Africa*M	0.01	0.18	0.12	0.15	0.21	0.34
North Africa*M	0.01	0.15	0.18	0.18	0.16	0.34
Middle & South Africa*M	0.01	0.19	0.19	0.14	0.23	0.25
Central Asian & Middle East*M	0.08	0.29	0.29	0.10	0.10	0.22
East Asia*M	0.05	0.37	0.13	0.10	0.25	0.16

	<i>Proportion</i>	<i>% no permit</i>	<i>% study permit</i>	<i>% study &amp; work permit</i>	<i>% work permit</i>	<i>% transition to PR</i>
	210,090	0.21	0.11	0.11	0.24	0.33
Southeast Asia*M	0.02	0.25	0.14	0.20	0.21	0.21
South Asia*M	0.04	0.14	0.09	0.15	0.22	0.40
Other*M	0.01	0.41	0.14	0.11	0.17	0.17
<i>Females</i>						
India*F	0.19	0.08	0.02	0.03	0.32	0.55
China*F	0.36	0.16	0.15	0.19	0.26	0.24
US*F	0.02	0.51	0.14	0.05	0.13	0.18
Central America & Caribbean*F	0.04	0.25	0.06	0.09	0.24	0.36
South America*F	0.05	0.41	0.05	0.07	0.15	0.31
West & North Europe*F	0.04	0.70	0.05	0.04	0.09	0.11
East & South Europe*F	0.04	0.23	0.06	0.08	0.24	0.39
West Africa*F	0.04	0.11	0.13	0.18	0.23	0.34
East Africa*F	0.01	0.13	0.10	0.14	0.23	0.40
North Africa*F	0.01	0.20	0.13	0.13	0.17	0.37
Middle & South Africa*F	0.01	0.13	0.12	0.15	0.24	0.36
Central Asian & Middle East*F	0.05	0.30	0.22	0.09	0.10	0.29
East Asia*F	0.08	0.36	0.07	0.08	0.31	0.17
Southeast Asia*F	0.03	0.17	0.08	0.15	0.25	0.34
South Asia*F	0.02	0.15	0.08	0.13	0.23	0.42
Other*F	0.01	0.46	0.11	0.09	0.18	0.16
<b>Location when applying for permit</b>						
Same as citizenship	0.75	0.22	0.12	0.11	0.25	0.31
Different than citizenship	0.19	0.17	0.06	0.09	0.22	0.45
Canada	0.07	0.21	0.18	0.17	0.22	0.21
<b>Age</b>						
Age 16-17	0.05	0.14	0.24	0.26	0.24	0.12
Age 18	0.15	0.15	0.22	0.24	0.27	0.13
Age 19-20	0.21	0.25	0.17	0.16	0.27	0.15
Age 21-22	0.20	0.25	0.06	0.05	0.25	0.39
Age 23-24	0.17	0.20	0.05	0.04	0.23	0.48
Age 25-29	0.16	0.20	0.06	0.04	0.19	0.52
Age 30-39	0.06	0.22	0.07	0.05	0.19	0.48
Age 40+	0.01	0.28	0.07	0.05	0.25	0.36
<b>PSIS entry program</b>						
Other	0.11	0.48	0.11	0.09	0.15	0.17
Certificate	0.18	0.18	0.04	0.05	0.23	0.49

	<i>Proportion</i>	<i>% no permit</i>	<i>% study permit</i>	<i>% study &amp; work permit</i>	<i>% work permit</i>	<i>% transition to PR</i>
	210,090	0.21	0.11	0.11	0.24	0.33
Diploma	0.28	0.13	0.05	0.06	0.38	0.38
BA	0.29	0.21	0.22	0.23	0.20	0.14
Grad	0.14	0.19	0.10	0.05	0.13	0.53
<b>Field of study at entry</b>						
Education	0.01	0.24	0.09	0.06	0.18	0.43
Arts	0.02	0.27	0.11	0.10	0.29	0.22
Humanities	0.13	0.40	0.15	0.11	0.20	0.15
Social Sciences	0.07	0.24	0.15	0.11	0.23	0.28
Business	0.32	0.18	0.09	0.10	0.27	0.36
Science	0.07	0.18	0.19	0.15	0.22	0.26
Math and Computer Science	0.08	0.13	0.12	0.14	0.25	0.37
Engineering	0.18	0.13	0.10	0.12	0.24	0.41
Agriculture and Resources	0.01	0.20	0.13	0.12	0.22	0.33
Health	0.04	0.12	0.05	0.05	0.25	0.53
Services	0.01	0.17	0.04	0.05	0.36	0.38
Other	0.06	0.34	0.12	0.10	0.20	0.24
<b>PT/FT at entry</b>						
Full-time study	0.68	0.21	0.11	0.12	0.23	0.32
Part-time study	0.09	0.25	0.16	0.12	0.22	0.26
No fall snapshot information	0.23	0.18	0.09	0.07	0.27	0.38
<b>Institution at entry</b>						
College	0.53	0.17	0.06	0.06	0.31	0.40
University	0.47	0.26	0.17	0.16	0.16	0.25
<b>Study permit cohort</b>						
2010	0.18	0.24	0.11	0.09	0.22	0.34
2011	0.16	0.22	0.11	0.11	0.24	0.31
2012	0.15	0.20	0.12	0.12	0.24	0.32
2013	0.17	0.21	0.12	0.12	0.23	0.32
2014	0.15	0.20	0.10	0.10	0.22	0.37
2015	0.19	0.19	0.11	0.11	0.28	0.32

**Table 37**      **Regression analysis: Migration outcomes 5 years after initial Ontario study permit**

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
<b>Region/country of citizenship (India)</b>					
China	0.055*** (0.0026)	0.096*** (0.0020)	0.093*** (0.0022)	-0.018*** (0.0032)	-0.23*** (0.0032)
US	0.41*** (0.0081)	0.088*** (0.0050)	-0.0019 (0.0039)	-0.14*** (0.0064)	-0.36*** (0.0057)
Central America & Caribbean	0.18*** (0.0061)	0.044*** (0.0040)	0.050*** (0.0041)	-0.061*** (0.0057)	-0.21*** (0.0057)
South America	0.27*** (0.0055)	0.043*** (0.0037)	0.027*** (0.0037)	-0.12*** (0.0049)	-0.22*** (0.0051)
West & North Europe	0.42*** (0.0073)	0.034*** (0.0039)	-0.0093** (0.0034)	-0.12*** (0.0063)	-0.32*** (0.0060)
East & South Europe	0.15*** (0.0055)	0.035*** (0.0036)	0.033*** (0.0037)	-0.051*** (0.0055)	-0.16*** (0.0057)
West Africa	0.022*** (0.0044)	0.082*** (0.0037)	0.074*** (0.0037)	-0.047*** (0.0054)	-0.13*** (0.0054)
East Africa	0.055*** (0.0080)	0.067*** (0.0061)	0.068*** (0.0061)	-0.069*** (0.0084)	-0.12*** (0.0092)
North Africa	0.066*** (0.0091)	0.12*** (0.0080)	0.087*** (0.0077)	-0.079*** (0.010)	-0.19*** (0.0097)
Middle & South Africa	0.052*** (0.010)	0.13*** (0.0097)	0.081*** (0.0086)	-0.052*** (0.011)	-0.21*** (0.011)
Central Asian & Middle East	0.19*** (0.0047)	0.20*** (0.0041)	0.037*** (0.0031)	-0.16*** (0.0041)	-0.27*** (0.0043)
East Asia	0.23*** (0.0045)	0.074*** (0.0033)	0.048*** (0.0032)	-0.031*** (0.0044)	-0.32*** (0.0041)
Southeast Asia	0.100*** (0.0061)	0.053*** (0.0041)	0.086*** (0.0046)	-0.061*** (0.0063)	-0.18*** (0.0069)
South Asia	0.040*** (0.0056)	0.036*** (0.0038)	0.059*** (0.0042)	-0.035*** (0.0067)	-0.10*** (0.0070)
Other	0.29*** (0.012)	0.079*** (0.0081)	0.017** (0.0058)	-0.076*** (0.011)	-0.31*** (0.0095)
<b>Male/Female (Male)</b>					
Female	-0.032*** (0.0017)	-0.039*** (0.0013)	0.0048*** (0.0013)	0.021*** (0.0019)	0.046*** (0.0020)
<b>Region*Female interaction (India*F)</b>					
China*F	0.029***	0.070***	0.093***	-0.0024	-0.19***

	No permit	Study permit	Study & work permit	Work permit	Transition to PR
US*F	(0.0036) 0.40***	(0.0026) 0.073***	(0.0031) -0.0080	(0.0046) -0.12***	(0.0047) -0.34***
Central America & Caribbean*F	(0.012) 0.15***	(0.0068) 0.033***	(0.0054) 0.053***	(0.0097) -0.060***	(0.0088) -0.17***
South America*F	(0.0078) 0.22***	(0.0050) 0.032***	(0.0058) 0.046***	(0.0076) -0.11***	(0.0080) -0.19***
West & North Europe*F	(0.0074) 0.42***	(0.0050) 0.026***	(0.0059) -0.0087	(0.0072) -0.12***	(0.0076) -0.31***
East & South Europe*F	(0.0099) 0.11***	(0.0050) 0.026***	(0.0048) 0.033***	(0.0089) -0.056***	(0.0090) -0.12***
West Africa*F	(0.0069) 0.0084	(0.0046) 0.058***	(0.0052) 0.086***	(0.0074) -0.031***	(0.0081) -0.12***
East Africa*F	(0.0063) 0.020	(0.0049) 0.052***	(0.0057) 0.068***	(0.0084) -0.061***	(0.0085) -0.079***
North Africa*F	(0.010) 0.093***	(0.0079) 0.091***	(0.0087) 0.070***	(0.012) -0.078***	(0.013) -0.18***
Middle & South Africa*F	(0.016) 0.025	(0.013) 0.089***	(0.014) 0.092***	(0.019) -0.048**	(0.018) -0.16***
Central Asian & Middle East*F	(0.013) 0.19***	(0.013) 0.18***	(0.013) 0.046***	(0.016) -0.16***	(0.016) -0.26***
East Asia*F	(0.0073) 0.22***	(0.0065) 0.044***	(0.0054) 0.044***	(0.0067) 0.0053	(0.0069) -0.31***
Southeast Asia*F	(0.0059) 0.054***	(0.0039) 0.035***	(0.0044) 0.076***	(0.0063) -0.047***	(0.0059) -0.12***
South Asia*F	(0.0074) 0.039***	(0.0050) 0.028***	(0.0063) 0.047***	(0.0086) -0.034**	(0.0096) -0.080***
Other*F	(0.0098) 0.30***	(0.0061) 0.067***	(0.0074) 0.013	(0.012) -0.065***	(0.013) -0.32***
	(0.018)	(0.011)	(0.0084)	(0.017)	(0.014)
<b>Location when applying for first permit (same as citizenship)</b>					
Different than citizenship	-0.047*** (0.0022)	-0.048*** (0.0017)	0.014*** (0.0020)	-0.018*** (0.0026)	0.099*** (0.0027)
Canada	-0.0074* (0.0035)	-0.016*** (0.0023)	-0.0069** (0.0022)	-0.023*** (0.0039)	0.054*** (0.0044)
<b>Age when first permit issued (Age 18)</b>					
Age 16-17	-0.0092* (0.0041)	0.024*** (0.0043)	0.018*** (0.0041)	-0.014** (0.0047)	-0.019*** (0.0041)
Age 19-20	0.057***	-0.043***	-0.051***	0.0077*	0.029***

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
	(0.0028)	(0.0027)	(0.0026)	(0.0032)	(0.0029)
Age 21-22	0.082***	-0.13***	-0.13***	-0.012***	0.20***
	(0.0030)	(0.0027)	(0.0026)	(0.0033)	(0.0032)
Age 23-24	0.066***	-0.15***	-0.15***	-0.026***	0.26***
	(0.0032)	(0.0027)	(0.0026)	(0.0035)	(0.0035)
Age 25-29	0.038***	-0.15***	-0.14***	-0.057***	0.30***
	(0.0033)	(0.0028)	(0.0028)	(0.0036)	(0.0038)
Age 30-39	0.014***	-0.14***	-0.13***	-0.053***	0.31***
	(0.0039)	(0.0033)	(0.0035)	(0.0049)	(0.0053)
Age 40+	0.022***	-0.14***	-0.13***	0.0013	0.24***
	(0.0066)	(0.0053)	(0.0056)	(0.0091)	(0.0098)
<b>Entry program (BA)</b>					
Other	0.21***	-0.037***	-0.041***	-0.12***	-0.012*
	(0.0043)	(0.0030)	(0.0036)	(0.0055)	(0.0056)
Certificate	0.16***	-0.044***	-0.045***	-0.10***	0.033***
	(0.0048)	(0.0035)	(0.0041)	(0.0061)	(0.0062)
Diploma	0.10***	-0.038***	-0.055***	-0.023***	0.015*
	(0.0047)	(0.0036)	(0.0039)	(0.0067)	(0.0062)
Grad	-0.033***	0.032***	-0.050***	-0.10***	0.15***
	(0.0024)	(0.0032)	(0.0027)	(0.0039)	(0.0039)
<b>Entry field of study (Business)</b>					
Education	-0.033***	-0.0038	-0.0087	0.00064	0.044***
	(0.0084)	(0.0066)	(0.0072)	(0.011)	(0.0098)
Arts	-0.011*	0.023***	0.013**	0.043***	-0.068***
	(0.0057)	(0.0050)	(0.0046)	(0.0066)	(0.0065)
Humanities	0.0024	0.039***	0.0072**	0.037***	-0.086***
	(0.0032)	(0.0026)	(0.0023)	(0.0037)	(0.0036)
Social sciences	-0.0070*	0.023***	-0.0015	0.0075*	-0.022***
	(0.0035)	(0.0026)	(0.0023)	(0.0038)	(0.0039)
Science	-0.035***	0.038***	0.012***	0.0038	-0.019***
	(0.0036)	(0.0028)	(0.0025)	(0.0041)	(0.0043)
Math and computer science	-0.067***	0.010***	0.043***	0.0075*	0.0058
	(0.0033)	(0.0025)	(0.0027)	(0.0036)	(0.0037)
Engineering	-0.080***	-0.0026	0.052***	-0.0032	0.034***
	(0.0025)	(0.0019)	(0.0021)	(0.0027)	(0.0028)
Agriculture	-0.026**	0.028***	0.026***	0.0025	-0.031**
	(0.0088)	(0.0071)	(0.0070)	(0.0095)	(0.0093)
Health	-0.063***	0.013**	0.0028	0.011*	0.036***

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
	(0.0045)	(0.0046)	(0.0043)	(0.0049)	(0.0048)
Services	-0.041***	-0.012	0.0012	0.039***	0.012
	(0.0076)	(0.0076)	(0.0073)	(0.0080)	(0.0082)
Other	0.0060	0.027***	0.010**	-0.0027	-0.041***
	(0.0043)	(0.0036)	(0.0034)	(0.0050)	(0.0049)
<b>Entry to college or university (College)</b>					
University	0.17***	0.034***	0.0085*	-0.14***	-0.071***
	(0.0044)	(0.0031)	(0.0036)	(0.0056)	(0.0057)
<b>Full time or part-time in first fall snapshot (full time)</b>					
Part time	-0.019***	0.040***	0.0016	-0.017***	-0.0047
	(0.0028)	(0.0025)	(0.0023)	(0.0032)	(0.0034)
Unknown	-0.016***	0.029***	-0.0044*	0.0013	-0.010***
	(0.0021)	(0.0019)	(0.0018)	(0.0022)	(0.0022)
<b>Initial permit year (2010)</b>					
2011	-0.0036	0.0049*	0.017***	0.019***	-0.038***
	(0.0027)	(0.0021)	(0.0022)	(0.0031)	(0.0032)
2012	-0.021***	0.0087***	0.015***	0.022***	-0.025***
	(0.0027)	(0.0022)	(0.0022)	(0.0031)	(0.0032)
2013	-0.013***	0.0088***	0.013***	0.0085**	-0.017***
	(0.0027)	(0.0022)	(0.0022)	(0.0031)	(0.0032)
2014	0.011***	0.018***	0.0049*	0.0066	-0.039***
	(0.0031)	(0.0025)	(0.0024)	(0.0034)	(0.0034)
2015	0.0065*	0.012***	0.0016	0.050***	-0.070***
	(0.0029)	(0.0023)	(0.0022)	(0.0032)	(0.0031)
Observations	210,090				

**Notes:** This table shows the average marginal effects produced through a multinomial logistic regression model that measures migration outcomes after a student's initial Ontario study permit was issued.

Each column represents the five 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 38** Descriptive analysis: Migration outcomes 6 years after initial Ontario study permit

	<i>Proportion</i> 169,800	<i>% no permit</i> 0.27	<i>% study permit</i> 0.07	<i>% study &amp; work permit</i> 0.06	<i>% work permit</i> 0.18	<i>% transition to PR</i> 0.42
<b>Region/country of citizenship</b>						
India	0.26	0.11	0.02	0.02	0.13	0.72
China	0.30	0.25	0.09	0.11	0.25	0.29
US	0.02	0.58	0.08	0.03	0.10	0.20
Central America & Caribbean	0.03	0.32	0.05	0.05	0.17	0.41
South America	0.04	0.50	0.04	0.04	0.11	0.32
West & North Europe	0.03	0.71	0.03	0.02	0.08	0.15
East & South Europe	0.04	0.30	0.04	0.04	0.17	0.46
West Africa	0.04	0.15	0.10	0.10	0.20	0.46
East Africa	0.01	0.20	0.06	0.08	0.20	0.45
North Africa	0.01	0.20	0.10	0.08	0.18	0.44
Middle & South Africa	0.01	0.20	0.09	0.09	0.22	0.40
Central Asian & Middle East	0.07	0.36	0.19	0.07	0.10	0.29
East Asia	0.07	0.44	0.06	0.05	0.21	0.24
Southeast Asia	0.03	0.27	0.06	0.10	0.22	0.36
South Asia	0.03	0.17	0.05	0.07	0.20	0.51
Other	0.01	0.48	0.06	0.06	0.20	0.20
<b>Male/female</b>						
Male	0.58	0.26	0.08	0.06	0.17	0.43
Female	0.42	0.27	0.06	0.07	0.20	0.41
<b>Region*male/female interaction</b>						
<i>Males</i>						
India*M	0.33	0.11	0.02	0.02	0.14	0.72
China*M	0.25	0.28	0.11	0.11	0.24	0.25
US*M	0.02	0.60	0.09	0.04	0.09	0.18
Central America & Caribbean*M	0.02	0.34	0.06	0.05	0.18	0.37
South America*M	0.04	0.54	0.04	0.04	0.10	0.28
West & North Europe*M	0.03	0.69	0.04	0.03	0.08	0.16
East & South Europe*M	0.03	0.33	0.05	0.04	0.18	0.40
West Africa*M	0.04	0.15	0.11	0.09	0.17	0.47
East Africa*M	0.01	0.24	0.07	0.07	0.20	0.42
North Africa*M	0.02	0.18	0.11	0.09	0.18	0.43
Middle & South Africa*M	0.01	0.25	0.11	0.09	0.22	0.34
Central Asian & Middle East*M	0.08	0.36	0.21	0.07	0.10	0.26
East Asia*M	0.05	0.44	0.09	0.06	0.18	0.22

	<i>Proportion</i>	<i>% no permit</i>	<i>% study permit</i>	<i>% study &amp; work permit</i>	<i>% work permit</i>	<i>% transition to PR</i>
	169,800	0.27	0.07	0.06	0.18	0.42
Southeast Asia*M	0.02	0.31	0.07	0.12	0.22	0.28
South Asia*M	0.04	0.17	0.06	0.07	0.21	0.50
Other*M	0.01	0.45	0.06	0.07	0.20	0.21
<i>Females</i>						
India*F	0.17	0.11	0.02	0.02	0.13	0.72
China*F	0.36	0.23	0.07	0.11	0.27	0.33
US*F	0.02	0.56	0.07	0.03	0.11	0.23
Central America & Caribbean*F	0.04	0.30	0.04	0.05	0.16	0.45
South America*F	0.05	0.45	0.03	0.04	0.12	0.36
West & North Europe*F	0.04	0.72	0.03	0.02	0.08	0.15
East & South Europe*F	0.04	0.27	0.04	0.03	0.16	0.50
West Africa*F	0.04	0.14	0.08	0.11	0.24	0.43
East Africa*F	0.01	0.17	0.05	0.08	0.21	0.50
North Africa*F	0.01	0.26	0.09	0.04	0.17	0.45
Middle & South Africa*F	0.01	0.16	0.08	0.08	0.22	0.47
Central Asian & Middle East*F	0.06	0.36	0.14	0.07	0.10	0.33
East Asia*F	0.08	0.44	0.04	0.05	0.23	0.25
Southeast Asia*F	0.03	0.23	0.05	0.08	0.22	0.43
South Asia*F	0.02	0.18	0.05	0.06	0.18	0.53
Other*F	0.01	0.49	0.06	0.06	0.21	0.19
<b>Location when applying for permit</b>						
Same as citizenship	0.79	0.27	0.07	0.06	0.18	0.41
Different than citizenship	0.16	0.24	0.04	0.05	0.15	0.52
Canada	0.05	0.26	0.09	0.08	0.22	0.35
<b>Age</b>						
Age 16-17	0.05	0.19	0.15	0.16	0.30	0.20
Age 18	0.14	0.20	0.13	0.14	0.31	0.21
Age 19-20	0.20	0.31	0.09	0.10	0.26	0.24
Age 21-22	0.21	0.31	0.04	0.03	0.13	0.49
Age 23-24	0.17	0.26	0.03	0.02	0.10	0.58
Age 25-29	0.16	0.24	0.04	0.03	0.10	0.60
Age 30-39	0.06	0.26	0.05	0.03	0.11	0.55
Age 40+	0.01	0.36	0.05	0.03	0.13	0.43
<b>PSIS entry program</b>						
Other	0.12	0.51	0.07	0.06	0.14	0.22
Certificate	0.17	0.23	0.03	0.03	0.13	0.58

	<i>Proportion</i>	<i>% no permit</i>	<i>% study permit</i>	<i>% study &amp; work permit</i>	<i>% work permit</i>	<i>% transition to PR</i>
	169,800	0.27	0.07	0.06	0.18	0.42
Diploma	0.27	0.18	0.03	0.04	0.19	0.55
BA	0.30	0.27	0.12	0.12	0.27	0.22
Grad	0.14	0.24	0.07	0.03	0.07	0.59
<b>Field of study at entry</b>						
Education	0.01	0.31	0.07	0.04	0.12	0.47
Arts	0.02	0.33	0.06	0.06	0.24	0.31
Humanities	0.13	0.45	0.08	0.07	0.19	0.21
Social Sciences	0.07	0.30	0.08	0.06	0.19	0.37
Business	0.32	0.24	0.05	0.06	0.19	0.46
Science	0.06	0.23	0.11	0.09	0.19	0.38
Math and Computer Science	0.07	0.19	0.07	0.07	0.18	0.48
Engineering	0.17	0.18	0.07	0.07	0.17	0.52
Agriculture and Resources	0.01	0.26	0.08	0.08	0.15	0.43
Health	0.04	0.15	0.03	0.03	0.12	0.66
Services	0.01	0.23	0.02	0.03	0.19	0.52
Other	0.06	0.38	0.08	0.06	0.18	0.30
<b>PT/FT at entry</b>						
Full-time study	0.68	0.27	0.07	0.07	0.18	0.41
Part-time study	0.10	0.31	0.09	0.07	0.19	0.34
No fall snapshot information	0.22	0.23	0.06	0.05	0.16	0.50
<b>Institution at entry</b>						
College	0.52	0.22	0.04	0.04	0.17	0.53
University	0.48	0.31	0.10	0.09	0.19	0.31
<b>Study permit cohort</b>						
2010	0.22	0.28	0.07	0.06	0.18	0.41
2011	0.20	0.27	0.07	0.06	0.18	0.42
2012	0.19	0.25	0.07	0.07	0.18	0.43
2013	0.21	0.26	0.07	0.06	0.18	0.42
2014	0.18	0.26	0.06	0.06	0.19	0.43

**Table 39**      **Regression analysis: Migration outcomes 6 years after initial Ontario study permit**

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
<b>Region/country of citizenship (India)</b>					
China	0.092*** (0.0032)	0.049*** (0.0018)	0.067*** (0.0018)	0.069*** (0.0032)	-0.28*** (0.0037)
US	0.44*** (0.0088)	0.043*** (0.0043)	0.013*** (0.0035)	-0.048*** (0.0062)	-0.45*** (0.0069)
Central America & Caribbean	0.19*** (0.0072)	0.030*** (0.0037)	0.030*** (0.0035)	0.0065 (0.0057)	-0.26*** (0.0069)
South America	0.27*** (0.0063)	0.023*** (0.0033)	0.027*** (0.0033)	-0.024*** (0.0051)	-0.30*** (0.0062)
West & North Europe	0.44*** (0.0080)	0.011*** (0.0032)	0.0032 (0.0029)	-0.051*** (0.0056)	-0.41*** (0.0072)
East & South Europe	0.15*** (0.0064)	0.015*** (0.0030)	0.014*** (0.0028)	0.011* (0.0054)	-0.19*** (0.0068)
West Africa	0.017** (0.0054)	0.054*** (0.0035)	0.058*** (0.0035)	0.030*** (0.0053)	-0.16*** (0.0064)
East Africa	0.070*** (0.0096)	0.028*** (0.0051)	0.043*** (0.0053)	0.024** (0.0083)	-0.17*** (0.011)
North Africa	0.068*** (0.011)	0.073*** (0.0075)	0.050*** (0.0064)	0.038*** (0.011)	-0.23*** (0.012)
Middle & South Africa	0.059*** (0.012)	0.070*** (0.0087)	0.069*** (0.0083)	0.061*** (0.012)	-0.26*** (0.013)
Central Asian & Middle East	0.22*** (0.0052)	0.14*** (0.0038)	0.045*** (0.0028)	-0.052*** (0.0040)	-0.36*** (0.0050)
East Asia	0.27*** (0.0053)	0.049*** (0.0030)	0.039*** (0.0028)	0.033*** (0.0045)	-0.39*** (0.0050)
Southeast Asia	0.12*** (0.0073)	0.021*** (0.0033)	0.055*** (0.0039)	0.023*** (0.0059)	-0.22*** (0.0080)
South Asia	0.038*** (0.0065)	0.018*** (0.0032)	0.035*** (0.0035)	0.028*** (0.0060)	-0.12*** (0.0077)
Other	0.31*** (0.013)	0.031*** (0.0062)	0.027*** (0.0054)	0.038*** (0.010)	-0.41*** (0.011)
<b>Male/Female (Male)</b>					
Female	-0.039*** (0.0021)	-0.027*** (0.0012)	-0.0034** (0.0012)	0.013*** (0.0019)	0.057*** (0.0022)
<b>Region*Female interaction (India*F)</b>					
China*F	0.058***	0.029***	0.064***	0.078***	-0.23***

	No permit	Study permit	Study & work permit	Work permit	Transition to PR
US*F	(0.0045) 0.42*** (0.013)	(0.0024) 0.035*** (0.0057)	(0.0025) 0.010* (0.0049)	(0.0046) -0.039*** (0.0091)	(0.0055) -0.43*** (0.011)
Central America & Caribbean*F	0.16*** (0.0092)	0.018*** (0.0045)	0.031*** (0.0048)	0.0023 (0.0076)	-0.22*** (0.0095)
South America*F	0.22*** (0.0087)	0.015*** (0.0044)	0.031*** (0.0049)	-0.0095 (0.0076)	-0.26*** (0.0091)
West & North Europe*F	0.44*** (0.011)	0.0092* (0.0043)	-0.0011 (0.0037)	-0.049*** (0.0080)	-0.40*** (0.011)
East & South Europe*F	0.12*** (0.0082)	0.011** (0.0039)	0.014*** (0.0039)	0.00042 (0.0072)	-0.14*** (0.0093)
West Africa*F	0.0054 (0.0080)	0.032*** (0.0045)	0.059*** (0.0052)	0.052*** (0.0082)	-0.15*** (0.0099)
East Africa*F	0.025* (0.012)	0.020** (0.0065)	0.049*** (0.0079)	0.030* (0.012)	-0.12*** (0.015)
North Africa*F	0.100*** (0.020)	0.062*** (0.013)	0.029** (0.011)	0.032 (0.019)	-0.22*** (0.022)
Middle & South Africa*F	0.015 (0.015)	0.050*** (0.011)	0.062*** (0.011)	0.063*** (0.017)	-0.19*** (0.019)
Central Asian & Middle East*F	0.22*** (0.0083)	0.12*** (0.0059)	0.053*** (0.0049)	-0.040*** (0.0068)	-0.35*** (0.0081)
East Asia*F	0.25*** (0.0071)	0.018*** (0.0034)	0.031*** (0.0036)	0.061*** (0.0065)	-0.36*** (0.0072)
Southeast Asia*F	0.073*** (0.0091)	0.012** (0.0041)	0.041*** (0.0050)	0.024** (0.0082)	-0.15*** (0.011)
South Asia*F	0.046*** (0.012)	0.011* (0.0052)	0.030*** (0.0061)	0.0090 (0.011)	-0.096*** (0.014)
Other*F	0.32*** (0.019)	0.026** (0.0087)	0.019* (0.0073)	0.047*** (0.015)	-0.41*** (0.016)
<b>Location when applying for first permit (same as citizenship)</b>					
Different than citizenship	-0.043*** (0.0030)	-0.025*** (0.0016)	-0.0025 (0.0019)	-0.025*** (0.0028)	0.095*** (0.0033)
Canada	-0.027*** (0.0047)	-0.012*** (0.0025)	-0.0071** (0.0024)	-0.016*** (0.0040)	0.062*** (0.0052)
<b>Age when first permit issued (Age 18)</b>					
Age 16-17	-0.0073 (0.0052)	0.021*** (0.0044)	0.019*** (0.0042)	-0.012* (0.0054)	-0.021*** (0.0052)
Age 19-20	0.064***	-0.029***	-0.033***	-0.038***	0.036***

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
	(0.0034)	(0.0026)	(0.0025)	(0.0035)	(0.0036)
Age 21-22	0.093***	-0.083***	-0.086***	-0.13***	0.21***
	(0.0036)	(0.0026)	(0.0025)	(0.0035)	(0.0038)
Age 23-24	0.071***	-0.092***	-0.096***	-0.15***	0.27***
	(0.0038)	(0.0026)	(0.0025)	(0.0036)	(0.0040)
Age 25-29	0.034***	-0.092***	-0.093***	-0.15***	0.30***
	(0.0040)	(0.0027)	(0.0026)	(0.0038)	(0.0043)
Age 30-39	0.0078	-0.087***	-0.085***	-0.14***	0.30***
	(0.0049)	(0.0031)	(0.0032)	(0.0049)	(0.0058)
Age 40+	0.040***	-0.079***	-0.091***	-0.12***	0.25***
	(0.0089)	(0.0051)	(0.0047)	(0.0089)	(0.011)
<b>Entry program (BA)</b>					
Other	0.21***	-0.025***	-0.014***	-0.12***	-0.052***
	(0.0051)	(0.0028)	(0.0031)	(0.0052)	(0.0060)
Certificate	0.15***	-0.026***	-0.015***	-0.12***	0.015*
	(0.0058)	(0.0032)	(0.0035)	(0.0058)	(0.0068)
Diploma	0.11***	-0.021***	-0.020***	-0.087***	0.019**
	(0.0057)	(0.0034)	(0.0033)	(0.0061)	(0.0068)
Grad	-0.031***	0.024***	-0.0061*	-0.14***	0.15***
	(0.0031)	(0.0031)	(0.0027)	(0.0038)	(0.0042)
<b>Entry field of study (Business)</b>					
Education	-0.041***	0.013	-0.015**	-0.0055	0.050***
	(0.0099)	(0.0065)	(0.0054)	(0.010)	(0.011)
Arts	-0.014	0.011*	0.011*	0.054***	-0.062***
	(0.0071)	(0.0045)	(0.0044)	(0.0068)	(0.0076)
Humanities	0.0058	0.027***	0.0062**	0.040***	-0.078***
	(0.0038)	(0.0024)	(0.0021)	(0.0035)	(0.0040)
Social sciences	-0.0041	0.016***	-0.0021	-0.00057	-0.0088*
	(0.0043)	(0.0024)	(0.0021)	(0.0035)	(0.0044)
Science	-0.043***	0.029***	0.014***	0.0096*	-0.0090
	(0.0044)	(0.0026)	(0.0025)	(0.0039)	(0.0048)
Math and computer science	-0.069***	0.0093***	0.015***	0.018***	0.026***
	(0.0041)	(0.0023)	(0.0025)	(0.0038)	(0.0044)
Engineering	-0.089***	0.0037*	0.023***	0.013***	0.049***
	(0.0030)	(0.0017)	(0.0020)	(0.0028)	(0.0032)
Agriculture	-0.021	0.020**	0.020**	-0.012	-0.0077
	(0.011)	(0.0066)	(0.0067)	(0.0095)	(0.011)
Health	-0.083***	0.0100*	0.0045	0.013*	0.056***

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
	(0.0056)	(0.0041)	(0.0041)	(0.0056)	(0.0059)
Services	-0.039*** (0.0093)	-0.011 (0.0062)	-0.0018 (0.0064)	0.025** (0.0086)	0.026** (0.0095)
Other	-0.0053 (0.0052)	0.021*** (0.0034)	0.0030 (0.0030)	0.020*** (0.0051)	-0.039*** (0.0055)
<b>Entry to college or university (College)</b>					
University	0.17*** (0.0052)	0.016*** (0.0029)	0.0022 (0.0030)	-0.068*** (0.0049)	-0.12*** (0.0062)
<b>Full time or part-time in first fall snapshot (full time)</b>					
Part time	-0.018*** (0.0034)	0.022*** (0.0022)	0.0065** (0.0020)	-0.00063 (0.0031)	-0.0097** (0.0036)
Unknown	-0.021*** (0.0026)	0.017*** (0.0018)	0.0062*** (0.0017)	-0.0022 (0.0024)	0.00025 (0.0026)
<b>Initial permit year (2010)</b>					
2011	-0.0011 (0.0030)	0.0039* (0.0018)	-0.00017 (0.0018)	-0.0051 (0.0028)	0.0025 (0.0032)
2012	-0.018*** (0.0030)	0.0038* (0.0018)	0.0012 (0.0019)	-0.0053 (0.0028)	0.018*** (0.0033)
2013	-0.0083** (0.0031)	0.0055** (0.0019)	-0.0063*** (0.0019)	-0.0038 (0.0029)	0.013*** (0.0033)
2014	0.031*** (0.0036)	0.0056** (0.0021)	-0.0074*** (0.0020)	0.023*** (0.0033)	-0.051*** (0.0036)
Observations	169,800				

**Notes:** This table shows the average marginal effects produced through a multinomial logistic regression model that measures migration outcomes after a student's initial Ontario study permit was issued. Each column represents the five 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 40** Descriptive analysis: Migration outcomes 7 years after initial Ontario study permit

	<i>Proportion</i> 138,610	<i>% no permit</i> 0.30	<i>% study permit</i> 0.04	<i>% study &amp; work permit</i> 0.04	<i>% work permit</i> 0.13	<i>% transition to PR</i> 0.49
<b>Region/country of citizenship</b>						
India	0.25	0.12	0.01	0.01	0.06	0.80
China	0.31	0.31	0.05	0.06	0.21	0.37
US	0.02	0.63	0.04	0.02	0.08	0.23
Central America & Caribbean	0.03	0.34	0.03	0.03	0.11	0.49
South America	0.04	0.50	0.03	0.02	0.08	0.37
West & North Europe	0.03	0.71	0.02	0.02	0.07	0.19
East & South Europe	0.03	0.32	0.02	0.02	0.11	0.53
West Africa	0.04	0.16	0.07	0.06	0.18	0.54
East Africa	0.01	0.23	0.04	0.04	0.14	0.55
North Africa	0.01	0.21	0.05	0.05	0.16	0.53
Middle & South Africa	0.01	0.24	0.05	0.06	0.19	0.47
Central Asian & Middle East	0.08	0.41	0.12	0.05	0.09	0.33
East Asia	0.07	0.48	0.04	0.04	0.14	0.31
Southeast Asia	0.03	0.31	0.04	0.05	0.16	0.44
South Asia	0.03	0.19	0.03	0.03	0.13	0.62
Other	0.01	0.51	0.03	0.03	0.17	0.26
<b>Male/female</b>						
Male	0.58	0.30	0.05	0.04	0.12	0.50
Female	0.42	0.30	0.03	0.04	0.14	0.48
<b>Region*male/female interaction</b>						
<i>Males</i>						
India*M	0.32	0.13	0.01	0.01	0.06	0.80
China*M	0.26	0.35	0.06	0.07	0.20	0.32
US*M	0.02	0.64	0.05	0.02	0.08	0.20
Central America & Caribbean*M	0.02	0.37	0.03	0.04	0.12	0.45
South America*M	0.03	0.54	0.03	0.03	0.09	0.32
West & North Europe*M	0.03	0.70	0.02	0.02	0.06	0.20
East & South Europe*M	0.03	0.36	0.03	0.02	0.12	0.47
West Africa*M	0.04	0.17	0.08	0.06	0.16	0.53
East Africa*M	0.01	0.27	0.03	0.04	0.15	0.51
North Africa*M	0.01	0.20	0.06	0.05	0.17	0.53
Middle & South Africa*M	0.01	0.27	0.08	0.06	0.19	0.40
Central Asian & Middle East*M	0.09	0.41	0.14	0.05	0.09	0.31
East Asia*M	0.05	0.49	0.06	0.05	0.13	0.28



	<i>Proportion</i>	<i>% no permit</i>	<i>% study permit</i>	<i>% study &amp; work permit</i>	<i>% work permit</i>	<i>% transition to PR</i>
	138,610	0.30	0.04	0.04	0.13	0.49
Southeast Asia*M	0.02	0.36	0.05	0.06	0.17	0.36
South Asia*M	0.05	0.19	0.03	0.03	0.13	0.61
Other*M	0.01	0.48	0.04	0.05	0.18	0.26
<i>Females</i>						
India*F	0.16	0.12	0.01	0.01	0.05	0.81
China*F	0.37	0.27	0.04	0.05	0.22	0.42
US*F	0.03	0.60	0.03	0.02	0.08	0.26
Central America & Caribbean*F	0.04	0.32	0.03	0.03	0.11	0.53
South America*F	0.04	0.45	0.02	0.03	0.08	0.42
West & North Europe*F	0.04	0.72	0.02	0.01	0.06	0.18
East & South Europe*F	0.04	0.29	0.02	0.02	0.10	0.58
West Africa*F	0.04	0.15	0.05	0.06	0.20	0.54
East Africa*F	0.02	0.19	0.03	0.04	0.13	0.60
North Africa*F	0.01	0.25	0.06	0.06	0.14	0.50
Middle & South Africa*F	0.01	0.21	0.04	0.04	0.17	0.55
Central Asian & Middle East*F	0.06	0.41	0.09	0.04	0.08	0.38
East Asia*F	0.09	0.48	0.03	0.03	0.14	0.33
Southeast Asia*F	0.03	0.26	0.03	0.04	0.15	0.52
South Asia*F	0.02	0.21	0.03	0.03	0.10	0.63
Other*F	0.01	0.52	0.03	0.03	0.16	0.25
<b>Location when applying for permit</b>						
Same as citizenship	0.87	0.30	0.04	0.04	0.13	0.50
Different than citizenship	0.08	0.33	0.04	0.04	0.14	0.45
Canada	0.05	0.30	0.05	0.05	0.18	0.42
<b>Age</b>						
Age 16-17	0.04	0.23	0.09	0.10	0.27	0.31
Age 18	0.13	0.24	0.08	0.08	0.28	0.32
Age 19-20	0.21	0.35	0.06	0.06	0.21	0.33
Age 21-22	0.21	0.34	0.02	0.02	0.07	0.54
Age 23-24	0.18	0.29	0.02	0.01	0.05	0.63
Age 25-29	0.16	0.27	0.03	0.01	0.06	0.63
Age 30-39	0.06	0.30	0.03	0.02	0.07	0.59
Age 40+	0.01	0.38	0.03	0.02	0.09	0.48
<b>PSIS entry program</b>						
Other	0.12	0.53	0.04	0.04	0.12	0.28
Certificate	0.16	0.26	0.02	0.02	0.08	0.62

	<i>Proportion</i>	<i>% no permit</i>	<i>% study permit</i>	<i>% study &amp; work permit</i>	<i>% work permit</i>	<i>% transition to PR</i>
	138,610	0.30	0.04	0.04	0.13	0.49
Diploma	0.27	0.22	0.02	0.02	0.10	0.65
BA	0.31	0.32	0.07	0.07	0.23	0.32
Grad	0.14	0.27	0.04	0.02	0.05	0.62
<b>Field of study at entry</b>						
Education	0.01	0.35	0.04	0.03	0.07	0.50
Arts	0.02	0.38	0.03	0.03	0.17	0.39
Humanities	0.14	0.48	0.05	0.04	0.14	0.28
Social Sciences	0.07	0.34	0.05	0.04	0.14	0.43
Business	0.33	0.28	0.03	0.03	0.13	0.53
Science	0.07	0.26	0.07	0.05	0.15	0.47
Math and Computer Science	0.07	0.23	0.05	0.04	0.13	0.55
Engineering	0.17	0.20	0.04	0.04	0.12	0.60
Agriculture and Resources	0.01	0.30	0.04	0.05	0.12	0.49
Health	0.04	0.17	0.02	0.02	0.07	0.72
Services	0.01	0.25	0.02	0.02	0.10	0.62
Other	0.06	0.41	0.05	0.04	0.13	0.36
<b>PT/FT at entry</b>						
Full-time study	0.69	0.31	0.04	0.04	0.14	0.48
Part-time study	0.11	0.35	0.05	0.04	0.14	0.42
No fall snapshot information	0.21	0.26	0.04	0.03	0.11	0.56
<b>Institution at entry</b>						
College	0.50	0.25	0.03	0.02	0.10	0.60
University	0.50	0.35	0.06	0.05	0.16	0.38
<b>Study permit cohort</b>						
2010	0.27	0.32	0.04	0.03	0.12	0.49
2011	0.24	0.30	0.04	0.04	0.12	0.50
2012	0.23	0.28	0.04	0.04	0.13	0.51
2013	0.26	0.30	0.04	0.04	0.15	0.47

**Table 41**      **Regression analysis: Migration outcomes 7 years after initial Ontario study permit**

	No permit	Study permit	Study & work permit	Work permit	Transition to PR
<b>Region/country of citizenship (India)</b>					
China	0.14*** (0.0037)	0.029*** (0.0015)	0.041*** (0.0014)	0.099*** (0.0029)	-0.31*** (0.0041)
US	0.48*** (0.0093)	0.026*** (0.0037)	0.0090** (0.0028)	0.0040 (0.0057)	-0.52*** (0.0080)
Central America & Caribbean	0.21*** (0.0081)	0.015*** (0.0030)	0.025*** (0.0032)	0.035*** (0.0053)	-0.28*** (0.0081)
South America	0.27*** (0.0074)	0.020*** (0.0031)	0.020*** (0.0030)	0.019*** (0.0051)	-0.33*** (0.0077)
West & North Europe	0.46*** (0.0088)	0.0094** (0.0029)	0.0074** (0.0026)	-0.0045 (0.0049)	-0.47*** (0.0084)
East & South Europe	0.17*** (0.0072)	0.0096*** (0.0025)	0.0092*** (0.0023)	0.031*** (0.0051)	-0.22*** (0.0078)
West Africa	0.028*** (0.0063)	0.041*** (0.0034)	0.034*** (0.0030)	0.068*** (0.0051)	-0.17*** (0.0073)
East Africa	0.088*** (0.011)	0.019*** (0.0044)	0.025*** (0.0045)	0.045*** (0.0076)	-0.18*** (0.012)
North Africa	0.089*** (0.013)	0.035*** (0.0066)	0.035*** (0.0063)	0.078*** (0.011)	-0.24*** (0.015)
Middle & South Africa	0.092*** (0.014)	0.042*** (0.0077)	0.044*** (0.0074)	0.10*** (0.012)	-0.28*** (0.015)
Central Asian & Middle East	0.27*** (0.0058)	0.097*** (0.0035)	0.039*** (0.0025)	0.011** (0.0037)	-0.42*** (0.0056)
East Asia	0.31*** (0.0059)	0.032*** (0.0026)	0.031*** (0.0025)	0.058*** (0.0044)	-0.43*** (0.0058)
Southeast Asia	0.16*** (0.0083)	0.015*** (0.0028)	0.030*** (0.0031)	0.048*** (0.0054)	-0.25*** (0.0089)
South Asia	0.052*** (0.0071)	0.016*** (0.0029)	0.016*** (0.0026)	0.028*** (0.0051)	-0.11*** (0.0082)
Other	0.32*** (0.014)	0.014** (0.0047)	0.019*** (0.0045)	0.054*** (0.0086)	-0.41*** (0.013)
<b>Male/Female (Male)</b>					
Female	-0.049*** (0.0024)	-0.017*** (0.0011)	-0.0062*** (0.0011)	-0.00064 (0.0018)	0.073*** (0.0025)
<b>Region*Female interaction (India*F)</b>					
China*F	0.100***	0.019***	0.034***	0.11***	-0.26***

	No permit	Study permit	Study & work permit	Work permit	Transition to PR
US*F	(0.0052) 0.46***	(0.0019) 0.018***	(0.0020) 0.0075	(0.0041) 0.0066	(0.0061) -0.50***
Central America & Caribbean*F	(0.013) 0.17***	(0.0046) 0.013***	(0.0039) 0.021***	(0.0080) 0.033***	(0.012) -0.24***
South America*F	(0.010) 0.22***	(0.0037) 0.016***	(0.0041) 0.022***	(0.0071) 0.017*	(0.011) -0.27***
West & North Europe*F	(0.010) 0.46***	(0.0040) 0.0094*	(0.0044) 0.0039	(0.0071) -0.0016	(0.011) -0.47***
East & South Europe*F	(0.012) 0.12***	(0.0037) 0.010**	(0.0033) 0.0053	(0.0068) 0.023***	(0.012) -0.16***
West Africa*F	(0.0093) 0.0099	(0.0033) 0.027***	(0.0030) 0.031***	(0.0066) 0.078***	(0.010) -0.15***
East Africa*F	(0.0092) 0.040**	(0.0042) 0.022***	(0.0042) 0.025***	(0.0076) 0.043***	(0.011) -0.13***
North Africa*F	(0.014) 0.12***	(0.0061) 0.030**	(0.0064) 0.033**	(0.010) 0.068***	(0.016) -0.25***
Middle & South Africa*F	(0.024) 0.056**	(0.011) 0.023**	(0.012) 0.031***	(0.020) 0.098***	(0.027) -0.21***
Central Asian & Middle East*F	(0.018) 0.26***	(0.0086) 0.078***	(0.0091) 0.039***	(0.016) 0.026***	(0.021) -0.40***
East Asia*F	(0.0092) 0.29***	(0.0053) 0.014***	(0.0044) 0.018***	(0.0064) 0.076***	(0.0091) -0.40***
Southeast Asia*F	(0.0080) 0.096***	(0.0029) 0.0089**	(0.0030) 0.023***	(0.0062) 0.047***	(0.0083) -0.17***
South Asia*F	(0.011) 0.058***	(0.0034) 0.016***	(0.0040) 0.010*	(0.0074) 0.018*	(0.012) -0.10***
Other*F	(0.013) 0.33***	(0.0049) 0.0090	(0.0043) 0.010	(0.0087) 0.059***	(0.015) -0.41***
	(0.020)	(0.0060)	(0.0057)	(0.012)	(0.020)
<b>Location when applying for first permit (same as citizenship)</b>					
Different than citizenship	-0.011* (0.0044)	-0.011*** (0.0017)	-0.0016 (0.0019)	0.011** (0.0035)	0.012** (0.0047)
Canada	-0.031*** (0.0053)	-0.0026 (0.0024)	-0.0046* (0.0020)	-0.011** (0.0035)	0.049*** (0.0056)
<b>Age when first permit issued (Age 18)</b>					
Age 16-17	0.0024 (0.0062)	0.011* (0.0041)	0.011** (0.0040)	-0.0015 (0.0057)	-0.022*** (0.0063)
Age 19-20	0.070***	-0.018***	-0.024***	-0.051***	0.023***

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
	(0.0040)	(0.0025)	(0.0023)	(0.0036)	(0.0042)
Age 21-22	0.097***	-0.050***	-0.056***	-0.15***	0.16***
	(0.0041)	(0.0024)	(0.0023)	(0.0035)	(0.0043)
Age 23-24	0.067***	-0.057***	-0.063***	-0.17***	0.22***
	(0.0044)	(0.0025)	(0.0023)	(0.0035)	(0.0046)
Age 25-29	0.030***	-0.058***	-0.061***	-0.16***	0.25***
	(0.0046)	(0.0025)	(0.0024)	(0.0037)	(0.0049)
Age 30-39	0.0081	-0.058***	-0.058***	-0.14***	0.25***
	(0.0058)	(0.0028)	(0.0028)	(0.0048)	(0.0065)
Age 40+	0.034**	-0.050***	-0.056***	-0.13***	0.20***
	(0.011)	(0.0046)	(0.0043)	(0.0087)	(0.012)
<b>Entry program (BA)</b>					
Other	0.21***	-0.015***	-0.012***	-0.058***	-0.12***
	(0.0058)	(0.0025)	(0.0026)	(0.0046)	(0.0063)
Certificate	0.15***	-0.016***	-0.012***	-0.067***	-0.056***
	(0.0067)	(0.0029)	(0.0030)	(0.0051)	(0.0072)
Diploma	0.12***	-0.012***	-0.011***	-0.060***	-0.036***
	(0.0065)	(0.0030)	(0.0030)	(0.0051)	(0.0072)
Grad	-0.037***	0.016***	-0.00052	-0.073***	0.094***
	(0.0036)	(0.0029)	(0.0026)	(0.0035)	(0.0045)
<b>Entry field of study (Business)</b>					
Education	-0.041***	0.0094	0.0011	-0.032***	0.062***
	(0.011)	(0.0056)	(0.0054)	(0.0085)	(0.012)
Arts	-0.0081	0.0061	0.0046	0.040***	-0.043***
	(0.0083)	(0.0039)	(0.0036)	(0.0067)	(0.0086)
Humanities	0.014**	0.021***	0.0084***	0.021***	-0.064***
	(0.0044)	(0.0021)	(0.0018)	(0.0032)	(0.0044)
Social sciences	-0.0013	0.010***	0.0031	-0.00035	-0.012*
	(0.0049)	(0.0021)	(0.0019)	(0.0033)	(0.0049)
Science	-0.045***	0.026***	0.010***	0.0050	0.0044
	(0.0051)	(0.0025)	(0.0021)	(0.0036)	(0.0053)
Math and computer science	-0.068***	0.012***	0.0051*	0.010**	0.041***
	(0.0048)	(0.0022)	(0.0020)	(0.0036)	(0.0051)
Engineering	-0.095***	0.0034*	0.012***	0.0095***	0.071***
	(0.0036)	(0.0015)	(0.0017)	(0.0028)	(0.0037)
Agriculture	-0.023	0.011	0.019**	-0.0034	-0.0033
	(0.013)	(0.0059)	(0.0061)	(0.0091)	(0.013)
Health	-0.087***	0.0052	0.0052	0.0092	0.067***

Postsecondary pathways and outcomes of international students in Ontario

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
	(0.0065)	(0.0035)	(0.0037)	(0.0059)	(0.0069)
Services	-0.063***	-0.0044	0.00059	0.016	0.051***
	(0.011)	(0.0053)	(0.0055)	(0.0094)	(0.011)
Other	-0.010	0.013***	0.0079**	0.012*	-0.022***
	(0.0061)	(0.0030)	(0.0028)	(0.0048)	(0.0064)
<b>Entry to college or university (College)</b>					
University	0.16***	0.0015	-0.0019	-0.015***	-0.14***
	(0.0060)	(0.0027)	(0.0028)	(0.0046)	(0.0070)
<b>Full time or part-time in first fall snapshot (full time)</b>					
Part time	-0.012**	0.012***	0.0046**	0.010***	-0.014***
	(0.0038)	(0.0020)	(0.0017)	(0.0029)	(0.0040)
Unknown	-0.018***	0.011***	0.0048**	0.0078**	-0.0050
	(0.0031)	(0.0016)	(0.0015)	(0.0025)	(0.0031)
<b>Initial permit year (2010)</b>					
2011	-0.0033	-0.00050	-0.00082	-0.0054*	0.010**
	(0.0032)	(0.0015)	(0.0014)	(0.0024)	(0.0033)
2012	-0.020***	-0.000043	-0.0016	0.0012	0.020***
	(0.0032)	(0.0015)	(0.0014)	(0.0025)	(0.0034)
2013	0.0030	0.000060	0.00047	0.014***	-0.018***
	(0.0034)	(0.0016)	(0.0015)	(0.0026)	(0.0034)
Observations	138,610				

**Notes:** This table shows the average marginal effects produced through a multinomial logistic regression model that measures migration outcomes after a student's initial Ontario study permit was issued. Each column represents the five 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 42** Descriptive analysis: Migration outcomes 8 years after initial Ontario study permit

	<i>Proportion</i> 102,450	<i>% no permit</i> 0.33	<i>% study permit</i> 0.02	<i>% study &amp; work permit</i> 0.02	<i>% work permit</i> 0.08	<i>% transition to PR</i> 0.54
<b>Region/country of citizenship</b>						
India	0.26	0.13	0.01	0.00	0.03	0.84
China	0.30	0.37	0.03	0.03	0.13	0.44
US	0.02	0.65	0.03	0.01	0.06	0.26
Central America & Caribbean	0.03	0.35	0.02	0.02	0.06	0.55
South America	0.03	0.39	0.02	0.01	0.06	0.51
West & North Europe	0.03	0.73	0.01	0.01	0.04	0.20
East & South Europe	0.03	0.35	0.02	0.01	0.06	0.57
West Africa	0.03	0.19	0.04	0.04	0.12	0.60
East Africa	0.01	0.23	0.02	0.02	0.08	0.64
North Africa	0.01	0.24	0.04	0.02	0.10	0.60
Middle & South Africa	0.01	0.28	0.02	0.02	0.13	0.54
Central Asian & Middle East	0.09	0.47	0.07	0.02	0.08	0.36
East Asia	0.07	0.52	0.03	0.02	0.09	0.34
Southeast Asia	0.03	0.35	0.02	0.03	0.09	0.51
South Asia	0.04	0.21	0.02	0.02	0.07	0.68
Other	0.01	0.58	0.02	0.02	0.08	0.31
<b>Male/female</b>						
Male	0.58	0.33	0.03	0.02	0.08	0.55
Female	0.42	0.34	0.02	0.02	0.08	0.54
<b>Region*male/female interaction</b>						
<i>Males</i>						
India*M	0.32	0.13	0.01	0.00	0.03	0.83
China*M	0.25	0.41	0.04	0.03	0.14	0.38
US*M	0.02	0.67	0.03	0.01	0.06	0.23
Central America & Caribbean*M	0.03	0.38	0.02	0.02	0.07	0.50
South America*M	0.03	0.43	0.03	0.01	0.07	0.46
West & North Europe*M	0.03	0.73	0.01	0.01	0.04	0.21
East & South Europe*M	0.03	0.39	0.02	0.01	0.06	0.51
West Africa*M	0.03	0.20	0.05	0.04	0.12	0.58
East Africa*M	0.01	0.26	0.03	0.03	0.09	0.59
North Africa*M	0.01	0.23	0.04	0.03	0.11	0.60
Middle & South Africa*M	0.01	0.33	0.03	0.03	0.15	0.48
Central Asian & Middle East*M	0.10	0.48	0.08	0.03	0.08	0.34
East Asia*M	0.06	0.53	0.04	0.03	0.09	0.31

	<i>Proportion</i>	<i>% no permit</i>	<i>% study permit</i>	<i>% study &amp; work permit</i>	<i>% work permit</i>	<i>% transition to PR</i>
	102,450	0.33	0.02	0.02	0.08	0.54
Southeast Asia*M	0.02	0.41	0.02	0.03	0.11	0.43
South Asia*M	0.05	0.21	0.02	0.02	0.08	0.68
Other*M	0.01	0.59	0.02	0.02	0.08	0.30
<i>Females</i>						
India*F	0.16	0.12	0.00	0.00	0.02	0.85
China*F	0.36	0.34	0.02	0.03	0.12	0.49
US*F	0.03	0.64	0.03	0.01	0.05	0.28
Central America & Caribbean*F	0.04	0.33	0.02	0.01	0.05	0.59
South America*F	0.03	0.35	0.02	0.02	0.05	0.56
West & North Europe*F	0.04	0.73	0.02	0.01	0.04	0.20
East & South Europe*F	0.04	0.31	0.02	0.01	0.05	0.62
West Africa*F	0.03	0.17	0.04	0.04	0.12	0.63
East Africa*F	0.02	0.20	0.01	0.03	0.07	0.68
North Africa*F						
Middle & South Africa*F						
Central Asian & Middle East*F	0.07	0.45	0.06	0.02	0.07	0.40
East Asia*F	0.09	0.52	0.02	0.02	0.08	0.37
Southeast Asia*F	0.03	0.29	0.02	0.03	0.08	0.59
South Asia*F	0.02	0.22	0.02	0.01	0.06	0.69
Other*F	0.16	0.12	0.00	0.00	0.02	0.85
<b>Location when applying for permit</b>						
Same as citizenship	0.90	0.33	0.02	0.02	0.08	0.55
Different than citizenship	0.09	0.37	0.03	0.02	0.08	0.51
Canada	0.01	0.37	0.03	0.02	0.06	0.51
<b>Age</b>						
Age 16-17	0.04	0.29	0.06	0.06	0.19	0.41
Age 18	0.12	0.32	0.05	0.04	0.18	0.42
Age 19-20	0.21	0.40	0.03	0.03	0.12	0.41
Age 21-22	0.22	0.36	0.02	0.01	0.04	0.58
Age 23-24	0.18	0.30	0.01	0.01	0.03	0.65
Age 25-29	0.17	0.28	0.02	0.01	0.04	0.65
Age 30-39	0.06	0.31	0.02	0.01	0.05	0.62
Age 40+	0.01	0.39	0.02	0.02	0.05	0.53
<b>PSIS entry program</b>						
Other	0.11	0.54	0.03	0.02	0.08	0.33
Certificate	0.15	0.28	0.01	0.01	0.05	0.65



	<i>Proportion</i>	<i>% no permit</i>	<i>% study permit</i>	<i>% study &amp; work permit</i>	<i>% work permit</i>	<i>% transition to PR</i>
	102,450	0.33	0.02	0.02	0.08	0.54
Diploma	0.27	0.23	0.01	0.01	0.05	0.69
BA	0.32	0.39	0.04	0.03	0.13	0.41
Grad	0.14	0.29	0.03	0.01	0.04	0.63
<b>Field of study at entry</b>						
Education	0.01	0.39	0.02	0.02	0.05	0.52
Arts	0.02	0.42	0.02	0.02	0.10	0.44
Humanities	0.14	0.52	0.04	0.02	0.09	0.33
Social Sciences	0.08	0.38	0.03	0.02	0.08	0.49
Business	0.33	0.32	0.02	0.02	0.08	0.57
Science	0.07	0.31	0.05	0.02	0.08	0.54
Math and Computer Science	0.07	0.27	0.03	0.02	0.08	0.60
Engineering	0.17	0.22	0.02	0.02	0.08	0.66
Agriculture and Resources	0.01	0.33	0.03	0.02	0.09	0.53
Health	0.04	0.18	0.01	0.01	0.04	0.76
Services	0.01	0.26	0.01	0.01	0.06	0.67
Other	0.06	0.44	0.03	0.02	0.09	0.42
<b>PT/FT at entry</b>						
Full-time study	0.69	0.34	0.02	0.02	0.08	0.53
Part-time study	0.11	0.39	0.03	0.02	0.09	0.47
No fall snapshot information	0.20	0.27	0.02	0.02	0.07	0.62
<b>Institution at entry</b>						
College	0.50	0.27	0.02	0.01	0.06	0.64
University	0.50	0.39	0.03	0.02	0.10	0.45
<b>Study permit cohort</b>						
2010	0.36	0.35	0.02	0.02	0.07	0.54
2011	0.33	0.33	0.02	0.02	0.08	0.55
2012	0.31	0.32	0.03	0.02	0.09	0.54

**Table 43**      **Regression analysis: Migration outcomes 8 years after initial Ontario study permit**

	No permit	Study permit	Study & work permit	Work permit	Transition to PR
<b>Region/country of citizenship (India)</b>					
China	0.19*** (0.0044)	0.019*** (0.0013)	0.022*** (0.0012)	0.078*** (0.0025)	-0.31*** (0.0047)
US	0.50*** (0.011)	0.018*** (0.0033)	0.0048* (0.0022)	0.023*** (0.0054)	-0.55*** (0.0096)
Central America & Caribbean	0.22*** (0.0094)	0.011*** (0.0027)	0.013*** (0.0025)	0.028*** (0.0047)	-0.27*** (0.0094)
South America	0.22*** (0.0094)	0.021*** (0.0035)	0.011*** (0.0025)	0.028*** (0.0051)	-0.28*** (0.0098)
West & North Europe	0.49*** (0.0098)	0.0066** (0.0024)	0.0033 (0.0019)	0.012** (0.0044)	-0.51*** (0.0096)
East & South Europe	0.19*** (0.0088)	0.0098*** (0.0024)	0.0051** (0.0019)	0.024*** (0.0046)	-0.23*** (0.0092)
West Africa	0.040*** (0.0078)	0.028*** (0.0032)	0.026*** (0.0029)	0.058*** (0.0050)	-0.15*** (0.0087)
East Africa	0.081*** (0.012)	0.014*** (0.0042)	0.018*** (0.0041)	0.037*** (0.0070)	-0.15*** (0.013)
North Africa	0.12*** (0.017)	0.029*** (0.0067)	0.017*** (0.0052)	0.059*** (0.011)	-0.23*** (0.018)
Middle & South Africa	0.14*** (0.017)	0.014* (0.0056)	0.018** (0.0057)	0.092*** (0.012)	-0.26*** (0.017)
Central Asian & Middle East	0.33*** (0.0066)	0.056*** (0.0030)	0.019*** (0.0019)	0.043*** (0.0036)	-0.45*** (0.0063)
East Asia	0.35*** (0.0068)	0.022*** (0.0024)	0.021*** (0.0022)	0.055*** (0.0041)	-0.45*** (0.0067)
Southeast Asia	0.18*** (0.0097)	0.0099*** (0.0025)	0.017*** (0.0026)	0.040*** (0.0049)	-0.25*** (0.010)
South Asia	0.060*** (0.0082)	0.0098*** (0.0024)	0.0079*** (0.0020)	0.027*** (0.0044)	-0.11*** (0.0089)
Other	0.38*** (0.016)	0.0076 (0.0039)	0.010** (0.0037)	0.031*** (0.0072)	-0.43*** (0.015)
<b>Male/Female (Male)</b>					
Female	-0.055*** (0.0029)	-0.0093*** (0.0010)	-0.0030*** (0.00089)	-0.013*** (0.0017)	0.080*** (0.0029)
<b>Region*Female interaction (India*F)</b>					
China*F	0.14***	0.014***	0.020***	0.074***	-0.25***

	No permit	Study permit	Study & work permit	Work permit	Transition to PR
US*F	(0.0062) 0.49***	(0.0017) 0.013***	(0.0017) 0.0047	(0.0034) 0.023**	(0.0068) -0.53***
Central America & Caribbean*F	(0.015) 0.18***	(0.0040) 0.010**	(0.0031) 0.0096**	(0.0072) 0.022***	(0.014) -0.22***
South America*F	(0.012) 0.17***	(0.0034) 0.015***	(0.0031) 0.015***	(0.0059) 0.026***	(0.013) -0.22***
West & North Europe*F	(0.013) 0.47***	(0.0043) 0.0099**	(0.0041) 0.0011	(0.0068) 0.017**	(0.014) -0.50***
East & South Europe*F	(0.014) 0.14***	(0.0035) 0.011***	(0.0023) 0.0023	(0.0059) 0.021***	(0.014) -0.17***
West Africa*F	(0.011) 0.015	(0.0033) 0.018***	(0.0022) 0.024***	(0.0058) 0.056***	(0.012) -0.11***
East Africa*F	(0.011) 0.040*	(0.0038) 0.012*	(0.0040) 0.018**	(0.0069) 0.033***	(0.013) -0.10***
North Africa*F	(0.016) 0.14***	(0.0051) 0.027*	(0.0056) 0.014	(0.0091) 0.048*	(0.018) -0.23***
Middle & South Africa*F	(0.031) 0.084***	(0.012) 0.0084	(0.0093) 0.0074	(0.019) 0.081***	(0.033) -0.18***
Central Asian & Middle East*F	(0.021) 0.31***	(0.0061) 0.046***	(0.0056) 0.019***	(0.015) 0.055***	(0.023) -0.43***
East Asia*F	(0.011) 0.33***	(0.0045) 0.011***	(0.0033) 0.012***	(0.0062) 0.055***	(0.010) -0.41***
Southeast Asia*F	(0.0093) 0.11***	(0.0025) 0.0089**	(0.0024) 0.014***	(0.0053) 0.032***	(0.0095) -0.17***
South Asia*F	(0.012) 0.060***	(0.0031) 0.0098*	(0.0034) 0.0034	(0.0062) 0.023**	(0.013) -0.096***
Other*F	(0.015) 0.35***	(0.0041) 0.0065	(0.0031) 0.0073	(0.0074) 0.032**	(0.016) -0.40***
	(0.022)	(0.0051)	(0.0047)	(0.0099)	(0.022)
<b>Location when applying for first permit (same as citizenship)</b>					
Different than citizenship	-0.014** (0.0050)	-0.0052*** (0.0015)	-0.0018 (0.0015)	0.0035 (0.0031)	0.017*** (0.0052)
Canada	-0.027 (0.015)	0.0060 (0.0063)	0.0023 (0.0052)	-0.020* (0.0084)	0.039* (0.016)
<b>Age when first permit issued (Age 18)</b>					
Age 16-17	-0.0021 (0.0079)	0.0071 (0.0040)	0.012*** (0.0037)	0.014* (0.0062)	-0.031*** (0.0079)
Age 19-20	0.058***	-0.011***	-0.010***	-0.041***	0.0040

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
Age 21-22	(0.0049) 0.059***	(0.0024) -0.029***	(0.0020) -0.028***	(0.0036) -0.10***	(0.0051) 0.10***
Age 23-24	(0.0050) 0.020***	(0.0023) -0.032***	(0.0020) -0.030***	(0.0035) -0.12***	(0.0052) 0.16***
Age 25-29	(0.0053) -0.010	(0.0024) -0.033***	(0.0020) -0.030***	(0.0035) -0.11***	(0.0055) 0.18***
Age 30-39	(0.0055) -0.033***	(0.0024) -0.034***	(0.0021) -0.028***	(0.0037) -0.097***	(0.0058) 0.19***
Age 40+	(0.0071) 0.0031	(0.0026) -0.031***	(0.0024) -0.023***	(0.0047) -0.089***	(0.0076) 0.14***
	(0.013)	(0.0041)	(0.0042)	(0.0082)	(0.014)
<b>Entry program (BA)</b>					
Other	0.18*** (0.0072)	-0.0095*** (0.0024)	-0.0031 (0.0023)	-0.013** (0.0043)	-0.15*** (0.0074)
Certificate	0.11*** (0.0082)	-0.010*** (0.0027)	-0.0033 (0.0027)	-0.017*** (0.0049)	-0.078*** (0.0086)
Diploma	0.079*** (0.0080)	-0.0093*** (0.0028)	-0.0047 (0.0025)	-0.014** (0.0048)	-0.051*** (0.0085)
Grad	-0.053*** (0.0045)	0.013*** (0.0028)	-0.00025 (0.0021)	-0.030*** (0.0031)	0.070*** (0.0051)
<b>Entry field of study (Business)</b>					
Education	-0.044*** (0.013)	0.0011 (0.0043)	-0.0020 (0.0038)	-0.021** (0.0074)	0.065*** (0.013)
Arts	-0.0057 (0.0099)	0.0014 (0.0033)	0.0064 (0.0033)	0.027*** (0.0065)	-0.029** (0.010)
Humanities	0.021*** (0.0052)	0.017*** (0.0020)	0.0045** (0.0015)	0.011*** (0.0029)	-0.054*** (0.0052)
Social sciences	-0.0064 (0.0057)	0.011*** (0.0020)	0.0017 (0.0016)	0.0023 (0.0031)	-0.0081 (0.0056)
Science	-0.053*** (0.0060)	0.022*** (0.0025)	0.0068*** (0.0019)	0.0029 (0.0034)	0.021*** (0.0062)
Math and computer science	-0.068*** (0.0058)	0.0094*** (0.0020)	0.0025 (0.0018)	0.0052 (0.0034)	0.051*** (0.0060)
Engineering	-0.11*** (0.0043)	0.0029* (0.0014)	0.0069*** (0.0015)	0.012*** (0.0027)	0.091*** (0.0045)
Agriculture	-0.027 (0.015)	0.014* (0.0059)	0.0071 (0.0049)	0.0084 (0.0089)	-0.0018 (0.015)
Health	-0.10***	0.00063	0.0034	0.0078	0.092***

Postsecondary pathways and outcomes of international students in Ontario

	<i>No permit</i>	<i>Study permit</i>	<i>Study &amp; work permit</i>	<i>Work permit</i>	<i>Transition to PR</i>
	(0.0078)	(0.0029)	(0.0031)	(0.0059)	(0.0081)
Services	-0.075***	-0.0038	-0.0023	0.018	0.063***
	(0.013)	(0.0044)	(0.0042)	(0.0099)	(0.014)
Other	-0.021**	0.0053*	0.0020	0.011*	0.0029
	(0.0076)	(0.0025)	(0.0023)	(0.0046)	(0.0078)
<b>Entry to college or university (College)</b>					
University	0.13***	-0.0051	-0.0022	0.0095*	-0.13***
	(0.0075)	(0.0029)	(0.0025)	(0.0043)	(0.0083)
<b>Full time or part-time in first fall snapshot (full time)</b>					
Part time	-0.013**	0.0069***	0.0036*	0.014***	-0.011*
	(0.0045)	(0.0018)	(0.0015)	(0.0028)	(0.0046)
Unknown	-0.022***	0.0069***	0.0024	0.017***	-0.0040
	(0.0038)	(0.0015)	(0.0013)	(0.0025)	(0.0037)
<b>Initial permit year (2010)</b>					
2011	-0.0059	-0.00019	-0.0016	0.00084	0.0068*
	(0.0033)	(0.0012)	(0.0010)	(0.0020)	(0.0033)
2012	-0.0078*	0.0012	-0.00061	0.010***	-0.0031
	(0.0034)	(0.0012)	(0.0010)	(0.0020)	(0.0034)
Observations			102,450		

**Notes:** This table shows the average marginal effects produced through a multinomial logistic regression model that measures migration outcomes after a student's initial Ontario study permit was issued. Each column represents the five 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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