



International students as a source of labour supply during the period of study and after graduation

Youjin Choi, Eden Crossman, Feng Hou, Yuqian Lu
Statistics Canada

February 10, 2023 Saint Mary's University

Outline

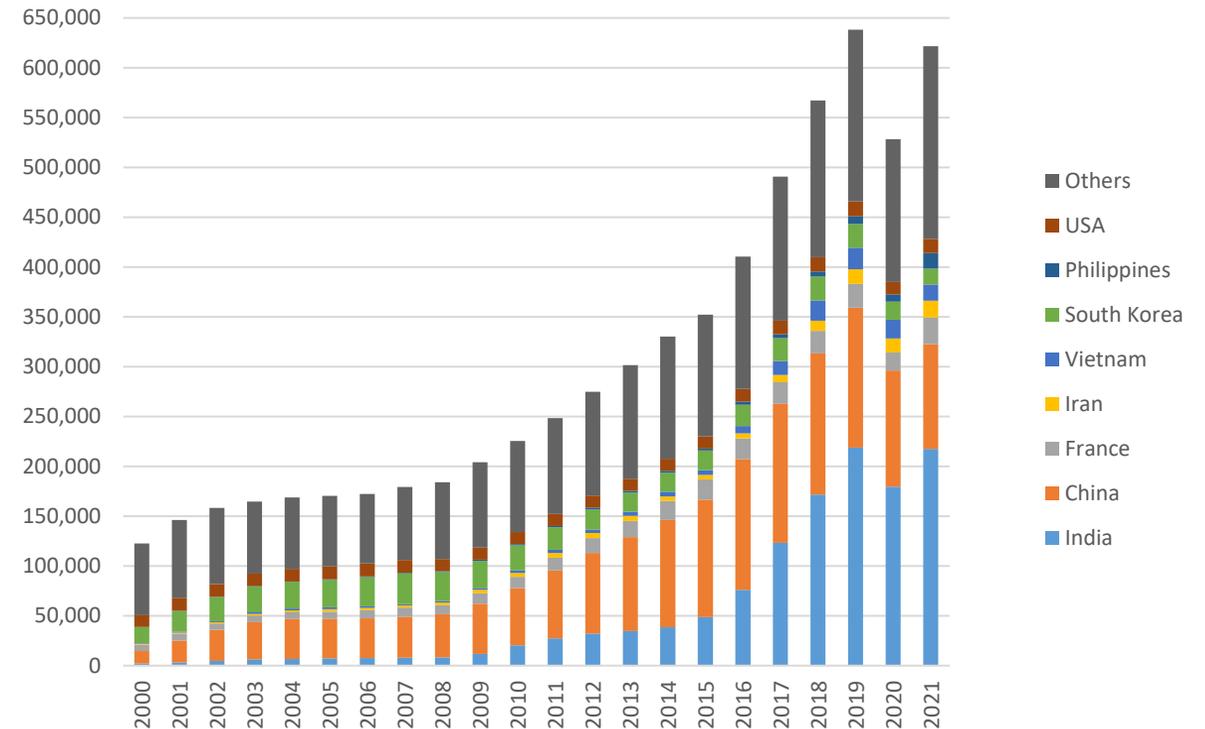
- The growth in the number of international students and their changing sociodemographic characteristics
- International students' labour market engagement during their period of study
- Labour market engagement after their period of study, yet before immigration
- Transition to permanent residency
- Labour market outcomes after gaining permanent residency



The number of study permit holders has grown more than four times since 2000

- The number of study permit holders grew from 123,000 in 2000 to 622,000 in 2021
 - Most of the growth occurred after 2014, particularly at the post-secondary level
- In recent years, Canada has led other major Western countries in the growth of international students

Number of study permit holders by top source country



Source: IRCC, Study permit holders with a valid permit on December 31st



Statistics
Canada

Statistique
Canada

Delivering insight through data for a better Canada

Canada

Increased concentration in programs, source countries, provinces of study, and field of study

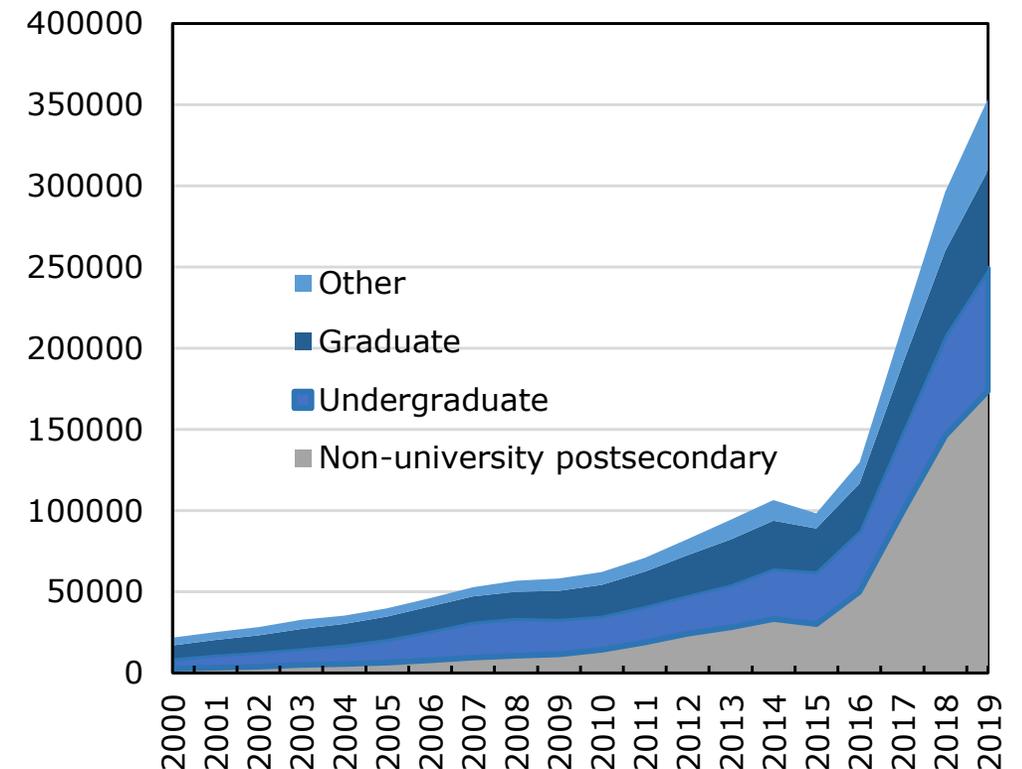
- Shorter-term programs: the share of first-time study permit holders for college programs grew from 27% in 2000 to 41% in 2019. The share at the master's degree level doubled from 5% in 2000 to 10% in 2019
- In 2021, 52% of study permit holders came from India and China. While the share from India increased from 12% in 2014 to 35% in 2021, the share from China decreased from 33% to 17%
- Ontario attracted 47% of study permit holders in 2021, an increase from 38% in 2000, while the share going to BC and Quebec dropped from 46% to 37%. The recent increase in Ontario was concentrated at the college level
- The field of business, management and public administration attracted a large and growing share of study permit holders, particularly at the college level



Rising share and number of international students who worked while studying

- Among international students at the postsecondary level, the share with T4 earnings rose from 18% in 2000 to about 50% in 2019
- The increase was driven primarily by the increase at the college level, from 7% to 60%
- Also, there was a large increase at the undergraduate level after 2014
- The number of international students who had T4 earnings increased from 22,000 in 2000 to 353,000 in 2019, an increase of 15 times. At the college level, the number increased over 60 times

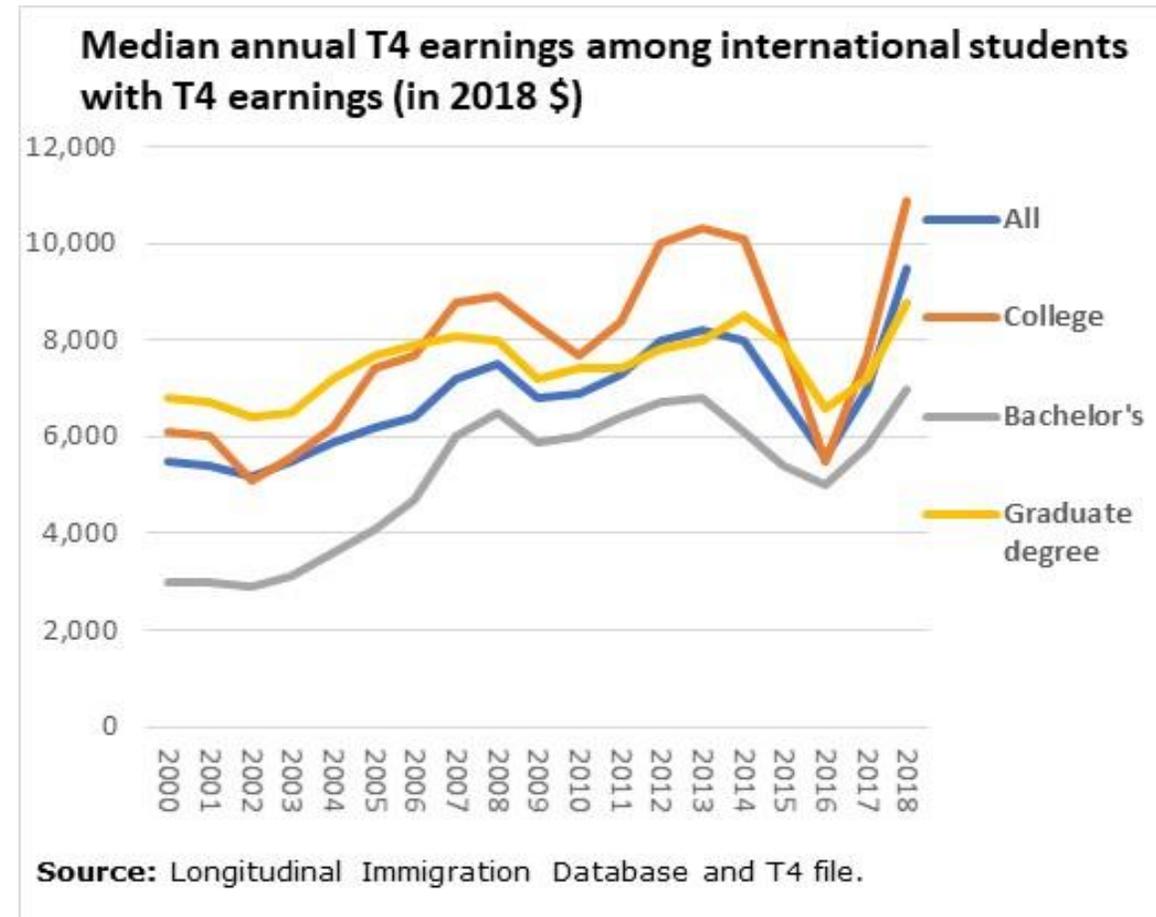
Number of international students at the postsecondary education level with T4 earnings by level of education



Source: Statistics Canada, Longitudinal Immigration Database and T4 file.

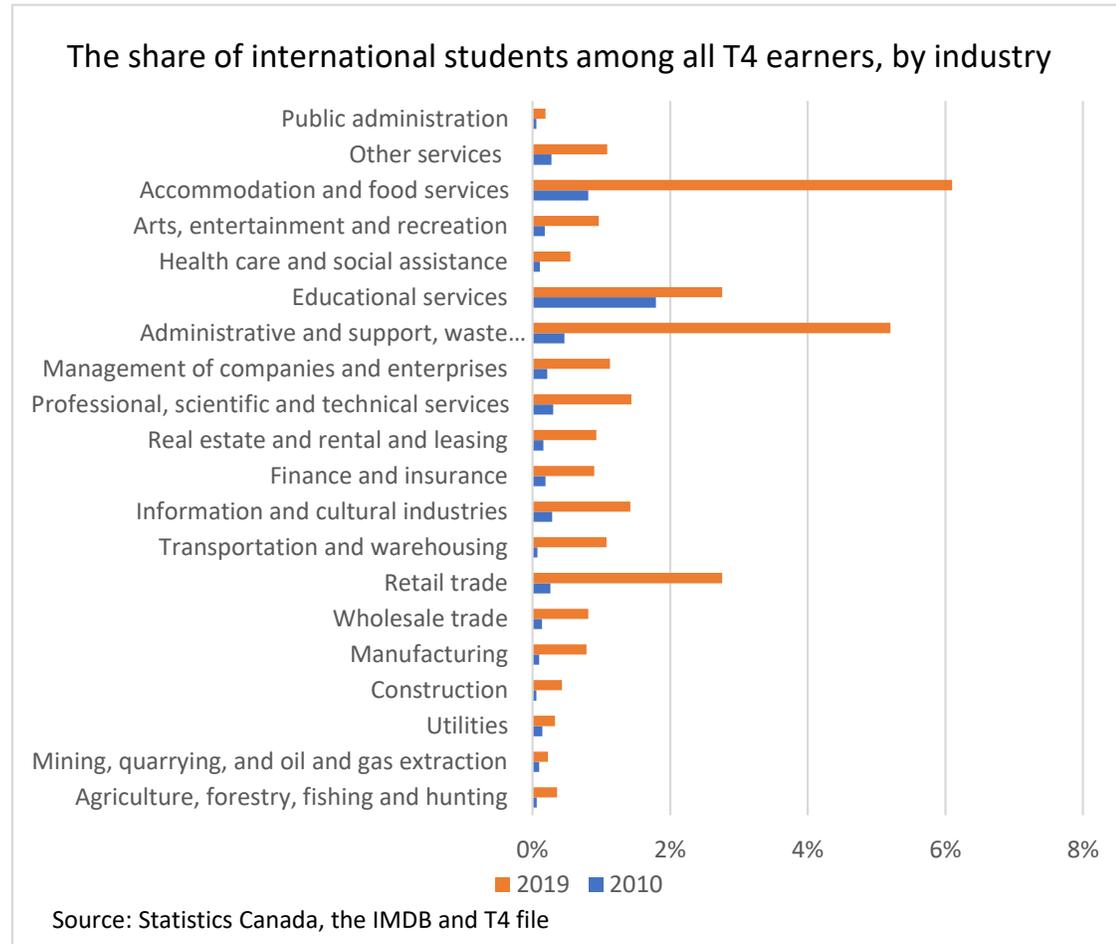
Median earnings of international students have almost doubled over the past two decades

- Median earnings received by international students with paid employment income rose from \$5,500 (in 2018 dollars) in 2000 to \$9,500 in 2018
- Earnings were generally highest among those with a study permit at the college level, followed by those at the graduate level
- Study permit holders at the bachelor's degree level had the lowest earnings, but highest earnings growth



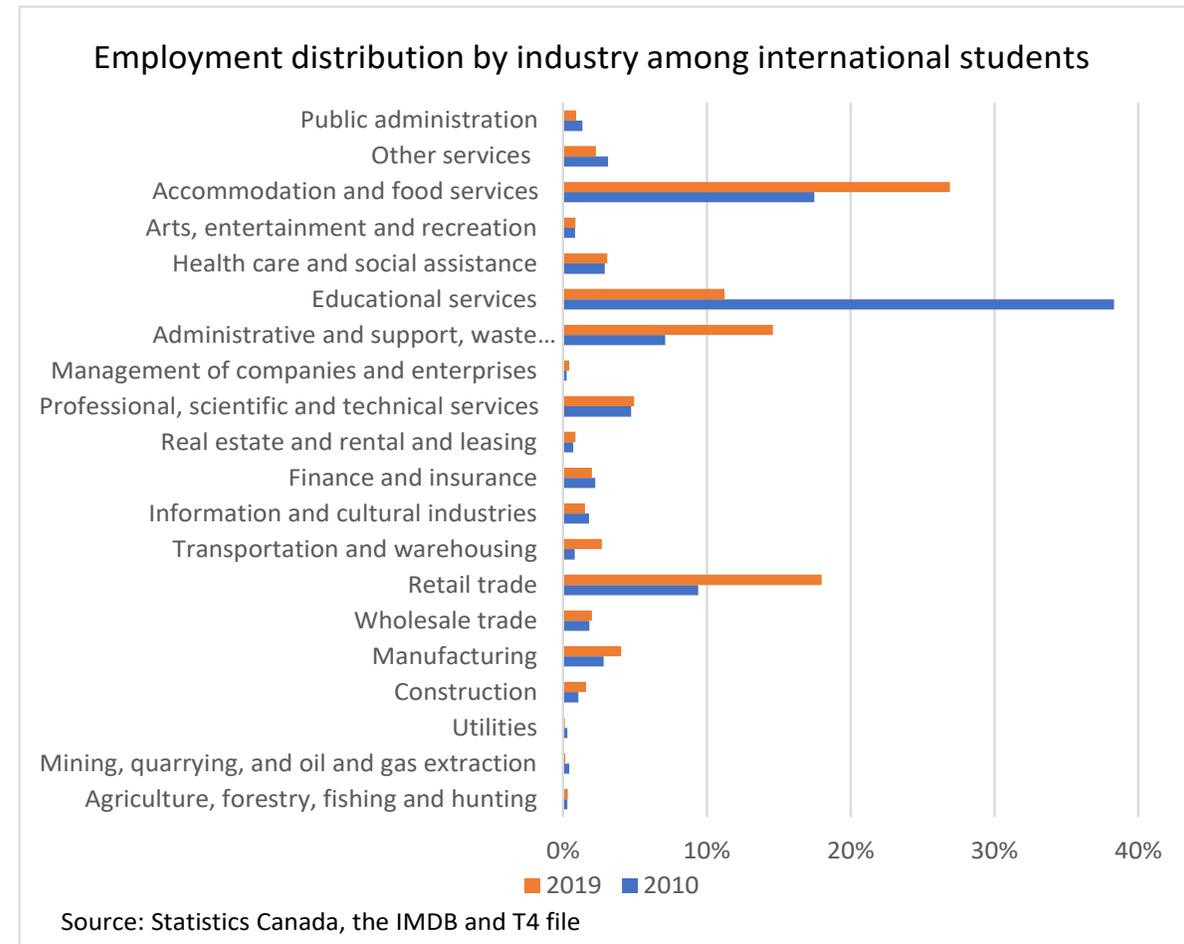
International students' share in the employed population has grown over time

- The share of international students among paid workers grew from 0.3% in 2010 to 1.8% in 2019
- In accommodation and food services, the share of international students grew from 0.8% in 2010 to 6.1% in 2019
- In administrative and support, waste management services, from 0.5% to 5.2%
- In retail trade, from 0.3% to 2.8%
- In educational services, from 1.8% to 2.8%



Employment of international student workers moved toward lower-skilled sectors

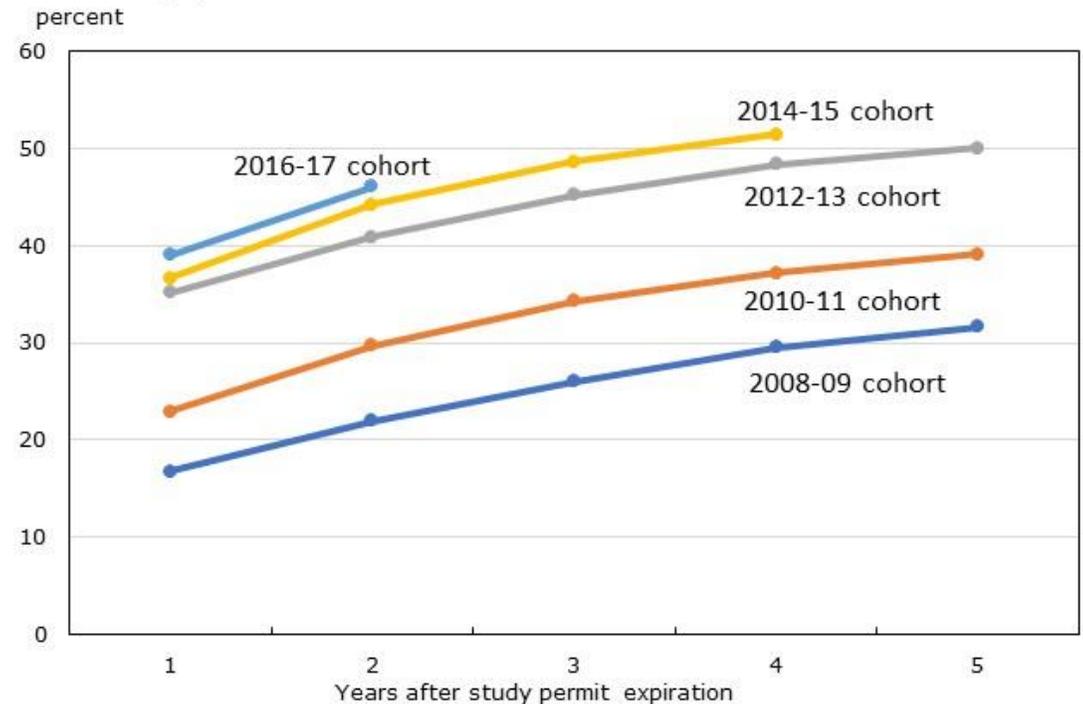
- In 2019, 27% of international students worked in accommodation and food services, compared with 18% in 2010
- The share working in retail trade increased from 9% to 18%
- The share in administrative and support, waste management services increased from 7% to 15%.
- Conversely, the share in educational services decreased from 38% to 11%



Large increase in the number of international students participating in the Post-Graduation Work Permit (PGWP) Program after studying

- 17% of international students with a study permit that expired in 2008-09 had obtained a PGWP one year after; the rate increased to 39% for the 2016-17 cohort
- Higher rates of PGWP participation among students completing college and master's degree programs
- Btw 2008 & 2018, the number of new PGWP holders grew from 10,300 to 64,700, with the largest gains among those from India and those intending to work in Ontario

Cumulative rate of international students obtaining a post-graduation work permit by expiration year (cohort) of study permit



Source: Statistics Canada, 2019 Longitudinal Immigration Database.



Statistics
Canada

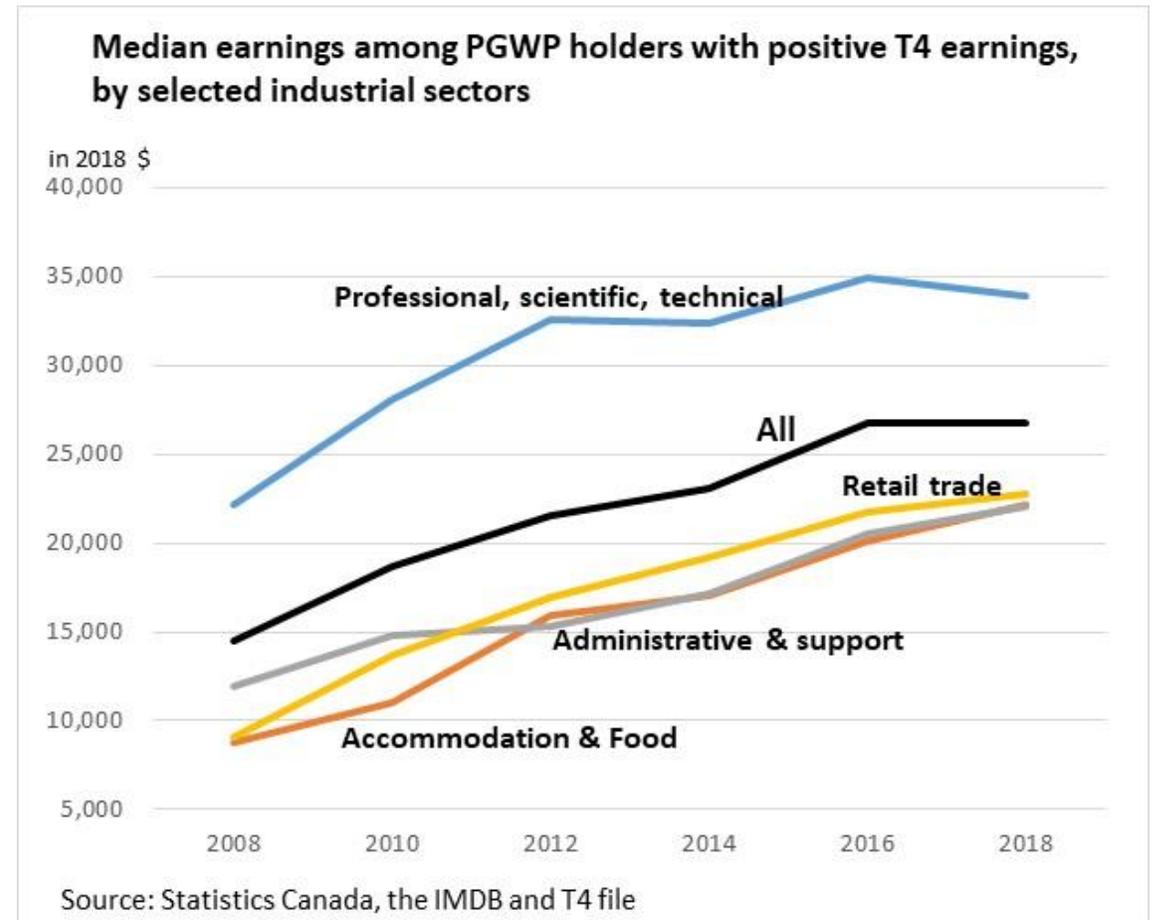
Statistique
Canada

Delivering insight through data for a better Canada

Canada

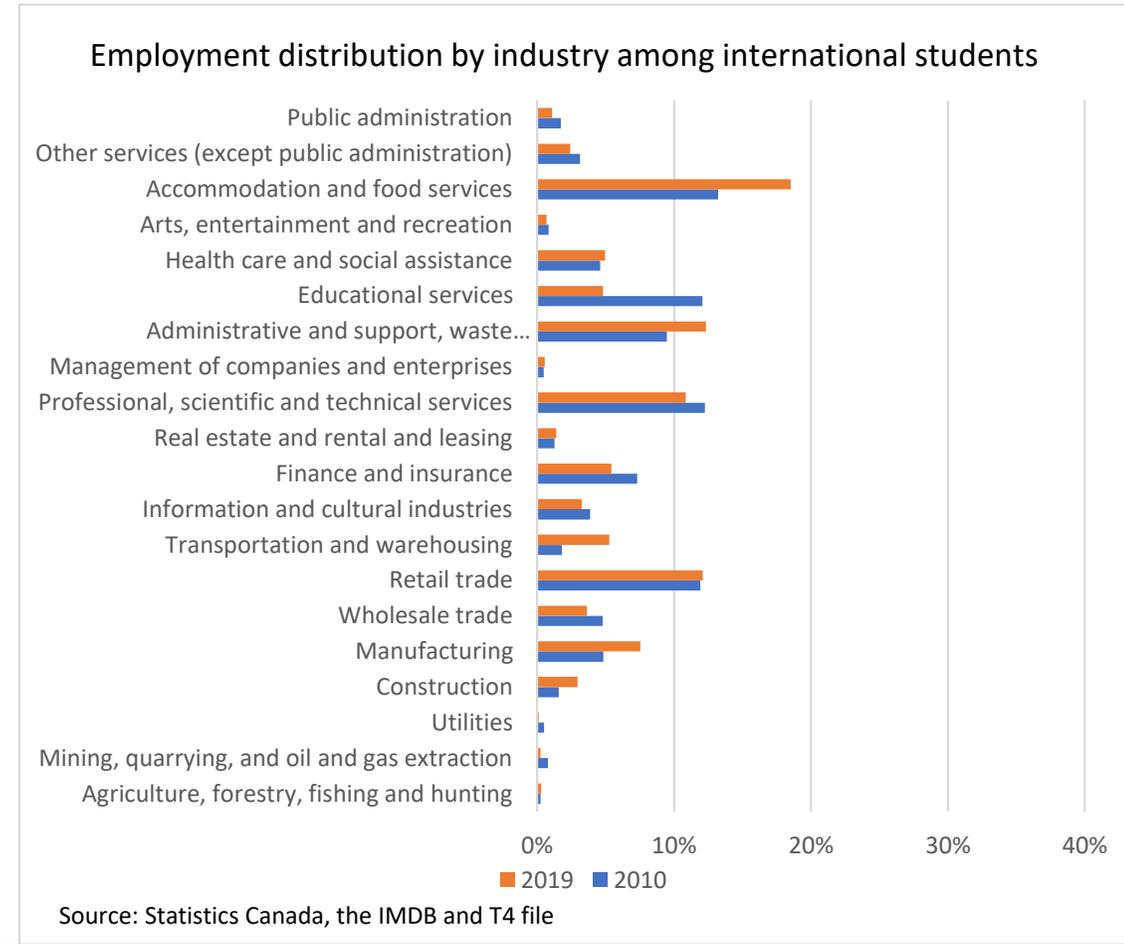
While the share of PGWP holders reporting earnings has remained fairly stable, median earnings have risen

- About three-quarters of PGWP holders reported T4 earnings annually, stable from 2008 to 2018
- The number of PGWP holders with T4 earnings grew more than 11 times, from 8,100 in 2008 to 100,200 in 2018
- The median earnings received by PGWP holders with paid employment income rose from \$14,500 (in 2018 \$) in 2008 to \$26,800 in 2018, likely due to increased work time



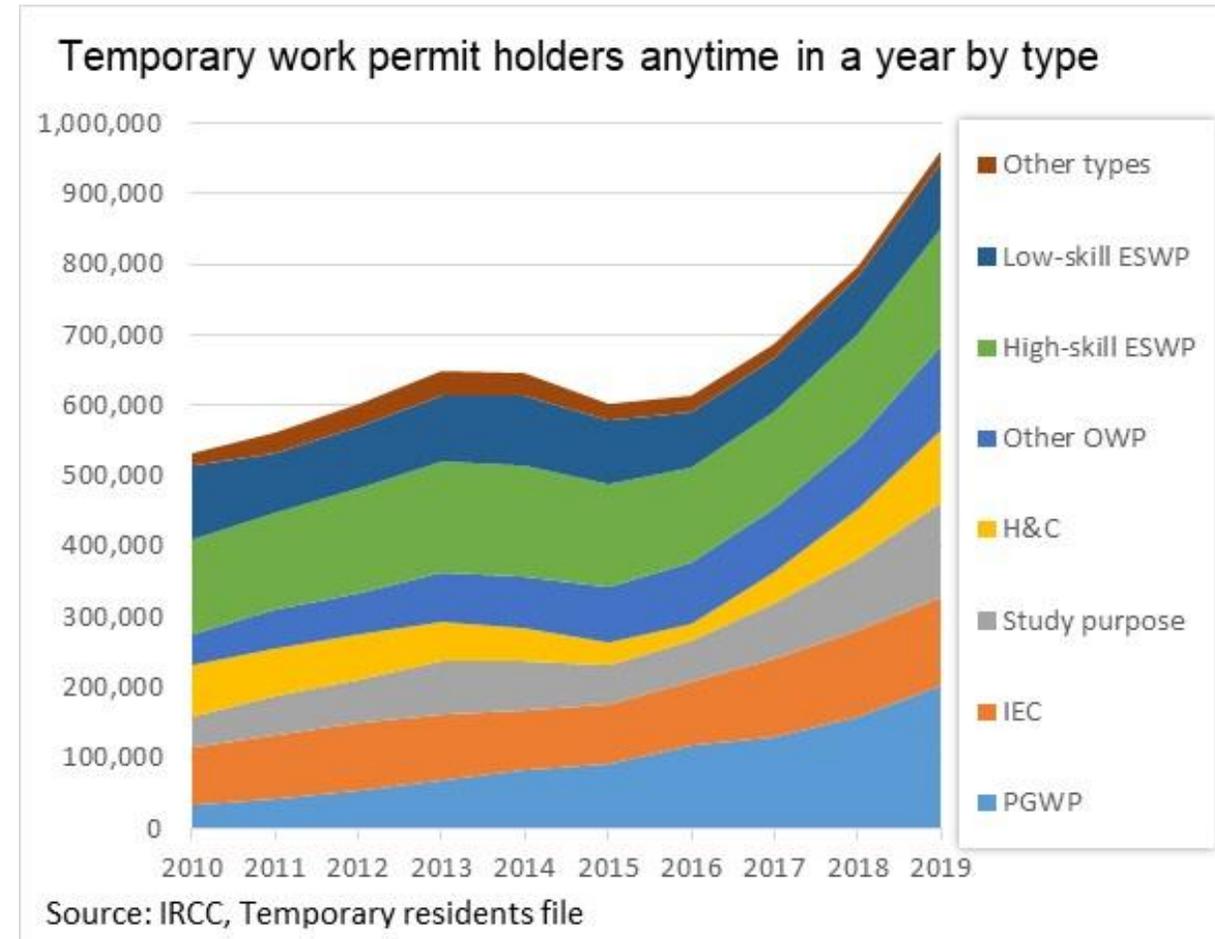
Employment of PGWP workers also moved toward lower-skilled sectors, although to a lesser extent

- PGWP workers less concentrated in lower-skilled sectors than international students
- The share in accommodation and food services increased from 13% in 2010 to 19% in 2019; and in administrative and support, waste management services from 10% to 12%
- Stable in retail trade at 12%
- Decrease in educational services from 12% to 5%; in professional, scientific and technical services from 12% to 11%



International students dominated the growth of temporary foreign workers in Canada in the 2010s

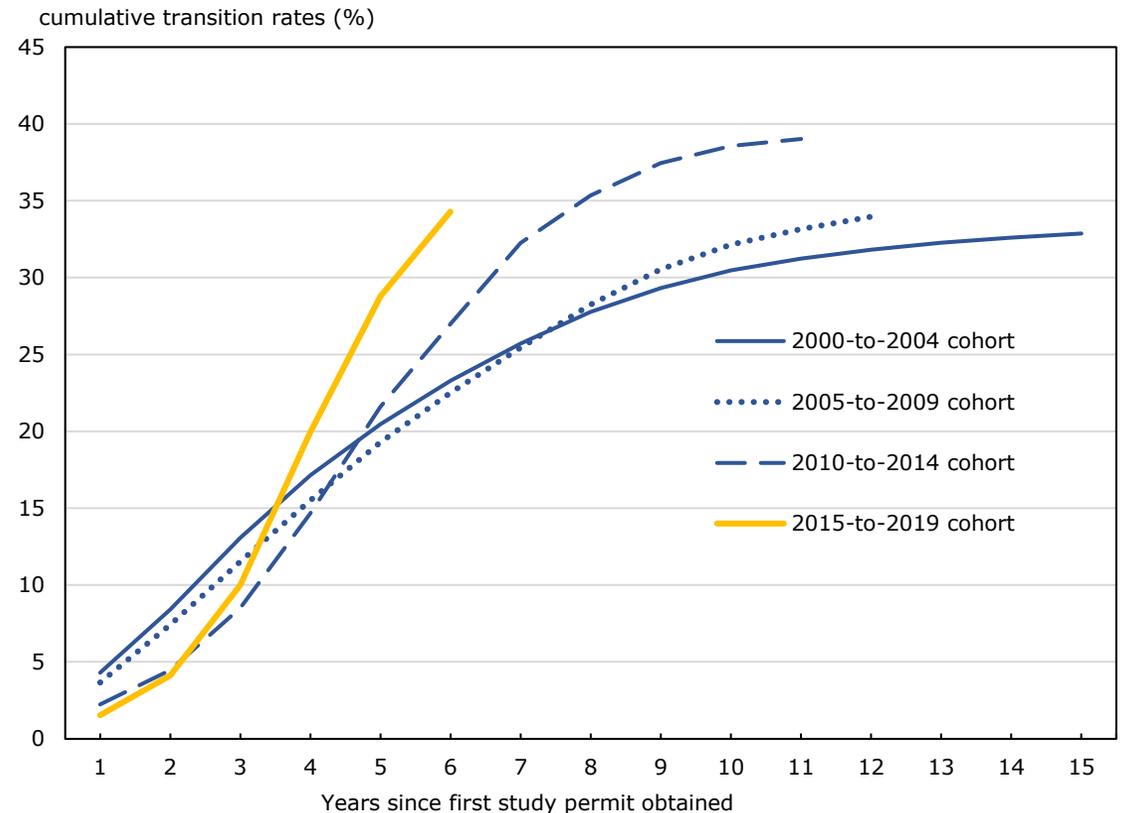
- Post-graduation Work Permits (PGWP) led the growth over the 2010-2019 period, growing 6 times; work permits for study purpose grew 3 times
- In 2019, PGWP and work permits for study purpose accounted for 35% of all work permit holders
- The two types of work permit holders accounted for 61% of the growth of total work permit holders



About 3 in 10 international students became permanent residents within ten years

- More than half of international students who came to study for a master's or doctoral degree became a landed immigrant within ten years. This compares with 1 in 3 bachelor's degree students
- Across arrival cohorts, there was a notable increase in the transition rate among those who intended to study at the college level
- The transition rate varied by source country. Students from Nigeria, India, Vietnam and China had rates 2 to 3 times higher than those from major Western source countries

Cumulative rates of transition to permanent residency among international students

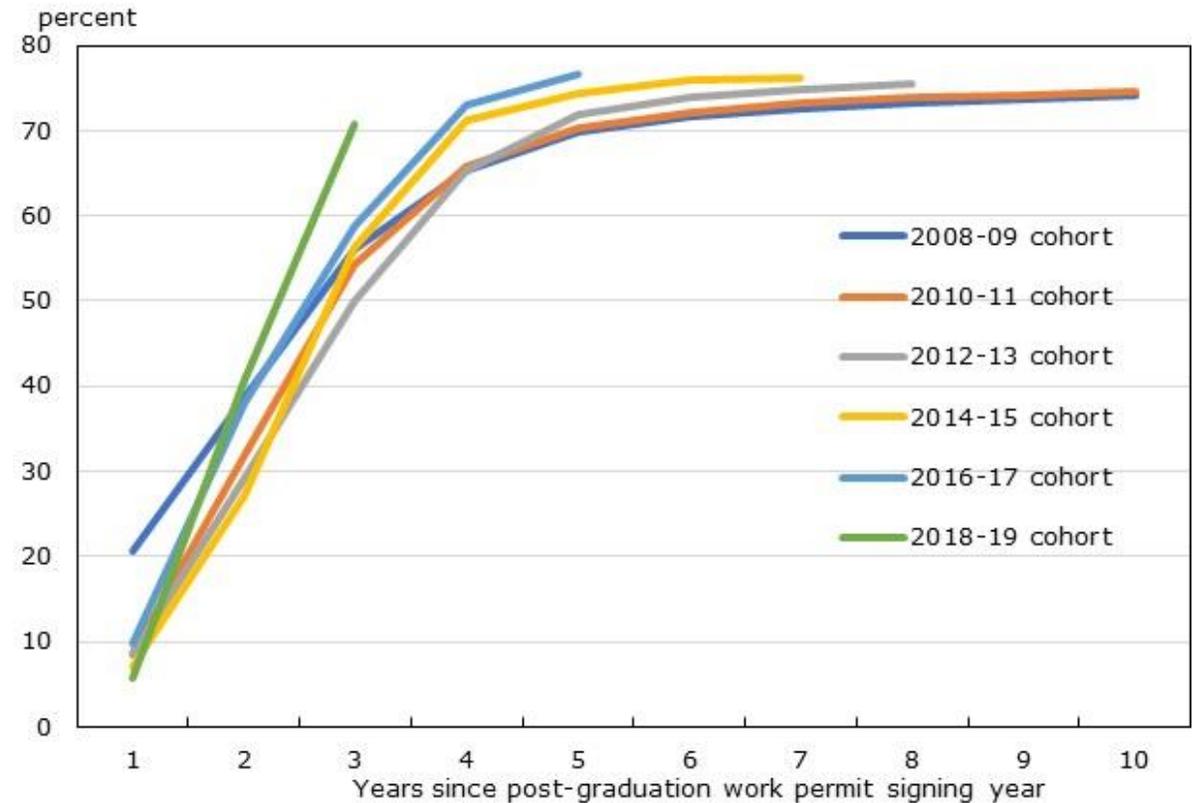


Source: Statistics Canada, 2021 Longitudinal Immigration Database.

About three quarters of PGWP participants became permanent resident within 10 years

- The transition occurred earlier with higher prevalence among successive cohorts of PGWP participants
- The rate of transition to permanent residency was highest among those who held a study permit at the master's degree level, followed by those at the college level
- PGWP holders who held a study permit at the doctoral level had the lowest transition rates

Cumulative rate of transition to permanent residency among post-graduation work permit holders, by years since signing year



Source: Statistics Canada, 2021 Longitudinal Immigration Database.



Statistics
Canada

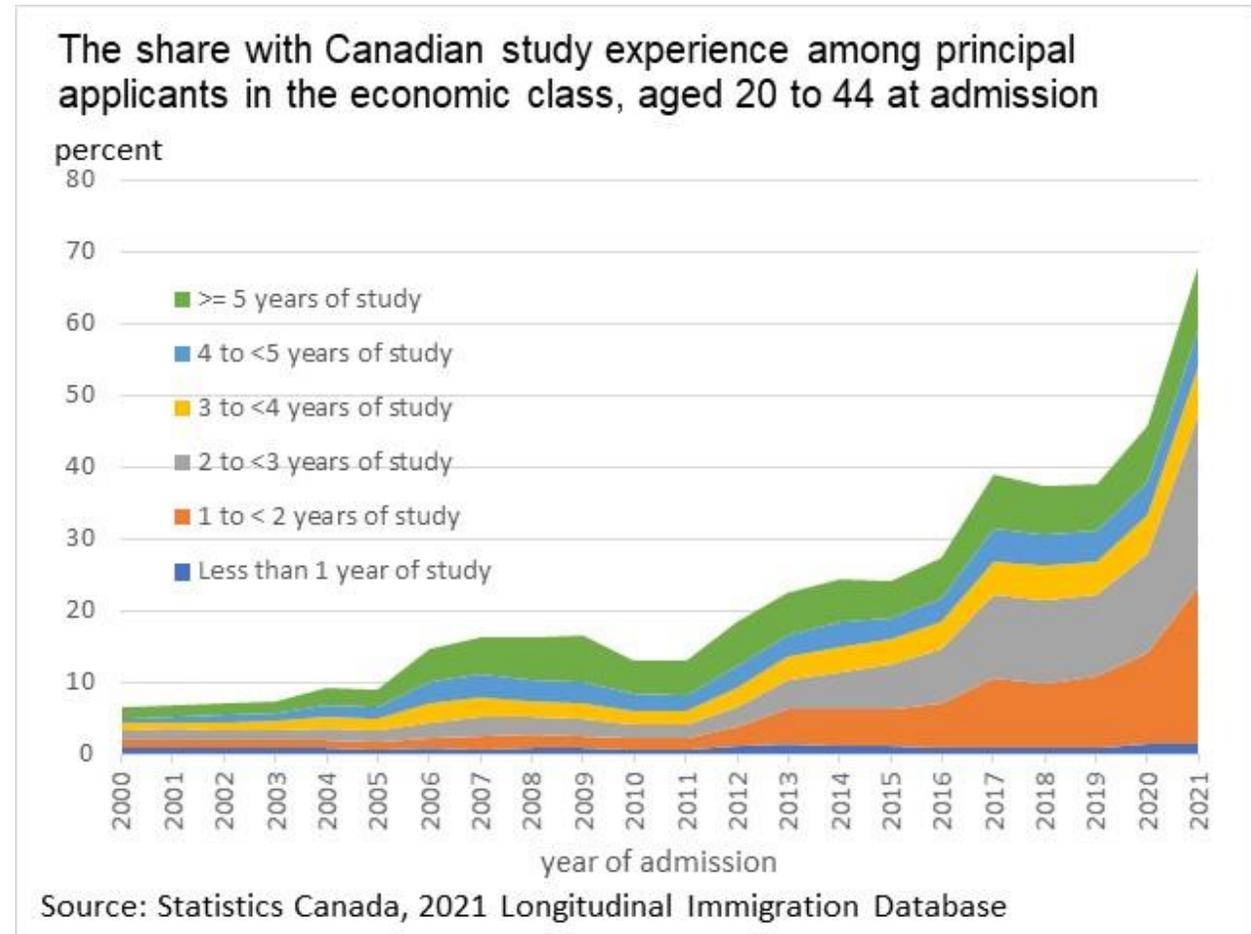
Statistique
Canada

Delivering insight through data for a better Canada

Canada

A rising share of economic immigrants with pre-immigration Canadian education

- The share of new economic principal applicant immigrants with Canadian study experience increased from 7% in 2000 to 38% in 2019 and to 68% in 2021
- Immigrants with pre-immigration Canadian study experience were younger, more educated, more likely to speak an official language, and much more likely to have pre-admission earnings in Canada than immigrants who did not study in Canada



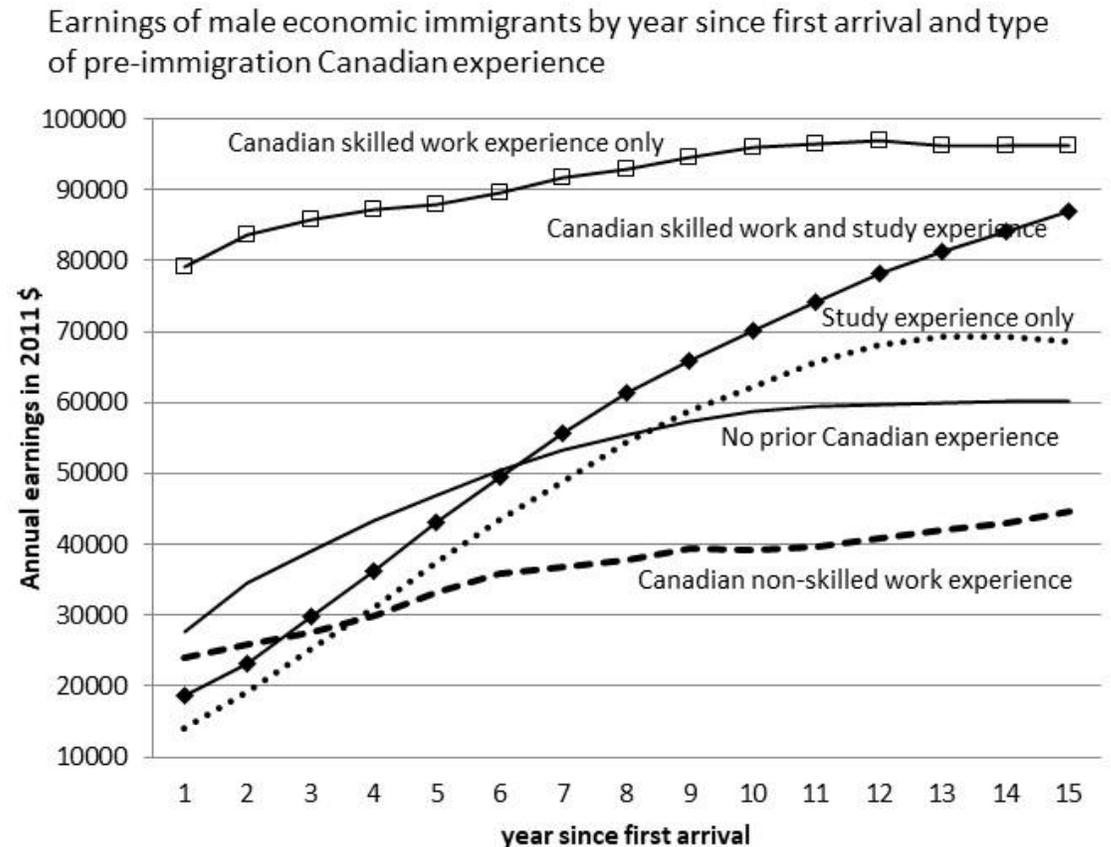
Immigrants with pre-immigration Canadian education earned more than other immigrants in the initial years after immigration, mostly because of their Canadian work experience

- In the first two years after immigration, economic principal applicants with pre-immigration Canadian study experience earned considerably more than those who did not study in Canada
 - For instance, immigrants with 2 to 3 years of Canadian study earned about 27% more than those without Canadian study. This advantage was due entirely to their much higher shares with pre-immigration Canadian work experience and better official language ability
- With similar pre-admission Canadian work experience and language profiles, those with pre-immigration Canadian study experience earned significantly less than those without
 - The main reason for their lower earnings was that immigrants with pre-immigration Canadian study experience were more likely to pursue further studies in the initial years after immigration



Canadian work experience matters more than Canadian education in predicting post-immigration earnings

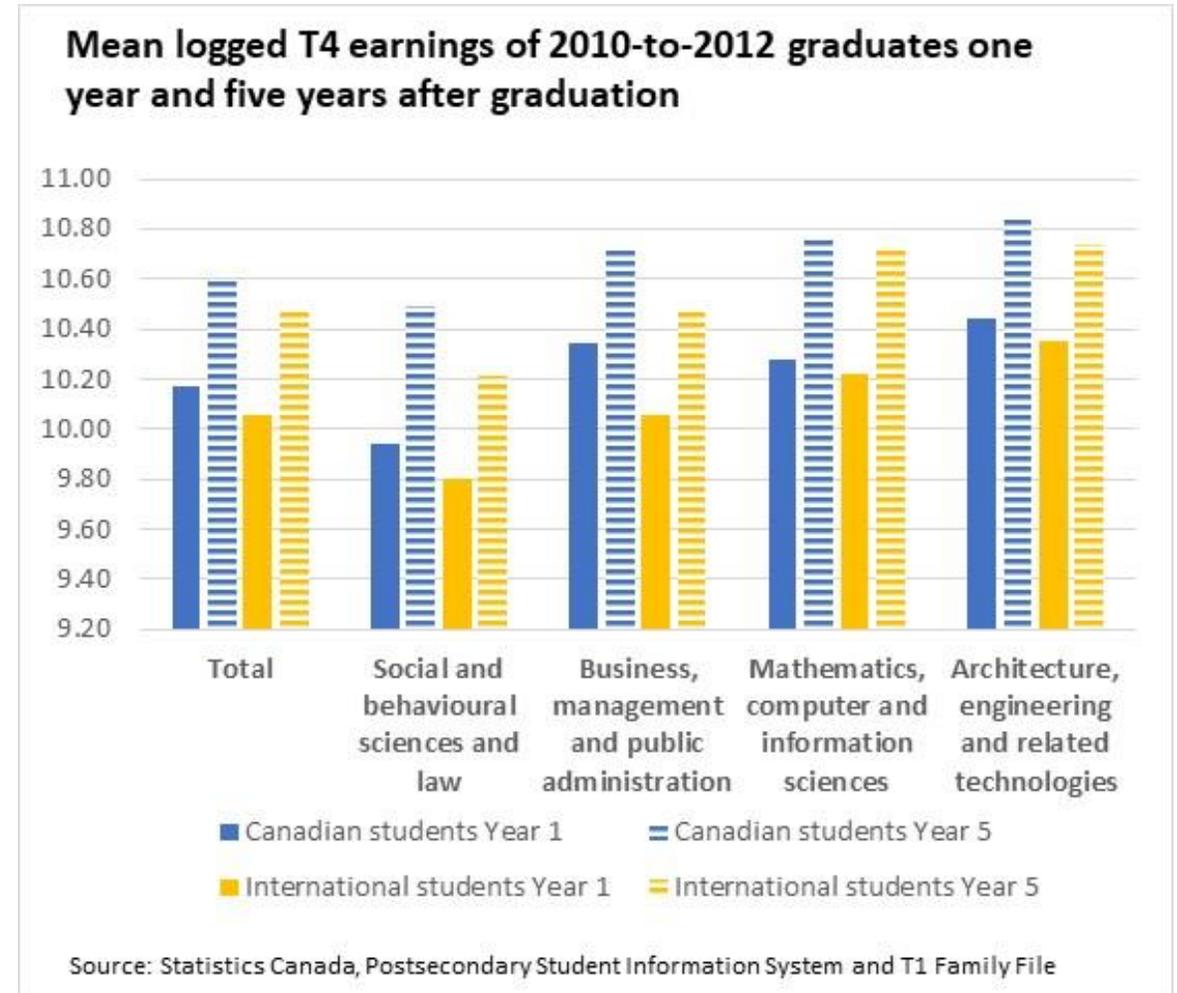
- When comparison is made by years since first arrival, immigrants with pre-immigration Canadian skilled work experience had long-term earnings advantages
- Those with both pre-immigration Canadian skilled work experience and Canadian study experience had the fastest earnings growth
- Those with only Canadian study experience had a small advantage over immigrants without prior Canadian experience 10 years after arrival



Source: Statistics Canada, Longitudinal Immigration Database

International student PSE graduates earned less than Canadian graduates

- International student graduates earned less than Canadian graduates with the same level of education and in the same field of study, although the size of the earnings gaps varied
- The earnings gap was smallest in the field of mathematics, computer and information sciences; largest in business, management and public administration
- International students' disadvantage in pre-graduation work experience, including years of Canadian work experience and earnings level, accounted for most of their earnings gap



Summary

- Large increase in the number of international students in Canada
- Large increase in the share of international students working during study and participating in the PGWP program
- International students and PGWP holders dominated the growth in the number of temporary foreign workers over the 2010s
- The employment of international students moved toward low-skilled sectors, less so among PGWP participants
- The quality of Canadian work experience is more important than Canadian study experience in predicting post-graduation/immigration earnings