Economic Impact of International Education in Canada — An Update of 2022 Impact

Final Report

Presented to

Global Affairs Canada

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Executive summary

Existing literature, as well as the previous studies on the economic impacts of international education conducted by Roslyn Kunin and Associates (RKA) for Global Affairs Canada, clearly indicates that there is a significant positive value associated with international students studying in Canada. The current study updates previous studies with more recent data and assesses the economic impact that international students studying in Canada in 2022 had on the Canadian economy.

We estimate that, in 2022 international students in Canada spent around $37.3 billion on tuition, accommodation and discretionary items. The economic impacts presented in this report focus on the combined direct and indirect impacts associated with such spending.

The results of the study are highlighted below:

- After accounting for Canadian scholarships and bursaries, the total annual expenditures of international students, including their visiting families and friends, contributed $37.3 billion to economic activities in Canada in 2022. This translates into a $30.9 billion contribution to Canada's GDP in 2022, or 1.2% of Canada's GDP.
- Students from India, in particular those studying at the college level, contributed most to the increase in the number of "long-term" students, with Ontario accounting for the biggest increase in the number of international students.
- Ontario, with the largest number of students, made the largest contribution to GDP with $16.9 billion (54.6% of 30.9 billion), followed by British Columbia, with 18.4% and Quebec, with 12.4%.
- An important metric in economic impact analysis is the number of jobs supported. International students' overall annual spending in 2022 translates to 361,230 jobs (the equivalent of 246,310 FTEs) supported in the Canadian economy in 2022.
- International students' annual spending directly and indirectly contributed $7.4 billion in tax revenue in 2022.
- Because international students' expenditures represent revenue for goods and services from overseas, they are Canadian exports of education services.
- In 2022, the value of international education services, as measured by total spending by international students in Canada ($37.3 billion) amounted to 23.1% of Canada's total service exports to the world,[1] and equaled 5.1% of Canada's total merchandise exports.
- The top 10 source countries accounted for $26.4 billion in international student spending in 2022, which translates to 22.2% of the total service exports, or 4.0% of Canada's total merchandise exports to these countries.
- In 2022, long-term international students accounted for 97.7% of the total spending by international students, they contributed $30.3 billion to Canada's GDP and supported 353,850 jobs.

Key results of the study are summarized in the following tables.

[1] Statistics Canada reports that the export value of Canada's education-related personal travel services was $14.99 billion in 2021. The analysis in this report builds on that number by exploring and adding other areas of export revenues, such as including K-12 students and Languages Canada's short-term students.

Summary table I: Number of international students and total annual spending in Canada, by province and territory, 2022

	All Students	Total Annual Spending ($millions)
Newfoundland and Labrador	6,000	$192.5
Prince Edward Island	4,491	$159.5
Nova Scotia	21,200	$837.9
New Brunswick	11,157	$392.6
Quebec	102,403	$4,245.1
Ontario	432,272	$20,795.3
Manitoba	21,765	$780.1
Saskatchewan	13,279	$460.9
Alberta	44,766	$1,892.4
British Columbia	186,886	$7,523.3
Yukon	185	$5.1
Northwest Territories	35	$0.8
Nunavut	5	$0.1
Canada	844,444	$37,285.6

Summary table II: Combined direct and indirect economic impact of all international students in Canada, by province and territory, 2022 ($millions)

	Output	GDP at basic prices	Labour income	Employment (jobs)
Newfoundland and Labrador	$270.1	$155.4	$81.5	1,663
Prince Edward Island	$197.3	$107.4	$62.8	1,491
Nova Scotia	$1,124.9	$686.2	$394.6	8,517
New Brunswick	$602.3	$328.8	$183.4	3,758
Quebec	$6,819.7	$3,839.9	$2,258.1	47,762
Ontario	$27,168.9	$16,873.4	$9,738.6	185,390
Manitoba	$1,162.4	$688.1	$384.6	7,483
Saskatchewan	$785.4	$441.5	$230.9	4,324
Alberta	$3,697.0	$2,091.8	$1,173.2	20,971
British Columbia	$9,220.6	$5,681.5	$3,387.5	79,769
Yukon	$10.0	$5.9	$3.7	55
Northwest Territories	$12.8	$6.2	$2.7	31
Nunavut	$5.6	$3.1	$1.5	20
Canada	$51,077.0	$30,909.1	$19,693.3	361,230

Summary table III: Comparison of total annual spending by international students with Canada's service and merchandise exports

	Value ($billions)	International Student Spending as % of Exports
Total spending by international students	$37.3	-
Canada's exports in services	$173.0	22.2%
Canada's exports in merchandise	$779.1	4.8%

1. Introduction

International education, owing to its impact on Canada's ability to develop and retain the necessary knowledge and skills, plays an important role in the globalization of its economy allowing it to thrive in a fast-changing and competitive environment.

Global Affairs Canada commissioned Roslyn Kunin and Associates (RKA) to conduct this study to determine the value of the impact that international students' spending in Canada has on the Canadian economy. This study is an update to the 2020 impact assessment and uses the same estimation approach, although some minor adjustments of assumptions have been made.

As in the previous study, the analytical approach used in this study included the estimation of total spending by international students (including tuition and fees, books, accommodation, transportation and discretional spending), and the estimation of the economic impact on the Canadian economy in 2022 in terms of exports,[2] GDP, employment and government revenue. The study also provides the economic impact by province and territory and by level of studies, as well as the impact by the top 10 source countries.

This study covers long-term students at schools, colleges and universities, as well as short-term students. For the number of long-term international students (those pursuing education and training for periods longer than six months and requiring study permits), we relied on Immigration, Refugees and Citizenship Canada (IRCC) data. For short-term students (less than six months' duration), we relied on Languages Canada's data. In order to calculate student expenditures, we relied on data from various sources, including Statistics Canada's annual Tuition and Living Accommodation Costs survey. To fill in the gaps in data, we made several assumptions, including those with respect to scholarships and bursaries provided by government (federal, provincial and territorial), as well as expenditures by friends and family members visiting the international students, therefore adjustments were made to the original sets of data. These adjustments are detailed in Appendix 1.

To capture the overall impact of total spending by international students on the Canadian economy, we used Statistics Canada's interprovincial expenditure impact model. In this study, we not only quantified the direct economic impact associated with international student spending, but have also taken a total impact approach to quantify indirect and induced impacts. These include quantifying the activities of businesses providing goods and services to entities where direct expenditures occur (thus including direct and indirect impacts). In addition, as a result of increased local household income, there may be further increases in overall expenditures. This was

[2] Given that spending by international students represents Canada's exports in educational services, in this report we have used the phrases "spending by international students" and "international education services" interchangeably. It should be noted that the inclusions in "international education services" are quite different from Statistics Canada's definition, based on the Manual on Statistics of International Trade in Services 2010 (published by United Nations). Statistics Canada's definition of education services, in the context of balance of payment, is as follows:

> "Education services comprise of services relating to all levels of education whether delivered through correspondence, via TC, satellite, or the internet, or by teachers, among others, who supply services directly in host economies. Excluded are the services provided to non-residents who are present in the territory of the service supplier (as this is included in the travel category)."

Therefore, the comparable value in Statistics Canada's balance of payment data is that associated with education-related personal travel.

considered a spun-off (or induced) impact. Total impact includes all three: the direct, indirect and induced impacts of an initial spending. The total impact can be considered the upper band of economic impacts, whereas the sum of direct and indirect impacts provides a relatively conservative level of impacts on the economy. In this updated study, we focused on the direct and indirect economic impact on the Canadian economy 2022.[3] Direct impacts, along with total impacts, are shown in Appendix 2.

In the main body of the report, we present our estimates of the number of international students in Canada by province and territory and by long-term and short-term study status. Then we present our estimates of their annual total spending and resulting combined direct and indirect economic contribution to the Canadian economy, and the importance of international education services to Canada's trade with the rest of the world. We also provided historical comparisons of the value and impacts of international education to highlight its growing contribution to Canada's economy. In addition, the study includes a comparison of economic impacts by the top 10 source countries.

We provide an explanation of the differences between our estimates and those released by Statistics Canada in Appendix 3.

[3] Economic impact studies evaluate the impacts of increased economic activities due to an increase in spending from programs or individuals on a regional economy and they measure the impacts in terms of macro-economic variables, such as gross domestic product (GDP) and employment. Such an analysis is useful for government decision making when evaluating and comparing impacts from different programs and projects. It should also be noted that, in spite of its usefulness, an economic impact analysis is not a cost-benefit analysis and does not take into account the opportunity cost associated with program expenditures. The evaluation of costs associated with providing education to international students is beyond the scope of this study.

2. Data sources and methodology

RKA's methodology for the study on the economic impact of international education in Canada included extensive secondary research involving reviewing literature, collecting existing statistical data and information, as well as consulting with representatives from the provincial and territorial education sectors, and representatives from organizations promoting and researching trends in international education in Canada and/or the provinces.

In this section, we describe the different sources of data that are available, the ones we used for the project and any limitation with the data sets. We also point out how the data sources and methodology differ between our estimates and those adopted by Statistics Canada in its estimate of Canada's trade in education-related personal travel services.

Data sources

Enrolment

One of the main purposes of this study was to determine the overall economic impacts of total spending by international students, which required the understanding of the number of international students in each province and territory, and in different levels of study: public or private, in the K-12 system, at the college level, as well as undergraduate and graduate students in the university system. It was also necessary to determine the number of international students studying in language training programs.

We did not find one complete set of data that fit our definition of international students or reported data on all students. In its Postsecondary- Student Information System, Statistics Canada collects data on international student enrolment at the college and university levels (including a breakdown of undergraduate and graduate levels) by field of study or by program level. However, the colleges and universities that are covered in the Statistics Canada survey are essentially all in the public system and therefore the data does not yield information on international students in the private post-secondary system.

In terms of the number of international students in the K-12 system, no data is readily available from Statistics Canada for each of the provinces and territories, or from each provincial or territorial ministry of education.

When no consistent data was available for international students, the alternative was to use the data on foreign students available from Immigration, Refugees and Citizenship Canada (IRCC). As international students need to obtain a study permit before arriving in Canada to pursue education and training for a period longer than six months, IRCC's data told us how many study permits holders were in each of the provinces and territories at a given time.

IRCC defines international students as follows:

> "Temporary residents who entered Canada mainly to study and have been issued a study permit (with or without other types of permits). A study permit is an official document issued by an officer that allows someone who is not a Canadian citizen or a permanent resident to study in Canada. In general, a study permit is not needed for any program of study that is six months or less. For statistical purposes, a temporary resident is designated as a foreign student on the basis of

> IRCC's determination of his or her "yearly status" – the main reason for which the person has been authorized to enter and stay temporarily in Canada during the year of observation. Foreign students exclude temporary residents who have been issued a study permit but who entered Canada mainly for reasons other than study."

There are three broad levels of study for foreign students.

a. Secondary or less: secondary school and elementary school
b. Post-secondary: colleges and universities
c. Other studies

The IRCC data therefore allowed us to use the number of study permit holders as a proxy for the number of international students at a given time in a year. It also allowed for a distinction to be made between broad levels of study. For all these reasons, we relied on IRCC's data for analytical purposes.

One limitation of using the IRCC's data set to represent the number of international students was that the actual number of permit holders registered at a Canadian institution may be smaller than the number of permits issued due to the fact that some permit holders may not be able to, or have chosen not to, enroll in an education program. Another limitation of this data set was that since the term "foreign student" is defined by citizenship, it also includes permit holders who are the children or spouses of attending students, but these children are not considered fee-paying international students for the purposes of our analysis.[4]

Finally, another important source of international students that was not fully covered in the IRCC data is the number of students who study in Canada for periods of less than six months, as they do not require a study permit to enter the country. We approached organizations whose members provide short-term vocational training to the public. It should be noted, however, that only Languages Canada collects comprehensive data that is useful for our purposes.

Languages Canada is Canada's premier language organization representing its two official languages, English and French. Membership is limited to schools that meet the association's rigorous standards and are committed to upholding them. Currently, there are over 210 member programs across the country, including at universities, colleges and private institutions. The association is not-for-profit and sector driven. Quality assurance is a critical element of Languages Canada and all member schools are required to be accredited under one internationally recognized and comprehensive scheme.

In the rest of the report, we defined international students as those from the two sets of data available to us, with adjustments. Long-term students refer to the individuals who are represented by the IRCC data, while short-term students are those pursuing language training programs of less than six-months in institutions with Languages Canada membership.

Detailed adjustments to the IRCC data and the data from Languages Canada are presented in Appendix 1.

[4] It should be noted that there are still some "non-fee-paying" students who have not fully been adjusted for due to lack of data. For example, no adjustments have been made for cases in which Quebec has made an agreement with respect to international students with French citizenship (in Quebec, an international student can even pay domestic fees if he/she is studying French language, literature, culture, etc. at the degree level), or for exchange students in all provinces (they do not pay international fees, as they pay tuition to their own institutions back home).

Student expenditures

For students in each level of study, we estimated expenditures in the following categories:

- Tuition and fees
- Additional compulsory fees
- Books and other study tools/materials
- Living expenses
- Transportation costs
- Discretionary expenditures

In order to calculate the net economic benefits of international students in the host country, we took into account any financial assistance that international students receive from Canadian governments, as well as from universities or other institutions.

Again, the detailed description of adjustments can be found in Appendix 1.

Additional visiting family and friends' tourist activities

Existing literature on international education points to another area of university activity, which is the important role that institutions can play in attracting visitors to the host country.[5]

In this study, we estimated the number of international students' family and friends visiting Canada based on assumptions used in the 2013 Australian ACPET study on the economic benefits that international students brought to the country.

Analytical framework

To capture the overall impact on the Canadian economy of total spending by international students, the expenditures of international students and their visiting family and friends were applied to Statistics Canada's interprovincial impact simulation model.[6] The model provides estimates of the overall impact on output, gross domestic product (GDP) and employment in each province/territory's economy.

A short description of the input-output model is provided below.

An input-output structure of the economy

When a person spends money on a product (goods and/or services), that amount creates a direct demand for the production of that product. The economic impact, however, does not end there. The increased production of this product leads to increased production of all the intermediate goods and services that are used to make this product, and the increased production of intermediate goods and services will in turn generate more demand for other goods and services that are needed to produce these intermediate products. As demand rises, workers are able to earn a higher wage, and they sometimes decide to spend a portion of their extra earnings on more goods and services.

[5] Some studies include not only leisure visitors, such as the family and friends of international students visiting the host country, but also international conference business and international academic business visitors.

[6] Statistics Canada catalogue product 15F0009X – Input-Output Model Simulations (Interprovincial Model).

As such, an initial demand for a product creates a chain effect down the production process.

An economic impact analysis is designed to study such interlinkage between industries in order to evaluate how a change in an initial demand for goods or services contributes to changes in other industries' levels of production and the overall economic activity level within a region.

The input-output model is based on the input-output structure of the Canadian economy,[7] which is essentially a set of tables describing the flows of goods and services among the various sectors of the economy. Such a model is useful in determining how much additional production is generated by a change in the demand for one or more products or by a change in an industry's output.

Beyond direct expenditures, input-output models can be used to analyze additional benefits to the economy. This includes businesses providing goods and services to entities where direct expenditures occur. In addition, as a result of increased local household income, there may be further increases in overall expenditures. The latter is considered a spun-off (or induced) impact, which is sometimes shown in economic impact studies.

Currently, Statistics Canada uses the 2019 interprovincial input-output model to estimate economic impact and the results are used for comparative analysis purposes. It should be noted that employment impact estimates from this model are based on the 2019 total compensation per job.[8] As such, it was necessary to deflate the net student expenditures incurred in 2022 to 2019 dollars to get a more accurate estimate of the employment impact.

[7] Statistics Canada catalogue product 15F0042X – Provincial Input-Output Tables.

[8] Data is derived from Statistics Canada Table 36-10-0480-01 Labour productivity and related measures by business sector industry and by non-commercial activity consistent with the industry accounts.

3. Assessing the economic impact of international students in Canada

The economic impact assessment of international education involved first collecting data and information on the number of international students by level of study, and on the type of student expenditures incurred. These values were adjusted when necessary to arrive at the amount of overall spending by international students on educational fees and living expenditure. These spending values were then applied to Statistics Canada's expenditure model to generate estimates of the impact that international students' total spending had on Canada's gross output, GDP, employment and tax revenues. In this section, we present the resulting estimates and analysis.

3.1. Overall spending

In this subsection, we combine the estimated number of international students in Canada by level of study in each province and territory with estimates on educational and living costs to arrive at an estimation of total expenditures by international students while they study in Canada. All student numbers and expenditure values capture the impact in 2022.

Table 1 shows the total number of international students studying in Canada, with provincial and territorial distribution. The student numbers have also been broken down to show students that are considered "long-term" and those who are considered "short-term."[9]

[9] Detailed data pertaining to international students by level of study in each province and territory can be found in appendix 4.

Table 1: Total number of international students in Canada, by province and territory, 2022

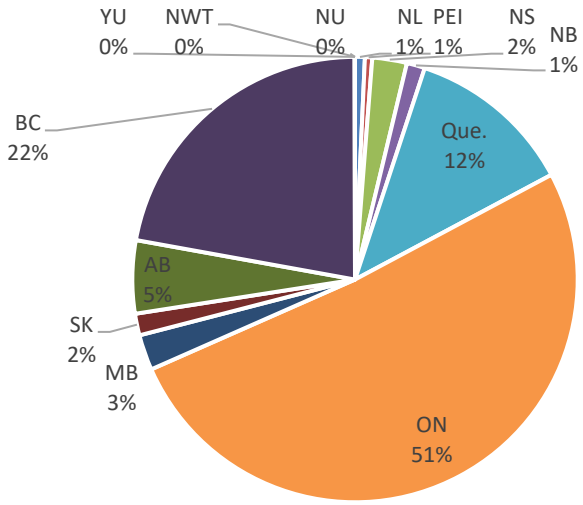
	Long-Term Students	Short-Term Students	All Students
Newfoundland and Labrador	6,000	0	6,000
Prince Edward Island	4,370	121	4,491
Nova Scotia	20,110	1,090	21,200
New Brunswick	10,915	242	11,157
Quebec	92,580	9,823	102,403
Ontario	401,070	31,202	432,272
Manitoba	21,510	255	21,765
Saskatchewan	12,515	764	13,279
Alberta	40,315	4,451	44,766
British Columbia	159,905	26,981	186,886
Yukon	185	0	185
Northwest Territories	35	0	35
Nunavut	5	0	5
Canada[10]	769,515	74,929	844,444

Source: Immigration, Refugees and Citizenship Canada, and Languages Canada, with adjustments by RKA

As can be seen in Figure 1, which shows the distribution of the total number of international students in Canada by province and territory, Ontario has the largest share of the international student population (51.2% in 2022). The province with the second-largest share of international students is British Columbia, which accounted for 22.1% of the total in 2022, though its share decreased in comparison to previous years. When compared with British Columbia's population share in Canada, its share in the international student service market is still much higher. Quebec has the third largest- market share in international education services, accounting for 12.1% of the number of students in 2022. All other provinces and territories also hosted the increasing number of international students: Alberta had 5.3% of all international students in 2022; Nova Scotia had 2.5% of all students; Manitoba had 2.6% of students; Saskatchewan had 1.5% of students; New Brunswick had 1.3% of all students; Newfoundland and Labrador had 0.7% of all students; and Prince Edward Island had 0.5% of all students. The three territories also took in a very small number of international students.

[10] It should be noted that the total number of "long-term students" reported here does not correspond with the figure reported on IRCC's website on the number of international students with a valid permit on December 31, 2022, as we have made a number of adjustments to arrive at these values. The number of "short-term" students has been derived based on data from Languages Canada's 2022 Annual Report.

Figure 1: Distribution of the total number of international students in Canada, by province/territory, 2022

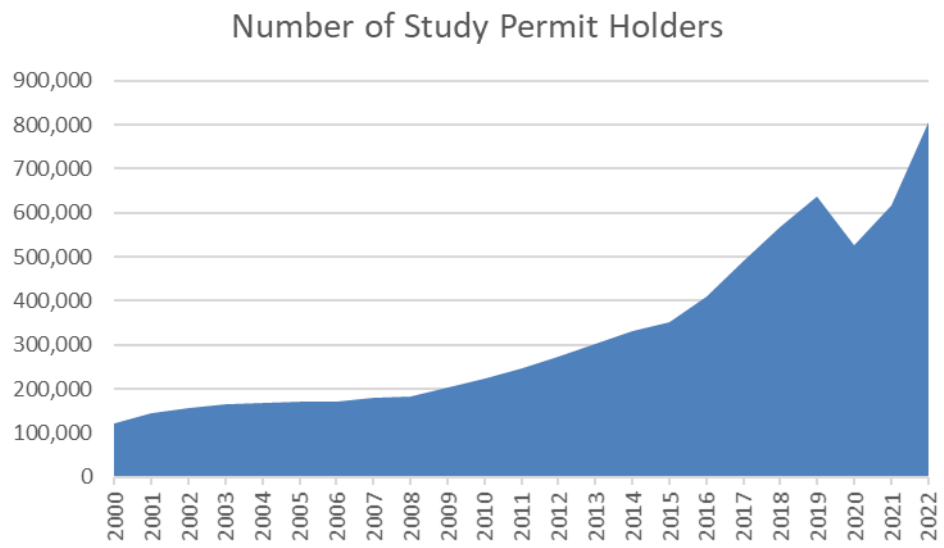


Source: Data from IRCC and Languages Canada, with adjustments by RKA

Over the past two decades, the number of study permit holders in Canada increased more than sixfold, with every province and territory recording positive gains. Although Ontario attracted the greatest number of international students, it is worth noting that Prince Edward Island recorded the highest percentage increase in the number of study permit holders – from 2000 to 2022, the percentage increase has been over 1,800%.

Figure 2 shows the number of study permit holders in Canada over the past two decades. These "long-term" students continue to grow steadily, after a dip in 2020 and 2021 due to pandemic related travel restrictions. In fact, the increase in the number of "long term" students between 2021 and 2022 was substantial, from approximately 617,250 to 807,260, an increase of 30.8%. Ontario contributed most toward the growth of long-term students; it had almost 120,690 more students in 2022 than it did in 2021, a 41.4% increase. Detailed data indicates that of the top source countries for long-term students, the biggest increase was from India (+47%, with 319,130 study permit holders in 2022).

Figure 2: Total number of study permit holders in Canada, 2000 to 2022



Source: IRCC

Other top source countries for long-term international students that experienced strong increase between 2021 and 2022 include these markets:[11]

- Philippines (+112% to 32,455)
- Hong Kong (+73% to 13,100)
- Nigeria (+60% to 21,660)
- Columbia (+54% to 12,440)

Data for short-term students has been derived from Languages Canada's 2022 Annual Report. It should be noted that the drastic decline in the number of students when compared with student numbers prior to 2019 reflects the severe negative impact due to the Covid-19 pandemic and therefore does not reflect the strength of the sector.

Table 2 shows the annual spending incurred by these international students, including the additional tourism activities associated with visiting family and friends. The data sources and adjustments to raw data to derive estimates of international student expenditures are detailed in Appendix 1.

[11] These statistics are shown in the Canadian Bureau for International Education's website (https://cbie.ca/infographic/).

Table 2: Total annual expenditures of international students in Canada, by province and territory, 2022 ($millions)[12]

	Long-Term Students	Additional Tourism Spending of Visiting Families	Short-Term Students	Additional Tourism Spending of Visiting Families	All Students (incl. visiting family spending)
Newfoundland and Labrador	$190.3	$2.2	$0	$0.0	$192.5
Prince Edward Island	$156.2	$1.4	$1.9	$0.0	$159.5
Nova Scotia	$813.5	$7.1	$17.2	$0.2	$837.9
New Brunswick	$384.7	$4.0	$3.8	$0.0	$392.6
Quebec	$4,122.8	$31.9	$89.0	$1.5	$4,245.1
Ontario	$20,284.9	$140.3	$365.4	$4.7	$20,795.3
Manitoba	$769.8	$7.6	$2.7	$0.0	$780.1
Saskatchewan	$448.1	$4.5	$8.2	$0.1	$460.9
Alberta	$1,816.3	$14.5	$61.0	$0.7	$1,892.4
British Columbia	$7,174.3	$56.0	$289.0	$4.0	$7,523.28
Yukon	$5.0	$0.07	$0	$0	$0.8
Northwest Territories	$0.8	$0.01	$0	$0	$0.1
Nunavut	$0.1	$0	$0	$0	$5.1
Canada	$36,166.7	$269.5	$838.2	$11.2	$37,285.6

Source: Detailed data sources, as reported in Appendix 1, with adjustments by RKA

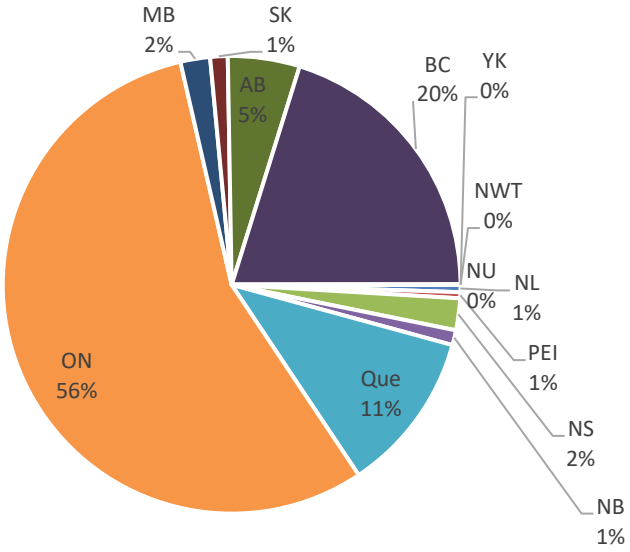
In total, $37.3 billion was put into the Canadian economy in 2022 by international student expenditures across the country.

Figure 2 illustrates the distribution of the total amount of international student expenditures in 2022 by province and territory. In line with Figure 1, Ontario accounts for the largest share of total student expenditures of all provinces and territories in Canada, followed by British Columbia. The data in this figure also indicates that Ontario accounts for an even higher expenditure share than its student share (55.8% in 2022), which reflects the tuition fees of students studying in university programs.[13]

[12] It should be noted that there are no short-term international students reported in private Languages Canada membership schools in Newfoundland and Labrador, or the three territories.

[13] For a comparison of tuition fees for university undergraduate and graduate programs in different provinces across Canada, see tables in Appendix 4.

Figure 3: Distribution of total international student expenditures in Canada, by province and territory, 2022



Source: Various data sources detailed in Appendix 1, with adjustments by RKA

Long-term students accounted for 97.7% of total annual spending, while short-term students accounted for the other 2.3%.

Table 3: Average per-student expenditures – cost of education and cost of living for long-term international students

	2022
K-12	$30,200
College	$42,800
University	$53,800
Other	$37,400
All levels of study	$49,500

Source: RKA, based on various adjustments detailed in Appendix 1

Table 3 above shows our estimates of the per-student cost of education and living while they stay in Canada. For long-term students, the average per student- expenditure (including tuition fees, other fees, books, accommodations and meals, transportation, and discretionary spending, but excluding spending from visiting family and friends) per year was estimated to be $49,500 in 2022.

Short-term students had an average of almost $1,100 in total expenditures per week.

3.2. Economic impact

As we pointed out in the methodology section, when a person spends money on a product (goods and/or services), that amount creates a direct requirement for the production of that product. The economic impact, however, does not end there. The increased production of the product leads to increased production of all the intermediate goods and services that are used to make that product, which in turn generates more demand for other goods and services that are used to produce these intermediate products. As demand rises, workers are able to earn a higher wage, and they sometimes decide to spend a portion of their extra earnings on more goods and services. As such, the initial demand for a product creates a chain effect down the production process. This is referred to as the combined direct and indirect impact. Three types of impacts are usually estimated and they are described briefly below.

- Direct impact measures the increase in industrial output and the increase in an industry's labour force resulting from the inflow of international students and their spending on a yearly basis. Examples of direct impact include tuition and fees paid to educational institutions, purchase of study material, rent, food, recreation, and others.
- Indirect impact measures the change in industrial output and employment demand in sectors that supply goods and services to sectors of the economy that are directly impacted. For example, universities and colleges need to pay for a variety of suppliers providing computers, telecommunication services and other services; food and other grocery sold in a supermarket come from farmers and food manufacturers who must in turn purchase more raw or intermediate material from their suppliers.
- Induced impact measures the changes in output and employment demand over all sectors of the economy as a result of an income increase in households impacted both directly and indirectly. In the sense of spending of international students, this impact is derived from increased spending by, for example, teaching staff from universities and colleges who teach classes for international students, or even the employee working in a drink manufacturer who supply to a local grocery store, that have benefited from an inflow of international students to the area.

Although we present all three types of economic impact values associated with international students spending in this updated report, it should be noted that the report focuses on the combined direct and indirect impacts as representing a complete picture of economic impacts. It is generally acknowledged that direct impacts alone are incomplete and the total impact may sometimes overestimate the impacts of initial spending.

When we compare the value of total spending by international students with other sectors in the economy, GDP, employment and export values are the key variables of interest. Other variables that may be of interest to readers include output, labour income and tax revenues. The results are presented for the aggregate of all international students, as well as long-term and short-term students separately.

To produce these impact values, we used Statistics Canada's economic impacts simulation model to estimate international students' contribution to each province's GDP and employment.[14] Also reported are the values of output and labour income.[15]

The following sections present the combined direct and indirect impacts, first for the aggregate of all students, followed by the analysis for long-term students, then short-term students. Direct economic impacts and total economic impacts (combining direct, indirect and induced impacts) are shown in Appendix 2.

3.2.1 Combined direct and indirect impacts

3.2.1.1. Aggregate for all students

Table 4 below presents the results of the combined direct and indirect economic impacts associated with all students in Canada, by province and territory, in 2022.

To understand the relationship between international student spending and the different impact values, we note that student expenditure is a big component that contributes to the direct impact to the Canadian economy. However, it does not equal to the value of direct output impact, or the value of direct GDP impact. The sum of $37.3 billion (annual international student spending) represents the gross demand for commodities and services in the domestic market. To meet this demand, the industries impacted will need to increase their production. Some of the $37.3 billion goes to pay for inputs (intermediate inputs). Some commodities these students spend money on are imports (both as an intermediate input and as a final product). As such, these amounts have to be netted out. What the simulation model shows is that Canadian industries collectively needed to produce $34.5 billion (direct output impact, in Table 13 in Appendix 2) worth of goods and services to meet the $37.3 billion student expenditure. Direct GDP impact was $22.2 billion (Table 13, Appendix 2).

[14] It should be noted that Statistics Canada's impact estimation model has two types of job impact and multipliers: one for the total number of jobs and another that transforms the former into a full-time-equivalent (FTE) number of jobs. The estimate of the total number of jobs covers two main categories: employee jobs and self-employed jobs (including persons working in a family business without pay). The total number of jobs includes full-time, part-time and temporary jobs. It does not take into account the number of hours worked per employee. FTE jobs include both the employee and self-employed jobs, but the FTE transformation only applies to employee jobs. The transformation is based on the overall average full-time hours worked in the business and government sectors.

The impact of labour income includes three components: wages and salaries, supplementary labour income, and labour income of the unincorporated sector. This variable captures the return to labour in the make-up of GDP.

[15] Total industrial output refers to the value of outputs produced, whether the products are used as an intermediate product (think of a log cut down from a tree for the purpose of building a house, for example) or used as a final product (think of a beam in a completed house). If we calculate gross domestic product the same way we calculate the value of outputs, the cost of the log will be counted many times, as it moves from raw product to its eventual use as a beam, and it is wrong. The value of total industrial output therefore includes both the value of intermediate inputs and primary inputs, the latter being the labour and the capital needed in production. It is the sum of the latter, which is also referred to as the value added, that equals gross domestic product at the national or provincial level.

Table 4: Direct and indirect economic impacts of all international students, by province and territory, 2022 ($millions)

	Output	GDP at basic prices	Labour Income	Jobs
Newfoundland and Labrador	$270.1	$155.4	$81.5	1,663
Prince Edward Island	$197.3	$107.4	$62.8	1,491
Nova Scotia	$1,124.9	$686.2	$394.6	8,517
New Brunswick	$602.3	$328.8	$183.4	3,758
Quebec	$6,819.7	$3,839.9	$2,258.1	47,762
Ontario	$27,168.9	$16,873.4	$9,738.6	185,390
Manitoba	$1,162.4	$688.1	$384.6	7,483
Saskatchewan	$785.4	$441.5	$230.9	4,324
Alberta	$3,697.0	$2,091.8	$1,173.2	20,971
British Columbia	$9,220.6	$5,681.5	$3,387.5	79,769
Yukon	$10.0	$5.9	$3.7	55
Northwest Territories	$12.8	$6.2	$2.7	31
Nunavut	$5.6	$3.1	$1.5	20
Canada	$51,077.0	$30,909.1	$17,903.3	361,230

Source: Customized Statistics Canada expenditure model, based on expenditure produced by RKA

In 2022, the combined direct and indirect GDP contribution of all student expenditures amounted to $30.9 billion in Canada, when we take into account not only the sectors directly impacted by international student spending, but also the many other industries in the supply chain of those directly impacted. In terms of employment, 361,230 jobs (the equivalent of 246,300 FTE) were supported. This impact to Canada's GDP is equivalent to 1.2% of Canada's GDP.[16]

[16] Canada's GDP at basic prices can be calculated with Statistics Canada's table 36-10-0103-1 Gross domestic product, income-based, quarterly (x 1,000,000), with the unadjusted numbers by subtracting taxes less subsidies on products and imports from the gross domestic product at market prices.

However, we should not compare such impact (direct and indirect GDP impact from annual total spending of international students) with another sector's value of GDP at basic prices. Firstly, sectors, or industries, are establishments grouped by the similarity of production processes. For example, colleges and universities are engaged in post-secondary education and teaching. In our report, "international education services" is measured by the total annual student spending not only on education, but also on living expenses. That means "international education services" as we define it, is served by many sectors. In addition, no Canadian industry report its GDP value accounting for both its direct and indirect contributions to the economy.

3.2.1.2. Long-term students

Table 5 presents the corresponding direct and indirect impacts of international students who stay in Canada for at least six months on the province or territory's output, GDP, employment and labour income.

Table 5: Direct and indirect economic impacts of international students studying for longer than six months, by province and territory, 2022 ($millions)

	Output	GDP at basic prices	Labour Income	Jobs
Newfoundland and Labrador	$268.0	$154.4	$80.9	1,654
Prince Edward Island	$194.7	$106.0	$62.0	1,472
Nova Scotia	$1,104.1	$673.9	$387.7	8,365
New Brunswick	$593.9	$324.6	$181.0	3,710
Quebec	$6,674.3	$3,760.6	$2,213.3	46,835
Ontario	$26,677.3	$16,584.4	$9,578.5	182,352
Manitoba	$1,149.5	$682.0	$381.3	7,421
Saskatchewan	$769.0	$432.9	$226.7	4,241
Alberta	$3,591.0	$2,033.1	$1,142.6	20,420
British Columbia	$8,892.8	$5,483.6	$3,278.4	77,277
Yukon	$9.8	$5.8	$3.6	53
Northwest Territories	$12.4	$6.0	$2.6	30
Nunavut	$5.4	$3.0	$1.4	19
Canada	$49,942.3	$30,250.2	$17,540.1	353,850

Source: Customized Statistics Canada expenditure model, based on expenditure produced by RKA

The values show that the total GDP contribution of students who stayed for at least six months during the year amounted to almost $30.3 billion in 2022 in Canada. In terms of job supported, international education services supported 353,850 jobs (the equivalent of 241,190 FTE) in Canada.

3.2.1.3. Languages Canada short-term students

When we take into account the spending of short-term language students who are studying in Languages Canada's private member schools, these international students directly and indirectly contributed an additional $650.9 million to GDP and supported 7,240 jobs (the equivalent of 5,010 FTE) in 2022. This is represented in Table 6.

Table 6: Direct and indirect economic impacts of short-term international language students, by province and territory, 2022 ($millions)

	Output	GDP at basic prices	Labour Income	Jobs
Newfoundland and Labrador	$2.2	$1.4	$0.6	12
Prince Edward Island	$1.8	$1.0	$0.6	17
Nova Scotia	$26.7	$16.3	$9.9	245
New Brunswick	$9.4	$4.8	$3.0	72
Quebec	$153.1	$85.8	$51.4	1,271
Ontario	$523.6	$316.8	$191.8	4,113
Manitoba	$21.3	$12.1	$7.5	177
Saskatchewan	$20.0	$10.9	$6.0	138
Alberta	$128.2	$73.5	$42.6	829
British Columbia	$346.0	$222.1	$138.1	3,365
Yukon	$0.2	$0.1	$0.1	2
Northwest Territories	$0.6	$0.3	$0.1	2
Nunavut	$0.1	$0.1	$0.0	1
Canada	$1,233.3	$745.1	$451.5	10,243

Source: Customized Statistics Canada expenditure model, based on expenditure produced by RKA

It should be noted that, even though there were no direct annual student expenditures in Newfoundland and Labrador, there were impact values in output, GDP, labour income and employment because of the effect of interprovincial trade.

3.2.1.4. Government tax revenue

In this subsection, we further demonstrate the importance of total spending by international students in terms of its contribution to government revenue. In general, government revenues come from personal income taxes, indirect taxes less subsidies, corporate income taxes and natural resource royalties. In this study, we were able to estimate personal income taxes and indirect taxes.

Indirect taxes incurred in the process of producing outputs and services include both indirect taxes on production (such as property taxes) and indirect taxes on products (such as federal and provincial sales taxes).[17]

[17] The types of taxes can be the following: federal taxes on products (federal trading profits on lottery and race tracks, federal gasoline tax, federal excise tax, federal excise duties, federal environment tax, federal air transportation tax, federal sales tax (GST/HST)) and federal taxes on production; provincial taxes on products (provincial wine and liquor gallonage tax, provincial trading profits on liquor and lottery, provincial gasoline tax, provincial amusement tax,

Government revenue can be derived by Statistics Canada's expenditure model to calculate the amount of indirect taxes incurred in the process of producing an industry's outputs and services. It should be noted that Statistics Canada's model estimates tax revenue impacts for the combined direct and indirect impacts, and total (direct, indirect and induced impacts) scenarios only.

In addition to indirect taxes, another type of tax revenue generated is income taxes associated with labour income.[18] Statistics Canada's expenditure model did not automatically estimate personal income taxes. Instead, we derived the values by applying the average personal income tax rates in each province and territory to labour income, which is generated in Statistics Canada's expenditure model.

The following three tables show our estimates of the tax revenue impacts, first for all international student spending in a year, and then for annual spending by long-term students and short-term students, respectively.

provincial environment tax, provincial sales tax, provincial harmonized sales tax (HST)) and provincial taxes on production; municipal taxes on products (local amusement tax, or local retail sales tax) and municipal taxes on production; as well as Indigenous government taxes on products.

[18] Personal income tax values have been derived by applying the average personal income tax rates in each province and territory to labour income. Average personal tax rates have been derived based on data available from Statistics Canada's Table 36-10-0224-01 - Household sector, current accounts, provincial and territorial, annual.

Table 7: Tax revenue impact (direct and indirect) from spending by all international students, by province and territory, 2022 ($millions)

	Indirect Taxes	Personal Income Taxes	Total Tax Revenue
Newfoundland and Labrador	$21.7	$16.2	$37.9
Prince Edward Island	$17.4	$11.0	$28.5
Nova Scotia	$84.2	$76.7	$160.9
New Brunswick	$48.7	$31.4	$80.1
Quebec	$643.3	$452.2	$1,095.5
Ontario	$2,283.6	$1,940.7	$4,224.3
Manitoba	$93.2	$71.6	$164.8
Saskatchewan	$39.6	$40.4	$80.0
Alberta	$148.4	$218.1	$366.5
British Columbia	$602.0	$562.7	$1,164.7
Yukon	$0.3	$0.5	$0.8
Northwest Territories	$0.3	$0.4	$0.7
Nunavut	$0.1	$0.2	$0.3
Canada	$3,982.9	$3,422.2	$7,405.1

Source: Customized Statistics Canada expenditure model, based on expenditure produced by RKA

Table 8: Tax revenue impact (direct and indirect) from spending by international students studying longer than six months, by province and territory, 2022 ($millions)

	Indirect Taxes	Personal Income Taxes	Total Tax Revenue
Newfoundland and Labrador	$21.7	$16.1	$37.8
Prince Edward Island	$17.2	$10.9	$28.1
Nova Scotia	$82.1	$75.3	$157.5
New Brunswick	$48.1	$31.0	$79.1
Quebec	$627.9	$443.2	$1,071.2
Ontario	$2,231.9	$1,908.8	$4,140.7
Manitoba	$92.6	$71.0	$163.6
Saskatchewan	$38.6	$39.7	$78.3
Alberta	$142.5	$212.4	$354.9
British Columbia	$571.1	$544.6	$1,115.7
Yukon	$0.3	$0.4	$0.8
Northwest Territories	$0.3	$0.4	$0.7
Nunavut	$0.1	$0.2	$0.3
Canada	$3,874.3	$3,354.1	$7,228.4

Source: Customized Statistics Canada expenditure model, based on expenditure produced by RKA

Table 9: Tax revenue impact (direct and indirect) from spending by short-term international language students, by province and territory, 2022 ($millions)

	Indirect Taxes	Personal Income Taxes	Total Tax Revenue
Newfoundland and Labrador	$0.0	$0.1	$0.1
Prince Edward Island	$0.2	$0.1	$0.4
Nova Scotia	$2.1	$1.3	$3.4
New Brunswick	$0.6	$0.4	$1.0
Quebec	$15.1	$8.8	$23.9
Ontario	$50.9	$31.5	$82.4
Manitoba	$0.7	$0.6	$1.3
Saskatchewan	$0.9	$0.7	$1.7
Alberta	$5.8	$5.6	$11.4
British Columbia	$30.4	$17.8	$48.2
Yukon	$0.0	$0.0	$0.0
Northwest Territories	$0.0	$0.0	$0.0
Nunavut	$0.0	$0.0	$0.0
Canada	$106.8	$67.0	$173.9

Source: Customized Statistics Canada expenditure model, based on expenditure produced by RKA

The total tax revenue generated by indirect taxes and personal income taxes associated with international student spending in 2022 was estimated to be $7.4 billion, when direct and indirect impacts were combined.

4. International students and Canada's export

Because international student expenditures represent revenue from goods and services sold to residents from overseas, this representation of international student spending is an export of international education services from Canada.

In this section, we compare the value of international education services, as measured by total spending in Canada, with the total export of services and merchandise from Canada. We also provide a comparison of the total value of international student spending by the top 10 source countries with the value of Canada's exports to these countries.

In Canada's official account of the balance of payment, spending by international students is captured under "education-related personal travel," which is part of Canada's total export in services. We believe that Statistics Canada's estimate of education-related personal travel may be underestimating the true value of total spending by international students and therefore present an alternate way of evaluating such spending in this report. For a detailed description of how to reconcile these two sets of estimates, please refer to Appendix 3.

4.1. Spending by international students and Canada's trade

We estimate that the total value of international student spending in Canada was over $37.3 billion in 2022. When compared with Canada's total export of services in 2022, which includes spending by international students and was worth $173.0 billion, international student expenditures were equal to 21.6% of the total value of Canada's service exports. Although not specifically calculated in this report, total spending by international students between 2021 and 2022 would have gone up at least 30.8%.[19] By contrast, Canada's total export of services in 2022 grew 16.1% from the year before.[20]

Canada is known for its exports from resource sectors like oil, natural gas, logging and forestry. Few people realize that international student spending also makes a substantial contribution.

In 2022, the total amount of international student spending ($37.3 billion) surpassed the value of Canada's exports in many product categories, for example, wood and wood products ($25.7 billion), fertilizers ($17.9 billion), or electrical or electronic machinery and equipment ($19.2 billion). Total international student spending in 2022 was equivalent to about 4.8% of the total value of Canada's merchandise exports ($779.1 billion). The impact of total spending of international students on trade is shown in tables 10 and 11.

[19] Based on the percentage increase in the number of study permit holders in Canada (as of December 31 of 2021 and 2022. See section 3.1 of this report).

[20] Statistics Canada. Table 36-10-0007-01 International transactions in services, by selected countries, annual (x 1,000,000).

Table 10: Comparison of international education services, as measured by total spending by international students, with other top merchandise exports from Canada, 2022[21]

	Exports of Goods ($billions)
27 - Mineral Fuels, Mineral Oils, Bituminous Substances and Mineral Waxes	$235.7
87 - Motor Vehicles, Trailers, Bicycles, Motorcycles and Other Similar Vehicles	$65.4
84 - Nuclear Reactors, Boilers, Machinery and Mechanical Appliances	$49.1
Total Spending by International Students	$37.3
71 - Pearls, Precious Stones or Metals, Coins and Jewellery	$31.6
44 - Wood and Articles of Wood (Incl. Wood Charcoal)	$25.7
39 - Plastics and Articles Thereof	$22.4
85 - Electrical or Electronic Machinery and Equipment	$19.2
76 - Aluminum and Articles Thereof	$18.4
31 - Fertilizers	$17.9
26 - Ores, Slag and Ash	$15.0
Total merchandise exports	$779.1

Source: RKA and Trade Data Online

Table 11: Comparison of international education services, as measured by total spending by international students, and Canada's service and merchandise exports, 2022

	Value ($billions)	International Student Spending as % of Exports
Total annual spending – all international students	$37.3	-
Canada's exports in services	$173.0	21.6%
Canada's exports in merchandise	$779.1	4.8%

Source: RKA, Statistics Canada Table 36-10-0007-01 and Trade Data Online

[21] Data for merchandise export from Canada is from the Government of Canada's Trade Data Online webpage (https://ised-isde.canada.ca/site/trade-data-online/en). To generate the trade report, we select data by product by top 25 product chapters (based on Harmonized Commodity Description and Coding System (HS) HS2 codes), under the "total export" category.

4.2. The trade impact of international students from top 10 source countries

In the international student market, the top 10 source countries account for almost three quarters of the overall number of students.[22] India, China, and Philippines are the top three source countries for long-term students. Japan and Brazil are the top two source countries for short-term students.

In terms of source countries, the number of students from India alone accounted for almost 40% of the total number of long-term students. Students from the top three source countries (India, China, and Philippines) accounted for a little over half of all long-term students.

Japan and Brazil are the two top countries for students studying in short-term language training programs in Canada. Students from the top 10 source countries accounted for over 86% of all such students. Detailed information on source countries can be found in appendix 4.

Table 12: Comparison of annual spending by international students from the top 10 source countries and Canada's service and merchandise exports, 2022

	Value ($billions)	International Student Spending as % of Exports
Total annual spending – international students from top 10 source countries	$26.4	-
Canada's exports in services to the same countries	$118.6	22.2%
Canada's exports in merchandise to the same countries	$658.3	4.0%

Source: RKA, Statistics Canada Table 36-10-0007-01 (International transaction in services, by select countries, annual) and Table 12-10-0130-01 (Canadian international merchandise trade by country and by product section, customs-based, annual (x 1,000))

[22] The top 10 source countries are ranked based on the number of long-term international students in Canada. These can be found in table 23 in appendix 4.

5. Trends in international student enrolment and economic impacts in Canada

Roslyn Kunin and Associates (RKA) has so far helped to prepare estimates of international student spending and the associated economic impacts in six years – 2008, 2010, 2014, 2015, 2016 and 2022 – in five separate studies, dated 2009, 2012, 2016, 2017 and 2023. While the studies prepared in 2016 and 2017, as well as in 2023, essentially follow the same methodological approach as the earlier reports prepared in 2009 and 2012, there are differences in the data sources, assumptions and the model specification, in addition to the use of more recent data for impact estimates in 2014 through 2022. Nevertheless, readers will be able to gain knowledge of the magnitude of the impacts.

In this section, we show comparable values, where applicable, and highlight the trends of international student enrolment and the growing economic impacts of these students on Canada's economy.

5.1. Comparison of the number of International Students

Table 12 below shows how the number of international students has changed from 2008 to 2022.[23]

Table 13: Comparing the number of international students in Canada, 2008, 2010, 2014-2016, and 2022

	Long-Term Students	Short-Term Students	All Students
2008	178,227	101,943	280,170
2010	218,245	110,157	328,402
2014	330,706	107,451	438,157
2015	345,793	112,036	457,828
2016	408,176	115,796	523,971
2022	769,515	74,929	844,444

Between 2008 and 2016, the number of international students studying in Canada increased by 87.0%, or at an average annual rate of 8.1%. The increase is mainly attributed to the number of long-term students, those who study for longer than six months in a given year. Enrolment in this category of students more than doubled between 2008 and 2016, growing at 10.9% per year.

Between 2015 and 2016, the number of international students grew an impressive 14.4%, most of which was the results of an increase in long-term students from India studying at the college level.

The year 2022 saw the highest ever number of long-term students in Canada, after a dip in 2020 and 2021 due to travel restrictions brought on by the Covid-19 pandemic. Study permit holders from India alone increased by 47% from the year prior, to 319,130 in 2022.

[23] It is noted that these numbers are drawn from the current and previous studies conducted by RKA. The underlying number of study permit holders has been adjusted by IRCC over the previous years. While the general trend is valid, the exact magnitude of change should be interpreted with caution.

The number of short-term students in 2022 has been derived from Languages Canada's 2022 Annual Report. It should be noted that the drastic decline in the number of students when compared with student numbers prior to 2019 reflects the severe negative impact due to the Covid-19 pandemic and therefore does not reflect the strength of the sector.

From the table above, it is shown that the total number of international students in Canada has increased by 61.2% from 2016 to 2022, at an impressive growth rate of 8.3% per year.

5.2. Comparison of overall spending

Table 14 below depicts the values of total annual spending by international students from 2014 to 2022.

Table 14: Comparing overall spending of international students in Canada, 2014-2016, and 2022

	All Students ($billions)
2014	$11.4
2015	$12.8
2016	$15.5
2022	$37.3

Between 2016 and 2022, the total annual international student spending more than doubled, from $15.5 billion in 2016 to more than $37.3 billion in 2022. This represents a 15.7% increase per year. Between 2014 and 2022, total spending of international students increased at a rate of 16.0% per year. The rate of increase in overall student spending is substantially faster than the rate of increase in the number of international students, reflecting the rise in cost of education, as well as the rise in cost of living in recent years.

5.3. Comparison of combined direct and indirect impacts

Finally, we present the values of combined economic impacts of the total annual spending of international students on the Canadian economy.

Table 15: Comparing overall spending of international students in Canada, 2014-2016, and 2022

	2014	2015	2016	2022	Percentage change 2014-2022
GDP	$9.3 billion	$10.5 billion	$12.8 billion	$30.9 billion	+232%
Jobs	122,680	140,010	168,860	361,233	+194%
Tax Revenue	$2.1 billion	$2.3 billion	$2.8 billion	$7.4 billion	+253%

As noted in the table, the combined direct and indirect GDP impact of international student spending increased 232% (or more than tripled) between 2014 and 2022, which equals an annual growth rate of 16.2%. International student spending directly and indirectly supported 361,000 jobs in Canada in 2022, an increase of 194% over 2014 (or, almost tripled). Government tax revenue derived from international student spending rose from $2.1 billion in 2014 to $7.4 billion in 2022,

an increase of 253%, that is, more than tripled. That means, directly and indirectly, tax revenue increased at a rate of 17.1% per year between 2014 and 2022.

6. Conclusions

This report provides an estimate of economic impacts in Canada in 2022 and serves as an update to the previous valuations prepared for Global Affairs Canada for the years 2008, 2010, 2014, 2015, and 2016. The report is mainly based on IRCC data on international students studying in Canada for longer than six months and Languages Canada data for short-term students. Several other secondary sources have been used to collect information to estimate the quantitative impact of international students on Canada's economy.

In addition to capturing the economic impacts of spending on tuition, fees and basic living expenses, we also capture additional tourism- related activities associated with visiting family and friends. The analysis also accounts for scholarships and bursaries provided by Canadian governments (federal and provincial), universities and other Canadian institutions in estimating net expenditures by international students in Canada.

- Our analysis clearly indicates that the contributions that international students make to Canada's economy are continuing to grow. In line with an increasing number of international students, overall spending more than doubled between 2016 and 2022, from $15.5 billion to $37.3 billion, representing an increase of 15.7% per year.
- We estimate that in 2022, international students in Canada spent over $37.3 billion on tuition, accommodations and discretionary spending, which represents a $30.9 billion contributions to Canada's GDP in 2022, a significant increase over the $12.8 billion contribution in 2016.
- The amount of overall annual spending by international students also generated $7.4 billion in tax revenues and supported 361,230 jobs in the Canadian economy in 2022, significantly up from the $2.8 billion in tax revenue and 168,860 jobs in 2016.
- In 2022, Canada's international education services ($37.3 billion, as measured by the total spending of international students studying and living in Canada) amounted to 21.6% of Canada's total service exports to the world and was equivalent to 4.0% of Canada's total merchandise exports.[24]
- In 2022, long-term- students accounted for 97.7% of the total amount of spending by international students. They contributed $30.2 billion to Canada's GDP and supported 353,850 jobs. Ontario accounts for the largest share of contributions to GDP (54.8%) and jobs (51.5%). Short-term- students contributed $650.9 million to Canada's GDP and supported 7,240 jobs.

[24] It should be noted that Statistics Canada reports that the export value of Canada's education-related travel services (i.e., the value of total spending of international students) was $22.264 billion in 2022. The analysis in this report built on this number by exploring and adding other areas of export revenues, such as K-12 students and Languages Canada's short-term students.

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Appendix 1: Detailed explanation of data sources and adjustments

Number of international students

As noted in Section 2, Data sources and methodology, a comprehensive data set representing "internationally mobile students" in Canada cannot be found in existing data sources. Therefore, we sought an alternate data set: the number of "international students" from Immigration, Refugees and Citizenship Canada (IRCC) as a proxy to represent international students in Canada.

IRCC defines international students as follows:

> Temporary residents who are in Canada on a study permit in the observed calendar year. International students have been issued a document that allows them to study in Canada and does not imply that they may or may not also be a permit holder of another type at the same time. Under the Immigration and Refugee Protection Act, a study permit is not needed for any program of study that is six months or less.
>
> A study permit is a permit authorizing foreign nationals to enter and study in Canada on a temporary basis. The study permit identifies the level of study and the length of time the individual may study in Canada. Students do not need a study permit for courses shorter than six months.

There are three broad levels of study for international students.

a. Secondary or less: secondary school and elementary school
b. Post-Secondary: which is further divided into college and university programs
c. Other studies.

The IRCC data therefore allows us to use the number of study permit holders as a proxy for the number of international students at a given time in a year. It also allows for a distinction to be made between broad levels of study.

One limitation of using the IRCC data set to represent the number of international students is that the actual number of permit holders registered at a Canadian institution may be smaller than the number of permits issued due to the fact that some permit holders may not be able to, or have chosen not to, enrol in an education program (after they are in Canada).[25]

One of the adjustments we have made includes removing a portion of student permit holders in the "secondary or less" category, who are assumed to be children whose parents are enrolled in a post-secondary education program. The adjustment is based on industry information, as reported in the 2015 ICG report for CAPS-I.

These students have been further allocated to studying in public or independent K-12 school systems based on industry intelligence.

[25] In this regard, we note a recently released study by Statistics Canada (Choi & Hou 2023) found that "about one-quarter of postsecondary study permit holders in 2019 had not enrolled in publicly funded postsecondary programs, with over half of them likely engaging in other study or work activities". That means, about three-quarters of postsecondary study permit holders in 2019 were in fact enrolled in publicly funded postsecondary programs, and another 12.5% of the study permit holders in 2019 could have enrolled in a private postsecondary institution.

The allocation of student permit holders in the post-secondary system to finer categories of trade, college, under-graduate, master's, PhD and other type of programs is based on IRCC information and data in Statistics Canada's data series (Table 37-10-0018-01 Postsecondary enrolments, by registration status, institution type, status of student in Canada and gender).

Further allocation of registration status in full-time and part-time study for each type of students has been based on Statistics Canada's data (same Table 37-10-0018-01).

Finally, another important source of international students that is not covered in the IRCC data is the number of students who study in Canada for periods of less than six months, as they do not require a study permit to enter the country. In this regard, we rely on data from Languages Canada which collects data that is useful for our purposes.

Languages Canada administers an annual survey with its member schools to collect data on such topics as the source of students, immigration status, the length of study, the students' average weekly spending and other variables. On Languages Canada's advice, we sought data related to international students studying in its private membership schools only, as the number of those studying in its public membership schools would have been represented in IRCC's dataset. [26]

We made further adjustments to calculate the average number of student weeks- for students studying for up to six months in each province and territory.

Student expenditures

Tuition and fees

For tuition and other fees at the K-12 level, we relied on information published in the Canadian Association of Public Schools – International (CAPS-I) website (https://caps-i.ca/) and Canadian Accredited Independent Schools (CAIS) website (https://www.cais.ca/). Note that these are based on tuition and fees in a school year (10 months). Tuition and fees in private schools can be substantially higher. In this regard, we also used information available from the CAPS-I report to calculate the average annual tuition and fees for international students in private schools.

Detailed information on tuition and fees for full-time university-level international students in each province is available in Statistics Canada's annual Tuition and Living Accommodation Costs (TLAC) survey. Note that the TLAC does not provide any data for the territories.

When deriving student tuition and fees for the other levels of study other than "secondary or less" (i.e., post-secondary, which is further divided into trade/college and university; and other), we made the following assumptions:

- University – We applied separate undergraduate and graduate tuition values from the TLAC to full-time undergraduate students and students in master's/PhD programs.[27]

[26] Note that IRCC collects data on short-term students from some countries (SX-1 Visa holders). However, these numbers are small and not captured in this study.

[27] Detailed data on tuition for full-time undergraduate and graduate students can be found in tables 27 and 28, in appendix 4. It should be noted that setting tuition and fees in public post-secondary institutions is generally a provincial/territorial responsibility. As such, the level of tuition shown in these data tables does not necessarily reflect the true cost of educational programs in these provinces and territories.

Part-time students were assumed to take a 50% course load for the purposes of calculation.

In addition to tuition, we have included "additional fees," which represent the compulsory fees the universities impose on both domestic and international students, such as facility fees, society fees, health and dental fees (for international students only), student pass fees in some cases, and others. We also made an allowance of $1,200 per academic year for books/tools/materials.

Tuition and fees are for an academic year (i.e., eight months) in the TLAC data, and we have assumed that 100% of students study eight months of the year.

- College – For full-time tuition, we applied a factor of 75% to the average university undergraduate tuition in each province. The 75% is an approximation based on web research conducted for select college programs in each province to see how they compare to the full-time tuition for an undergraduate program. The exception to this 75% ratio is with tuition of college students in Ontario – for this province, weighted average tuition for full-time undergraduate was $42,890 for the 2022 calendar year. We have searched College Ontario's website to look for information pertaining to tuition and fees for international students and found that most fees were lower than $20,000 in an academic year. Consequently, for Ontario, the ratio applied was 45%.

  For part-time students, we assumed a 50% course load.

  We also assumed that international students in "college" level of study pay on average the same percentage (75%) of "additional fees" as university-level international students. We also made the same allowance for books/equipment requirement ($1,200) in a year.

  For international college students in the territories, tuition and fees information was derived from colleges' websites.

- Other – since we did not have any detailed information on the nature of their study, we assumed the following: that these students may pay tuition and fees equivalent to the average paid by K-12 and college students. Students in this category were also assumed to incur living expenses equivalent to those in part-time college studies.

For short-term international students, estimates of tuition and fees on a weekly basis were derived from information in Languages Canada's 2022 annual report.

Living expenses

- Secondary or less – we relied on information published in the Canadian Association of Public Schools – International (CAPS-I) website (https://caps-i.ca/) and Canadian Accredited Independent Schools (CAIS) website (https://www.cais.ca/). A student in the public school system pays an average homestay cost of $1,000 per month (in 2022) for a

It should also be noted that, in the release of TLAC data, since 2010-2011, regular and executive MBA (master of business administration) programs have been excluded from the national and provincial weighted averages due to their high costs and their effect on the overall tuition fee average. Dental, medical and veterinary residency programs offered in teaching hospitals and similar locations that may lead to advanced professional certification have also been excluded.

10-month period. Essentially, we assumed that students return to their home countries for summer vacation. For those in the private, independent school system, we assumed that three quarters of these students pay an average homestay cost of $1,000 per month, and one quarter of these students board with the school they attend.

- University – for full-time students, we use Statistics Canada's annual Tuition and Living Accommodation Costs (TLAC) survey data (to calculate the average costs of on-campus room and meal expenses for an eight-month period for students in the undergraduate, master's and PhD programs).[28] Then, values were scaled up to full-year (12 months) values. That is, we assumed that international students in the university category stay in the country for 12 months, even though they may only take courses for two semesters.

  For part-time students, we assumed a monthly homestay cost of $950 in 2022 for 12 months in a year.

  We also made allowances for transportation costs for students staying in different provinces and territories. We applied data from Statistics Canada's Survey of Household Spending (SHS), which details household spending on public transportation, by province and territory, in 2019.[29] The values we used refer to the average expenditure per household on public transportation (households that did or did not use public transit). Values in 2019 dollars were adjusted for inflation between 2019 and 2022.

- For students in non-university study (college as well as those in the "other" category), we assumed that they spend the equivalent of what university students have to pay during an academic year (average room, meal and transportation costs).

  The average costs for meals and accommodation at colleges in the territories were derived in the same way as they were in the provinces. Estimates of transportation costs were calculated as the average for provincial transportation costs.

In addition to basic living costs, as presented above, we made an allowance of $3,750 per student per year ($1,000 for K-12 students) for discretionary expenses (such as eating out, recreational activities and entertaining), in 2022.

For each province and territory, for each level of study, the formula to calculate gross expenditures was as follows:

Estimated number of students in that level of study multiplied by the sum of (average tuition and additional fees, books, average room and meal costs, average transportation costs, average discretionary spending) per year = gross expenditures in one year for international students in the level of study

Scholarships and awards

[28] Statistics Canada, TLAC, Table 7. Living Accommodation Costs at Residences.

[29] Statistics Canada, Table 11-10-0223-01 Household spending by household income quintile, Canada, regions and provinces.

In this study, in order to calculate the *net* economic benefits that international students brought to the host country, we took into account any financial assistance that international students received from Canadian federal or provincial governments, and from institutions.

We conducted extensive web research on the financial statements of universities and colleges across all provinces in order to find such information, but to little avail. We estimated that the support universities and colleges provide to international students is probably no more than 1% of the student tuition collected.[30]

We were also informed that the federal government annually grants $27 million to support international students.[31] As such, we used a factor equivalent to 1% of international student tuition and fees, plus $27 million to represent the deduction. This reduction factor of 1% was applied to students in the trade/college, undergraduate, master's and PhD programs only.

Additional tourism benefits from visiting friends and family members

One additional benefit of international education is increased tourism activities, due to family and friends visiting the host country while students remain in the country.

Unfortunately, this area is still a challenge with respect to data availability. We do not have a good handle on the number of family and friends who visit international students during their stay in Canada. For the purposes of this estimation, we applied a similar methodology to the one used in an Australian study to derive the estimated number of international students' family and friends who participate in tourism activities.

The methodology in the Australian Council for Private Education and Training's (ACPET's) 2013 study was based on research conducted by Tourism Research Australia. The study shows that for every 10 formal visiting students (defined as those whose main purpose for visiting Australia is education), an additional five family members or friends visit the country. For every 10 informal visiting students (defined as those whose main purpose for visiting Australia was not education but still studied a course while on their trip), there are an additional 2 visitors.

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[30] We reviewed the consolidated financial statements of a number of universities and colleges across the provinces. While all financial statements report student tuition and fees received on the revenue side, and amounts paid for scholarships, awards and bursaries on the expense side, very few financial statements actually include information pertaining to international students.

Given that there are no published data pertaining to the amount of scholarships, awards, and bursaries provided to international students, we derive the 1% estimate based on information in Statistics Canada Table 37-10-0027-01 and 37-10-0029-01 (Expenditures of universities, colleges by type of expenditures and funds (in current Canadian dollars) (x 1,000)). For universities, expenditure that is distributed to "scholarship, bursaries and prizes" for all students accounts for 7% of the total expenditure, while the percentage in colleges is 1%. We note that as postsecondary institutions charge international student the full cost of education, that amount of tuition and fees paid by international students would be equivalent to the total expenditure to fund that student. Given it is not clear what percentage of universities and colleges actually provide scholarships, bursaries and awards to international students, we have opted to use the lower end of the ratio to represent this amount.

[31] The information was from a Global Affairs Canada source when the study was conducted in 2017. Global Affairs Canada further clarifies that such support mostly goes to support international students in short-term programs.

In our current study, we assumed that for every 10 long-term international students, five family members and/or friends visited Canada during the year, and that for every 10 short-term- international students, two family members and/or friends visited Canada during the year.

The average expenditure of these visiting family or friends has been derived from Destination Canada's reports on U.S. and international arrivals and expenditure by type.[32,33]

[32] Destination Canada, Total International Arrivals to Canada. https://www.destinationcanada.com/en/research#tourismincanada

[33] Destination Canada, Tourism Spend in Canada. https://www.destinationcanada.com/en/tourism-spend. Data derived from this source was for 2019. For the purposes of this report, we have increased the expenditure by 10%.

Appendix 2: Economic impacts

A. Direct economic impacts[34]

This section presents the results of direct economic impacts associated with all students in Canada, by province and territory. First, we present the results for 2022 for all students, then long-term and short-term students separately.[35]

Table 16: Direct economic impact of all international students, by province and territory, 2022 ($millions)

	Annual Expenditures	Output	GDP at basic prices	Labour Income	Jobs
Newfoundland and Labrador	$192.5	$175.7	$108.9	$54.1	1,215
Prince Edward Island	$159.5	$141.0	$78.3	$45.7	1,087
Nova Scotia	$837.9	$821.4	$527.7	$294.1	6,372
New Brunswick	$392.6	$378.9	$225.0	$120.6	2,480
Quebec	$4,245.1	$4,221.3	$2,530.4	$1,476.4	33,502
Ontario	$20,795.3	$19,010.9	$12,462.9	$7,012.5	139,287
Manitoba	$780.1	$717.8	$467.7	$265.2	5,238
Saskatchewan	$460.9	$422.3	$273.0	$160.1	2,929
Alberta	$1,892.4	$1,997.4	$1,281.7	$753.5	14,777
British Columbia	$7,523.3	$6,649.1	$4,248.0	$2,534.3	63,728
Yukon	$5.1	$5.6	$3.5	$2.0	31
Northwest Territories	$0.8	$3.7	$1.8	$0.8	11
Nunavut	$0.1	$2.4	$1.4	$0.6	9
Canada	$37,285.6	$34,547.5	$22,210.4	$12,719.9	270,666

Source: Customized Statistics Canada expenditure model, based on expenditure produced by RKA

[34] Please refer to section 3 of this report for definitions of the various types of impacts.

[35] It should be noted that no tax revenue impacts have been estimated in the direct impact estimation, as Statistics Canada's model does not estimate indirect tax revenue associated with spending.

Table 17: Direct economic impact of international students studying for longer than six months, by province and territory, 2022 ($millions)

	Annual Expenditures	Output	GDP at basic prices	Labour Income	Jobs
Newfoundland and Labrador	$192.5	$174.9	$108.4	$53.9	1,212
Prince Edward Island	$157.5	$139.2	$77.4	$45.2	1,074
Nova Scotia	$820.5	$806.6	$518.6	$289.2	6,260
New Brunswick	$388.8	$374.4	$222.5	$119.2	2,452
Quebec	$4,154.7	$4,133.8	$2,480.0	$1,448.8	32,886
Ontario	$20,425.2	$18,687.5	$12,263.7	$6,907.4	137,160
Manitoba	$777.4	$712.8	$465.1	$263.8	5,211
Saskatchewan	$452.6	$414.3	$268.2	$157.4	2,877
Alberta	$1,830.8	$1,939.0	$1,245.7	$734.6	14,398
British Columbia	$7,230.3	$6,413.1	$4,101.2	$2,455.8	61,808
Yukon	$0.8	$5.5	$3.4	$2.0	31
Northwest Territories	$0.1	$3.6	$1.8	$0.8	10
Nunavut	$5.1	$2.3	$1.3	$0.5	9
Canada	$36,436.2	$33,807.0	$21,757.3	$12,478.6	265,387

Source: Customized Statistics Canada expenditure model, based on expenditure produced by RKA

Table 18: Direct economic impact of short-term international language students, by province and territory, 2022 ($millions)

	Annual Expenditures	Output	GDP at basic prices	Labour Income	Jobs
Newfoundland and Labrador	$0.0	$0.8	$0.4	$0.2	4
Prince Edward Island	$1.9	$1.7	$0.9	$0.5	12
Nova Scotia	$17.3	$14.7	$9.1	$4.9	110
New Brunswick	$3.8	$4.5	$2.5	$1.4	27
Quebec	$90.5	$86.2	$49.8	$27.0	600
Ontario	$370.1	$319.8	$197.4	$103.7	2,088
Manitoba	$2.8	$5.0	$2.6	$1.4	27
Saskatchewan	$8.3	$7.9	$4.8	$2.7	51
Alberta	$61.7	$57.6	$35.6	$18.6	371
British Columbia	$293.0	$232.5	$145.0	$77.2	1,880
Yukon	$0.0	$0.1	$0.1	$0.0	0
Northwest Territories	$0.0	$0.2	$0.1	$0.0	0
Nunavut	$0.0	$0.1	$0.0	$0.0	0
Canada	$849.4	$730.9	$448.4	$237.7	5,172

Source: Customized Statistics Canada expenditure model, based on expenditure produced by RKA

B. Total (direct, indirect and induced) economic impacts

This section presents the values of the total direct, indirect and induced impact that international students bring to the provincial/territorial economy and the aggregate to Canada. The impact values apply to all international students. As expected, all indicators, including GDP contribution and the jobs supported, were significantly higher than those for the direct or combined direct and indirect impacts. First, we present the results for 2022 for all students, then long-term and short-term students.

Table 19: Total economic impact (direct, indirect and induced) of all international students, by province and territory, 2022 ($millions)

	Output	GDP at basic prices	Labour Income	Jobs
Newfoundland and Labrador	$332.3	$191.3	$97.6	1,978
Prince Edward Island	$237.2	$131.3	$72.6	1,740
Nova Scotia	$1,388.3	$849.3	$464.5	10,122
New Brunswick	$763.0	$415.3	$223.5	4,641
Quebec	$8,750.5	$4,910.6	$2,796.3	58,497
Ontario	$34,608.3	$21,231.0	$11,810.5	223,482
Manitoba	$1,500.9	$884.8	$467.4	9,233
Saskatchewan	$1,021.1	$571.5	$280.0	5,374
Alberta	$4,929.6	$2,772.8	$1,470.8	26,060
British Columbia	$11,652.8	$7,227.1	$4,030.8	93,140
Yukon	$13.7	$8.2	$4.9	73
Northwest Territories	$18.3	$9.2	$3.8	46
Nunavut	$7.9	$4.5	$2.0	29
Canada	$65,224.1	$39,207.0	$21,724.7	434,414

Source: Customized Statistics Canada expenditure model, based on expenditure produced by RKA

Table 20: Total economic impact (direct, indirect and induced) of international students studying for longer than six months, by province and territory, 2022 ($millions)

	Output	GDP at basic prices	Labour Income	Jobs
Newfoundland and Labrador	$329.5	$189.9	$96.9	1,966
Prince Edward Island	$234.1	$129.6	$71.7	1,718
Nova Scotia	$1,362.9	$834.2	$456.4	9,942
New Brunswick	$752.1	$409.8	$220.5	4,579
Quebec	$8,567.2	$4,810.2	$2,741.0	57,359
Ontario	$33,987.5	$20,866.9	$11,614.3	219,787
Manitoba	$1,483.5	$876.3	$463.1	9,149
Saskatchewan	$1,000.1	$560.4	$274.8	5,271
Alberta	$4,794.1	$2,697.6	$1,433.1	25,385
British Columbia	$11,250.0	$6,981.0	$3,902.0	90,236
Yukon	$13.4	$8.1	$4.8	71
Northwest Territories	$17.8	$8.9	$3.7	45
Nunavut	$7.7	$4.4	$2.0	28
Canada	$63,800.1	$38,377.3	$21,284.0	425,537

Source: Customized Statistics Canada expenditure model, based on expenditure produced by RKA

Table 21: Total economic impact (direct, indirect and induced) of short-term international language students, by province and territory, 2022 ($millions)

	Output	GDP at basic prices	Labour Income	Jobs
Newfoundland and Labrador	$2.7	$1.4	$0.7	12
Prince Edward Island	$3.1	$1.7	$0.9	22
Nova Scotia	$25.1	$15.0	$8.0	177
New Brunswick	$10.7	$5.5	$3.0	60
Quebec	$180.3	$98.8	$54.4	1,112
Ontario	$612.6	$360.0	$193.6	3,634
Manitoba	$17.0	$8.4	$4.3	82
Saskatchewan	$20.7	$11.0	$5.1	101
Alberta	$133.3	$74.1	$37.1	662
British Columbia	$396.5	$242.6	$126.7	2,847
Yukon	$0.3	$0.2	$0.1	1
Northwest Territories	$0.5	$0.3	$0.1	1
Nunavut	$0.2	$0.1	$0.1	1
Canada	$1,402.9	$819.0	$434.0	8,713

Source: Customized Statistics Canada expenditure model, based on expenditure produced by RKA

Table 22: Total tax revenue impact (direct, indirect and induced) from the spending of all international students, by province and territory, 2022 ($millions)

	Indirect Taxes	Personal Income Taxes	Total Tax Revenue
Newfoundland and Labrador	$31.4	$19.4	$50.8
Prince Edward Island	$24.0	$12.8	$36.8
Nova Scotia	$128.7	$90.3	$219.0
New Brunswick	$71.1	$38.3	$109.4
Quebec	$908.4	$560.0	$1,468.4
Ontario	$3,327.1	$2,353.6	$5,680.7
Manitoba	$135.4	$87.0	$222.5
Saskatchewan	$63.7	$49.0	$112.7
Alberta	$240.2	$273.4	$513.6
British Columbia	$906.8	$669.6	$1,576.4
Yukon	$0.6	$0.6	$1.2
Northwest Territories	$0.6	$0.6	$1.2
Nunavut	$0.2	$0.3	$0.5
Canada	$5,838.1	$4,154.8	$9,992.9

Source: Customized Statistics Canada expenditure model, based on expenditure produced by RKA

Table 23: Total tax revenue impact (direct, indirect and induced) from the spending of international students studying for longer than six months, by province and territory, 2022 ($millions)

	Indirect Taxes	Personal Income Taxes	Total Tax Revenue
Newfoundland and Labrador	$31.2	$19.3	$50.5
Prince Edward Island	$23.7	$12.6	$36.3
Nova Scotia	$125.8	$88.7	$214.5
New Brunswick	$70.2	$37.8	$108.0
Quebec	$887.7	$548.9	$1,436.7
Ontario	$3,257.8	$2,314.5	$5,572.3
Manitoba	$134.3	$86.2	$220.6
Saskatchewan	$62.3	$48.1	$110.4
Alberta	$231.9	$266.3	$498.3
British Columbia	$866.2	$648.2	$1,514.4
Yukon	$0.6	$0.6	$1.2
Northwest Territories	$0.5	$0.6	$1.1
Nunavut	$0.2	$0.3	$0.5
Canada	$5,692.6	$4,072.1	$9,764.7

Source: Customized Statistics Canada expenditure model, based on expenditure produced by RKA

Table 24: Total tax revenue impact (direct, indirect and induced) from the spending of short-term international language students, by province and territory, 2022 ($millions)

	Indirect Taxes	Personal Income Taxes	Total Tax Revenue
Newfoundland and Labrador	$0.1	$0.1	$0.3
Prince Edward Island	$0.3	$0.2	$0.5
Nova Scotia	$2.9	$1.6	$4.4
New Brunswick	$0.9	$0.5	$1.4
Quebec	$20.2	$10.9	$31.1
Ontario	$68.2	$38.6	$106.8
Manitoba	$1.1	$0.8	$1.9
Saskatchewan	$1.4	$0.9	$2.3
Alberta	$8.1	$6.9	$15.0
British Columbia	$39.9	$21.0	$60.9
Yukon	$0.0	$0.0	$0.0
Northwest Territories	$0.0	$0.0	$0.0
Nunavut	$0.0	$0.0	$0.0
Canada	$143.2	$81.5	$224.7

Source: Customized Statistics Canada expenditure model, based on expenditure produced by RKA

Appendix 3: Reconciliation of the study estimates with valuation by Statistics Canada

In the report, we compared our estimates of the value of international student spending in a given year with Statistics Canada's valuation. Statistics Canada reported that Canada's receipt of foreign exchange dollars from international student was valued at $22.26 billion in 2021.[36] In our study, we estimated that total annual spending by international students and their visiting families and friends was valued at almost $37.3 billion in the same year. In this appendix, we reconcile our estimates with Statistics Canada's valuation.

In Statistics Canada's valuation, "international transactions in services are a major component of the Current account of the Balance of payments. Services are grouped under four major categories: travel, transportation, commercial services and government services." Spending by international students includes education-related travel, which is defined as follows:[37] [38]

> In theory, education-related travel should include all expenditures in another country by students. But for practical reasons, Canadian statistics include only outlays of post-secondary students; that is, only outlays on full-time university and college programs, which generally extend over more than one year, are included. Recorded outlays include all expenditures by post-secondary students studying abroad – that is, expenditures for tuition fees and course materials, together with accommodation and general living expenses. Except as incidentally covered in other personal travel, spending for primary and secondary schooling remains to be estimated in Canadian statistics. Certain further expenditures on institutional education (such as for personal interest courses) also remain in other personal travel because of data limitations.

Therefore, it is important to note that the Statistics Canada's valuation we compared with is limited to the cost of education and living expenses for full-time post-secondary international students. In our report, our valuation included the expenditures of students who were in K-12 schools and in other programs, including students in programs shorter than six months. Our valuation also included expenditures incurred by visiting family and friends.

Statistics Canada's valuation of international student spending in 2022 would have been based on the number of international students in post-secondary systems, about 400,521 or lower,[39] and their expenditures on tuition, food, accommodations and transportation for an academic year of eight months. Cost of education plus cost-of-living expense would have been estimated to be approximately $55,600 per student.

In RKA's calculation, to estimate the number of post-secondary students in Canada in 2022 who were in college programs and in universities, we relied on values from Immigration, Refugees and

[36] Statistics Canada Table 36-10-0004-01 International transactions in services, travel by category and geographical area, annual (x 1,000,000).

[37] Statistics Canada: Canada's International Trade in Services – Data quality, concepts and methodology. Catalogue no. 67-203.

[38] Statistics Canada has reviewed its methodology for estimating student spending and implemented the changes since 2019. Statistics Canada also revised the estimates to the early 2000s.

[39] International students in Canada from Statistics Canada table 37-10-0018-01 Postsecondary enrolments, by registration status, institution type, status of student in Canada and gender (data released November 22, 2023).

Citizenship Canada's estimate of study permit holders as of December 31 of that year. Of the total 807,260 study permit holders, 651,235 were study permit holders pursuing post-secondary training in Canada. We derived per-student expenditures (net of Canadian scholarships and bursaries) as follows:

- Those in college programs: $42,807 per year in 2022, assuming 8 months of study and 12 months of living expenses.
- Those in university programs: $53,805 per year in 2022, assuming 8 months of study and 12 months of living expenses.

Therefore, total expenditures for post-secondary students in 2022 was valued at $32.3 billion.

In addition to post-secondary students in trades/college programs and universities, we included students in the K-12 system (with expenditures on tuition and homestay for 10 months), and other students whose level of study was not clear but who were included in IRCC's data. Total expenditures for these long-term students (meaning IRCC requires them to hold a valid study permit while they stay in Canada to study longer than six months in a calendar year) was $3.9 billion.

The last segment of international student population is short-term students, who do not require a study permit to pursue training generally shorter than six months long. These students include those who are pursuing language training or other short-term vocational training. For practical reasons, we have obtained data only from Languages Canada and therefore have valued expenditures from this source. For these 74,930 students, the total number of student weeks was estimated to be 829,401 and total expenditures to be $838.2 million.

In addition to student expenditures related to tuition, fees and living expenses, we estimated spending by visiting family members and friends. The value of spending attributed to visiting family members and friends was estimated to be $280.7 million.

Combining the spending of long-term and short-term students, as well as their visiting family members and friends, yields a total expenditure value of $37.3 billion in our estimate.

Appendix 4: Data tables for 2022

Table 25: Number of study permit holders on December 31 by study level and intended province or territory of destination, 2022

	Secondary of Less	Post-Secondary	Other Studies	Not Stated	Total
Newfoundland and Labrador	795	5,315	65	0	6,175
Prince Edward Island	815	2,940	725	-	4,475
Nova Scotia	2,675	16,945	1,225	-	20,845
New Brunswick	2,215	8,990	195	-	11,405
Quebec	8,050	77,980	7,385	10	93,425
Ontario	36,720	349,265	25,855	80	411,920
Manitoba	3,280	17,525	1,250	5	22,060
Saskatchewan	2,155	10,515	450	5	13,130
Alberta	7,995	33,955	1,510	10	43,470
British Columbia	27,135	127,655	10,110	45	164,945
Northwest Territories	25	10	0	0	40
Nunavut	-	5	0	0	10
Yukon	120	135	65	0	255
Not Stated	-	-	-	-	15,100
Canada	91,980	651,535	48,770	155	807,260

Source: IRCC, January 31, 2023

Table 26: Estimated number of long-term international students by level of study, and province and territory, 2022

	Secondary or Less	College	University – Bachelor's Degree	University – Master's Degree	University – Doctorate	Other Studies	All Levels of Study
Newfoundland and Labrador	620	614	2,842	1,232	626	65	6,000
Prince Edward Island	705	934	1,699	268	39	725	4,370
Nova Scotia	1,940	330	13,470	2,705	440	1,225	20,110
New Brunswick	1,730	3,578	4,076	950	387	195	10,915
Quebec	7,205	13,700	32,222	20,238	11,820	7,385	92,580
Ontario	25,870	176,131	133,124	28,035	11,975	25,855	401,070
Manitoba	2,730	3,951	11,349	1,407	818	1,250	21,510
Saskatchewan	1,545	1,767	5,781	1,860	1,106	450	12,515
Alberta	4,840	12,179	13,900	4,454	3,421	1,510	40,315
British Columbia	22,085	40,334	72,299	9,669	5,352	10,110	159,905
Yukon	50	26	109	0	0	0	185
Northwest Territories	25	2	8	0	0	0	35
Nunavut	0	1	4	0	0	0	5
Canada	69,345	253,547	290,883	70,819	35,986	48,770	769,515

Source: IRCC, with adjustments by RKA

Table 27: Number of short-term international students and student weeks, by province and territory, 2022

	Number of Students	Number of Student Weeks
Newfoundland and Labrador	0	0
Prince Edward Island	121	1,824
Nova Scotia	1,090	16,418
New Brunswick	242	3,648
Quebec	9,823	94,669
Ontario	31,202	351,166
Manitoba	255	2,512
Saskatchewan	764	7,536
Alberta	4,451	62,706
British Columbia	26,981	288,922
Yukon	0	0
Northwest Territories	0	0
Nunavut	0	0
Canada	74,929	829,401

Source: Languages Canada, with adjustments by RKA

Table 28: Number of long-term international students in Canada (as measured by number of study permit holders), by top 10 source countries, 2022

	Number of Students	Percentage of Total
India	319,000	40%
China, People's Republic of	100,010	12%
Philippines	32,425	4%
France	27,110	3%
Nigeria	21,645	3%
Iran	21,105	3%
Korea, Republic of	16,500	2%
Vietnam	16,130	2%
Mexico	14,920	2%
United States of America	14,465	2%
Total of top 10 countries	583,310	72%
All countries	807,260	100%

Source: IRCC

Table 29: Number of short-term international students in Canada, by top 10 source countries, 2022[40]

	Number of Students	Percentage of Total
Japan	12,539	14%
Brazil	12,372	13%
Mexico	11,754	13%
Colombia	8,249	9%
China	7,671	8%
South Korea	6,494	7%
France	2,452	3%
Chile	1,995	2%
Taiwan	1,592	2%
Italy	1,540	2%
Total of top 10 countries	66,658	72%
All countries	93,250	100%

Source: Languages Canada

[40] Source: 2022 Annual Report on Language Education in Canada, page 15. In Languages Canada's annual report, Canada is listed as one of the top 10 source countries. For the purposes of this report, Canada has been excluded. It should also be noted that the total number of students in this table is not the number we use in estimating economic impact as we exclude students from Canada, and only include students who were physically in Canada attending classes in person.

Table 30: Comparison of weighted average undergraduate tuition fees for Canadian and international full-time students, 2022 (average of 2021-22 academic year and 2022-23 academic year)

	Canadian Students	International Students
Newfoundland and Labrador	$3,193	$14,377
Prince Edward Island	$7,018	$19,085
Nova Scotia	$9,153	$20,885
New Brunswick	$8,152	$16,864
Quebec	$3,316	$28,507
Ontario	$7,923	$42,890
Manitoba	$5,155	$18,083
Saskatchewan	$8,649	$23,448
Alberta	$6,893	$28,611
British Columbia	$6,196	$32,105
Yukon	-	-
Northwest Territories	-	-
Nunavut	-	-
Canada	$6,766	$34,641

Source: Statistics Canada, Table 37-10-0045-01 Canadian and international tuition fees by level of study (current dollars)

Table 31: Comparison of weighted average graduate tuition fees for Canadian and international full-time students, 2022 (average of 2021-22 academic year and 2022-23 academic year)

	Canadian Students	International Students
Newfoundland and Labrador	$3,307	$4,835
Prince Edward Island	$5,428	$10,868
Nova Scotia	$10,259	$21,992
New Brunswick	$7,103	$13,032
Quebec	$3,509	$18,954
Ontario	$9,316	$26,641
Manitoba	$5,480	$12,176
Saskatchewan	$4,900	$7,805
Alberta	$7,140	$16,028
British Columbia	$10,174	$21,649
Yukon	-	-
Northwest Territories	-	-
Nunavut	-	-
Canada	$7,362	$20,701

Source: Statistics Canada, Table 37-10-0045-01 Canadian and international tuition fees by level of study (current dollars)

Table 32: Estimated expenditures of long-term international students in the K-12 system, by province and territory, 2022

	Tuition and Fees	Accommodation and Food	Transportation	Discretionary	Total
Newfoundland and Labrador	$7,663,200	$5,921,000	$0	$620,000	$14,204,200
Prince Edward Island	$7,473,000	$6,732,750	$0	$705,000	$14,910,750
Nova Scotia	$23,990,506	$21,058,875	$0	$1,940,000	$46,989,380
New Brunswick	$22,394,850	$18,564,637	$0	$1,730,000	$42,689,487
Quebec	$108,099,641	$98,796,336	$0	$7,205,000	$214,100,977
Ontario	$487,275,327	$316,489,824	$0	$25,870,000	$829,635,150
Manitoba	$39,421,200	$29,458,951	$0	$2,730,000	$71,610,151
Saskatchewan	$23,816,175	$18,430,933	$0	$1,545,000	$43,792,108
Alberta	$68,587,584	$50,512,314	$0	$4,840,000	$123,939,898
British Columbia	$387,520,802	$278,614,664	$0	$22,085,000	$688,220,466
Yukon	$644,450	$501,368	$0	$50,000	$1,195,818
Northwest Territories	$322,225	$250,684	$0	$25,000	$597,909
Nunavut	$0	$0	$0	$0	$0
Canada	$1,177,208,959	$845,332,336	$0	$69,345,000	$2,091,886,295

Source: Various data sources detailed in Appendix 1, with adjustments by RKA

Table 33: Estimated expenditures of long-term international students in college programs, by province and territory, 2022

	Tuition and Fees	Accommodation and Food	Transportation	Discretionary	Total
Newfoundland and Labrador	$7,527,877	$9,588,469	$331,948	$3,011,154	$20,459,448
Prince Edward Island	$14,771,248	$15,658,112	$740,913	$4,657,911	$35,828,184
Nova Scotia	$5,126,529	$5,346,129	$205,452	$1,468,244	$12,146,354
New Brunswick	$50,057,979	$59,455,086	$1,334,652	$17,610,928	$128,458,645
Quebec	$104,057,313	$273,553,516	$8,851,221	$66,034,269	$452,496,319
Ontario	$3,554,974,055	$3,059,347,848	$201,406,537	$842,737,374	$7,658,465,815
Manitoba	$58,228,727	$58,125,159	$3,556,876	$19,012,444	$138,923,206
Saskatchewan	$31,378,305	$22,526,040	$1,396,028	$8,261,234	$63,561,607
Alberta	$278,649,707	$209,487,591	$14,330,321	$59,624,067	$562,091,686
British Columbia	$920,096,650	$624,094,112	$56,545,824	$179,584,570	$1,780,321,156
Yukon	$309,883	$398,913	$22,093	$18,815	$749,704
Northwest Territories	$20,967	$29,549	$1,637	$1,394	$53,547
Nunavut	$7,338	$14,775	$818	$697	$23,627
Canada	$5,025,206,580	$4,337,625,298	$288,724,322	$1,202,023,100	$10,853,579,299

Source: Various data sources detailed in Appendix 1, with adjustments by RKA

Table 34: Estimated expenditures of long-term international students in university programs, by province and territory, 2022

	Tuition and Fees	Accommodation and Food	Transportation	Discretionary	Total
Newfoundland and Labrador	$55,886,150	$72,652,770	$2,540,599	$22,660,944	$153,740,463
Prince Edward Island	$37,566,480	$32,970,838	$1,591,591	$9,717,132	$81,846,042
Nova Scotia	$350,762,937	$275,877,982	$10,332,891	$76,488,887	$713,462,697
New Brunswick	$90,993,067	$88,502,238	$2,019,089	$26,016,085	$207,530,479
Quebec	$1,577,556,336	$1,282,091,783	$41,531,161	$309,462,869	$3,210,642,149
Ontario	$6,758,054,348	$3,017,131,146	$197,978,474	$831,948,810	$10,805,112,777
Manitoba	$244,356,363	$198,811,554	$12,220,025	$64,763,367	$520,151,309
Saskatchewan	$164,553,006	$112,655,927	$6,910,531	$42,355,209	$326,474,672
Alberta	$561,793,031	$377,862,784	$25,622,412	$107,890,259	$1,073,168,486
British Columbia	$2,446,675,811	$1,346,293,126	$122,419,222	$386,661,337	$4,302,049,496
Yukon	$1,233,020	$1,702,120	$91,134	$53,004	$3,079,279
Northwest Territories	$14,889	$126,083	$6,751	$3,926	$151,649
Nunavut	$7,444	$63,041	$3,375	$1,963	$75,824
Canada	$12,289,452,884	$6,806,741,393	$423,267,253	$1,878,023,793	$21,397,485,323

Source: Various data sources detailed in Appendix 1, with adjustments by RKA

Table 35: Estimated expenditures of long-term international students in other studies, by province and territory, 2022

	Tuition and Fees	Accommodation and Food	Transportation	Discretionary	Total
Newfoundland and Labrador	$659,189	$1,026,798	$35,130	$162,500	$1,883,617
Prince Edward Island	$9,031,234	$12,176,413	$575,192	$1,812,500	$23,595,340
Nova Scotia	$15,417,697	$21,625,415	$761,845	$3,062,500	$40,867,457
New Brunswick	$2,232,555	$3,275,431	$72,745	$487,500	$6,068,231
Quebec	$69,747,633	$152,576,197	$4,771,402	$18,462,500	$245,557,731
Ontario	$432,942,102	$464,523,080	$29,565,228	$64,637,500	$991,667,910
Manitoba	$16,080,339	$18,762,834	$1,125,314	$3,125,000	$39,093,486
Saskatchewan	$6,975,516	$5,851,164	$355,488	$1,125,000	$14,307,167
Alberta	$25,126,140	$26,378,516	$1,776,723	$3,775,000	$57,056,379
British Columbia	$195,220,941	$169,013,093	$14,173,645	$25,275,000	$403,682,678
Yukon	$0	$0	$0	$0	$0
Northwest Territories	$0	$0	$0	$0	$0
Nunavut	$0	$0	$0	$0	$0
Canada	$773,433,344	$875,208,941	$53,212,712	$121,925,000	$1,823,779,997

Source: Various data sources detailed in Appendix 1, with adjustments by RKA

Table 36: Estimated expenditures of long-term international students in all levels of study, by province and territory, 2022

	Tuition and Fees	Accommodation and Food	Transportation	Discretionary	Total
Newfoundland and Labrador	$71,736,417	$89,189,037	$2,907,677	$26,454,597	$190,287,728
Prince Edward Island	$68,841,963	$67,538,113	$2,907,697	$16,892,543	$156,180,315
Nova Scotia	$395,297,669	$323,908,401	$11,300,188	$82,959,631	$813,465,889
New Brunswick	$165,678,452	$169,797,391	$3,426,486	$45,844,513	$384,746,842
Quebec	$1,859,460,922	$1,807,017,833	$55,153,784	$401,164,638	$4,122,797,177
Ontario	$11,233,245,831	$6,857,491,897	$428,950,240	$1,765,193,684	$20,284,881,652
Manitoba	$358,086,629	$305,158,498	$16,902,215	$89,630,811	$769,778,152
Saskatchewan	$226,723,002	$159,464,064	$8,662,046	$53,286,443	$448,135,555
Alberta	$934,156,462	$664,241,205	$41,729,456	$176,129,326	$1,816,256,449
British Columbia	$3,949,514,204	$2,418,014,995	$193,138,691	$613,605,907	$7,174,273,797
Yukon	$2,187,353	$2,602,402	$113,227	$121,819	$5,024,801
Northwest Territories	$358,081	$406,316	$8,387	$30,320	$803,105
Nunavut	$14,782	$77,816	$4,194	$2,660	$99,452
Canada	$19,265,301,767	$12,864,907,968	$765,204,287	$3,271,316,893	$36,166,730,915

Source: Various data sources detailed in Appendix 1, with adjustments by RKA

Table 37: Estimated additional tourism activities of visiting family members and friends associated with long-term international students, by province and territory, 2022

	Total Spending
Newfoundland and Labrador	$2,219,690
Prince Edward Island	$1,363,230
Nova Scotia	$7,062,990
New Brunswick	$4,009,280
Quebec	$31,859,190
Ontario	$140,300,490
Manitoba	$7,575,370
Saskatchewan	$4,510,440
Alberta	$14,509,330
British Columbia	$56,002,760
Yukon	$69,190
Northwest Territories	$13,090
Nunavut	$1,870
Canada	$269,496,920

Source: RKA, based on ACPET study

Table 38: Estimated expenditures of short-term international students by type of expenditure, by province and territory, 2022

	Tuition, Fees and Books/Material	Homestay	Transportation	Utilities	Discretionary	Total Annual Expenditures
Newfoundland and Labrador	$0	$0	$0	$0	$0	$0
Prince Edward Island	$621,316	$707,133	$102,980	$99,548	$375,879	$1,906,855
Nova Scotia	$5,591,841	$6,364,194	$926,824	$895,930	$3,382,909	$17,161,698
New Brunswick	$1,242,631	$1,414,265	$205,961	$199,096	$751,758	$3,813,711
Quebec	$22,268,296	$36,698,151	$5,344,391	$5,166,245	$19,507,027	$88,984,109
Ontario	$117,955,951	$136,128,437	$19,824,530	$19,163,712	$72,359,533	$365,432,163
Manitoba	$957,225	$973,769	$141,811	$137,084	$517,610	$2,727,499
Saskatchewan	$2,871,674	$2,921,308	$425,433	$411,252	$1,552,831	$8,182,497
Alberta	$16,814,855	$24,307,791	$3,539,970	$3,421,971	$12,920,889	$61,005,476
British Columbia	$85,359,024	$111,999,739	$16,310,642	$15,766,953	$59,533,842	$288,970,199
Yukon	$0	$0	$0	$0	$0	$0
Northwest Territories	$0	$0	$0	$0	$0	$0
Nunavut	$0	$0	$0	$0	$0	$0
Canada	$253,682,812	$321,514,787	$46,822,542	$45,261,790	$170,902,277	$838,184,208

Source: Languages Canada, with adjustments by RKA

Table 39: Estimated additional tourism activities of visiting family members and friends associated with short-term international students, by province and territory, 2022

	Total Spending
Newfoundland and Labrador	$0
Prince Edward Island	$18,114
Nova Scotia	$163,027
New Brunswick	$36,228
Quebec	$1,469,521
Ontario	$4,667,819
Manitoba	$38,111
Saskatchewan	$114,332
Alberta	$665,870
British Columbia	$4,036,358
Yukon	$0
Northwest Territories	$0
Nunavut	$0
Canada	$11,209,378

Source: RKA, based on ACPET study