ESTIMATING THE COMPREHENSIVE ECONOMIC IMPACT OF INTERNATIONAL STUDENTS IN LANGUAGE EDUCATION PROGRAMS IN CANADA

Presented to

Languages Canada

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June 30, 2021

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Introduction

Roslyn Kunin and Associates has been requested to create a comprehensive evaluation of the economic and employment impact of international students who first came into the country to pursue language education (English and French). This study is a follow-up to an initial estimate of the economic impact associated with international students undertaking language education programs in Canada. Those base estimates were conducted using the number of international students enrolled in Languages Canada accredited language education programs in Canada in 2019.

The current study is aimed at evaluating the complete economic impact of international students that pursue language education as a necessary first step in further post-secondary education, employment, and permanent residency in Canada. In this report, we will quantify the economic contribution enabled by these language education students as they pursue their further post-secondary education in Canada.

For the purpose of this study, we define “international language students” as students who come to Canada to study in language education programs, either in Languages Canada’s accredited programs or other non Languages Canada membership institutes, and who may or may not have a formal study permit. For brevity, they are referred to as “language students”.

Comprehensive Economic Impact of International Students in Language Education Programs in Canada

In order to evaluate the comprehensive potential economic impact, we have followed the approaches listed below and made certain assumptions:

- A five-year cycle is used to determine the comprehensive economic and employment impact of pathway language students. The five-year cycle allows inclusion of college and university certificate and diploma programs which last from two to four years on average (not counting post-graduate programs). Adding the initial language education program creates a three-to-five-year cycle. By including a new cohort of students every year during the five-year cycle, it is possible to create an average annual understanding of the value that language-to-post-secondary pathway students contribute to Canada's international education sector.

- From the initial study estimating the economic impact of language students in Canada, we established that the number of students in Languages Canada (LC) member programs was 144,208 in 2019.

- We have assumed that those students in the Pathway Program (13,217) and 85% of those in the EAP/FAP (English/French for Academic Purposes) programs (20,527) would have continued with further post-secondary education in Canada upon the completion of their language education programs.

- Therefore, we established that, at the very least, 21.3% of LC international students would pursue further post-secondary education in Canada[1].

- Expanding LC language education students to the entire population of international students in language education programs in Canada, it is estimated that 35,657 students would pursue further post-secondary education in Canada.

[1] It is probable that some international language students outside these two segments (Pathway Program and EAP/FAP) may advance to further post-secondary education in Canada.

- The distribution of these international students in post-secondary programs is assumed to be of a similar pattern to the overall international student population in post-secondary education system in Canada in 2018/19 academic year[2], namely, 41% (approximately 14,500) in tertiary and non-tertiary education programs below a Bachelor's degree, 42% (approximately 14,900) in a Bachelor's or equivalent program, and 17% (approximately 6,200) in a post-graduate program (including a Master's or Doctoral degree).

- A student annual expenditure profile was created for each type of international student in post-secondary education programs, using data mainly from Statistics Canada[3]. The types of education and living expenses include tuition and fees, books and tools, food and accommodation, transportation, and an allowance for discretionary spending. Student expenses reflect contribution to home-stay and tourism activities.

- In addition to spending incurred by students, we have made allowances for visiting family and friends while the students are studying in Canada. It is assumed that for every ten students, there would have been five family or friends visiting. 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[4,5].

The resulting average annual expenditure per student (for education and living cost) in 2019 is $42,200 for those in tertiary and non-tertiary post-secondary education program, $49,300 in an undergraduate program, and $38,700 in a graduate program.

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[2] Statistics Canada. Table 37-10-0018-01 Postsecondary enrolments, by registration status, institution type, status of student in Canada and gender.

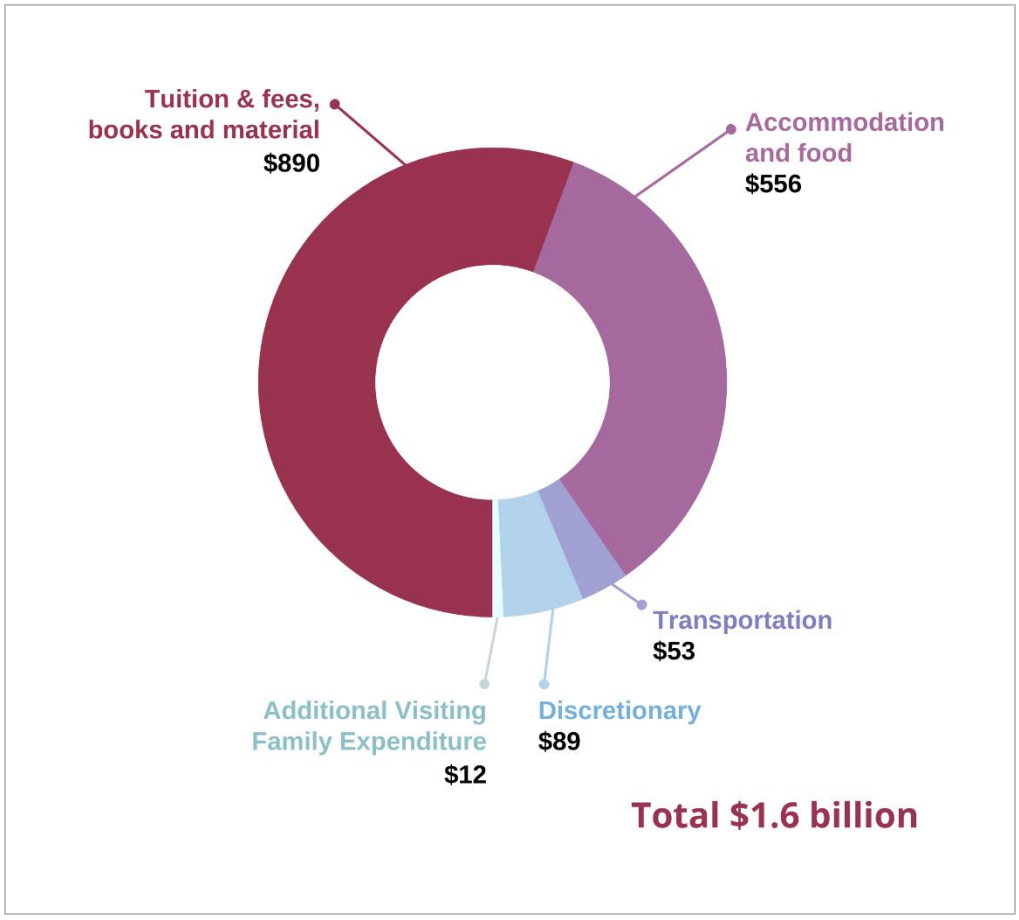
[3] Further discussion of these data sources and assumptions made can be found in Appendix I.

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

[5] Destination Canada, Tourism Spend in Canada. https://www.destinationcanada.com/en/tourism-spend

Table 1 below shows the estimated total student spending on an annual basis, for all language students (close to 35,700) who we assume would have pursued further post-secondary education in Canada.

Table 1: Estimated Annual Spending of Language Students in Further Post-Secondary Programs in Canada, 2019 (in millions of dollars except the total)



Source: RKA.

The analytical framework to capture the overall economic impact of students in language education programs is through the input-output structure of our economy. We can understand this input-output structure of the economy this way.

When a person spends money on a product (goods and/or services), that amount creates a direct requirement to produce 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 can earn a higher wage, and they sometimes decide to spend a portion of their extra earnings on more goods and services.

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 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.

Statistics Canada's input-output model is based on the input-output structure of the Canadian economy, 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[6].

Its Economic Simulation Model is specifically developed to simulate the economic impacts of an expenditure on a given basket of goods and services or the output of one or several industries. For this project, the expenditure values derived in Table 1 has been applied to this model to evaluate the economic impact of international students in post-secondary education programs in Canada in 2019, upon the completion of language education programs.

[6] For a description of the origin of the input-output tables developed by Statistics Canada in 1961, see Statistics Canada's publication "*Evolution of the Canadian Input-Output Tables 1961 to Date"*, and more evolution since that publication in Supply, Use and Input-Output Tables https://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&Id=1290631.

Table 2 below shows the economic impact for Canada's economy in terms of Gross Domestic Product (GDP), labour income, jobs, and government tax revenue. There are three types of impact shown:

- 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.

- 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.

- 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.

Although we present all three types of economic impact values associated with international students spending, we note that it is generally acknowledged that direct impacts alone are incomplete and the total impact (i.e., the total of direct, indirect and induced impacts) may sometimes overestimate the impacts of initial spending.

We note that although spending from international students in Canada contribute to an increase in demand for various products and services, not all of it is equal to the increase in production of products or provision of services of domestic industries as some of the expenditure was consumption taxes and some of the expenditure was used to pay for imports (either as raw material or final product).

In general, government revenues come from personal income taxes, indirect taxes less subsidies, corporate income taxes and natural resource royalties. In this report, we can estimate personal income taxes and indirect taxes.

Statistics Canada's expenditure model does not automatically estimate personal income taxes. We derive the personal income tax estimates by applying the average personal income tax rate in Canada (2019) to total labour income, which is generated from Statistics Canada's impact simulation model.

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). 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) impacts only.

In Tables 2 through Table 4, we present the approximate values of economic impacts attributed to language students who pursue further post-secondary education in Canada. For simplicity of calculation, we have assumed that an undergraduate program lasts four years, a post-graduate program lasts three years, and all other post-secondary programs last two years. All estimates are in 2019 dollars.

Table 2: Estimated Economic Impact Attributed to Language Education Students Pursuing Further Post-Secondary Education in Canada, Based on Total Spending of $1.6 Billion Each Year in Year One & Year Two (in millions of dollars except jobs or otherwise indicated)

	GDP at basic price	Labour Income	Jobs	Taxes
Direct*	$883	$482	10,800	$91
Direct and Indirect	$1.3 billion	$705	14,900	$332
Direct, Indirect and Induced	$1.6 billion	$885	17,900	$433

* Direct tax impact refers to income tax impact only.

Source: Customized Statistics Canada's Economic Simulation Model; RKA's calculation

Table 3 Estimated Economic Impact Attributed to International Language Education Students Pursuing Further Post-Secondary Education in Canada, Based on Total Spending of $985 Million in Year Three (in millions of dollars except jobs)

	GDP at basic price	Labour Income	Jobs	Taxes
Direct*	$543	$297	6,600	$56
Direct and Indirect	$777	$433	9,100	$204
Direct, Indirect and Induced	$981	$526	11,000	$267

* Direct tax impact refers to income tax impact only.

Source: Customized Statistics Canada's Economic Simulation Model; RKA's calculation

Table 4: Estimated Economic Impact Attributed to International Language Education Students Pursuing Further Post-Secondary Education in Canada, Based on Total Spending of $742 Million in Year Four (in millions of dollars except jobs)

	GDP at basic price	Labour Income	Jobs	Taxes
Direct*	$409	$224	5,000	$42
Direct and Indirect	$585	$326	6,900	$154
Direct, Indirect and Induced	$739	$396	8,300	$201

* Direct tax impact refers to income tax impact only.

Source: Customized Statistics Canada's Economic Simulation Model; RKA's calculation

In conclusion, the economic contribution enabled by international students in language education programs is far more than $1.77 billion that we estimated in the study conducted in December 2020. If we include further economic contribution brought on by students who choose to pursue further post-secondary education in Canada upon the completion of their language education, those students will spend at least another $4.9 billion over a period of four years. Directly, this contributes $2.7 billion in Canada's GDP, supports 33,200 person years of employment, and $280 million in just personal income tax.

A number of illustrative graphs below demonstrate the cumulative impact (in terms of annual spending and jobs) of international students in Canada's language education sector over a period of five years. It is built based on the following assumptions:

- That each year, a new cohort of students starts in a language education program in Canada.
- That the annual inflow of new international students to Canada's language education programs is at the 2019 level (approximately 167,700).
- That about one-fifth of the students continue to pursue further post-secondary education in Canada upon completion of their language education.
- That the distribution of students in the types of education programs and length of programs is as per discussion earlier in this report.
- That all cost of education and living is expressed in 2019 dollars.

Figure 1: Illustrative Example of Cumulative Annual Spending of Language Students in Canada Continuing on to Further Post-Secondary Education in Canada

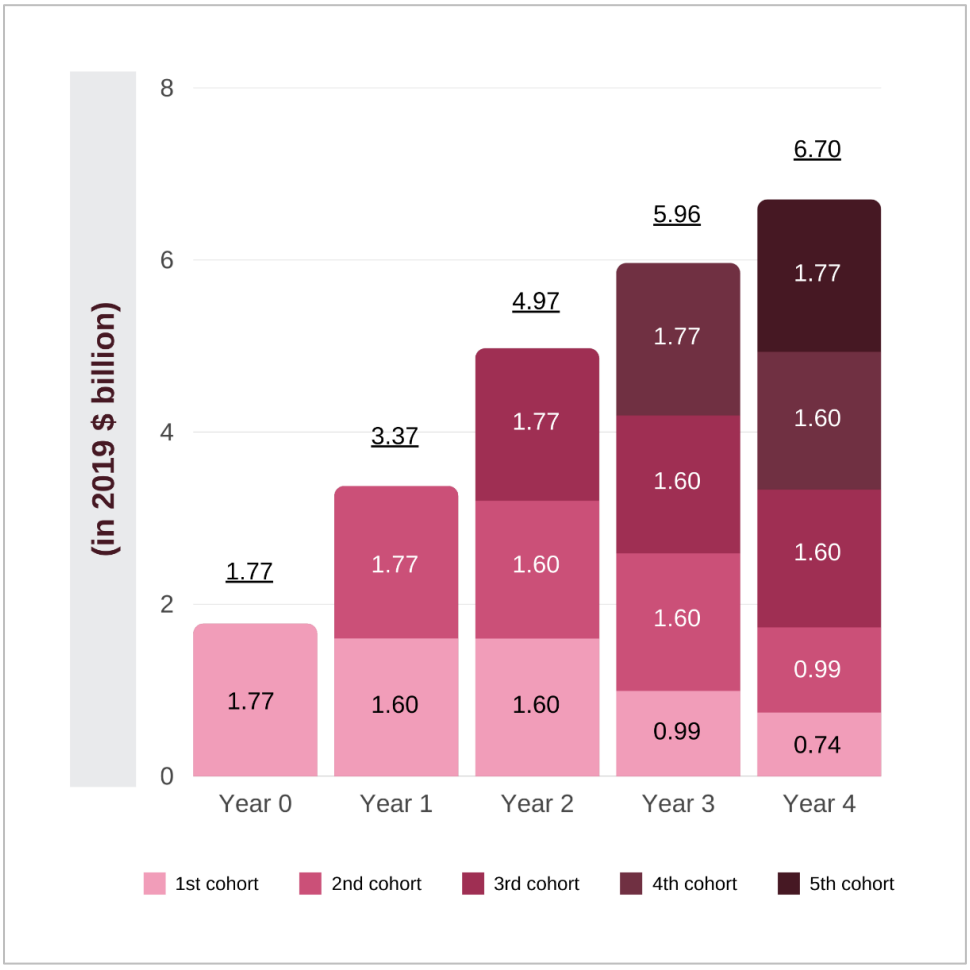
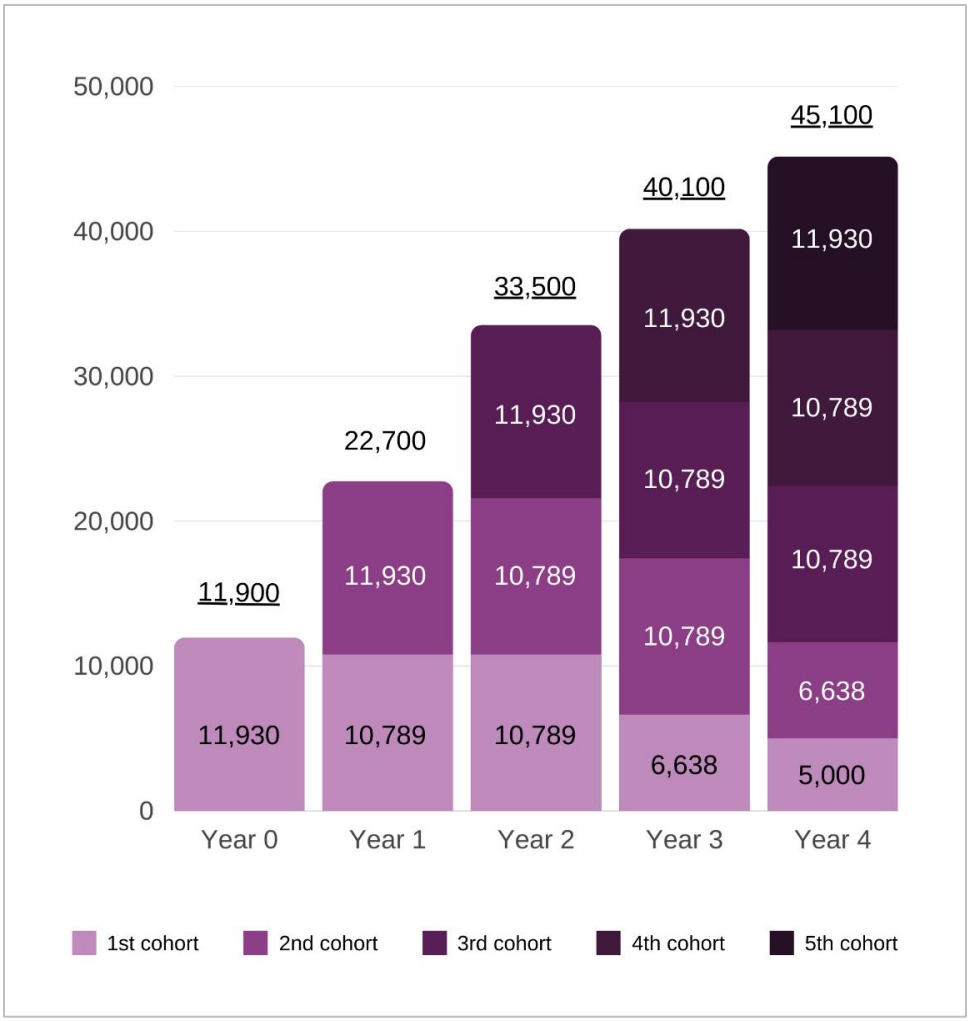


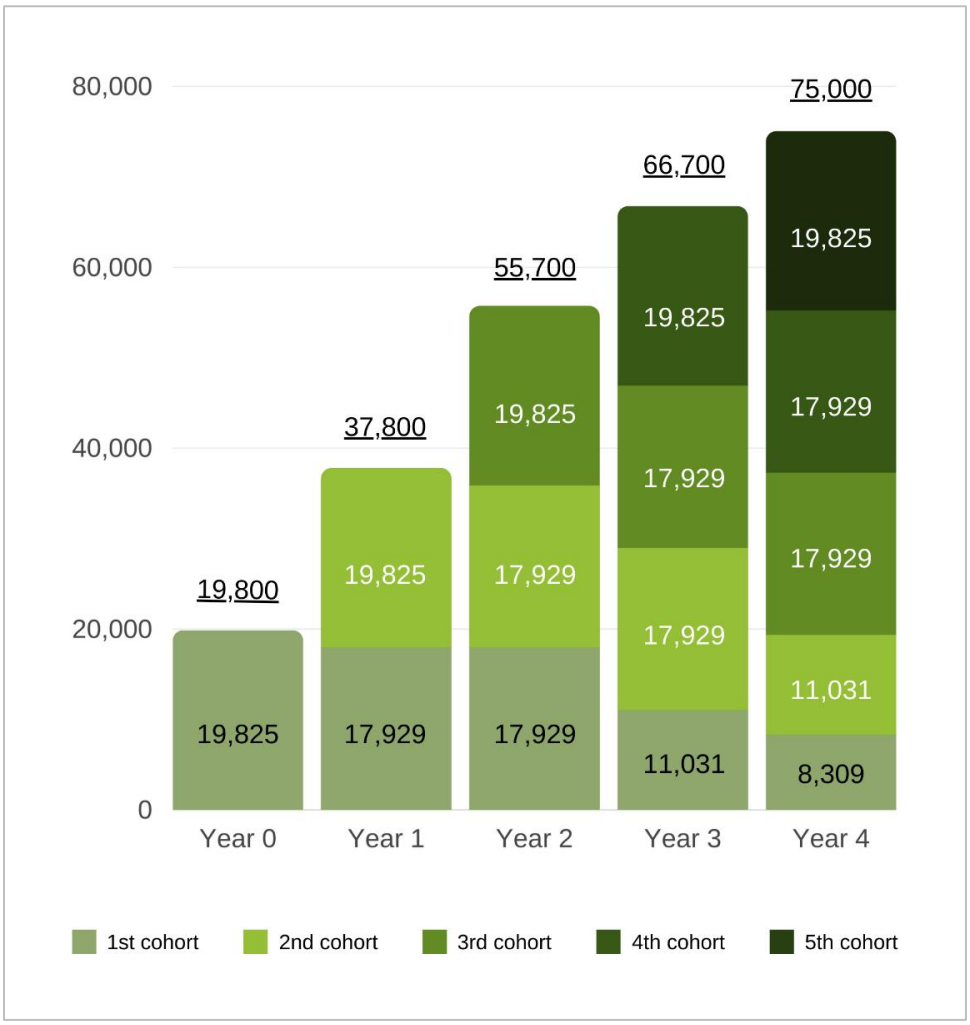
Figure 2 demonstrates direct job impact enabled by five cohorts of language students, starting from language education and continuing with further post-secondary education in Canada over a five-year cycle, namely, the cumulative number of jobs directly supported in sectors of the economy that provide goods and services to these students.

Figure 2: Illustrative Example of Cumulative Annual Jobs Directly Supported due to Language Students Continuing on to Further Post-Secondary Education in Canada



Finally, Figure 3 illustrates the total job impact (i.e., where direct, indirect, and induced impacts are all accounted for) for five cohorts of language students as they move from language education to further post-secondary education in Canada over a five-year cycle.

Figure 3: Illustrative Example of Cumulative Annual Total Number of Jobs Supported due to Language Students Continuing on to Further Post-Secondary Education in Canada



Data Needs and Possibilities for Further Research to Enable a More Fulsome Measure of Long-Term Impact

In addition to the estimates of economic impact associated with a percentage of language students in Canada pursuing further post-secondary education in Canada, there are other aspects of long-term economic impact of these language students that warrant further investigation. For example, what actual percentage of language students move through Canada's non-permanent residency system to obtain further study permits and/or work permits? Of those that obtain study permits, what levels of education and training have they achieved? What percentage of this cohort transition to Canadian permanent residency, and what labour market outcomes do they achieve?

Currently, Statistics Canada maintains the Longitudinal Immigration Database (IMDB), which is a comprehensive source of data that plays a key role in the understanding of the economic behaviour of immigrants. It is the only annual Canadian dataset that allows users to study the characteristics of immigrants to Canada at the time of admission and their economic outcomes and regional (inter-provincial) mobility over a time span of more than 35 years[7].

The IMDB combines administrative files on immigrant admissions and non-permanent resident permits from Immigration, Refugees and Citizenship Canada (IRCC) with tax files from the Canadian Revenue Agency (CRA).

IRCC administrative records contain information about immigrants who were admitted to Canada since 1952 and non-permanent resident permits issued since 1980. Tax records for 1982 and subsequent years are available for tax-filers.

With the addition of non-permanent resident data in IMDB, it is possible to study, for example, the number and type of permits obtained prior to one being admitted as a permanent resident. Such admission data can be used to establish the pre-admission profile of immigrants. By comparing these populations (with and without pre-admission Canadian experience), it becomes possible to assess the impacts of pre-admission Canadian

[7] Statistics Canada, "*Longitudinal Immigration Database (IMDB) Technical Report, 2018"*. https://www150.statcan.gc.ca/n1/pub/11-633-x/2019005/sec1-eng.htm.

experience on the economic outcomes and mobility patterns of immigrants. The specific sociodemographic profile at time of temporary resident permit issuance makes it also possible to evaluate economic outcome and mobility prior to admission. Changes in intended occupation, skill level and level of study through temporary resident permits are also available[8].

However, the major limitation of data source such as the IMDB is that data is only available for those who eventually became immigrants in Canada at some point. There is no longitudinal data set to track the movement of all international students who enter Canada by studying in a language education program or perhaps from other pathway streams.

To help policymakers understand better how students move through the education process from language to post-secondary to permanent residency, an area of further research is for Languages Canada to work with IRCC to establish a tracking system, starting by establishing a unique personal identifier for each person entering the country as a temporary resident for the purpose of study. Such a system can keep track of the number and types of permits one has, as the person moves from one type of education program to the next or exits from the country. While such a system still does not capture all international students in language education programs, it will contribute to the understanding of long-term impacts of a substantial portion of these students.

[8] Statistics Canada, "*Longitudinal Immigration Database (IMDB) Technical Report, 2018"*. https://www150.statcan.gc.ca/n1/pub/11-633-x/2019005/sec9-eng.htm.

Appendix I
Methodology on Estimating Student Education and Living Expense

Tuition and fees

For detailed information on tuition and fees for full-time university-level international students in Canada, we rely on Statistics Canada's annual Tuition and Living Accommodation Costs (TLAC) survey. For the purposes of calculation, we have assumed that all students pursue full-time studies[9].

When deriving student tuition and fees for each of the three levels of study, we made the following assumptions:

- Undergraduate and Post-Graduate Programs – We applied separate undergraduate and graduate tuition values from the TLAC to full-time undergraduate students and students in Master's/Doctoral programs[10].

  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.

[9] While it is true that some international students do study on a part-time basis, the resulting length of study will be longer than the "normal" length of study of each level. For simplicity of calculation, we have assumed that an undergraduate program lasts four years, a post-graduate program lasts three years, and all other post-secondary programs last two years.

[10] 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.

- Other Tertiary and Non-Tertiary Post-Secondary Programs – For full-time tuition, we applied a factor of 75% to the average university undergraduate tuition. The 75% is an approximation based on web research conducted for select college programs to see how they compare to the full-time tuition for an undergraduate program.

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

Living expenses

- Undergraduate and Post-Graduate Programs – 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)[11]. Then, values were scaled up to full-year (12 months) values. That is, we assumed that international students in the undergraduate and post-undergraduate programs stay in the country for 12 months, even though they may only take courses for two semesters.

  We also made allowances for transportation costs. We applied data from Statistics Canada's Survey of Household Spending (SHS), which details household spending on public transportation, in 2019. The values we used refer to the average expenditure per household on public transportation (households that did or did not use public transit).

- For students in Other Tertiary and Non-Tertiary Post-Secondary Programs, we assumed that they spend the equivalent of what undergraduate program students have to pay during an academic year (average room, meal and transportation costs). Similarly, any eight-month values have been scaled up to 12-month values.

[11] Statistics Canada, TLAC, Table 7. Living Accommodation Costs at Residences, 2018-2019 (Final).

In addition to basic living costs, as presented above, we made an allowance of $2,500 per student per year for discretionary expenses (such as eating out, recreational activities and entertaining).

Glossary

It was mentioned in the report that "distribution of these international students in post-secondary programs is assumed to be of a similar pattern to the overall international student population in post-secondary education system in Canada in 2018/19 academic year". The source of such data is from Statistics Canada's published table on postsecondary enrolments, by registration status, institution type, status of student in Canada and gender (37-10-0018-01). Such data classifies the level of study a student enrolls in the post-secondary system using International Standard Classification of Education (ISCED), which is "the reference classification for organizing education programmes and related qualifications by education levels and fields", developed by the UNESCO Institute for Statistics (UIS)[12].

In Statistics Canada's table on postsecondary enrolments, by registration status, institution type, status of student in Canada and gender (37-10-0018-01), there are seven levels of study presented:

1. Upper secondary education
2. Post-secondary non-tertiary education
3. Short-cycle tertiary education
4. Bachelor's or equivalent
5. Master's or equivalent
6. Doctorate or equivalent
7. Not applicable

[12] UNESCO Institute for Statistics, International Standard Classification of Education ISCED 2011.

Below are definitions from ISCED 2011 on the terms.

Post-secondary non-tertiary education (ISCED level 4). Post-secondary non-tertiary education provides learning experiences building on secondary education, preparing for labour market entry as well as tertiary education. It typically targets students who have completed upper secondary education (ISCED level 3), but who want to increase their opportunities either to enter the labour market or progress to tertiary education. Programmes are often not significantly more advanced than those at upper secondary education as they typically serve to broaden – rather than deepen – knowledge, skills and competencies. It therefore aims at learning below the high level of complexity characteristic of tertiary education.

Tertiary education (ISCED levels 5 to 8). Tertiary education builds on secondary education, providing learning activities in specialised fields of education. It aims at learning at a high level of complexity and specialisation. Tertiary education includes what is commonly understood as academic education but also includes advanced vocational or professional education.

Upper secondary education (ISCED level 3). Programmes at ISCED level 3, or upper secondary education, are typically designed to complete secondary education in preparation for tertiary education or provide skills relevant to employment, or both. Programmes at this level offer students more varied, specialised and in-depth instruction than programmes at lower secondary education (ISCED level 2). They are more differentiated, with an increased range of options and streams available.