The Economic Impact of International Students in Atlantic Canada

Prepared for

Council of Atlantic Ministers of Education and Training (CAMET)

Prepared by

Gardner Pinfold Consultants Inc.
www.gardnerpinfold.ca

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Gardner
Pinfold
Consultants Inc.
www.gardnerpinfold.ca

Nova Scotia
2102 Oxford Street
Halifax, NS
Canada, B3L 2T2
Ph: 902-421-1720
Fax: 902-422-5343
mgardner@gardnerpinfold.ca

New Brunswick
46 Weldon Street
Sackville, NB
Canada, E4L 4N4
Ph/Fax: 506-939-2261
gregmacaskill@gardnerpinfold.ca

British Columbia
6150 Baillie Rd.
Sechelt, BC
Canada, V0N 3A7
Ph: 604-740-2703
Fax: 604-885-9450
tpinfold@gardnerpinfold.ca

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CONTEXT

The Canadian Bureau for International Education reports that 336,500 international students were enrolled at all levels of study in Canada in 2014 (CBIE, 2015). Canada captures about 5% of the world market for internationally mobile students. Through their spending on tuition and living expenses, the money brought into Canada and the Atlantic provinces has become an important economic driver.

Adverse demographic shifts also continue to be a major concern for the Atlantic Provinces. Not only have these shifts created impediments for regional economic growth, they have also created enrolment challenges for the region's universities and colleges. Efforts to attract and retain international students have intensified while some governments and post-secondary institutions are collaborating on retention efforts by helping international students transition to permanent residents after graduation.

STUDY

The Council of Ministers of Education and Training (CAMET) commissioned a formal study to determine the economic impact of international students studying at publicly funded colleges and universities in Atlantic Canada, and to understand the factors that affect international student success and retention after graduation. This study employs a survey of international students, review of public statistics, and key informant interviews. Survey results are based on 2,380 valid complete responses representing a combined 17% response rate across colleges and universities.

RESULTS

- **Growth** – The Atlantic provinces hold four of the top five spots in Canada for international student growth over the last fifteen years. In Atlantic Canada, Nova Scotia led with the international student share of enrolments rising from 6% to 17% (11 percentage point gain).

- **Enrolment** – International student enrolments in Atlantic Canada stood at 13,968 in 2016/17, including 737 at colleges and 13,231 at universities.

- **Origin** – The Asia-Pacific region is the largest source of students for Atlantic Canada (59%), followed by Africa (18%), then Latin America and the Caribbean region with 10%.

- **Field of study** – Commerce, management and business, engineering, and applied sciences are the most popular fields of study for international students in Atlantic Canada. This is consistent with Statistics Canada reports of international students in Canada choosing business, management, public administration, science, and math at twice the rate of domestic students in Canada.

- **Spending** – The total spending for international students at universities and colleges in Atlantic Canada is $478 million with a student average of $34,188 per year. The largest expenditure (tuition and fees – 40%) more than doubles the second largest (accommodation – 16%). Family and friends coming from outside the region to visit students add another $34 million in spending.

- **Economic Impacts** – Totals for Atlantic Canada direct and spinoff impacts include $795 million in output (sales), $495 million in gross domestic product (added-value), $329 million worth of income (salaries and wages), 6,731 jobs (full-time equivalents), and over $22 million in tax revenues primarily to federal and provincial governments.

- **Average impacts** – per student are $35,438 in annual added-value to Atlantic Canada, $23,551 worth of income, and nearly half (0.48) of a full-time equivalent job.
- **Funding sources** – Students indicate over half (52%) of their funds come from outside the region. About one-third receive financial awards (36%), and about one-third find employment while studying (32%); the remaining funds come from a combination of family support, savings, and future earnings (debt).
- **High school origin** – Most completed high school in their home country (87%), but 3.4% completed high school in Atlantic Canada (475 students). About 2,380 international students are enrolled at public schools in Atlantic Canada including an estimated 400 that graduate each year. Most want to stay for post-secondary education in Canada and about one-quarter of these intend to study at universities and colleges in the region.
- **Attraction** – The Migrant Integration Policy Index (MIPEX) provides a comprehensive basis for comparing Canada with other countries. Canada ranks 4th in the world based on 21 education indicators for primary, secondary, and post-secondary education. Most Atlantic Canada international students (65%) indicate that their current institution was their first choice. The attractiveness of the program is most important (28%), and Canada's reputation is the second most common factor (24%).
- **Success** – Affordable living is the most common (17%) key factor for international student success adjusting to life in Atlantic Canada. Academic support is the most common key factor (24%) for successful studies.
- **Retention** – About two-thirds (65%) hope to stay in Atlantic Canada after graduation and this tends to transpire (64%). About 42% want to work in Atlantic Canada, while some plan to study further at college or university in Atlantic Canada (12%). Availability of suitable jobs is the most common factor (20%) for working in Atlantic Canada. Cost of programs is the most common factor (21%) for further studies in Atlantic Canada.
- **Permanent residency** – The majority of students (62%) have or plan to obtain permanent residency. This tends to occur over the ten years following graduation.
- **Experiential learning** – Atlantic Canada domestic and international undergraduate university students have the second highest co-op participation rates (14%) in Canada. Students surveyed in Atlantic Canada report gaining a wide range of work experiences while completing their studies. International students seem well-positioned for working in Canada and see language barriers as the least important challenge entering the workforce.

1. Introduction

1.1 BACKGROUND

International education at the national level

International education is a major economic force in Canada and globally. The Canadian Bureau for International Education reports that 336,500 international students were enrolled at all levels of study in Canada in 2014 (CBIE, 2015). This number is up by over 80% since 2008. Enrolment is concentrated in three provinces—Ontario, British Columbia, and Québec account for 86% of enrolment vs. 4.8% for the Atlantic provinces. About 65% of the total (218,725) are enrolled in post-secondary programs, comprising 11% of the Canadian post-secondary student population. Student expenditures (including tuition and living expenses) amount to almost $8 billion annually (an average of almost $24,000/student). The United States, the United Kingdom, and Australia are the top alternative study destinations for international students in Canada.

An economic role for international students in the Atlantic Provinces

The 2006 report, The Economic Impact of Universities in the Atlantic Provinces, in addition to measuring the contribution our universities make to the regional economy, drew attention to their important role as generators of export revenue through the recruitment of international students (Gardner Pinfold, 2006). The authors estimated this export revenue conservatively at $100 million for 2004 (based on student expenditures only), while noting also the great contribution universities are in a position to make to augment provincial and federal initiatives aimed at attracting immigrants to a region facing considerable demographic challenges. Lebrun & Rebelo, 2006, also noted that immigration is emerging as a new economic role for Atlantic Canada's universities.

Against the backdrop of adverse demographic trends and with a preliminary estimate of the economic contribution made by international students, the Council of Ministers of Education and Training (CAMET) commissioned a formal study to determine the economic impact of international students studying in Atlantic Canada. Based on a detailed survey and extensive literature review, the resulting 2010 study produced a wide array of expenditure and demographic data, as well as information on student motivation for attending an Atlantic provinces institution and the quality of the experience (Siddiq et al, 2010). The study documented the substantial economic impact international students make through their own expenditures (estimated at $175 million), and also acknowledged that they are ideal immigration candidates, offering excellent potential to help address the region's demographic challenges. Some provinces have implemented specific programs aimed at improving the retention rate.

Adverse demographic shifts continue to be a major concern for the Atlantic provinces. The university-aged population in the region (15–24 years) declined between 2010 and 2015, ranging from -2% in Prince Edward Island to -9% in Newfoundland and Labrador (Statistics Canada, CANSIM 051-0001) The cohort at or near retirement age (55–64 years) increased in absolute terms and forms an increasing share of the population in each province. Not only have these trends created impediments for regional economic growth, they have also created enrolment challenges for the region's universities and colleges. Universities have responded to the latter by intensifying their recruitment of students from elsewhere in Canada and internationally.

Since the release of the 2010 economic impact report, universities and colleges have intensified their efforts to attract and retain international students. Some governments and post-secondary institutions are collaborating on retention efforts by helping international students transition to permanent residents after graduation. These efforts would benefit from up-to-date perspectives on why students are attracted to the region's institutions and what can be done to retain them upon graduation.

1.2 STUDY PURPOSE AND OBJECTIVES

The purpose of this study is to provide decision-makers in post-secondary institutions and government with well-documented information on international student motivations and economic impacts to be used to design and implement support programs aimed at improving recruitment and retention.

To this end, CAMET specifies two main study objectives:

- Determine whether and to what extent the economic impact of international students has changed over the past five years (since 2010); and,
- Identify the key factors that are most important to supporting international student retention as students and as new graduates.

1.3 APPROACH AND METHODOLOGY

Detailed descriptions of methodologies are presented in the appendix. A brief outline of key elements is presented here.

- **Literature** – A thorough scan and examination of recent literature was undertaken for the key topics in the report. The results are used to clarify concepts and terminology and for making comparisons with results found elsewhere in Canada or abroad.
- **Data sources** – Statistics Canada and other publicly available data sources are referenced throughout the report. These are primarily used to show the national or international context for developments in Atlantic Canada.
- **Survey data** – The survey of international students in Atlantic Canada captured respondents from all of the region's publicly funded post-secondary colleges and universities. Questions for the survey instrument were developed with the CAMET study steering committee. Research ethics boards at most of the colleges and universities approved the survey methodology after input and revisions. In some cases the approval by one institution satisfied the requirements of administrations at other institutions. The survey was programed in the Opinio survey software platform at Dalhousie, and the administration at each institution sent invitations to their international students inviting them to complete the survey online. Valid complete surveys from 2,380 respondents were used to prepare the results in this report. The average response rate for universities was 16.5%, the average for colleges was 25.5%, and the overall rate was 17.0%.
- **Economic impacts** – The survey results included spending estimates by international students for on- and off-campus study and living expenses. These were compiled by institution and used to calculate a suite of economic indicators based on the latest available Statistics Canada interprovincial input-output model (2013). The economic impact indicators are output (sales), gross domestic product (added-value), income (wages and salaries), jobs (full-time equivalents), and taxes. Direct impacts are those occurring from the initial expenditures; spinoffs refer to indirect and induced impacts as the initial spending works through the economy.

- **Focus groups** – To complement the survey data obtained from students at two institutions (Dalhousie and Saint Mary's University), a set of four focus groups was organized to delve into the key study questions. Participants were recruited by the international student centres at each institution. Focus group sessions were an opportunity to collect different information because the responses from participants are enriched by group discussion. Questions could also be posed without "prompters" so responses reflect top-of-mind issues and perspectives. Participant responses were collected both orally and in writing. Participants were given a small stipend for their time.
- **Key informants** – The report benefited from interaction with key administrative and international student staff at each institution. Each institution shared existing knowledge from previous examination of related issues and initiatives. It was important to seek clarification of definitions and data sources in many cases to ensure proper interpretation of results.

2. Internationalization

2.1 CANADIAN CHALLENGES

Workforce Internationalization

Canada has historically relied on the large neighbouring U.S. market for international trade and economic development. However, Asia-Pacific and European countries have recently become a larger share of Canada's international trade, and this diversification is expected to continue. For example, in just the last ten years the U.S. share of Canada's exports declined from 81% to 76%, while the U.K. share rose from 2.3% to 3.3% and China grew from 1.8% to 4.1%. (ISED Canada, 2017).

Developing markets outside the U.S. is a greater challenge for Canadians since language, market understanding, and business culture, among other things, are not as familiar as they are with the U.S. Canada has recognized a need to internationalize its workforce in order to cultivate opportunities and compete in global markets.

Employment and Social Development Canada (ESDC, 2015) currently projects labour force demand to the year 2024 based on the Canadian Occupation Projection System (COPS). Given employment demand, expansion, retirements, and emigration, about 579,200 job openings are expected by 2020 and 616,300 by 2024. Immigrants are expected to fulfill 21% of openings at each time horizon. Immigrant status does not necessarily reflect the international student path to Canada's workforce since many become permanent residents, but this is nevertheless indicative of the significant need for international labour to meet future needs.

The COPS projections further highlight the mismatch between the top five occupations with anticipated shortages and those commonly filled by new immigrants (below). The occupations with shortages require more advanced training than the ones commonly filled by immigrants. Unless immigrants arrive with recognized credentials to fill these jobs, colleges and universities have a role to play in preparing workers to address virtually all top five occupation shortages.

Top 5 occupations with shortages in 2024

- Registered nurses
- Transport truck drivers
- College and other vocational instructors
- Professionals in business management
- Welders and related machine operators

Top 5 occupations filled by immigrants

- Retail salespersons
- Food counter attendants & kitchen helpers
- Light duty cleaners
- Nurse aides, orderlies and patient services
- Cashiers

Education Internationalization

According to the Canadian Bureau of International Education (CBIE, 2016) there are three key post-secondary education system roles for internationalization of future Canadian workers, namely to

1) expand opportunities for Canadians to study abroad,
2) incorporate international "content" in Canadian curriculum, and
3) enroll international students at Canadian institutions.

The focus of this report is on the third stream and how to do a better job of attracting and retaining international students at post-secondary institutions, then linking them to the workforce after graduation. Domestic and international students must graduate with international awareness, relevant skills, contacts, and workplace readiness. International students contribute to Canadian college and university campuses and have the potential to enter the workforce with many of the attributes employers need to expand their international reach.

2.2 INTERNATIONAL STUDENT TRENDS

Global Market

Canada has stiff competition in the pursuit of international students. Considering both primary and secondary education, over 5 million individuals crossed international borders to study in 2014, and this number is expected to surpass 7 million by 2020 (ICEF, 2014; OECD, 2014). Canada hosts approximately 5% of all internationally mobile students, nearly double the number of students ten years ago. Canada now stands in seventh place for market share behind the U.S., U.K., China, France, Germany, and Australia (IIE, 2014). Canada is fourth behind Australia, the U.K., and New Zealand according to the proportion of students that are of international origin (StatCan, 2016).

The global market for international education has over 5 million students.

Much of the growth in international student mobility is attributed to countries with rapidly growing youth populations, greater youth purchasing power, and expanding middle classes. Countries with these three factors include China, Brazil, Mexico, and Nigeria. Students from these and other nations seek stable countries with excellent reputations in post-secondary education at an affordable price. Canada is among the most desirable destinations; in fact, some countries (e.g., Brazil and Saudi Arabia) offer scholarships for study in Canada.

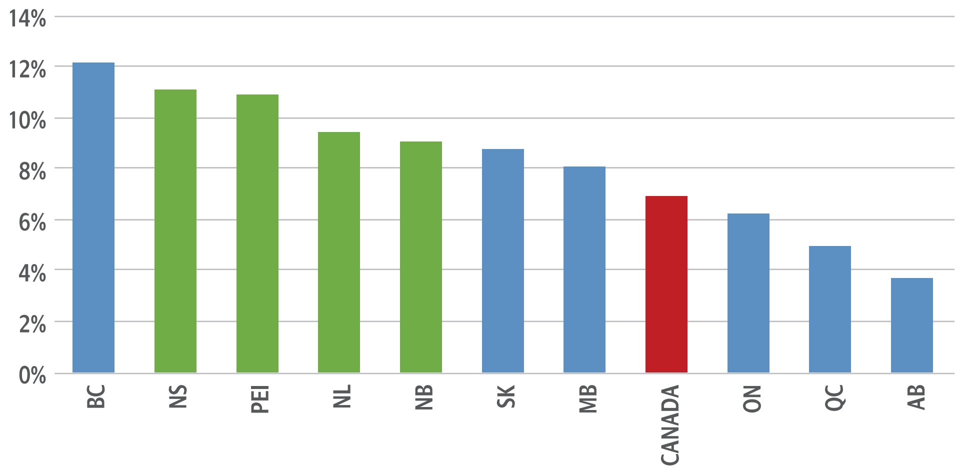
Canadian Market

According to Statistics Canada, 159,687 international students were hosted at Canadian universities in 2015. About 34% attended Ontario institutions, 23% were in Quebec, and 20% in British Columbia. The Atlantic provinces together admitted 8.5% for a total of 13,503. Colleges in Canada hosted 55,095 international students in 2015. About 63% attended Ontario institutions, 16% were in British Columbia, and 10% in Quebec. The Atlantic provinces together admitted 1.3% for a total of 723.

Canada hosts about 5% of the global market – Atlantic provinces hold 4 of 5 top spots for international student growth.

What is more striking is that the Atlantic provinces hold four of the top five spots for growth in share of university student population represented by international students. International students in British Columbia represented 6.0% of the university student population in 2000, and by 2015 they accounted for 18.1% (growth of 12.1 percentage points). International students in Nova Scotia grew from 6.0% to 17.0% (growth of 11.0 percentage points). Prince Edward Island, Newfoundland and Labrador, and New Brunswick grew by 10.9, 9.5, and 9.0 percentage points respectively.

Figure 2.1 Provincial growth in the share of university student population represented by international students (2000–2015)



Source: StatCan CANSIM Table 477-0031

2.3 EDUCATION POLICY

Global Developments

The U.S., the world's largest market for international students, has not made many major education policy changes in recent years. However, political developments in 2017, including the travel bans, may affect ease of entry and attractiveness of study in the U.S. for those arriving from some countries.

The U.K. is the second largest international study market, and there were significant reforms in 2012 that restricted the entry of international students. Tuition fees in England were raised, and there are now tighter restrictions on the recruitment of international students. Enrolment has declined as a result (Universities U.K., 2014).

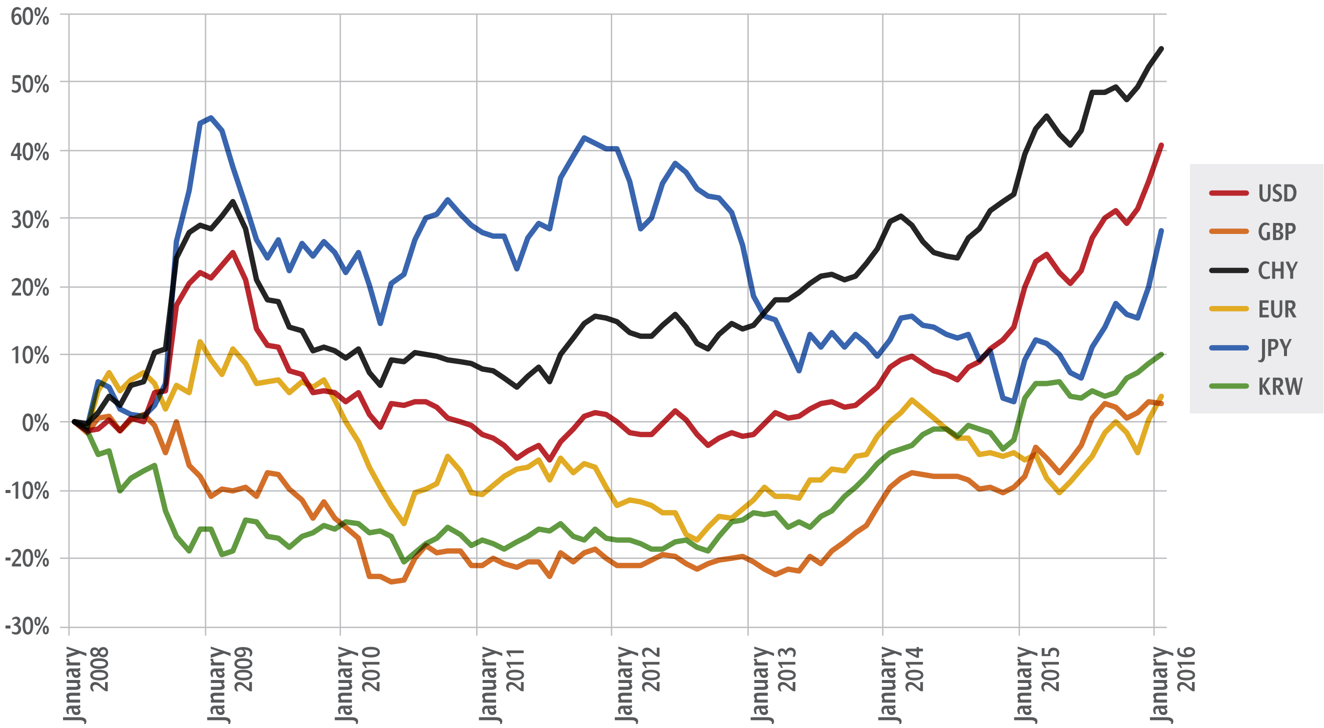
The exchange rate is a critical factor as international students decide where to study. The average cost of studying for one year is likely in the range of $30,000 to $40,000 Canadian and can add up to over $100,000 by the end of a three- or four-year program at a college or university.

Exchange rates have changed a great deal since the 2008 financial crisis, and just a few are benchmarked to the Canadian dollar in the figure below. These are relevant countries for comparison, not only as sources of international students, but also as competing nations in the market for international students. When the currency strengthens in other countries relative to the Canadian dollar, it makes Canada a more attractive place to study and makes other countries less attractive for students of all origins.

Key currencies strengthened against the Canadian dollar since the 2008 financial crisis, making study in Canada more affordable and attractive.

All of the selected foreign currencies have strengthened since 2014, helping Canadian universities and colleges substantially. Chinese students get 55% more Canadian value than they did in 2008 or equivalent to a 36% off sale in Canada. Similarly, Japanese students get 28% more than they did in 2008 or a 22% off Canada sale. Over the course of a $100,000 program this represents $36,000 in savings for Chinese students or $22,000 in savings for Japanese. Compounding this trend is the strengthening of the U.S. and U.K currencies making Canada even more attractive. A low Canadian dollar helps all Canadian universities and colleges attract international students and "export" Canadian education.

Figure 2.2 Percentage change in major currencies relative to Canadian dollar, 2008–2016



Source: Bank of Canada historical foreign exchange rates

Canadian Developments

The release of Canada's International Education Strategy by Global Affairs Canada in 2014 marked the first concerted federal effort to help recruit and retain international students. Education is primarily a provincial and territorial responsibility, but the connection between education internationalization and immigration, trade, and labour force development (closely tied to federal responsibilities) provided a platform for federal leadership. Among other things, the strategy specifically aims to double international student enrolments from 2011 to 2022. The Strategy also aims to increase the number of international students choosing to remain in Canada as permanent residents after graduation.

Immigration policy has a marked effect on Canada's attractiveness as a place to study. Citizenship and Immigration Canada (CIC) introduced the Canadian Experience Class (CEC) in 2008, allowing international students to work while completing their studies and after graduation. The program is also open to temporary foreign workers meeting certain criteria and language proficiency. Between 2008 and 2014 the CEC was Canada's fastest economic immigration program. In 2009 the CEC accounted for 4% of international students obtaining permanent residency, and by 2014 this increased to 24%.

As of 2014, the Government of Canada allows international students in programs of at least six months at post-secondary institutions to work off-campus without a work permit. Post-graduation work permits (PGWP) also became easier to obtain with removal of restrictions on the type of employment and requirement for a job offer to obtain a permit.

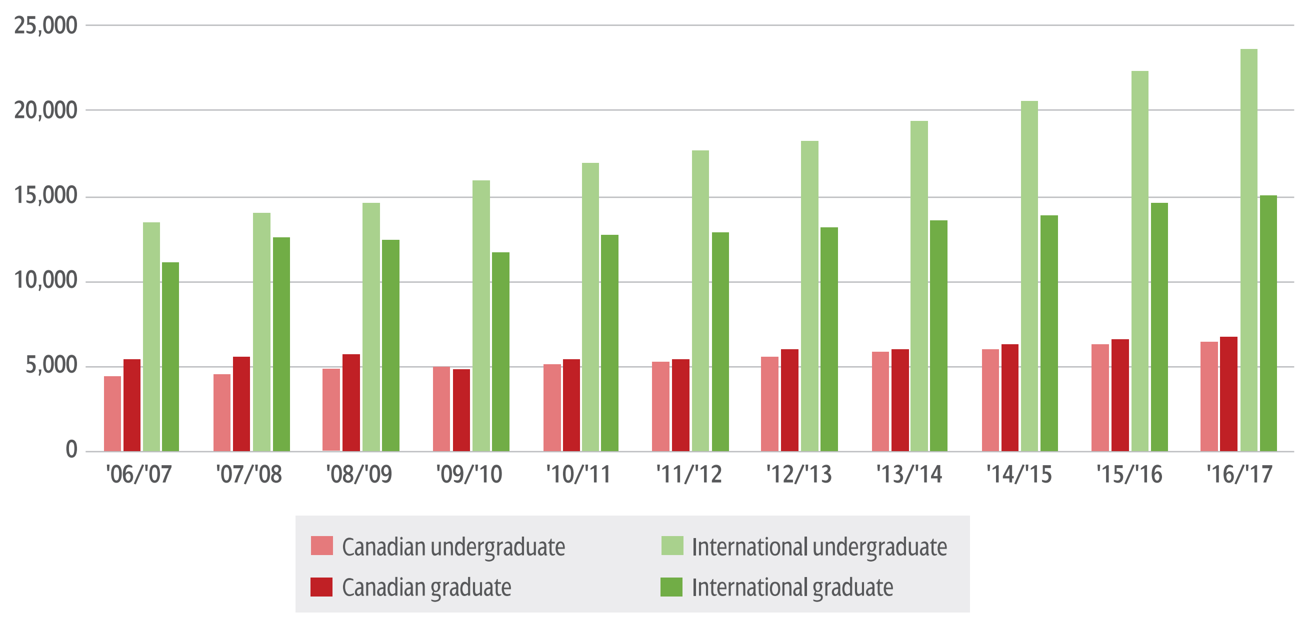
The typical pathway of students to permanent residency has been from 1) international student, to 2) post-graduation work permit (PGWP) holder, to 3) Canadian experience class (CEC) applicant. However, the introduction of the Express Entry electronic application management system in 2015 made the path less clear for students.

This system prioritizes CEC, PGWP, Provincial Nominee Program (PNP), Federal Skilled Trade (FST), and Federal Skilled Worker (FSW) economic categories for permanent residency. The Express Entry system adds a step for students seeking permanent residency, and it is more competitive with a points scoring scheme. There was a decline in the number of students obtaining permanent residency from 2008 to 2011; then, small increases occurred up to 2014, but did not return to the high of 2008. Three-quarters of those who transition to permanent residency do this through the Economic category (recognition of their skills and ability to contribute to the Canadian economy).

The federal government average processing times for all out-of-country study permit applications declined from 44 days in 2012 to 35 in 2014, then increased slightly in 2015 (CIC, 2016). More surprising is that times vary from a low of 13 days in Santiago, Chile, to a high of 216 days in Nigeria. Processing times for applications to study in Canada are important as international students may apply to multiple countries and accept another country when they do not have a response from Canada. Slow processing times may signal to students that Canada is more generally bureaucratic and other services may be slow. Students may also need to pay a deposit to education institutions before knowing if they will be granted a study permit, and this may be a stressor or risk that prevents a student from applying.

Lastly, the trend in rising tuition fees for international students is critical to recruitment and retention efforts. The average tuition across Canada for domestic and international students is shown below for the past decade. While domestic undergraduate students saw an increase of 40% amounting to $1,815, international students saw an increase of 69% for a total of $9,642. Domestic and international graduate students experienced similar percentage increases although the dollar sums more than doubled for international students. Tuition fees are the largest financial expense for international students and the clearest benchmark for comparison with other countries, so it is important that fees remain competitive.

Figure 2.3 Canadian average tuition for domestic and international students, 2007–2017



Source: Statistics Canada CANSIM Table 477-0077

3. Atlantic Canada

3.1 ENROLMENTS

International share

The Atlantic Association of Universities (AAU) reports visa student enrolments and total enrolments for universities in Atlantic Canada. Colleges in Atlantic Canada directly provided international student enrolments and total enrolments for 2016/17. The combined total international student enrolment of 13,968 is shown in the table below, where the total for universities is 13,231 and for colleges it is 737.

Table 3.1 Enrolments at Atlantic Canada universities and colleges (2016/17)

	International	Domestic	Total	% International
SMU	2,116	5,040	7,156	29.6%
UStA	145	403	548	26.5%
CBU	716	2,232	2,948	24.3%
UPEI	894	3,539	4,433	20.2%
NSCAD	136	647	783	17.4%
DAL	3,277	15,670	18,947	17.3%
UdeM	764	4,058	4,822	15.8%
MSVU	573	3,051	3,624	15.8%
MUN	2,386	15,786	18,172	13.1%
UNB	1,071	8,468	9,539	11.2%
ACA	488	4,085	4,573	10.7%
MtA	205	2,134	2,339	8.8%
STU	133	1,896	2,029	6.6%
StFX	270	5,027	5,297	5.1%
UKC	39	894	933	4.2%
AST	3	120	123	2.4%
Universities total	**13,216**	**73,050**	**86,266**	**15.3%**
CCNB	217	1,883	2,100	10.3%
HC	113	2,304	2,417	4.7%
NBCC[1]	115	7,835	7,950	1.4%
NSCC[2]	225	23,797	24,022	0.9%
CNA[3]	67	21,233	21,300	0.3%
Colleges total	**737**	**57,052**	**57,789**	**1.3%**
WRSON[4]	15	60	75	20.0%
Grand total	**13,968**	**130,162**	**144,130**	**9.7%**

Source: Atlantic Association of Universities (AAU)
Note: Preliminary AAU data are the best standardized enrolment statistics available at the time for the 2016/17study period. Preliminary AAU data for 2017/18 indicate slightly lower international enrolments, but this does not apply to the study year.
[1] Includes regular, non-regular, and apprenticeship enrolments. [2] Includes certificate, diploma, apprenticeship, learners, and off-cycle programs. [3] Does not include 3700 overseas students. [4] The Western Regional School of Nursing in Newfoundland and Labrador is operated by Western Health. The School offers a four-year (Collaborative) Bachelor of Nursing Program with MUN School of Nursing and the Centre for Nursing Studies. WRSON also offers a two-year Fast Track Nursing Degree Option to students with a degree or advanced standing and a 3.0 GPA. WRSON students graduate with a MUN degree.

The top three universities according to highest percentage of international students are SMU (29.6%), UStA (26.5%), and CBU (24.3%). The top three universities according to highest enrolment of international students are DAL (3,277), MUN (2,386), and SMU (2,116).

The top three colleges according to highest percentage of international students are the CCNB (10.3%), HC (4.7%), and NBCC (1.4%). The top three colleges according to highest enrolment of international students are NSCC (225), CCNB (217), and NBCC (115).

The Atlantic Canada overall share for universities is 15% international students, for colleges it is 1.3%, and the combined share is 9.7%. As mentioned previously, this share is well above the national average and the four Atlantic provinces are second only to British Columbia for having the highest proportion of international students.

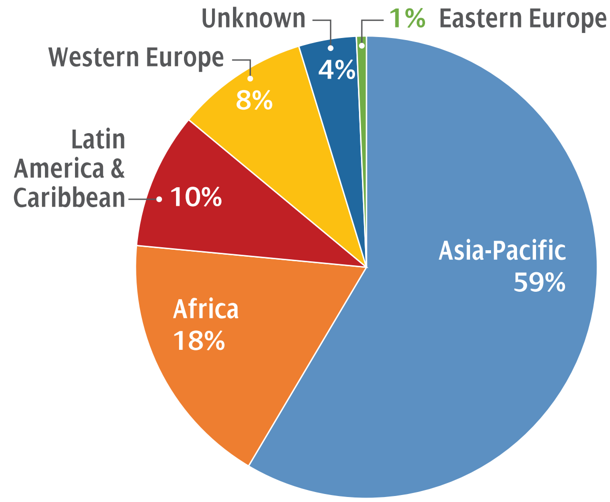
International origin

The United Nations Asia-Pacific region is the largest source of international students for Atlantic Canada (59%), followed by Africa (18%), then Latin America and the Caribbean region with 10%.

> Over half (59%) of international students in Atlantic Canada are from the Asia-Pacific region.

Figure 3.1 Origin of Atlantic Canada university and college international students by UN region

Source: Gardner Pinfold tabulation from 2016/17 Atlantic Canada institution data call.

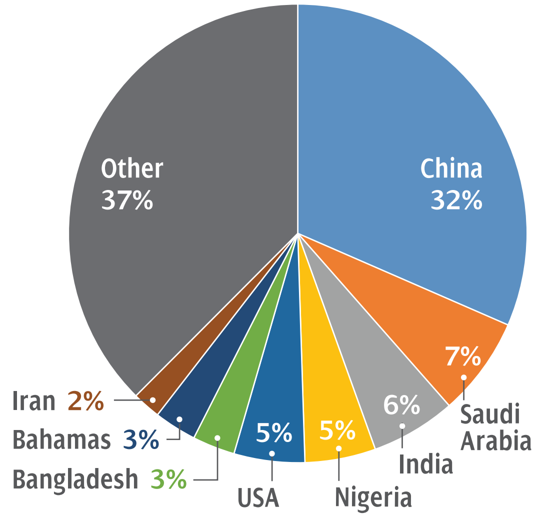


Atlantic Canada universities and colleges reported at least 167 different countries of origin for their international students. China is the country supplying the greatest portion of international students (32%), followed by Saudi Arabia (7%), then India (6%).

The origins for Atlantic Canada are very similar to the national statistics where China is also the top country supplying 33%, South Asia (primarily India) supplies 14%, then African countries are the third source with 10%.

Figure 3.2 Top eight countries of origin for international Students in Atlantic Canada

Source: Gardner Pinfold tabulation from 2016/17 Atlantic Canada institution data call.



Status and credential sought

Full-time international students at universities represent 90% of enrolments, while the remaining 10% are part-time. The portion that are full-time at colleges is even higher (97%), with the balance registered part-time (3%).

Nearly three-quarters (74%) of international students at universities are seeking Bachelor's degrees, 18% seek Master's degrees, and 5% are in Doctorate programs. International students at colleges mostly seek diplomas (83%), while the remainder are working towards certificates.

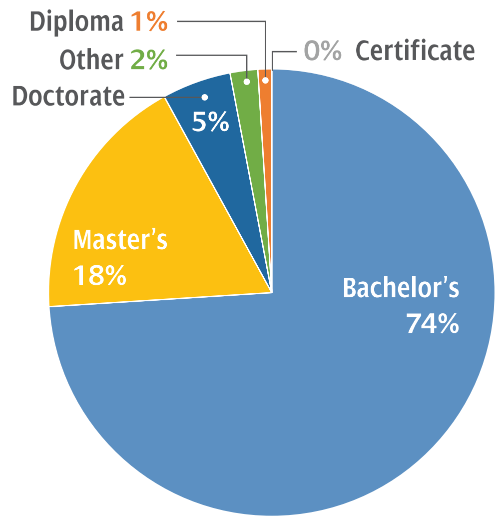


Figure 3.3 Credentials sought by international students at universities in Atlantic Canada

Source: Gardner Pinfold tabulation from 2016/17 Atlantic Canada institution data call.

Field of study

International student enrolment is highest in commerce, management, and business fields (25%), followed by engineering and applied sciences (19%). These are the same fields of study Statistics Canada found to be most popular among international students in 2014/15 (see figure below). There is a high rate of "other" responses among college students, where respondents indicated they were studying a variety of specific subjects that are difficult to classify in these categories including transport logistics, community services, tourism, and hospitality.

Commerce, management and business, engineering, and applied sciences are most popular fields of study for international students.

Table 3.2 College and university international student field of study, 2017

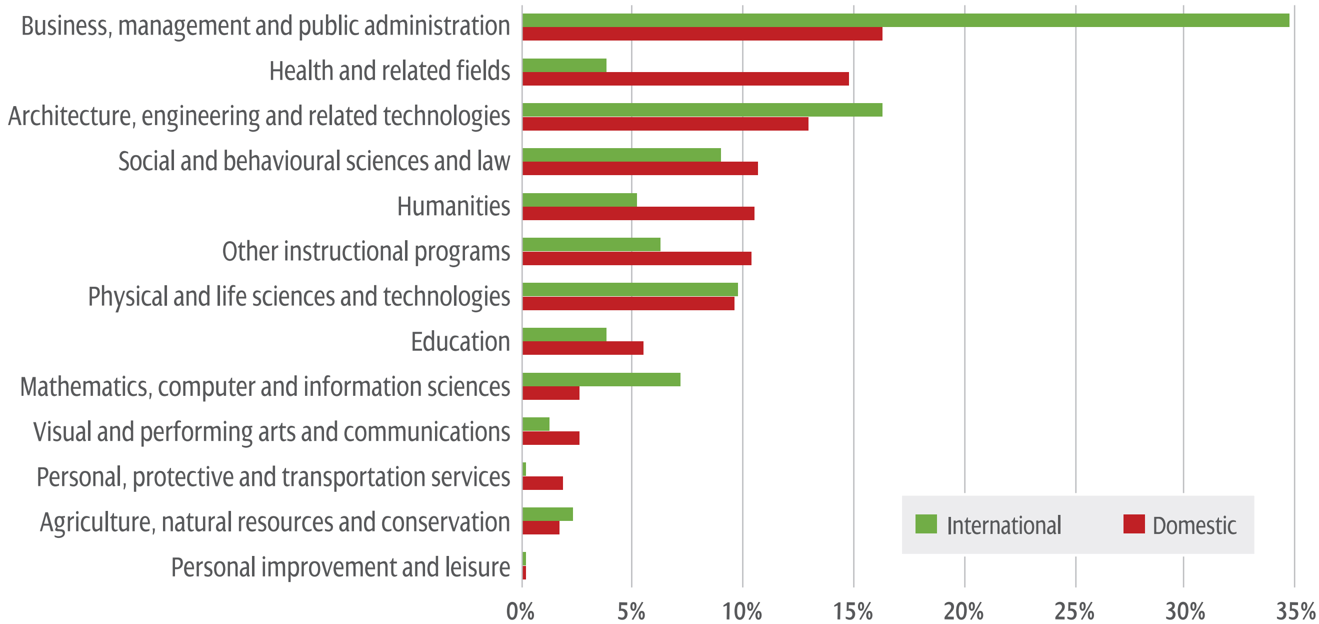
Field of Study	College	University	Combined	Combined %
Commerce, management, and business	219	3,277	3,495	25%
Engineering and applied sciences	90	2,535	2,626	19%
Other*	233	1,196	1,429	10%
Mathematics, computer and physical sciences	29	1,369	1,397	10%
Social sciences and related fields	16	1,179	1,195	9%
Agricultural, biological, and food sciences	5	1,010	1,015	7%
Health professions and related technologies	43	948	991	7%
Fine arts and applied arts	23	574	598	4%
Humanities and related fields	5	537	542	4%
Applied science technologies and trades	55	298	353	3%
Education, recreation, or counselling services	19	309	327	2%
Grand Total	**737**	**13,232**	**13,969**	**100%**

Source: Gardner Pinfold survey, 2017

** Hospitality, public health, and interdisciplinary programs were commonly associated with the "Other" category for university students, while transport logistics, community services, and tourism programs were common among college students.*

According to Statistics Canada, international students enroll in business, management, and public administration at twice the rate of their domestic counterparts (i.e., 35% vs. 16%). The same is true for mathematics, co mputer and information sciences (i.e., 7% of international vs. 3% of domestic). Higher rates are also found for architecture and engineering (i.e.,16% of international vs 13% of domestic). International students are under-represented in all other fields of study.

Figure 3.4 Domestic and international student field of study, 2014/15



Source: Statistics Canada CANSIM Table 477-0019

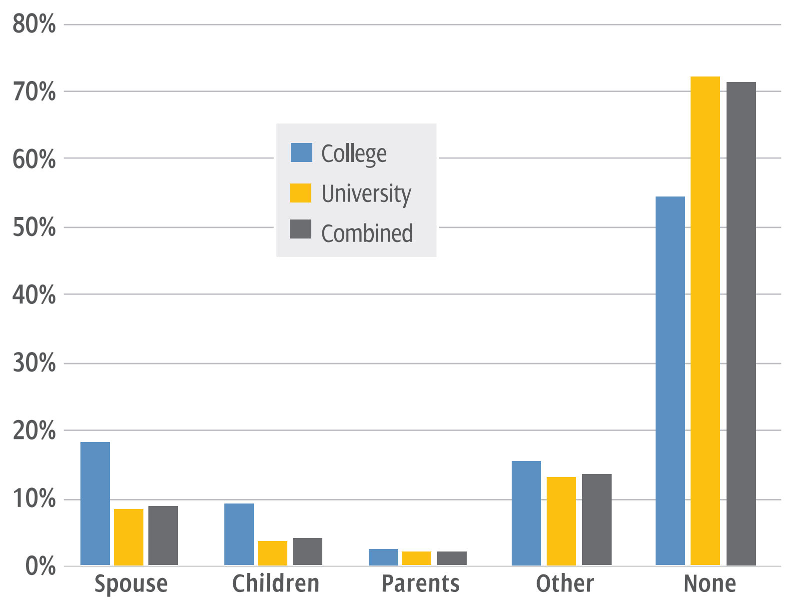
3.2 FAMILY MEMBERS OF INTERNATIONAL STUDENTS

Family in Atlantic Canada

Most international students in Atlantic Canada (71%) do not have family living in the region; however, there is a difference between university (72%) and college (55%) students. International students at universities are more likely than college students to have family members in Atlantic Canada, including a spouse (18% vs. 8% at colleges), children (9% vs. 4% at colleges), parents (3% vs 2% at colleges), and other family (15% vs. 13% at colleges).

Figure 3.5 Percent of international students with family in Atlantic Canada, 2017

Source: Gardner Pinfold survey, 2017



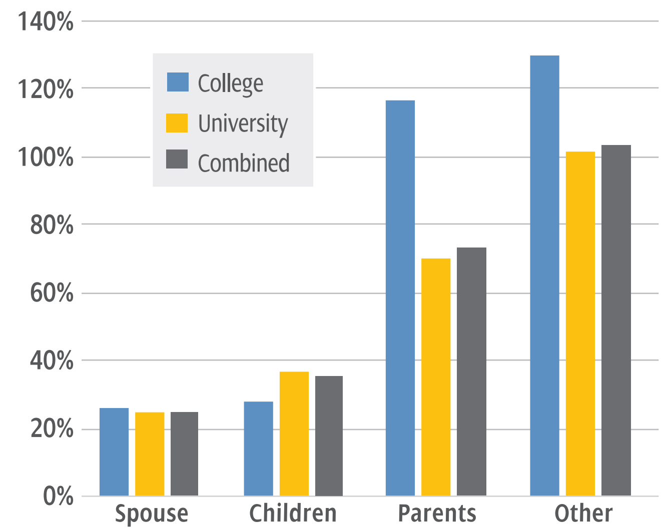
Family with permanent residency

Of the 3,668 family members residing in Atlantic Canada, up to 2,447 (67%) are permanent residents of Canada. Since these questions were not linked in the survey, it is possible for some permanent resident family members to reside outside Atlantic Canada. There were also a number of respondents that did not know the residency status of all their family members.

The percentages exceeding 100% for parents and other family members (aunts, uncles, grandparents, etc.) suggest that some international students have permanent resident family members in other parts of Canada. Since students are more likely to live with their spouse and children, it is unlikely that any of these are permanent residents elsewhere in Canada. Spouses (25%) and children (36%) are less often permanent residents compared to parents (73%) and other family members (103%).

Figure 3.6 Percent of family in Atlantic Canada that are permanent residents in Canada, 2017

Source: Gardner Pinfold survey, 2017
Note: Over 100% indicates that some family members are permanent residents living outside Atlantic Canada.



Overall, at least 4% of international students have children, but the rate is higher for colleges (10%) than for universities (4%). Some students did not respond (14% overall).

Table 3.3 College and university international students with children, 2017

Children	College		University		Total	
	Count	%	Count	%	Count	%
0	541	73%	10,964	83%	11,505	82%
1	21	3%	218	2%	239	2%
2	33	5%	116	1%	150	1%
3	8	1%	72	1%	80	1%
4 or more	7	1%	22	0%	29	0%
No response	127	17%	1,839	13%	1,967	14%
Total	**737**	**100%**	**13,232**	**100%**	**13,968**	**100%**

Source: Gardner Pinfold survey, 2017

4. Economic Impacts

4.1 SCOPE OF ECONOMIC IMPACTS

Before proceeding, it is important to clarify what economic impacts are considered in this report.

- **First**, the focus is only on economic impacts of international students during their post-secondary study years. After graduation, many will enter the Canadian labour force and have longer-lasting economic impacts through business start-ups, developing trade opportunities with foreign countries, or contributing unique skills and experience to their workplace. Post-graduation economic impacts are not examined here. Since attracting international talent to Canada's workforce is an economic objective, the economic impacts shown here are conservative.

- **Second**, the focus is on the economic impacts only of the international students, and does not include potential benefits to domestic students. Canada's recognized need for internationalization in post-secondary education aims in part to enhance domestic student learning by bringing more international students to Canada. Canadian students gaining international connections and better understanding of foreign consumers can increase economic productivity after graduation by increasing export potential, attracting foreign direct investment, expanding international collaboration, and improving competitiveness in global markets. Since this potential benefit is not addressed, the economic impacts again are conservative.

- **Third**, and most importantly, this is about the spending by international students on tuition, accommodation, food, and other living expenses. The starting point for economic impact analysis is the spending related to international students; then, Statistics Canada modelling of the provincial economies is used to determine the economic impacts in terms of jobs, incomes, added-value to local economies, and tax revenues that are generated.

4.2 INTERNATIONAL STUDENT SPENDING

Spending by Institution

The total spending for international students at universities is $455 million (95% of total), and at colleges is $22 million (5% of total). The average spending per student at universities is $34,410 per year, and it is $30,197 per year at colleges.

Total spending by Atlantic Canada international students is $478 million.

Students at Nova Scotia universities and colleges contribute 61% of spending ($291million), while students at New Brunswick universities and colleges contribute 18% of spending ($85 million).

The highest contribution per student is in Prince Edward Island at about $39,400 followed by Nova Scotia students at $36,400 per student.

Keep in mind that the average spending per student reflects numerous factors on- and off-campus, as well as the mix of programs in which international students are enrolled. Tuition varies greatly from undergraduate arts and science programs, to engineering and architecture, law, medicine, and dentistry.

Table 4.1 International student average and total spending by province, 2017

Student Spending	Spending	Students	$ per Student
Nova Scotia	290,718,064	7,988	36,394
Prince Edward Island	39,714,882	1,007	39,439
New Brunswick	85,254,651	2,505	34,034
Newfoundland and Labrador	61,843,493	2,468	25,058
Total	**477,531,089**	**13,968**	**34,188**

Source: Gardner Pinfold survey, 2017
Note: The reported spending is based on student responses that include some uncertainty regarding costs; MUN's combination of tuition, differential fees, on-campus accommodation, and meal plans is lowest in the region for undergraduate programs and accounts in large part for the difference in spending levels among the provinces.

Spending by Expenditure Type

The largest expenditure is tuition and fees at $13,760 per student, accommodations is second at $5,343, and household supplies are third at $3,288. It is important to recognize that these are not the fee rates per se; rather, they reflect the average cost across all students. Some students pay rent (apartment or boarding), while others stay in residence, so accommodation expenditures are split.

The largest expenditure (tuition and fees) more than doubles the second largest (accommodation).

Tuition and fees are a much greater share of the average university student budget (41%) compared to the average college student budget (27%). This shifts the share of the second largest expenditure (accommodations) for universities (15%) and colleges (20%).

One noteworthy expenditure is the purchase of cars, where the survey indicates that 1,866 (13.4%) of all students purchased a car in the survey year. Another 203 students (1.5%) leased a car for a combined 15% of students owning or leasing. Considering students may study over three or four years, upwards of 45% of international students likely own or lease a car.

The average car purchase per student in the table below ($1,734) includes the remaining students that do not own a car, so this figure hides the average car price of $12,980. Furthermore, the responses indicate that a number of students own higher end cars with prices above $50,000. Car ownership expenditures are unlike all other spending categories where most students report the expenditure and report more consistent amounts.

Table 4.2 International student average and total spending by expenditure type, 2017

Expenditure Type	College	University	Total	$ per Student
Tuition & Fees	6,009,322	186,184,857	192,194,179	13,760
Accommodation	4,501,214	70,131,869	74,633,083	5,343
Household Supplies & Food	2,310,034	43,617,024	45,927,057	3,288
Residence & Meals	1,004,145	40,562,065	41,566,211	2,976
Car Purchase	1,689,623	22,534,895	24,224,518	1,734
Communications	846,507	13,472,290	14,318,797	1,025
Clothing	883,202	13,339,502	14,222,704	1,018
Utilities	1,104,754	11,840,375	12,945,129	927
Entertainment	769,873	11,828,586	12,598,459	902
Other	832,448	9,759,723	10,592,171	758
Books & Supplies	787,945	8,504,796	9,292,741	665
Health Insurance	526,781	8,344,901	8,871,682	635
Child Care	377,299	6,666,281	7,043,580	504
Local Transport	411,620	5,279,861	5,691,481	407
Car Operation & Maintenance	182,553	2,405,505	2,588,058	185
Car Lease	9,563	696,314	705,877	51
Total	**22,246,882**	**455,168,843**	**477,415,725**	**34,179**

Source: Gardner Pinfold survey, 2017

Visitors of international students

Students reported the number of visitors they have from outside Atlantic Canada as well as the number of days they visit. Using a conservative daily spending rate of $93.94 per day based on Statistics Canada averages for visitors to Atlantic Canada, the total spending from visitors is estimated at over $34 million.

Visitors of international students coming from outside Atlantic Canada spend an estimated $34 million.

Table 4.3 Spending by international student visitors, 2017

Institution	Visit-Days	$ per Day	Total
College	32,897	93.94	3,090,328
University	332,503	93.94	31,235,358
Total	**365,400**	**93.94**	**34,325,686**

Source: Gardner Pinfold survey, 2017

4.3 ECONOMIC IMPACT RESULTS

International students add a half billion dollars (GDP) and support 6,731 full-time equivalent jobs in Atlantic Canada.

The international student spending ($478 million) and the visitor spending ($34 million) are combined for a total spend of $512 million. This is the amount used to drive the Statistics Canada inter-provincial input-output calculations and obtain the results shown below. This amount also appears as the total Atlantic Canada direct output (sales) value in the table below.

The bottom line totals for Atlantic Canada direct and spinoff impacts include $795 million in output (sales), $495 million in gross domestic product (added-value), $329 million worth of income (salaries and wages), 6,731 jobs (full-time equivalents), and $22 million in tax revenues primarily to federal and provincial governments. For every direct $1 purchase by an international student, there is another 55 cents in spinoff output (sales) in the economy. For every $1 purchase by an international student, about 96 cents stays in the Atlantic region economy (total GDP).

The breakdown of added-value (GDP) impacts across the four provinces is $302 million for Nova Scotia (61%), $96 million in New Brunswick (19%), $63 million in Newfoundland and Labrador (13%), and $34 million in Prince Edward Island (7%). Owing to the size of each economy, more of the direct sales (output) stays as added-value (GDP) in Nova Scotia (100%) compared to Newfoundland and Labrador (96%), New Brunswick (95%), and Prince Edward Island (81%).

The bottom line totals for all of Canada are relevant to federal government audiences. The direct and spinoff impacts include $1,026 million in output, $611 million in gross domestic product, $394 million worth of incomes, 8,069 jobs, and almost $22 million in tax revenues.

Statistics Canada tax revenue estimates are limited to production and product taxes. These include sales tax (i.e., GST/HST), gas tax, excise taxes, and the like. The tax revenues do not include income taxes and corporate taxes. Municipal property taxes are also not included. The revenues to each level of government are, therefore, substantially higher than reported here.

Each international student represents on average $35,438 in annual added-value to Atlantic Canada, $23,551 worth of income, and nearly half (0.48) of a full-time equivalent job.

Table 4.4 Economic impacts of Atlantic Canada international students, 2017

Impacts	Output	GDP	Income	Jobs*	Taxes
New Brunswick					
Direct	100,704	67,982	48,315	944	4,025
Spinoff	49,310	27,971	13,087	347	2,160
NB Total	150,014	95,953	61,402	1,291	6,185
Canada	193,144	117,817	73,836	1,547	7,434
Nova Scotia					
Direct	302,885	197,101	151,481	2,663	12,922
Spinoff	183,895	104,487	53,598	1,414	8,709
NS Total	486,700	301,588	205,079	4,077	21,631
Canada	620,420	369,012	243,119	4,854	25,637
Prince Edward Island					
Direct	42,397	22,234	16,632	418	1,915
Spinoff	19,213	12,122	5,793	167	863
PEI Total	61,609	34,355	22,425	585	2,778
Canada	89,283	48,111	30,156	742	3,605
Newfoundland and Labrador					
Direct	65,744	45,014	30,423	582	2,917
Spinoff	31,415	18,188	9,362	196	1,171
NL Total	97,160	63,202	39,785	778	4,088
Canada	123,587	76,320	47,222	926	4,930
Atlantic Canada					
Direct	511,730	332,331	246,850	4,607	21,779
Spinoff	283,753	162,768	81,840	2,124	12,903
Atlantic Total	795,483	495,099	328,691	6,731	34,682
Canada	**1,026,434**	**611,260**	**394,334**	**8,069**	**41,607**

Source: Statistics Canada Interprovincial Input-Output Model, 2013. Full-time equivalent jobs. Note: "Canada" totals include spinoff impacts outside of the jurisdiction where the institutions are located.

4.4 EXPORT VALUE

Student funding sources

As international student enrolment rises in Canada there is increasing recognition that this represents a valuable export opportunity. Canadian post-secondary institutions are becoming significant exporters of education services. Determining the export value of international student spending requires an estimate of what portion of the student spending is funded from outside of the country (international exports) or outside the region (interprovincial exports).

Over half (52%) of student funding comes from outside Atlantic Canada.

In the survey, students were asked what portion of their expenditures are paid from income sources outside Atlantic Canada. Students indicated that just over half (52%) of their funding comes from outside the region, and this would certainly be considered exports for Atlantic Canada. Using this as a very rough proxy for the share of expenditures that brings in money from outside the region, the following table provides the results based on student responses across the region.

Table 4.5 Export value of international student spending by province, 2017

Export Value	Spending	Students	$ per Student
Nova Scotia	153,359,204	7,992	19,189
Prince Edward Island	20,463,735	1,007	20,321
New Brunswick	48,303,388	2,513	19,221
Newfoundland and Labrador	27,163,965	2,456	11,060
Total	**249,290,292**	**13,968**	**17,847**

Source: Gardner Pinfold survey, 2017 Note: Newfoundland and Labrador lower cost per student reflects MUN's combination of tuition, differential fees, on-campus accommodation, and meal plan fees that is the lowest in the region for undergraduate students.

This export value should be interpreted cautiously since it is difficult to completely account for all funding sources. Students may fund their education through a combination of family support, earnings before becoming a college or university student, academic awards, and earnings from work while completing their studies. Each of these types of income can come from sources inside or outside the region or country. Even work during studies can still involve overseas income as, for instance, students work remotely by internet for businesses in their home country. Additional questions were asked in the survey to help gather some of this information. Finally, how student debt is addressed after graduation is also a factor. Those that work in Atlantic Canada after graduation will pay off debts from future local earnings. Some additional questions in the survey were designed to help determine some of the key funding sources, namely academic awards and employment during studies (next).

Student award sources

Given the high costs of international studies, it may be more pressing for students to win financial support, and there is a high rate of financial awards for international students. Nearly one-quarter (24%) of college international students receive financial awards to support their studies, while 37% of university international students receive awards. Some receive two or more awards—4% at colleges and 6% at universities.

Over one-third of international students (36%) receive financial awards, and over 45% of their award value comes from outside Atlantic Canada.

Table 4.6 College and university international student funding awards, 2017

Awards	College		University		Grand Total	
	Count	%	Count	%	Count	%
0	561	76%	8,361	63%	8,922	64%
1	148	20%	4,067	31%	4,215	30%
2	28	4%	668	5%	696	5%
3 or more	-	0%	136	1%	136	1%
Grand Total	**737**	**100%**	**13,232**	**100%**	**13,968**	**100%**

Source: Gardner Pinfold survey, 2017

The 5,047 international student award recipients reported 6,069 awards totaling $53.0 million in value. The largest source is their home country or international sources outside Canada ($23.8 million), accounting for 45% of all funding. The second largest source is their current institution ($16.7 million), representing 31% of all funding sources. Given that some awards come from Canadian government sources, this means more than 45% of all awards come from outside Atlantic Canada.

The most common award is from the institution where international students are currently enrolled, while the second most common is from their home country or international sources outside Canada.

The highest average award value is $13,889 from their home country or international sources, followed by Government of Canada Awards with an average value of $9,930. University students account for 97% of awards and 99% of total award value.

Table 4.7 College and university international student award amounts, 2017

Award Type	Awards			Amount		
	College	University	Total	College	University	Total
Home country or international	44	1,672	1,716	268,076	23,560,110	23,828,187
Current educational institution	91	2,715	2,806	168,716	16,497,254	16,665,970
Other Sources	39	523	562	53,037	4,293,195	4,346,232
Government of Canada Awards	14	309	323	71,678	3,134,440	3,206,118
Other Canadian sources	2	270	272	2,503	2,584,090	2,586,593
Other Atlantic Canada sources	8	268	276	9,096	1,714,015	1,723,111
Global Affairs Canada	6	71	77	16,120	421,608	437,728
Cdn. Commonwealth Scholarship	-	37	37	-	186,711	186,711
Total	**204**	**5,864**	**6,069**	**589,227**	**52,391,423**	**52,980,649**

Source: Gardner Pinfold survey, 2017

Student employment

One-third (32%) of all students are employed, whether or not they are seeking additional work. Some international students (12%) may be uncomfortable reporting their employment status, and some students are not seeking any work (19%). The employment rate (those employed among those seeking work) is 51% for colleges and 45% for universities for an overall rate of 45%. The unemployment rate among international students is 55% (those seeking work that cannot find work).

One-third (32%) of international students are employed while completing their studies.

Table 4.8 College and university international student employment status, 2017

Employment Status	College		University		Total	
	#	%	#	%	#	%
Employed, not looking for more/different work	130	18%	1,812	14%	1,942	14%
Employed, looking for more/different work	134	18%	2,339	18%	2,472	18%
Not employed, not looking for work	120	16%	2,481	19%	2,601	19%
Unemployed (looking for work)	249	34%	5,058	37%	5,307	37%
No response	105	14%	1,542	12%	1,646	12%
Grand Total	**736**	**100%**	**13,232**	**100%**	**13,968**	**100%**

Source: Gardner Pinfold survey, 2017

Both college and university international students have 4% rates for multiple jobs.

Table 4.9 College and university international student number of jobs, 2017

Number of Jobs	College		University		Total	
	#	%	#	%	#	%
0	480	64%	9,053	69%	9,533	69%
1	234	32%	3,596	27%	3,830	27%
2	12	2%	485	4%	497	4%
3	6	1%	47	0%	53	0%
4	6	1%	42	0%	48	0%
5	0	0%	9	0%	9	0%
Grand Total	**736**	**100%**	**13,232**	**100%**	**13,968**	**100%**

Source: Gardner Pinfold survey, 2017

For all employed respondents, most jobs are off-campus and not related to their field of studies (35%), some are on-campus and related to their studies (24%), on-campus and not related to their studies (20%), off-campus and related to their studies (19%), or in an owned business or self-employment (2%). College students are more likely to have off-campus work not related to their studies (52% vs. 24% for universities), and less likely to have on-campus work related to studies (15% vs. 25% for universities).

Table 4.10 College and university international student employment type, 2017

Employment Type	College		University		Total	
	#	%	#	%	#	%
On-campus, related to your field of studies	45	15%	1,222	25%	1,267	24%
On-campus, NOT related to your studies	32	11%	989	20%	1,021	20%
Off-campus, related to your field of studies	62	20%	935	19%	997	19%
Off-campus, NOT related to your studies	155	52%	1,669	34%	1,824	35%
Own a business or self-employed	6	2%	101	2%	108	2%
Grand Total	**300**	**100%**	**4,916**	**100%**	**5,217**	**100%**

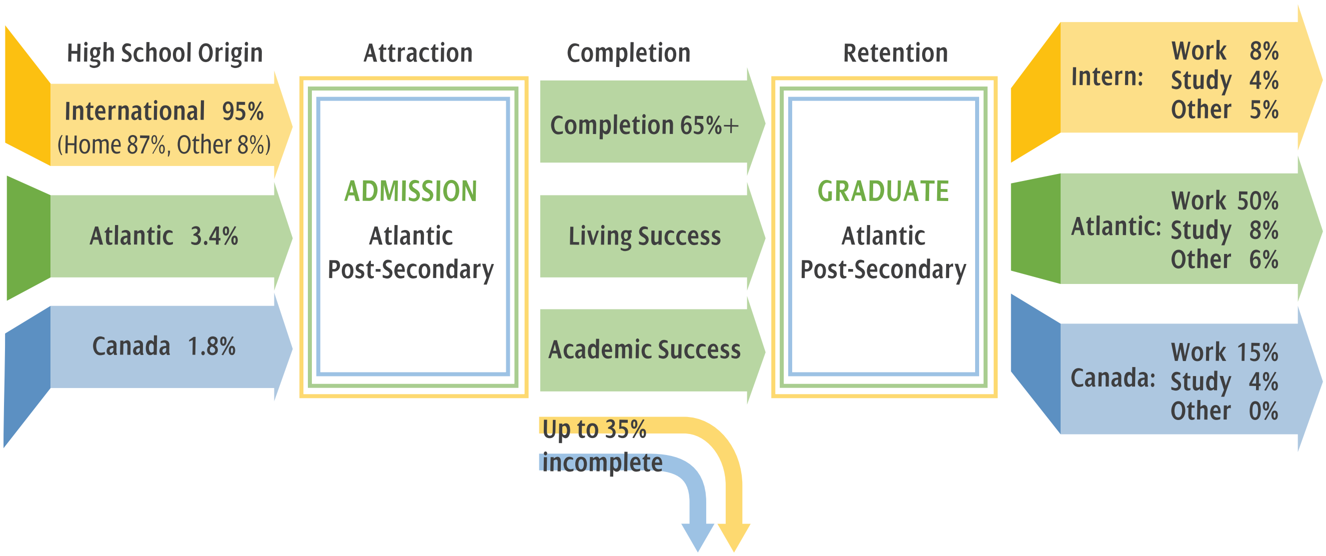
Source: Gardner Pinfold survey, 2017

5. Attraction and Retention Initiatives

5.1 STUDENT PATHWAYS

This section is organized according to a model of student pathways from high school to post-secondary graduation (Figure below). The model illustrates the movement of international students through Atlantic Canada institutions with statistics regarding inflows (high school origins) and outflows in terms of work, study, and other outcomes by major geographic destinations (International, Atlantic Canada, and other Canada). The statistics help appreciate the relative importance of inflow origins, as well as the current estimated success rate (64% overall) for retaining students in Atlantic Canada for work (50%), study (8%), and living (6%). The institution interests in attracting students, completing their programs, and retention in Atlantic Canada are explored further below.

Figure 5.1 Student pathways from high school to post-secondary graduation



Sources: High School origins – Gardner Pinfold Survey, 2017; Completion rate – MPHEC, 2015 and Statistics Canada, 2008; Retention – Modified from CRA, 2017.

5.2 HIGH SCHOOL ORIGIN

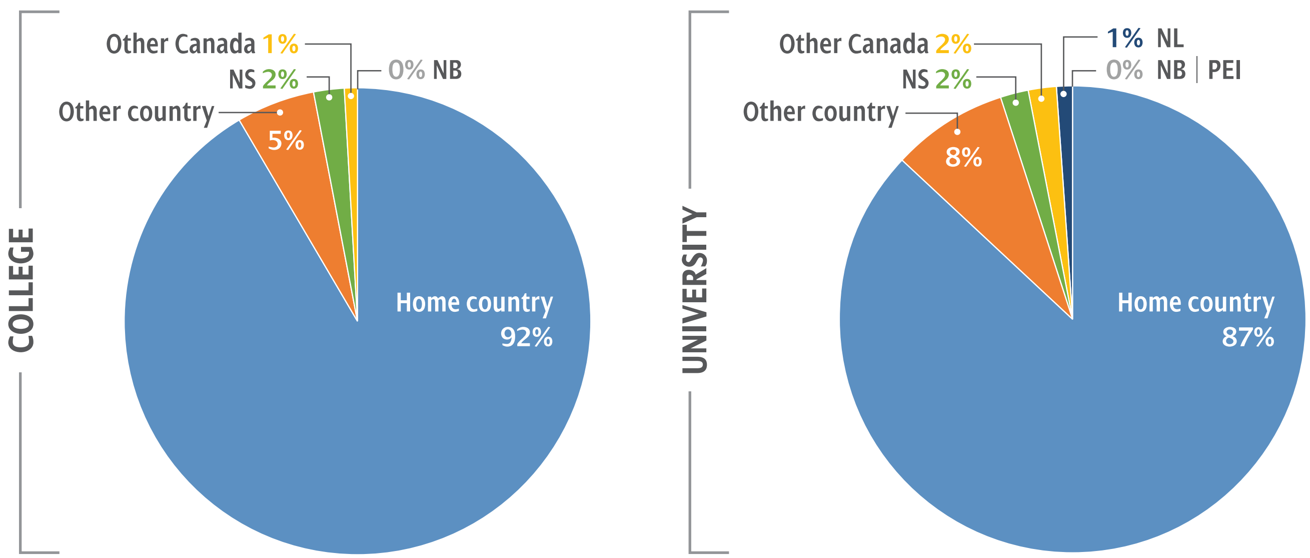
Survey Findings

Combining responses for colleges and universities, 3.4% of international students attended high school in Atlantic Canada, 1.8% did so elsewhere in Canada, 7.9% attended high school in another country away from their home, and 87% graduated from a high school in their home country.

Most international students (87%) completed high school in their home country.

Some 120,000 international students are enrolled in primary, secondary, and language schools in Canada, with about 30% of these subsequently attending Canadian post-secondary institutions (CBIE, 2014).

Figure 5.2 Location of high school for international students in Atlantic Canada, 2017



Source: Gardner Pinfold survey, 2017

Public Schools

The Canadian Association of Public Schools – International (CAPSI) is an association for 133 publicly funded school districts and boards across Canada that offer programs for international students. In Atlantic Canada, each province coordinates international student programs across primary and secondary schools, with separate French and English programs in New Brunswick. The representatives in each province were contacted regarding enrolment data (table below) and insights into linkages with post-secondary institutions in the region.

Table 5.1 International student enrolment in public schools by province, 2017

Enrolment	International	Total	Per 1,000
Nova Scotia	1,500	118,000	12.7
Prince Edward Island	200	19,500	10.3
New Brunswick - English	600	80,000	7.5
New Brunswick - French	65	29,000	2.2
Newfoundland and Labrador	320	67,000	4.8
Total	**2,385**	**313,500**	**7.6**

Source: Canadian Association of Public Schools – International (www.caps-i.ca)

International students at public schools pay annual tuition rates from $8,750 (Nova Scotia) to $9,950 (New Brunswick French and Prince Edward Island). There is a homestay monthly fee ranging from $700 (Nova Scotia) to $775 (Newfoundland and Labrador) that totals from $7,000 to $7,750 annually (based on a 10-month school year).

Students typically come to Canada on their own (i.e., not accompanied by family members), and nearly all make arrangements for study in Canada through an agent. Nova Scotia charges a penalty of $3,000 for those that do not use an agent. Part of the tuition fees is shared with agents for helping to attract and coordinate international student enrolments and placements in family homestays.

Insights from provincial representatives suggest many international students want to continue post-secondary studies in Atlantic Canada and elsewhere in Canada. A Nova Scotia survey also indicated that 45% want to continue studies in Canada including 26% that wanted to complete college or university in that province. Their duration of study has been growing in recent years; where international students used to stay for a term to one year, they now tend to stay for one year or more.

It is important to recognize that some students come to Canada for study in grades up to eleven then return to their home country to complete grade twelve and graduate. Some of these will come to Canada for college or university and might not be counted among those that "completed high school in Atlantic Canada".

The Nova Scotia representative for international programs at public schools was able to provide the number of international students that graduated from high school in 2016 (200 students or about 13% of those enrolled). If this rate holds across Atlantic Canada, this represents about 360 students in total. Since the survey of international students at colleges and universities indicates that 475 graduated from high schools in Atlantic Canada, this means 100 to 125 likely move from high school to post-secondary in Atlantic Canada. This would suggest we are only capturing under one-third of local graduates while the others return home or go elsewhere for further studies.

Keeping 100 more local high school graduates would represent $3.5 million in added-value to Atlantic Canada (100 x $35,438 of GDP per student). One provincial representative suggested that campus tours and presentations to international students in public schools would help to define pathways and make opportunities better known to international students. Conditional admissions with certain grade-point averages and entrance scholarships were also mentioned as potential retention measures.

5.3 ATTRACTION

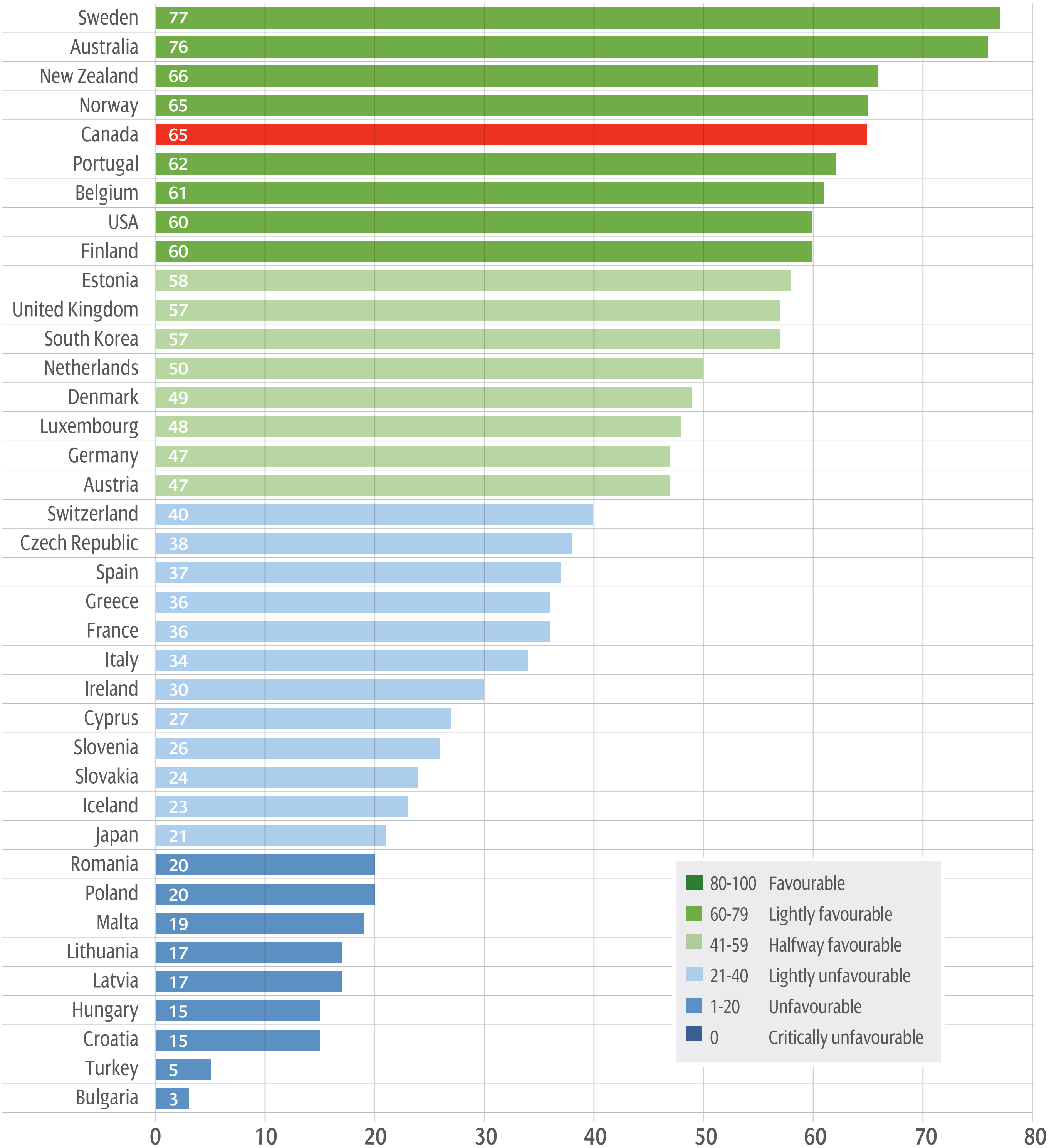
Canada

International students seeking post-secondary education abroad are often first drawn to Canada as a country. This is borne out in our survey results (below) as a key factor for selecting their Atlantic Canada institution. We also see how this is linked to the aim of working in Canada and becoming a permanent resident. The following highlights the importance of Canada's positive image respecting education systems, work opportunities, and paths to permanent residency.

The Migrant Integration Policy Index (MIPEX – www.mipex.eu) provides a comprehensive basis for comparing Canada with other countries as a place to emigrate. The MIPEX was created by the Barcelona Centre for International Affairs and the Migration Policy Group (latest edition is for 2015). The full index includes 167 policy indicators organized according to eight (8) policy areas, two of which are education and permanent residency. Although focused on all types of migrants, not specifically students seeking post-secondary education, it is nevertheless indicative of Canada's attractiveness.

In the education policy area, MIPEX researchers examine indicators such as the proportion of students that are of immigrant background, the level of access to education, whether policies address the needs of immigrants, whether supports are in place at institutions to meet the needs of international students, whether cultural diversity is taught and promoted, and how education outcomes for these students compare to their domestic counterparts. Canada's score earns a tie for fourth (4th) place with Norway, behind Sweden (1st), Australia (2nd), and New Zealand (3rd). Australia, New Zealand, and Canada are among those countries considered "traditional migrant destinations" as these have relied heavily on immigrants for growth in the last century or more.

Figure 5.3 MIPEX education scores by country, 2015



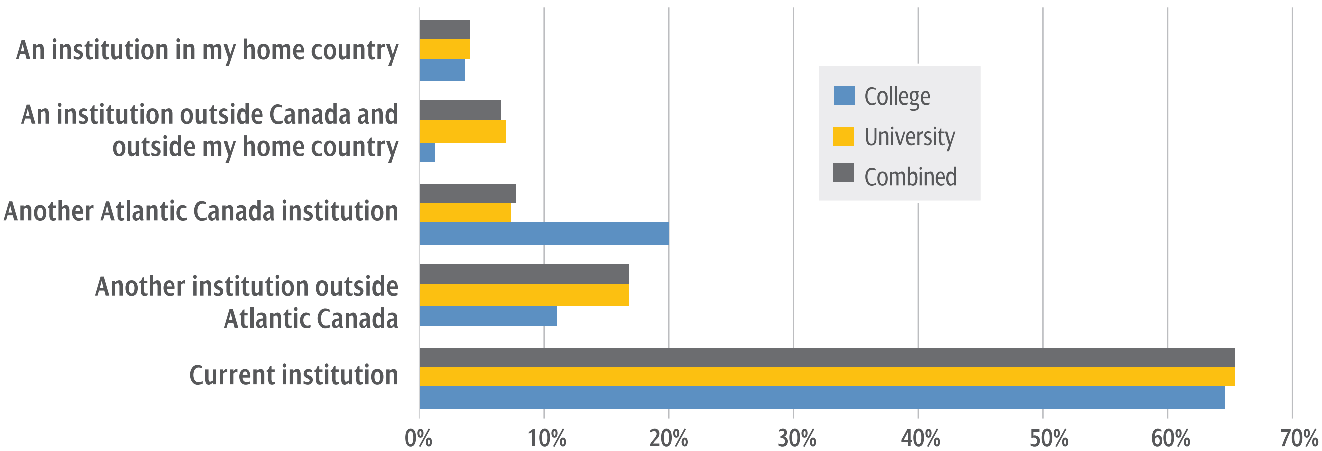
Source: MIPEX, 2015 (www.mipex.eu)
Note: Ratings are based on 21 indicators addressing primary, secondary, and post-secondary education.

Atlantic Canada Institution Selection

The first choice of institution is primarily the current one where international students are enrolled (65%) whether it is a college (64%), or university (65%). The next most common first choice was another institution in Canada, but outside the Atlantic region (16% overall). Indicating some competitive dynamics between Atlantic Canadian institutions, 8% of students responded that another institution in Atlantic Canada was their first choice. Interest in another Atlantic Canada institution was notably more common for colleges (20%) than for universities (7%). Atlantic Canada institutions are, therefore, positioning themselves well to attract international students, and competitors are more likely to be elsewhere in Canada than a neighbour within the region.

For two-thirds of international students (65%), their current institution was top choice.

Figure 5.4 First choice of institution for international students in Atlantic Canada, 2017



Source: Gardner Pinfold survey, 2017

Atlantic Canada Selection Factors

When asked to rank the most important factors in their decision to study in Atlantic Canada, international students chose the program of study as the major attraction. Second most important is to study in Canada; third is the cost of studying in Atlantic Canada.

Study program is the most important factor for selecting Atlantic Canada institutions.

Interestingly, the top three factors are the same for both college and university students, but they are in reverse order for colleges. For college students the cost of studies is top of mind, followed by study in Canada, and the attractiveness of the study program ranks third.

Table 5.2 Top ranked factors for selecting Atlantic Canada institution, 2017

Top Ranked Factor	College	University	Total
Attractive Program	21%	28%	28%
Canada Reputation	25%	24%	24%
Education Cost	28%	22%	23%
Institutional Reputation	10%	8%	8%
Scholarship Availability	3%	8%	7%
Work Opportunities	8%	7%	7%
Province Reputation	5%	3%	3%
Total	**100%**	**100%**	**100%**

Source: Gardner Pinfold survey, 2017

5.4 POST-SECONDARY COMPLETION

Current Completion Rates

Successful graduation is critical not only for each student making such investments in his/her education, but also for accomplishing policy objectives to build the Canadian workforce. However, a portion of both domestic and international students are prone to dropping out of programs for a range of reasons. Financial, personal, health, academic, and other challenges can all divert students from completing their academic program.

Statistics Canada undertook a detailed analysis of participation and dropping out tendencies among Canadian university and college students (StatCan, 2008). International student status was one of the variables assessed, and they found the likelihood of international students dropping out of universities was not statistically different from the benchmark (average Ontario student). The likelihood of an international student dropping out of college was 52% higher and statistically different from the benchmark. Since most international students in Atlantic Canada are enrolled in universities, the overall tendency is likely to be similar to domestic students.

The Maritime Provinces Higher Education Commission report "Student Progression in the Maritime University System Persistence and Graduation" (2015) indicates that up to 83% of international students persist from first to second year. About 60% of international students starting their program in 2006 graduated from a Maritime province university within six years. Researchers in Ontario have found the success rate to be climbing steadily as universities become better equipped to support international students, so the graduation rate may be closer to 65% a decade later. The next sections examine the views of international students in Atlantic Canada respecting the most important factors for living and studying successfully.

Living Success

Affordable living is the key factor for international student living success.

When asked to select among important living success factors, the one most often selected is "affordable living costs". This factor reflects accommodation rates, food costs, transportation costs, and utilities including internet and telephone charges. The second most important factor is the international student's opportunity to network. Networks offer guidance for living in Atlantic Canada and build a sense of community and belonging. These are the first and second most important factors for both college and university international students, although the two are almost tied for top spot at colleges. The third most important factor overall is a host family or Canadian friends.

Table 5.3 Most important factors for Atlantic Canada living success, 2017

Living Success Factors	College	University	Combined
Affordable Living Cost	17.0%	17.1%	17.1%
Opportunity to Network	16.8%	14.4%	14.6%
Host Family or Canadian Friends	12.9%	11.7%	11.8%
Housing Quality	12.0%	11.3%	11.4%
Student Clubs/Societies	6.8%	10.9%	10.6%
Health Support	8.7%	10.7%	10.6%
Off-Campus Housing Services	5.2%	7.6%	7.5%
Faith Support	8.1%	6.7%	6.8%
Counselling Services	7.4%	5.5%	5.6%
Other	5.2%	4.2%	4.3%
Total	**100%**	**100%**	**100%**

Source: Gardner Pinfold survey, 2017

Academic Success

Academic support is the most important factor for successful studies.

When asked to select among important study success factors, the one most often selected is "academic support". This factor captures several types of support primarily found within the institution such as department "learning centres", teaching and lab assistants offering tutorials and extra help, and professors offering office hours for academic support. The second most important factor is the international student's friend network that can offer study support. The friend network is the top factor for college students. The third most important factor overall is academic advice obtained through academic counsellors at each institution.

Table 5.4 Most important factors for international student study success, 2017

Study Success Factors	College	University	Combined
Academic Support	17.0%	23.8%	23.8%
Friend Network	22.4%	21.9%	21.9%
Academic Advice	15.7%	18.1%	18.1%
Small Class Sizes	20.5%	14.8%	14.8%
Host Family or Canadian Friends	11.5%	8.8%	8.8%
Language Support	7.6%	8.4%	8.4%
Other	5.2%	4.2%	4.2%
Total	**100%**	**100%**	**100%**

Source: Gardner Pinfold survey, 2017

5.5 RETENTION

Current Retention Rates

There is a desire among students to stay in Atlantic Canada to work and eventually to become permanent residents. The Atlantic provinces and the federal government are also motivated to retain highly qualified graduates and help build a skilled workforce that contributes to the economy.

In a recent study conducted by Corporate Research Associates (CRA, 2017) for the AAU, the post-graduation outcomes for international students in Atlantic Canada were examined. They looked at the location and activities of students one year after graduation and compared those to their original plans before graduating.

Most respondents planned to stay in Atlantic Canada (65%); some wanted to leave (26%) citing lack of jobs, wanting to live in a larger city, or to be near friends and family; and a few were unsure (11%). One year later there were 64% in Atlantic Canada, 19% elsewhere in Canada, and 18% outside of Canada. The portion of students staying in Atlantic Canada was consistent with original plans, and it appears that those with uncertain plans were the most likely to leave Canada. The main reason for a change of plans was a lack of suitable jobs (60% of those who changed plans).

Permanent residency is a longer-term objective after settling into Atlantic Canada or elsewhere in Canada. Statistics Canada completed a study in 2015 to determine how many students became permanent residents after graduation. The study examined students in five-year cohorts starting in 1990 and ending in 2009. It is important to recognize that students obtain permanent resident status gradually over ten or more years following graduation. The early 1990s produced the highest rate (27%), the late 1990s group rate dropped (20%), then rates climbed again in the early 2000s (25%). The 2005 to 2009 cohort is tracking the early 2000s path towards 25%, but the ten-year data following graduation were not fully assessed in the report.

Considering the residence split CRA found between Atlantic Canada versus the rest of Canada, about 20% of students are expected to become permanent residents in Atlantic Canada and another 5% would become permanent residents elsewhere in Canada. The following delves into the views and experiences of current international students.

Plans after Graduation

The portion of international students seeking work after graduation is higher at colleges (75%) than universities (61%). The reverse is true for further studies where the rate is higher for university students (24%) than for college students (18%). A relatively small percentage of international students are unsure (11%), and almost none intend to return to their home country.

Most international students (63%) are seeking work after graduation.

Those seeking work or more study plan to stay in Atlantic Canada (54%), go elsewhere in Canada (21%), return to their home country (8%), or go to another country (3%).

Student perspectives evolve with increasing years of study. The proportion of students indicating "I don't know" declines from 12% in years one and two to 6% and 9% in years four and five respectively. Similarly, the proportion planning to work in Canada but outside Atlantic Canada climbs from 13% in years one and two to 16% and 17% in years four and five respectively. The proportion planning to work in Atlantic Canada remains steady (41% to 46%) from the early years to later years.

Table 5.5 International student plans after graduation, 2017

After Grad Plan	College	University	Total
Work			
In Atlantic Canada	73%	40%	42%
Outside Atlantic Canada	2%	14%	14%
In my home country	0%	6%	6%
Outside Canada, not my home country	0%	1%	1%
Sub-total	**75%**	**61%**	**63%**
Study			
At a different institution outside Atlantic Canada	0%	7%	7%
At my current institution	2%	7%	7%
At a different institution in Atlantic Canada	15%	5%	5%
Outside Canada, not in my home country	1%	3%	2%
At an institution in my home country	0%	2%	2%
Sub-total	**18%**	**24%**	**23%**
Other			
I don't know	4%	11%	11%
Other	1%	3%	3%
Return to my home country	1%	0%	0%
Sub-total	**6%**	**15%**	**14%**
Total	**100%**	**100%**	**100%**

Source: Gardner Pinfold survey, 2017

Among those seeking work in Atlantic Canada upon graduation, Nova Scotia (60%) and New Brunswick (18%) are most often cited as the destination province.

Table 5.6 Which Atlantic province international students plan to work in after graduation, 2017

Seeking Work In	College	University	Total
New Brunswick	53%	15%	18%
Newfoundland and Labrador	10%	17%	17%
Nova Scotia	33%	63%	60%
Prince Edward Island	4%	5%	5%
Total	**100%**	**100%**	**100%**

Source: Gardner Pinfold survey, 2017

Atlantic Canada Locations after Graduation

Among those seeking studies in Atlantic Canada upon graduation, Nova Scotia (66%) and New Brunswick (18%) are most often cited as the destination province.

Table 5.7 Atlantic province international students plan to study in after graduation, 2017

Seeking Studies In	College	University	Total
New Brunswick	27%	17%	18%
Newfoundland and Labrador	8%	3%	4%
Nova Scotia	39%	70%	66%
Prince Edward Island	26%	10%	12%
Total	**100%**	**100%**	**100%**

Source: Gardner Pinfold survey, 2017

There is some movement between provinces for those international students planning to work or study in the Atlantic region after graduation. Provincial retention is highest for Nova Scotia (84%), followed by New Brunswick (66%).

Table 5.8 Origin and destination provinces for international students seeking work and study in Atlantic Canada after graduation, 2017

			Origin		
Destination	**NB**	**NL**	**NS**	**PEI**	**Total**
New Brunswick	**66%**	16%	7%	21%	18%
Newfoundland and Labrador	0%	**41%**	1%	0%	4%
Nova Scotia	34%	43%	**84%**	37%	66%
Prince Edward Island	0%	0%	8%	**42%**	12%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Gardner Pinfold survey, 2017

5.6 RETENTION SUCCESS FACTORS

Work Retention

Availability of suitable jobs is most important factor for working in Atlantic Canada.

The top three factors for successful work in Atlantic Canada after graduation are availability of suitable jobs (20%), finding employers interested in hiring international students (14%), and earning potential (13%). "Suitable jobs" are those connected to their field of study at a level that is commensurate with their credentials. Cost of living (12%) was very close behind the top three and is intertwined with earning potential. Arguably these are two sides of the same coin and could be combined as a financial viability factor capturing 25% of the points for top spot. Many international students complete their studies with high debt burdens owing to differential tuition fees, so financial viability is top of mind.

Although language barriers may be suspected with international students entering the workforce, this is not the perspective of students who place this factor at the bottom of the list.

Table 5.9 Success factors for working after graduation in Atlantic Canada, 2017

Work Success Factors	College	University	Total
Availability of Suitable Jobs	21%	20%	20%
Employers Hiring International	15%	14%	14%
Earning Potential	10%	13%	13%
Cost of Living	12%	12%	12%
Feeling Welcome as International	13%	10%	11%
Work Permit Restrictions	6%	8%	8%
Visa Restrictions	6%	6%	6%
Job Opportunities for Your Spouse	6%	5%	5%
Information on Jobs	4%	5%	4%
Commitments in Home Country	3%	3%	3%
Language Barrier	3%	3%	3%
Other	1%	1%	1%
Total	**100%**	**100%**	**100%**

Source: Gardner Pinfold survey, 2017

Study Retention

Keep in mind that 62% of international students intend to work after graduation and only 24% seek further study (Table 16). Students were asked to identify the three most important factors that would help them pursue further studies after graduation. Not surprisingly, the cost of study programs is at the top of the list (21%). That finding suitable programs is second (16%) and cost of living (15%) is in third place highlights again the financial pressures for international students.

Cost of programs is the most important factor for further studies in Atlantic Canada.

Table 5.10 Success factors for studying after graduation in Atlantic Canada, 2017

Further Study Factors	College	University	Total
Cost of Study Programs	24%	21%	21%
Finding Suitable Program	9%	17%	16%
Cost of Living	18%	15%	15%
Programs with Work Experience	13%	12%	13%
Programs with a High Reputation	9%	12%	12%
Visa Restrictions	12%	8%	8%
Information on Study Opportunities	5%	7%	7%
Healthcare Coverage	7%	5%	5%
Language Barrier	3%	3%	3%
Total	**100%**	**100%**	**100%**

Source: Gardner Pinfold survey, 2017

Permanent residency for students

International students at colleges are somewhat more likely (70%) than university students (61%) to have or plan to obtain permanent resident status in Canada. Some students (13% overall) did not respond or did not know.

The majority of students (62%) have or plan to obtain permanent residency.

Among college students, the rate of current or planned permanent residency rises from 71% of first-year students to 80% of second-year students, possibly because students become closer to successful program completion and potential entry to the workforce. The rate of current or planned residency remains lower and constant across years for university students (60%, 66%, 60%, 59%, and 58% for first- through fifth-year students respectively).

Table 5.11 College and university international students and permanent residency, 2017

Permanent Resident	College		University		Grand Total	
	Count	%	Count	%	Count	%
No	92	13%	3,343	25%	3,435	25%
Yes	518	70%	8,100	61%	8,618	62%
No response/ Don't know	127	17%	1,789	14%	1,916	13%
Grand Total	**737**	**100%**	**13,232**	**100%**	**13,968**	**100%**

Source: Gardner Pinfold survey, 2017 Note: "Yes" indicates current or planned permanent resident.

6. Experiential Learning

6.1 EXPERIENTIAL LEARNING AND WORK INTEGRATED LEARNING

A brief explanation of experiential learning is warranted to narrow the focus from the broad range of possibilities. The Association of Experiential Education (AEE) encapsulates the essence of experiential learning as a "challenge and experience followed by reflection leading to learning and growth". Experiential learning can be implemented in any field of study, learning setting, location, or period of time. The AEE goes on to say that experiential learning occurs when carefully chosen experiences are supported by reflection, critical analysis, and synthesis. The experiences often require the learner to take initiative, make decisions, and be accountable for results. The learner may experience success or failure, and uncertainty or risk-taking is common since the outcomes cannot be fully predicted. (www.aee.org).

Consistent with the themes of this report, we narrow experiential learning to aspects that would help with retention of international students in Atlantic Canada to work after graduation. This focus raises the more specific terminology of work integrated learning (WIL), considered a subset of experiential learning. The Canadian Business/Higher Education Roundtable (BHER), established in 2015, adopted the following definition for WIL:

> *"The process whereby students come to learn from experiences in educational and practice settings and integrate the contributions of those experiences in developing the understanding, procedures, and dispositions required for effective professional practice, including criticality. Work-integrated learning arrangements include the kinds of curriculum and pedagogic practices that can assist, provide, and effectively integrate learning experiences in both educational and practice settings". (Billett, 2009)*

BHER undertook a scan of WIL in Canadian universities and colleges (2016) and the report does recognize particular barriers for international students including

- a lack of knowledge about the local labour market and workplace culture,
- concerns about prolonging their periods of study,
- language competency,
- concerns about employer attitudes and perceptions,
- questions about visa status,
- employers may expect that the process for taking on an international work study student may be longer, more involved, and more expensive than that for taking on a domestic student,
- employers may be less willing to absorb the risk of taking on an international WIL student for fear that there is little chance the student will stay on or return as a permanent hire rather than return to their home country, and
- more risk-averse industries or sector professions, such as health professions, should take care to ensure that students understand what is expected of them in terms of ethics, privacy, and confidentiality. (BHER, 2016)

Primary methods of delivering WIL include apprenticeships, co-ops, internships, mandatory professional practice, field experience, applied research projects, and service-learning, among other emerging methods. Canadian case studies, barriers, best practices, and recommendations for advancing WIL in Canada are provided in the report.

6.2 CO-OP PARTICIPATION IN CANADA

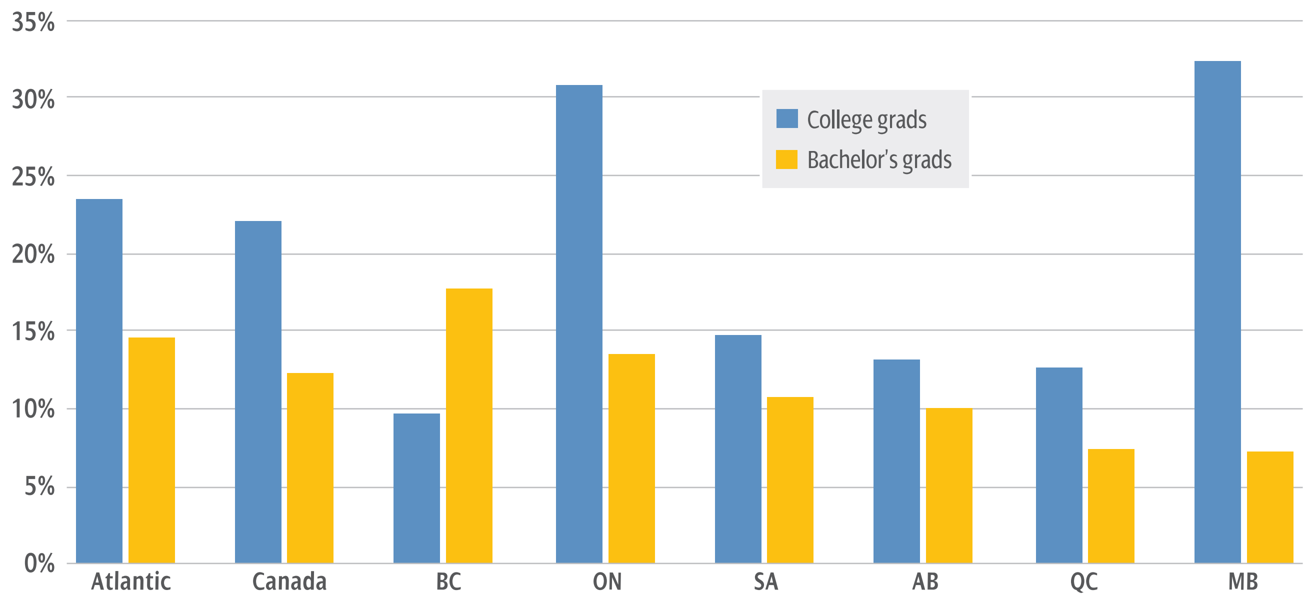
Atlantic Canada undergraduate university students have the second highest co-op participation rates (14%) in Canada.

Given the breadth of workplace integrated learning, it is difficult to portray activity across colleges and universities in Canada. Co-op participation rates are used as an indicator of engagement levels.

Statistics Canada most recently reported participation rates among college and university undergraduate students for 2010 graduates. Rates are consistently higher at colleges than universities, both within provinces and over time. Rates among colleges nearly tripled from 7% in the mid-1980s to 22% by 2010. Over the same period, university undergraduate participation more than doubled from 5% to 12%.

The Atlantic provinces have the second highest co-op participation rates among undergraduates (14.3%), behind only British Columbia with 17.6%. Atlantic Canada also places third with a rate of 23.3% for college students, behind top place Manitoba (32.3%) and second place Ontario (30.6%).

Figure 6.1 Co-op participation rates (%) among college students and university undergraduates in Canada, 2010



Source: StatCan Cat No. 75-006-X

6.3 INTERNATIONAL STUDENT EXPERIENCES IN ATLANTIC CANADA

International students gain a wide range of workplace experiences while studying.

There are, of course, many more workplace integrated learning measures, and the survey shows the most important ones according to international students in Atlantic Canada. When asked to select any and all work experiences gained while studying, international students' top three answers are gaining job ready skills (12%), gaining research skills (10%), and volunteering to gain work experience (10%). However, the responses are widely distributed across the list presented to students, so these three are not substantially more common than others in the top half of the list. The next four all came in at 8% including co-op or field placements, work experience at their institution, teaching assistantships, and tutoring or assisting peers. Some of the items at the bottom of the list are more a reflection of specific programs with fewer students where these would occur including practicums and clinical placements (2%), or apprenticeships (2%).

Table 6.1 Work experience gained at Atlantic Canada institutions, 2017

Work Experience	College	University	Total
Job Ready Skills	14%	12%	12%
Research Skills	4%	11%	10%
Volunteering to Gain Experience	7%	10%	10%
Co-op or Field Work	12%	8%	8%
Work Experience at Your Institution	9%	8%	8%
Teaching Assistantship	2%	8%	8%
Tutoring or Assisting Peers	6%	8%	8%
Connecting with a Mentor	4%	7%	7%
Internship before Graduation	11%	6%	6%
Project Presented to a Workplace	4%	4%	4%
Class Visits to a Workplace	7%	4%	4%
Course Learning in a Workplace	6%	3%	4%
Fellowship Experience	2%	3%	3%
Job Shadowing	3%	2%	2%
Learning to Own or Manage Company	3%	2%	2%
Practicum or Clinical Placement	4%	2%	2%
Apprenticeship	2%	2%	2%
Total	**100%**	**100%**	**100%**

Source: Gardner Pinfold survey, 2017

References

Billet, S. 2009. Developing Agentic Professionals through Practice-Based Pedagogies. Australian Learning and Teaching Council.

Business/Higher Education Roundtable (BHER). 2016. Taking the Pulse of Work-Integrated Learning in Canada.

Canadian Bureau of International Education (CBIE). 2016. A World of Learning: Canada's performance and potential in international education, 2015.

Canadian Bureau of International Education (CBIE). 2015. A World of Learning: Canada's performance and potential in international education, 2014.

Citizenship and Immigration Canada (CIC). 2016. International Study Permit Processing Times.

Corporate Research Associates (CRA). 2017. International Graduate Study: The Graduate Experience One Year Later. (Report to the Atlantic Association of Universities – AAU)

Gardner Pinfold. 2006. The Economic Impact of Universities in the Atlantic Provinces. (Prepared for the Association of Atlantic Universities).

Global Affairs Canada. 2014. Canada's International Education Strategy – Harnessing our knowledge advantage to drive innovation and prosperity.

Innovation, Science and Economic Development Canada (ISED). 2017. Trade data online (https://www.ic.gc.ca/eic/site/tdo-dcd.nsf/eng/home)

International Consultants for Education and Fairs (ICEF). 2014. ICEF Monitor - Summing up international student mobility in 2014. ICEF. Retrieved from http://monitor.icef.com/2014/02/summing-upinternational-student-mobility-in-2014/

Lebrun, D. and Rebelo, S. 2006. The Role of Universities in the Economic Development of Atlantic Canada: A Focus on Immigration, Final Draft. ACOA.

The Maritime Provinces Higher Education Commission (MPHEC). 2015. Student Progression in the Maritime University System Persistence and Graduation.

Organization for Economic Co-operation and Development (OECD). 2014. Education at a glance 2014. Paris: OECD. Retrieved from http://www.oecd.org/edu/Education-at-a-Glance-2014.pdf

Institute of International Education (IIE). 2014. Project Atlas: Trends and Global Data Fact Sheet. New York: IIE. Retrieved from: http://www.iie.org/Research-and-Publications/Project-Atlas

Siddiq, F., Baroni, J., Lye, J, Nethercote, W. 2010. The Economic Impact of Post-Secondary International Students in Atlantic Canada – An Expenditure Analysis (for CAMET).

Smith, C., Demjanenko, T. 2011. Solving the International Student Retention Puzzle (University of Windsor Report).

Statistics Canada (StatCan). 2016. International Students in Canadian Universities 2004/05 to 2013/14.

Statistics Canada (StatCan). 2015. International Students Who Became Permanent Residents in Canada. Cat. No. 75-006-X.

Statistics Canada (StatCan). 2008. Postsecondary Education – Participation and Dropping Out: Differences Across University, College and Other Types of Postsecondary Institutions. Cat No. 81-595-M-No. 070.

Universities U.K. 2014. The Impact of Universities on the U.K. Economy.

The Economic Impact of International Students in Atlantic Canada

APPENDICES

Prepared for

Council of Atlantic Ministers of Education and Training (CAMET)

Prepared by

Gardner Pinfold Consultants Inc.
www.gardnerpinfold.ca

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Appendix A Focus Group Findings

A.1 OVERVIEW

Focus groups were used to complement the survey data obtained from students at two was organized to delve into the key study questions. International student centres recruited 36 participants across the four sessions. Focus group sessions were an opportunity to collect different information because the responses from participants are enriched by group discussion. Questions could also be posed without “prompters”, so responses reflect top-of-mind issues and perspectives.

The responses shown according to each discussion theme are altered as little as possible from the way they were shared in the focus groups. This is done to maintain the authenticity of the comments and to avoid perception of any filtering. In a few cases consistent terminology is adopted for students that provided similar responses.

A.2 REPRESENTATION

The following demographic information was collected from participants to help account for any substantial differences from the general university population. The information was collected in written form, and answers were separate from group discussion notes. The groups were based in Halifax, so the responses regarding aspects of the off-campus community and work opportunities may reflect local conditions. There were no major differences in the responses between the two institutions and no major differences from the general Atlantic Canada university international student survey responses.

Figure A.1 Focus group credential sought at current institution (n=36)

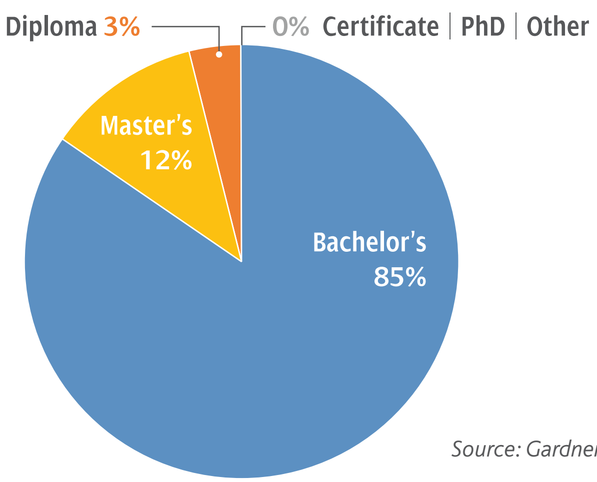
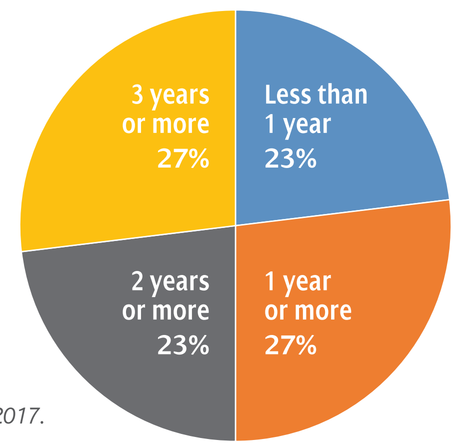


Figure A.2 Focus group years since arrival in Atlantic Canada



Source: Gardner Pinfold focus groups, 2017.

Figure A.3 Focus group accommodations type

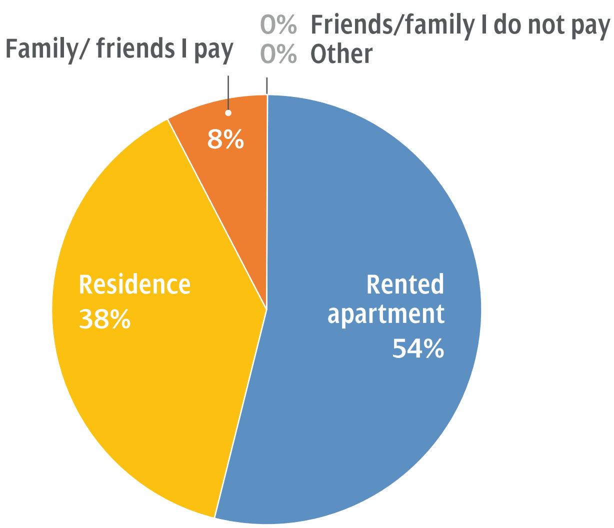


Figure A.4 Focus group employment status

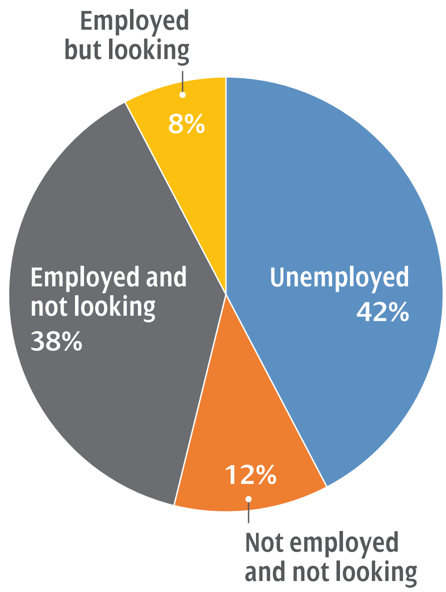
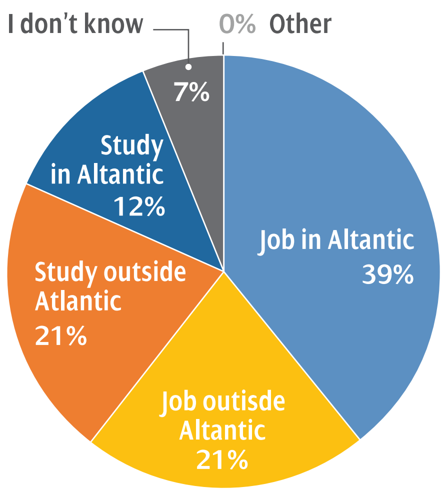


Figure A.5 Focus group plans after graduation



Source: Gardner Pinfold focus groups, 2017.

Finally, focus group participants were asked about their intentions to seek permanent resident status in Canada; 65% indicated "yes", 12% indicated "no", and 23% were not sure.

Theme 1 Atlantic Canada Living

The first discussion theme focused on good and bad experiences students had adjusting to life in Atlantic Canada when they first arrived. The most common positive and negative responses are shown along with potential roles for institutions to improve the international student experience.

- **Positive** – Friendly open-minded people, easy local transport, welcoming.
- **Negative** – Need more community information online, hard to find off-campus housing, hard to meet people off-campus.
- **University roles** – International student centre, student housing support, community networking support.

Theme 2 Atlantic Canada Studies

The second theme focused on supports and challenges that influence international student success in completing their study programs.

- **Positive** – Access to professors, academic advisors, resource centres with TAs.
- **Negative** – Not all profs are clear to understand.
- **University roles** – On-campus skills learning sessions, university presence in my home country, language and writing centres.

Theme 3 Experiences That Help for Work after Graduation

This theme asked focus group participants to describe experiences in their studies, on-campus and off-campus. that they think will be helpful for work after graduation.

- **Positive** – Networking, volunteering, getting involved with societies on campus.
- **Negative** – Need more of everything from university, difficult to balance study and work, need to get more organized.
- **University roles** – Career and leadership centre, co-op placement assistance, more in-course work skills development.

Theme 4 Study in Atlantic Canada after Graduation

This theme explored focus group participant outlooks for further studies in Atlantic Canada after graduation. For students intending to study, the discussion included the factors that affect their choice of institutions in Atlantic Canada versus elsewhere. For those not intending to study, the discussion captured their reasons.

- **Positive** – Familiarity with Atlantic makes it easier to stay, likelihood of getting job/PR, financial aids or scholarships.
- **Negative** – Financial pressure to stop studies and work, GPA limitations, cost of program and duration.
- **University roles** – Financial support and program availability.

Theme 5 Work in Atlantic Canada after Graduation

This theme explored the reasons focus group participants did or did not intend to seek work in Atlantic Canada after graduation.

- **Positive** – More jobs and better pay than home country, familiarity with Atlantic Canada, nice people to work with.
- **Negative** – Higher wages in other parts of Canada, hard to know what jobs are available, having a Canadian degree makes it very easy to get a job in my home country.
- **University roles** – Employment centre, help understand provincial nominee program.

Theme 6 General Student Recommendations

This discussion provided an open-ended opportunity for students to suggest improvements for international students in Atlantic Canada and to comment on any other issues of interest.

- **Positive** – Students have a wide range of on-campus resources, students can get involved in activities off-campus, excellent experience making friends/connections.
- **Negative** – Differential fees are too high, need better information systems for international students, concerned about how an ethnic name will be viewed in Atlantic Canada.
- **University roles** – Improve mental health awareness; encourage domestic and international students to meet; connect education, experience, graduation, and work—don't just hope students will stay.

Appendix B Methodology

Survey Design

A representation of the survey is shown in Appendix E. Six versions of the survey were prepared including French- and English-language versions for universities, colleges, and other institutions. The core questions were the same for each version, and the primary differences reflected terminology (e.g., fields of study) that differed by type of institution. In some cases, questions that were not relevant to an institution type were removed.

The overall survey design is sufficiently comprehensive to cover the questions of interest to CAMET, yet short enough for students to complete in 15–20 minutes. Questions were designed to require a minimum of keystroke entries from students. This feature is designed to minimize completion times, but also to facilitate completion on the variety of devices (i.e., laptops, tablets, smart phones) that students frequently use. For instance, rather than ask for specific dollar amounts for spending questions, students selected from spending ranges. To estimate spending amounts, the midpoint of spending ranges is used in the data analysis.

All questions are voluntary (i.e., non-response accepted) with the exception of questions concerning the institution the student is attending and the consent question with specific language provided by the institutions. These questions are required in order to show the student their institution ethics contact information, and consent is required to meet the terms of the ethics review board approvals.

Institutions with predominantly French-language programs provided additional feedback regarding the translated survey materials. This was especially helpful to make sure terminology would be familiar to their students.

The survey was piloted with students in a group setting so that they had the opportunity to ask questions of Gardner Pinfold staff. Any issues raised were addressed before wider launch of the survey. For some questions, additional text helped to clarify the meaning of the question and avoid confusion for respondents.

The survey was programmed in the Opinio survey software platform at Dalhousie University. This was done in part to satisfy the need for storage of all survey data on computer surveys located in Canada (i.e., ethics review requirement). Unfortunately, the Opinio survey software is not only limited in functionality compared to other survey software available, but it has a number of glitches that even Dalhousie staff have asked the manufacturers to address. Unless Opinio is vastly improved, it would be highly recommended that another survey software platform be used that still meets the Canadian data storage requirement.

Survey Administration

The first step toward distribution of the survey link to students was to obtain approval from the ethics review board as required by each institution. Some institutions did not require ethics review at all, and administrators simply reviewed the survey and responded quickly to indicate their satisfaction. Some institutions accepted the approval board of another institution and did not require their own review. In a few cases, institutions required their own ethics review. Since review boards only meet periodically, there can be a month or two lapse between meetings before comments or approval is returned. This aspect of the project was more laborious than anticipated given the time required to prepare a submission for review, the time required to get approvals, and, in a couple of cases, personnel changes at institutions leading to breakdowns in the administrative process. Future studies of this nature should seek a streamlined approach to avoid consuming consulting resources for administrative activities.

Upon approval, the second step was for institution administrators to send email invitations for students to complete the survey. This step was taken so that Gardner Pinfold would not have any student personal information. Some institutions had the added capability of tracking student responses to the invitations, and could provide the number that opened the invitation and the number that followed the survey link.

The launch date was different at each institution depending on the when final approval was obtained, when other surveys were being launched at the institution, and in one case there was a need to delay due to a network security issue at the institution.

As students completed the survey, Gardner Pinfold provided feedback to administrators regarding response rates and coordinated the timing of email reminders to students so that more would enter the survey.

Since the survey was open from February to April 2017 and most international students would have started in September 2016, this time span likely captured students that had been settled for at least four months in Canada. Some students in second year or higher would have been settled for longer. Having reviewed the literature, Gardner Pinfold considered the timing appropriate to avoid surveying students just after arrival when they would still have been adjusting to life and studies. During the initial settlement phase, students tend to provide different responses than they do after a longer period. Some period of reflection on positive and negative initial experiences tends to yield more stable responses.

The challenge with launching the survey several months into the academic year is that this is also the ideal time for other surveys of international students. At least two major surveys were launched at institutions with many international students, and the overlap likely reduced response rates. International students are very busy with studies as they often have additional challenges compared to their domestic counterparts, and they may be working to fund their higher costs of education. Since the survey is voluntary, they may be reluctant to complete something that is not necessary. Addressing the difficulties with ethics review (above) would allow an earlier launch in late fall that would still satisfy the need for a settlement period yet ensure the launch of the survey before others typically roll out in the second term.

Survey Sample

The administration of each institution sent the survey invitation to international students registered at the time. There may be some variations in the selection of international students at each institution, but the final decision of whom to invite to the survey was left to administrators. There may be small differences in terms of whether students were refugees or permanent residents, but most would have been visa students.

The data are used to represent the international student population reported annually by the institutions and their associations. The Atlantic Association of Universities publishes annual preliminary enrolments based on a data call from universities. Gardner Pinfold obtained international student enrolments for colleges directly from those institutions.

The survey conducted in 2017 for CAMET captured 2,380 valid completions for core questions. The core questions included those pertaining to student program, status, demographics, and spending. Non-core questions included those pertaining to views on success factors and issues of interest to international students.

Table B.1 International student enrolments and survey response rates, 2017

	International	Responses	Rate
STU	133	46	34.6%
UKC	39	13	33.3%
AST	3	1	33.3%
UNB	1,071	334	31.2%
MUN	2,386	655	27.5%
MtA	205	46	22.4%
ACA	488	94	19.3%
UPEI	894	142	15.9%
MSVU	573	85	14.8%
StFX	270	36	13.3%
UdeM	764	101	13.2%
DAL	3,277	423	12.9%
UStA	145	16	11.0%
CBU	716	52	7.3%
SMU	2,116	143	6.8%
NSCAD	136	5	2.9%
Universities total	**13,216**	**2,190**	**16.5%**
NBCC[1]	115	46	39.0%
NSCC[2]	225	75	33.3%
HC	113	22	19.5%
CCNB	217	35	16.1%
CNA[3]	67	10	14.9%
NBCCD	NA	1	NA
Colleges total	**737**	**189**	**25.5%**
WRSON[4]	15	1	6.7%
Grand total	**13,968**	**2,380**	**17.0%**

Sources: Gardner Pinfold tabulation from 2016/17 Atlantic Canada institution data call. Institution publications; Gardner Pinfold survey, 2017
Notes:
1. Includes regular, non-regular, and apprenticeship enrolments.
2. Includes certificate, diploma, apprenticeship, learners, and off-cycle programs.
3. Does not include 3700 overseas students.
4. The Western Regional School of Nursing in Newfoundland and Labrador is operated by Western Health. The School offers a four-year (Collaborative) Bachelor of Nursing Program with MUN School of Nursing and the Centre for Nursing Studies. WRSON also offers a two-year Fast Track Nursing Degree Option to students with a degree or advanced standing and a 3.0 GPA. WRSON students graduate with a MUN degree.

Data Validation

As mentioned, the analysis relies on surveys with valid complete responses for the core questions concerning the institution, demographics, and spending. The questions concerning views on success factors for living in Canada and completing studies were not necessary for inclusion.

However, some respondents completed all questions, but it was evident that their records could not be used. All responses were screened for "speeders", those that select one response (e.g., first response to all multiple choice questions) simply to work through the survey as quickly as possible. Some respondents selected the "I don't know" response so often that the records (e.g., spending questions) did not provide enough content for analysis. All data were screened for outliers, to make sure that these appear to be valid rather than a potential typing error. For example, tuition amounts for each student were checked for consistency with responses of other students at the same institution in the same program.

Weighting

The data are used to represent the spending and views of international students across the region. The AAU preliminary enrolments represent the sample frame or target population for universities, and the international student enrolments reported by colleges are the sample frame for those institutions.

In order for the survey sample findings to be used to represent the overall population, weights must be assigned to each respondent according to the portion of the population he/she represents. This weighting was done individually by institution, by credential (i.e., bachelor's, master's, diploma, etc.), and by part-time or full-time status. An example is most helpful to illustrate the concept:

Example:

- Sixty-four (64) responses are obtained for full-time Bachelor's students at MSVU.
- There are actually 303 full-time Bachelor's students enrolled.
- A weight of 4.73 is applied to each full-time Bachelor's respondent (i.e., 303/64).
- Weights are derived for all other types of respondent (e.g., Master's, part-time).
- Weights are applied to spending amounts to obtain an estimate for all students at MSVU.
- Weights are also assigned to opinion questions and success factor selections to obtain representative university-wide findings.

This is as accurate a weighting system as the data would permit. Weighting by year of study was considered, but information was lacking from several institutions.

Economic Impacts

The starting point for economic impact analysis is the total spending estimates obtained from students ($478 million) and calculated based on their reports of friends and family visiting from outside Atlantic Canada ($34 million).

Economic impact analysis requires the use of a quantitative model of the economy, where expenditures are used to drive the model. We use the Statistics Canada Interprovincial Input-Output Model since it is the one most commonly used in Canada, and is reliably maintained over time. This model facilitates comparison of results with studies elsewhere and over time, and is most familiar to policy-makers, thereby increasing acceptance of study results.

The model produces impact estimates for a broad range of indicators, typically including Gross Domestic Product, labour income, employment and tax revenues. These are briefly described in turn below:

- **Gross Domestic Product** (GDP) represents its broadest measure of economic impact. GDP captures the value added to purchased inputs through the application of labour and capital. It represents the sum of the value added by each industry. Value added should not be confused with output value, since the latter would include the value of purchased inputs.
- **Labour income:** This captures payments in the form of wages and salaries earned in employment. Returns to labour in the form of wages, salaries, and earnings form a key component of GDP.
- **Employment:** Industry employment is important politically because of the significance generally attached to jobs, but from an economic impact perspective, the significance lies in the economic impact generated through the spending of employment income. Unless otherwise indicated, employment is measured in full-time equivalents (FTE).

Economic impacts are generated through direct, indirect, and induced demand in the economy through successive rounds of purchases of goods and services.

- **Direct impact** refers to impact arising from the initial round of expenditures, in this case by and for international students. Expenditures by students would be made for tuition, living expenses, travel, etc. Expenditures for students would be made by post-secondary institutions (using government funding and own funds) and through provincial health care systems.
- **Indirect impact** refers to the inter-industry purchases triggered by the direct expenditures. For example, post-secondary institutions would spend tuition fees on operational goods and services. Producers of these goods and services would in turn buy more basic inputs, and so on.
- **Induced demand** refers to the demand created in the broader economy through consumer spending of incomes earned by those employed in direct and indirect activities. It may take a year or more for these rounds of consumer spending to work their way through an economy.

The sum of impacts flowing from each level of demand gives the overall economic impact of expenditures by and for international students. Generally, the greater the provincial or regional supply capability at each level, the greater will be the impact (a higher multiplier effect).

Data Concordance

The survey questions were designed to capture expenditures separately by type (i.e., tuition, local transport, household supplies) so that these can be handled appropriately by the economic model. Tuition expenses are flowed through universities and colleges, local transport expenditures are flowed through local bus transport and taxis, and household supplies are flowed through the retail industry, etc. Each expenditure is aligned with the set of industries defined in the model according to the North American Industry Classification System (NAICS) adopted by Statistics Canada. This exercise of aligning survey data with the model industries is referred to as concordance.

The model can specify the province where expenditures take place, so Dalhousie University student spending is flowed through the Nova Scotia economy, for example. This specification is used to improve the estimates of what spending stays in each provincial economy, since it will differ based on the goods and services available locally versus those that are imported from other provinces or abroad. Salaries, taxes, and other indicators will differ across provinces as well. Results are therefore specific to each expenditure type and province.

Appendix C Confidence Levels for Spending

There is little variation in spending across students within each institution; therefore, estimates of overall spending are highly reliable. The 95% confidence interval for the $478 million in overall spending is less than +/- 1% of the total spending estimate. Although there are some students that spend very high amounts on tuition (e.g., medicine and dentistry students), these are limited; students that spend high amounts on accommodation or transportation (e.g., expensive vehicles) are also a small minority.

Table C.1 Confidence interval for spending estimates by university

	Spending	Counts	Std Dev.	95% C.I. - Low	95% C.I. - High
College					
CCNB	5,830,790	35	69,698	5,807,699	5,853,881
CAN	2,118,462	10	134,908	2,034,845	2,202,078
HC	4,427,103	22	90,410	4,389,323	4,464,883
NBCC[1]	3,071,293	47	31,675	3,062,237	3,080,349
NSCC	6,807,782	75	46,016	6,797,368	6,818,196
Sub-Total	**22,255,430**	**189**		**22,091,473**	**22,419,388**
University					
ACA	18,975,518	94	73,009	18,960,758	18,990,277
CBU	27,680,348	52	268,293	27,607,425	27,753,271
DAL[2]	113,397,137	423	166,608	113,381,260	113,413,015
MUN[3]	59,725,031	655	51,527	59,721,085	59,728,977
MTA	8,094,107	46	67,109	8,074,714	8,113,501
MSVU	18,233,966	85	273,858	18,175,746	18,292,186
NSCAD	6,269,845	5	965,492	5,423,554	7,116,136
SMU	80,475,095	143	239,395	80,435,858	80,514,333
STFX	12,810,450	36	139,719	12,764,808	12,856,091
STU	4,906,077	46	36,544	4,895,516	4,916,637
UdeM	23,625,015	101	128,993	23,599,857	23,650,172
UStA	4,299,933	16	79,660	4,260,899	4,338,966
UKC	1,161,847	13	37,396	1,141,518	1,182,176
UNB - FR	25,006,994	244	84,933	24,996,336	25,017,651
UNB - SJ	13,970,710	90	178,913	13,933,746	14,007,674
UPEI	36,643,589	142	177,539	36,614,387	36,672,790
Sub-Total	**455,275,659**	**2,191**		**453,987,467**	**456,563,851**
Total	**477,531,089**	**2,380**		**476,078,940**	**478,983,239**

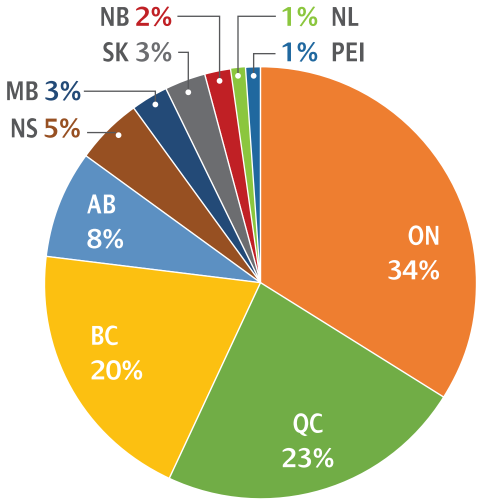
Source: Gardner Pinfold survey, 2017 Note: Confidence interval calculation is 1.96 times StdDev divided by square root of count.
1. Includes one New Brunswick College of Craft and Design respondent.
2. Includes one Atlantic School of Theology respondent.
3. Includes one Western Regional School of Nursing respondent.

Appendix D Additional Results

Three-quarters of all Canadian post-secondary international students attend universities

According to Statistics Canada, 159,687 international students were hosted by Canadian universities in 2015. About 34% attended ON institutions, 23% were in QC, and 20% in BC. The Atlantic provinces together admitted 8.5% for a total of 13,503.

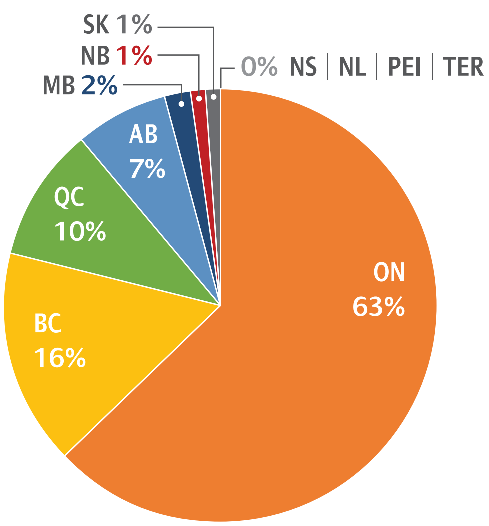
Figure D.1 Share of university international students by province in 2015



Source: StatCan CANSIM Table 477-0031

Canada hosted 55,095 international students at colleges in 2015. About 63% attended ON institutions, 16% were in BC, and 10% in QC. The Atlantic provinces hosted 1.3% (723 in total).

Figure D.2 Share of college international students by province in 2015

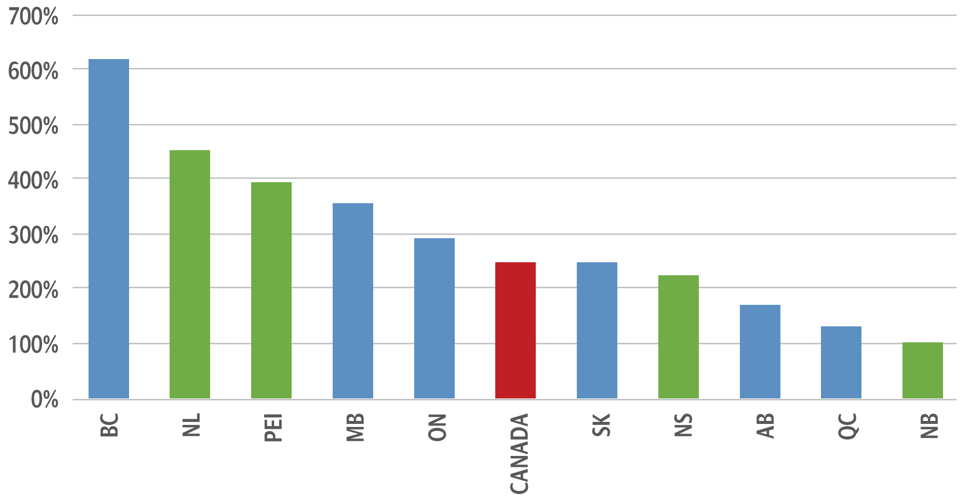


Source: StatCan CANSIM Table 477-0031

BC leads international student growth, but NL and PEI are second and third in Canada

When international student growth is measured over the 2000 to 2015 period, BC has grown 616%, followed by NL with 453%, and PEI with 395%. All provinces have at a minimum doubled their international student population (i.e., NB with 104%), and the national average is 249%.

Figure D.3 Provincial growth of international students at universities (2000–2015)

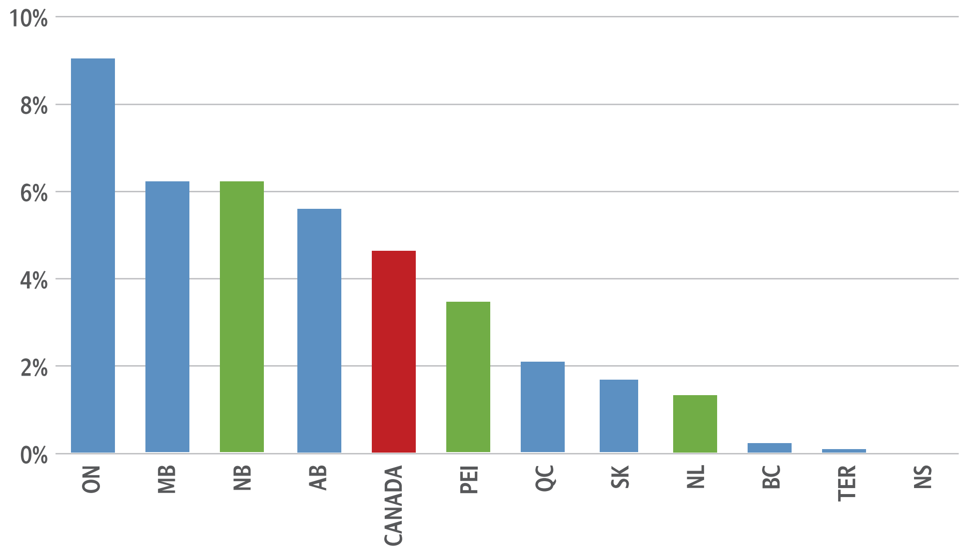


Source: StatCan CANSIM Table 477-0031

International share of college students is rising fastest in ON, MB, and NB

The Atlantic provinces have just one of the top spots for growth in share of college student population represented by international students over the 15-year period from 2000 to 2015. International students in ON represented 2.2% of the university student population in 2000 and by 2015 they accounted for 11.3% (growth of 9.1 percentage points). International students in NB grew from 0.5% to 6.7% (growth of 6.2 percentage points). PEI, NL, and NS grew by 3.5, 1.5, and 0 percentage points respectively.

Figure D.4 Provincial growth in the share of college student population represented by international students (2000–2015)

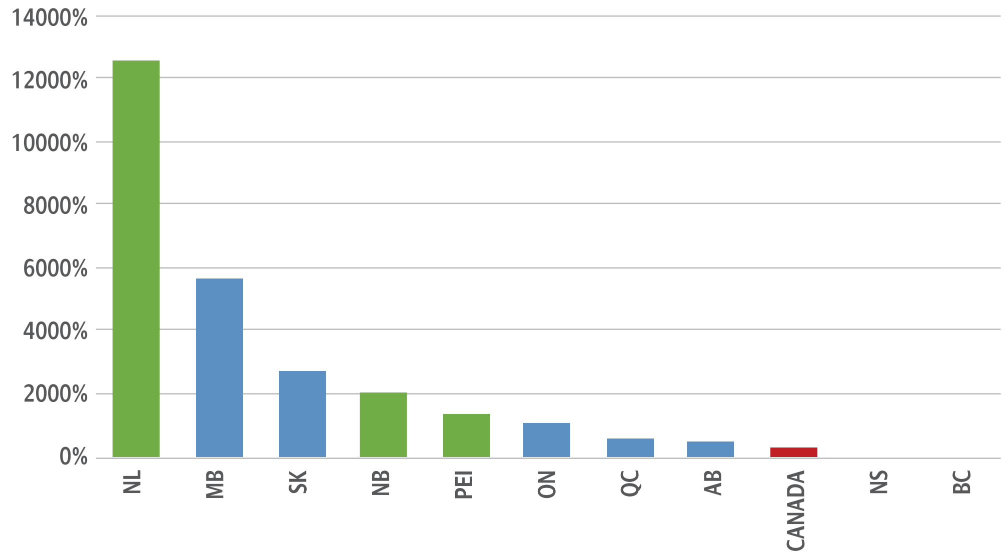


Source: StatCan CANSIM Table 477-0031. Note: Interpret the NL percentage with caution. The number of international students at the College of the North Atlantic during the time period from 2000 to 2015 is low and variable; therefore, the growth depicted is not indicative of ongoing trends.

NL leads international student growth at colleges in Canada

When international student growth is measured over the 2000 to 2015 period, NL grew 12,500%, followed by MB with 5,683%, and SK with 395%. NB is up 2,013%, PEI is up 1,400%, while the national average was an increase of just 298% mainly due to the 4% decline in BC.

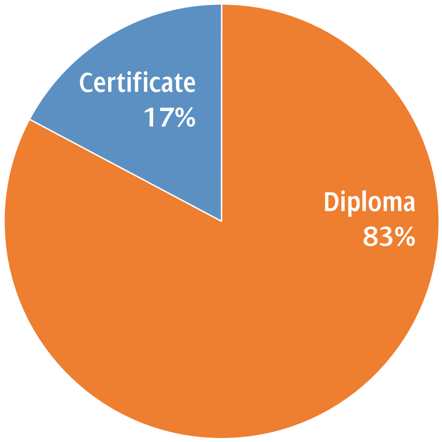
Figure D.5 Provincial growth of international students at colleges (2000–2015)



Source: StatCan CANSIM Table 477-0031. Note: Interpret the NL percentage with caution. The number of international students at the College of the North Atlantic during the time period from 2000 to 2015 is low and variable; therefore, the growth depicted is not indicative of ongoing trends.

International students mostly seek diplomas (83%), while the remainder are working towards certificates.

Figure D.6 Credentials sought by international students at colleges in Atlantic Canada



Source: Gardner Pinfold tabulation from 2016/17 Atlantic Canada institution data call.

There is a higher proportion of 1st- and 2nd- year students at colleges than at universities

International students generally mirror their domestic counterparts in terms of the distribution by year of study. At colleges 69% of students report being in first or second year, whereas 61% in universities report the same. The balance for colleges report "other" mainly in association with apprenticeship programs. The balance of university students are mainly in third and fourth year.

Table D.1 College and university international students by year, 2017

Credential	1st year*	2nd year	3rd year	4th year	5th year+	Other	Grand Total
Colleges							
Diploma	273	149	7			169	598
Certificate	82			2		28	112
Advanced diploma						22	22
Bachelor's degree	1					1	2
Other	2						2
PhD degree		1					1
Sub-Total	**359**	**150**	**7**	**2**		**220**	**737**
Universities							
Bachelor's degree	2,906	1,953	1,998	1,826	292		8,976
Master's degree	1,270	945	170	36	82	7	2,511
PhD degree	222	185	205	197	195		1,004
Diploma	233	81	32				346
Other	104	60	59	48	2		272
Certificate	72	22			29		123
Sub-Total	**4,807**	**3,246**	**2,463**	**2,107**	**601**	**7**	**13,231**
Grand Total	**5,165**	**3,396**	**2,470**	**2,109**	**601**	**227**	**13,968**

Source: Gardner Pinfold survey, 2017
** Includes preparatory or foundation year.*
Note: Self-reported year may refer to year of standing in program or number of years attending the institution.

International students at colleges more likely to remain in Atlantic Canada year-round

Over two-thirds (71%) of college students reported staying in Atlantic Canada for 11 or 12 months of the year. Most international students at universities report staying 11 or 12 months (55%), but there is a noticeable proportion reporting eight or nine months (22%), which corresponds with two university semesters.

It is important to recognize that this question is also required to account for those international students who arrived part-way through the survey year (September 2016 to August 2017). This factor is critical for accurate spending estimates later in this report.

Table D.2 College and university international student months spent in Atlantic Canada, 2017

	College			University			Combined
Months	FT	PT	Total	FT	PT	Total	
1	2%	0%	2%	1%	0%	1%	1%
2	1%	0%	1%	1%	0%	1%	1%
3	1%	0%	1%	1%	0%	1%	1%
4	0%	0%	0%	3%	0%	3%	3%
5	2%	0%	2%	2%	0%	2%	2%
6	6%	0%	6%	3%	0%	3%	3%
7	3%	0%	3%	4%	0%	4%	4%
8	5%	0%	5%	16%	0%	16%	16%
9	3%	0%	3%	5%	1%	6%	6%
10	6%	0%	6%	7%	1%	8%	8%
11	11%	0%	11%	9%	1%	10%	10%
12	58%	1%	60%	39%	6%	45%	46%
Total	**98%**	**2%**	**100%**	**91%**	**9%**	**100%**	**100%**

Source: Gardner Pinfold survey, 2017
Note: Full-time is 3 or more courses per term, or writing a thesis; part-time is fewer than 3 courses.

Nearly all international students pay for their accommodations (94%)

The combination of rented accommodations, university college residences, and boarding accounts for 94% of all international student accommodation arrangements. Only 6% live in owned establishments or live with friends, with relatives, or in a homestay where they do not pay.

Owing to the greater role universities play in managing residence spaces, there is a greater proportion of university students in residence than of college students.

Table D.3 College and university international student accommodations by type, 2017

Accommodation	College	University	Combined
Rented accommodation	68%	59%	59%
University/college residence	11%	27%	27%
Living with friends or relatives that I pay (boarding)	5%	8%	8%
Accommodations that I own (or my family owns)	6%	3%	3%
Living with friends or relatives that I do NOT pay	4%	2%	2%
Other	4%	1%	1%
Homestay	2%	0%	0%
Total	**100%**	**100%**	**100%**

Source: Gardner Pinfold survey, 2017

Commerce, management, and business, and engineering and applied sciences are most popular fields of study for international students

International student enrolment is highest in commerce, management, and business fields (25%), followed by engineering and applied sciences (19%). These are the same fields of study Statistics Canada found to be most popular among international students in 2014/15 (see figure below). There is a high rate of "other" responses among college students, where respondents indicated they were studying a variety of specific subjects that are difficult to classify in these categories, including transport logistics, community services, tourism, and hospitality.

Table D.4 College and university international student field of study, 2017

Field of Study	College	University	Combined
Commerce, management, and business	30%	25%	25%
Engineering and applied sciences	12%	19%	19%
Other*	32%	9%	10%
Mathematics, computer and physical sciences	4%	10%	10%
Social sciences and related fields	2%	9%	9%
Agricultural, biological, and food sciences	1%	8%	7%
Health professions and related technologies	6%	7%	7%
Fine arts and applied arts	3%	4%	4%
Humanities and related fields	1%	4%	4%
Applied science technologies and trades	7%	3%	3%
Education, recreation, or counselling services	2%	2%	2%
Grand Total	**100%**	**100%**	**100%**

Source: Gardner Pinfold survey, 2017
** Hospitality, public health, and interdisciplinary programs were commonly associated with the "Other" category for university students, while transport logistics, community services, and tourism programs were common among college students.*

Nova Scotia international students at universities are unclear of MSI specifics

International students in Nova Scotia were asked about their awareness of MSI coverage starting 12 months after arrival in Canada. The majority of college respondents (61%) were aware, but only 46% of university students were aware. Lack of awareness regarding the start of coverage signals that many other details about coverage are also eluding students.

Table D.5 Nova Scotia student awareness of MSI waiting period, 2017

MSI Awareness	College	University	Total
No	39%	54%	54%
Yes	61%	46%	46%
Total	**100%**	**100%**	**100%**

Source: Gardner Pinfold survey, 2017

Most college students (71%) believe the waiting period should be shortened to either less than a year (32%) or starting immediately upon arrival in Canada (39%). Just over half (56%) of university students agree that the waiting period should be shortened to either less than a year (33%) or starting immediately (23%).

Table D.6 Nova Scotia student views on MSI waiting period, 2017

MSI Waiting Period	College	University	Grand Total
Appropriate	26%	41%	41%
Too long, should begin in 0-12 months	32%	33%	32%
Too long, should begin immediately	39%	23%	24%
Too short, should begin after 12 months	3%	3%	3%
Total	**100%**	**100%**	**100%**

Source: Gardner Pinfold survey, 2017

Despite the above, most students assigned high importance (17%) or extremely high importance (34%) to MSI coverage as a factor in deciding to study in Atlantic Canada. This is clear for college students who assigned high importance (14%) or extremely high importance (52%) to MSI.

Table D.7 Nova Scotia student importance of MSI coverage in choosing Atlantic Canada, 2017

MSI Rating	College	University	Total
1 (Not at all important)	8%	23%	23%
2 (Low importance)	11%	8%	8%
3 (Neutral)	16%	18%	18%
4 (High importance)	14%	17%	17%
5 (Extremely important)	51%	34%	34%
Total	**100%**	**100%**	**100%**

Source: Gardner Pinfold survey, 2017

Total spending by Atlantic Canada international students is $478 million

The total spending for international students at universities is $455 million (95% of total), and is $22 million at colleges (5% of total). The average spending per student at universities is $34,410 per year, and it is $30,197 per year at colleges.

Table D.8 International student average and total spending by institution, 2017

Student Spending	Spending	Students	$ per Student
College			
Nova Scotia Community College	6,807,782	225	30,257
Collège Communautaire du Nouveau-Brunswick	5,830,790	217	26,870
New Brunswick Community College	4,427,103	115	38,497
Holland College	3,071,293	113	27,180
College of the North Atlantic	2,118,462	67	31,619
Sub-Total	**22,255,430**	**737**	**30,197**
University			
Dalhousie University	113,383,937	3,277	34,600
Saint Mary's University	80,475,095	2,116	38,032
Memorial University	59,257,031	2,386	24,835
University of Prince Edward Island	36,643,589	894	40,988
Cape Breton University	27,680,348	716	38,660
University of New Brunswick	38,977,703	1,071	36,394
Université de Moncton	23,625,015	764	30,923
Acadia University	18,975,518	488	38,884
Mount Saint Vincent University	18,233,966	573	31,822
St. Francis Xavier University	12,810,450	270	47,446
Mount Allison University	8,094,107	205	39,483
NSCAD University	6,269,845	136	46,102
Université Sainte-Anne	4,906,077	145	33,835
St. Thomas University	4,299,933	133	32,330
University of King's College	1,161,847	39	29,791
Western Regional School of Nursing	468,000	15	31,200
Atlantic School of Theology	13,200	3	4,400
Sub-Total	**455,275,659**	**13,231**	**34,410**
Total	**477,531,089**	**13,968**	**34,188**

Source: Gardner Pinfold survey, 2017

Table D.9 International student total spending by province by expenditure, 2017

Expenditure Type	NB	NL	NS	PEI	Total
Tuition & Fees	33,269,573	17,159,595	120,333,828	21,431,183	192,194,179
Accommodation	11,890,607	12,912,391	45,050,031	4,780,054	74,633,083
Household Supplies & Food	8,491,614	7,981,466	26,645,519	2,808,458	45,927,057
Residence & Meals	7,396,817	4,186,938	25,941,633	4,040,823	41,566,211
Car Purchase	3,477,426	3,548,370	15,414,346	1,784,375	24,224,518
Communications	2,716,523	2,164,523	8,756,460	681,290	14,318,797
Clothing	2,828,676	2,179,819	8,249,280	964,929	14,222,704
Utilities	2,242,149	2,551,797	7,453,278	697,905	12,945,129
Entertainment	2,484,070	1,989,218	7,266,454	858,716	12,598,459
Other	1,815,312	1,856,494	6,325,673	594,692	10,592,171
Books & Supplies	1,947,722	1,381,455	5,275,682	687,882	9,292,741
Health Insurance	2,869,698	902,517	4,299,556	799,911	8,871,682
Child Care	934,088	979,816	4,636,297	493,379	7,043,580
Local Transport	1,473,562	1,281,173	2,693,638	243,109	5,691,481
Car Operation & Maintenance	414,819	680,420	1,312,815	180,004	2,588,058
Car Lease	219,345	60,601	410,500	15,431	705,877
Total	**84,472,001**	**61,816,593**	**290,064,990**	**41,062,142**	**477,415,725**

Source: Gardner Pinfold survey, 2017

Table D.10 International student average spending by province by expenditure, 2017

$ per student	NB	NL	NS	PEI	Total
Tuition & Fees	13,281	6,953	15,064	21,282	13,760
Accommodation	4,747	5,232	5,640	4,747	5,343
Household Supplies	3,390	3,234	3,336	2,789	3,288
Residence Meals	2,953	1,696	3,248	4,013	2,976
Car Purchase	1,388	1,438	1,930	1,772	1,734
Communications	1,084	877	1,096	677	1,025
Clothing	1,129	883	1,033	958	1,018
Utilities	895	1,034	933	693	927
Entertainment	992	806	910	853	902
Other	725	752	792	591	758
Books & Supplies	778	560	660	683	665
Health Insurance	1,146	366	538	794	635
Child Care	373	397	580	490	504
Local Transport	588	519	337	241	407
Car Operation and Maintenance	166	276	164	179	185
Car Lease	88	25	51	15	51
Total	**33,721**	**25,047**	**36,313**	**40,777**	**34,179**

Source: Gardner Pinfold survey, 2017

Table D.11 International student percent of spending by expenditure by province, 2017

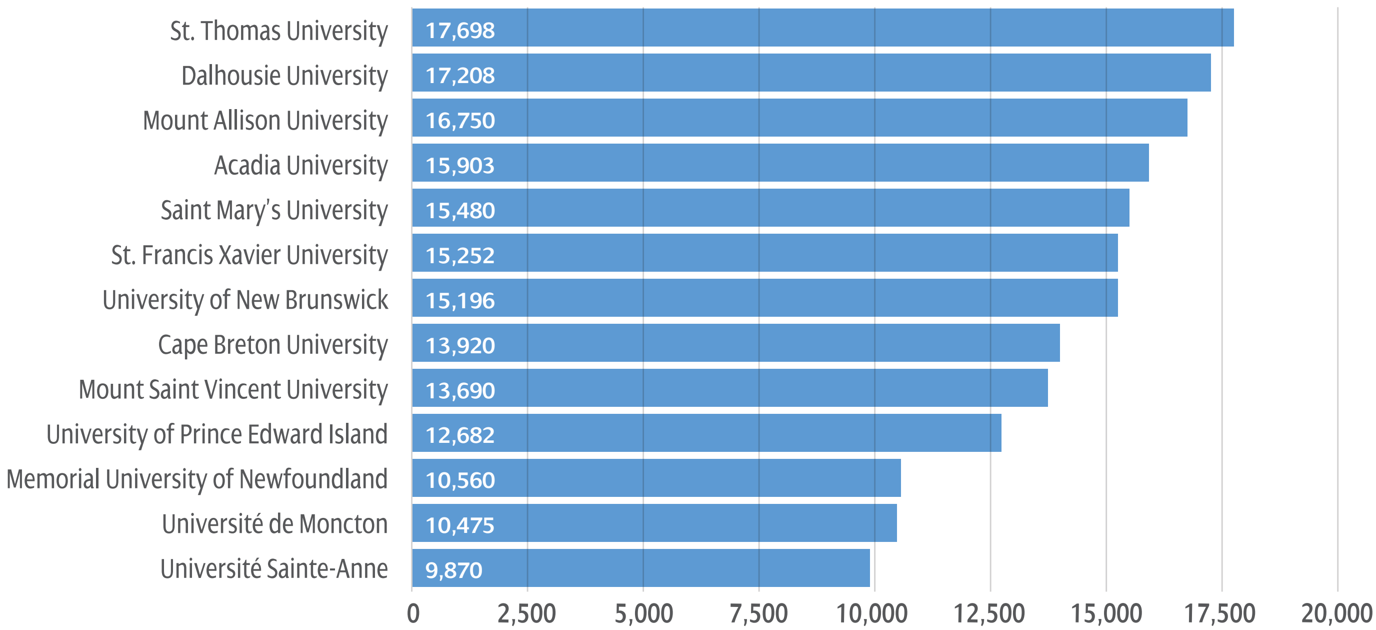
% of expenditure	NB	NL	NS	PEI	Total
Tuition & Fees	40%	28%	41%	52%	40%
Accommodation	15%	21%	16%	12%	16%
Household Supplies	10%	13%	9%	7%	10%
Residence Meals	9%	7%	9%	10%	9%
Car Purchase	4%	6%	5%	4%	5%
Communications	3%	4%	3%	2%	3%
Clothing	3%	4%	3%	2%	3%
Utilities	3%	4%	3%	2%	3%
Entertainment	3%	3%	3%	2%	3%
Other	2%	3%	2%	1%	2%
Books & Supplies	2%	2%	2%	2%	2%
Health Insurance	3%	1%	1%	2%	2%
Child Care	1%	2%	2%	1%	1%
Local Transport	2%	2%	1%	1%	1%
Car Operation and Maintenance	0%	0%	0%	0%	0%
Car Lease	0%	0%	0%	0%	0%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Gardner Pinfold survey, 2017

Tuition, room, and meal costs at Atlantic Canada Universities, 2016/2017

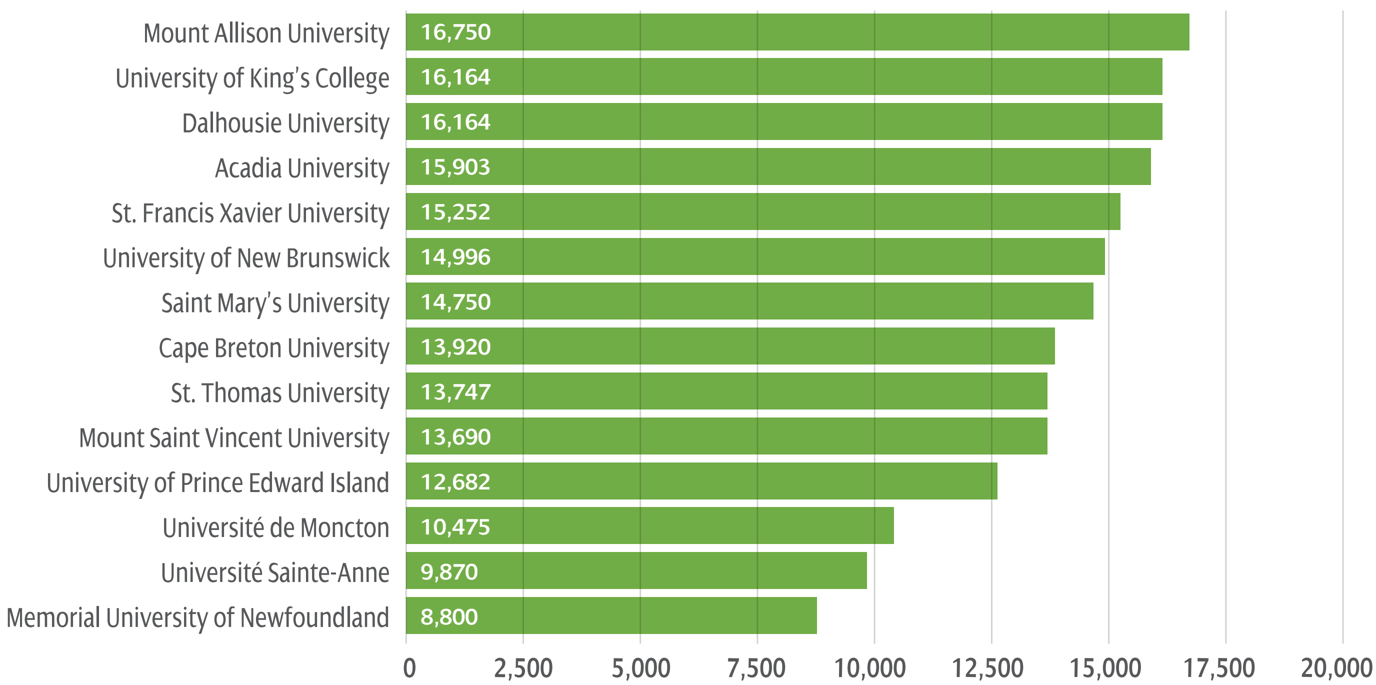
The responses from students reflect the mixture of programs that international students are enrolled in and their particular circumstances. The following series of figures shows simple posted costs by university for common programs along with lower and upper fees for on-campus room and meal plans.

Figure D.7 International student tuition fees for undergraduate business programs, 2016/17



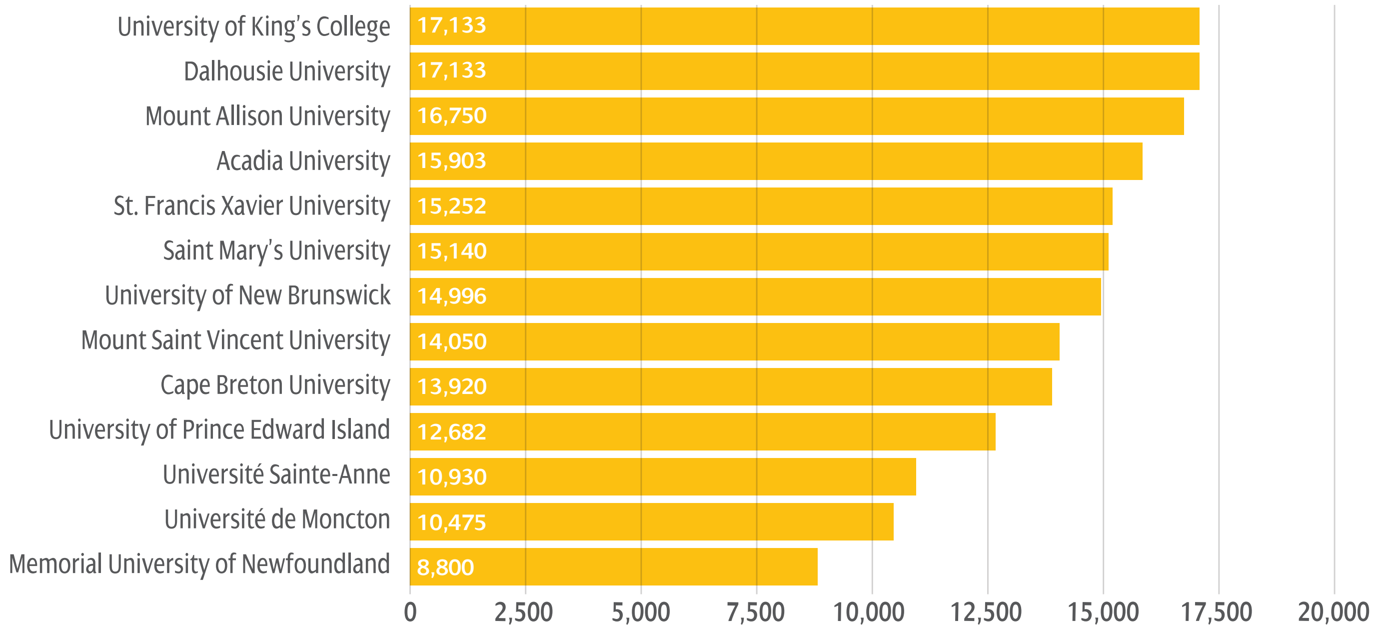
Source: AAU preliminary estimates

Figure D.8 International student tuition fees for undergraduate humanities programs, 2016/17



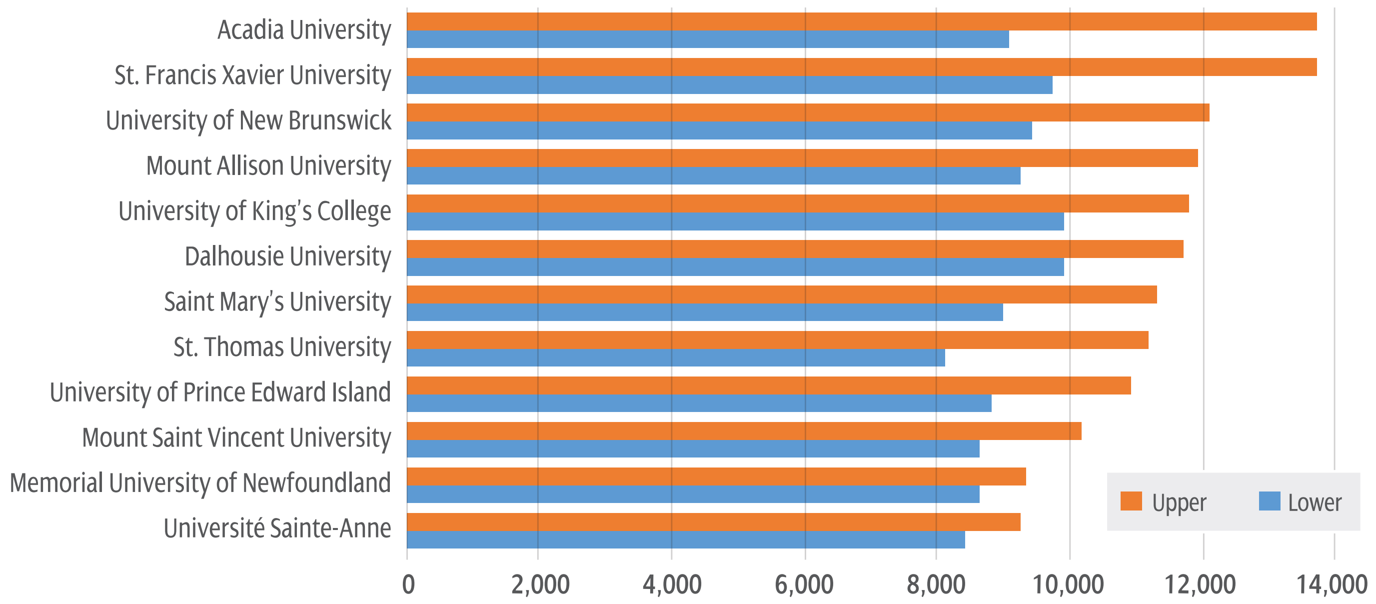
Source: AAU preliminary estimates

Figure D.9 International student tuition fees for undergraduate science programs, 2016/17



Source: AAU preliminary estimates

Figure D.10 Room plus meal plan, lower and upper costs by university, 2016/17



Source: AAU preliminary estimates

Appendix E Survey Questions

The following survey is representative of the questions administered to international students. Three versions of the survey were created in French and English for colleges, universities, and language institutes respectively.

Students first received an introductory email delivered by their institution administration staff. Students were informed of the nature of the survey, who commissioned the survey, who would collect and analyze data for the study, and contact information for students to direct their queries or concerns. Institutions could fine-tune the invitation to participate, but the essential information remained the same for all students.

CAMET International Student Survey

Welcome to the Council of Atlantic Ministers of Education and Training (www.camet-camef.ca/) survey of international students at universities, colleges, and language institutes in Atlantic Canada. This survey takes about 15 to 20 minutes depending on your responses.

Click the "Start" button below to begin.

1. Which institution are you currently attending?

- ☐ Acadia University
- ☐ Atlantic School of Theology
- ☐ Cape Breton University
- ☐ Centre for Nursing Studies
- ☐ Collège Acadie I.P.E.
- ☐ Collège Communautaire du Nouveau-Brunswick
- ☐ College of the North Atlantic
- ☐ Dalhousie University
- ☐ Holland College
- ☐ Western Newfoundland and Labrador Regional School of Nursing
- ☐ Maritime College of Forest Technology
- ☐ Memorial University of Newfoundland and Labrador (includes the Marine Institute and Grenfell Campus)
- ☐ Mount Allison University
- ☐ Mount Saint Vincent University
- ☐ New Brunswick College of Craft and Design
- ☐ New Brunswick Community College
- ☐ Nova Scotia Agricultural Campus
- ☐ Nova Scotia Community College
- ☐ NSCAD University
- ☐ Saint Mary's University
- ☐ St. Francis Xavier University
- ☐ St. Thomas University
- ☐ Université de Moncton
- ☐ Université Sainte-Anne
- ☐ University of King's College
- ☐ University of New Brunswick
- ☐ University of New Brunswick - Saint John
- ☐ University of Prince Edward Island
- ☐ The Canadian Language Learning College
- ☐ East Coast School of Languages
- ☐ International Centre for English Academic Preparation
- ☐ Halifax Language Institute of Canada
- ☐ ESL College of New Brunswick
- ☐ Other (please provide name): ______________________

2. I hereby consent to participate as a subject in this International Student Survey for the Council of Atlantic Ministers of Education and Training.

I understand that the survey will ask questions concerning my choice of university/college, my expenditure patterns while in Canada, and my plans after graduation. I understand that the purpose of this research is to inform government policy makers with respect to international students. I understand that responding to this survey is not connected in any way to the process of securing permanent residency, and that the consultants administering the survey cannot secure permanent residency on my behalf.

I understand that my participation is voluntary and that I may withdraw at any time during the survey by exiting my internet browser. Should I wish to participate in the prize draw, I understand that I must supply my email address. I understand that my email address will be used for no other purpose than the award of draw prizes and that it is not connected to their survey response. I understand that the survey does not have to be completed fully in order to qualify for the draw.

Since the survey collects no information that identifies me, I understand that I cannot request that my completed survey be disregarded. I understand that the raw data from the survey will not be available to third parties. Access will be limited to the consultants employed to conduct the study. I understand that all reports from this survey, whether published or internal, will be combined as an aggregate result so that no individual responses can be identified. By consenting to participate in this study, I understand that I have not waived my rights to legal recourse in the event of research-related harm.

Should you have any questions concerning the survey please contact: Gregor MacAskill at gmacaskill@gardnerpinfold.ca

3. I have read the consent terms and:
   - ☐ I agree and want to complete the survey.
   - ☐ I do NOT agree and want to exit the survey.

4. Are you currently registered
   - ☐ Part-time (fewer than 3 courses this term)?
   - ☐ Full-time (3 or more courses this term, or writing a thesis)?

5. What type of program are you currently enrolled in?
   - ☐ Certificate
   - ☐ Diploma
   - ☐ Bachelor's degree
   - ☐ Master's degree
   - ☐ PhD degree
   - ☐ Other (please describe): ____________________

6. What is your field of study? (i.e. your faculty or program)
   - ☐ Education, recreation, or counselling services
   - ☐ Fine arts and applied arts
   - ☐ Humanities and related fields
   - ☐ Social sciences and related fields
   - ☐ Commerce, management and business administration
   - ☐ Agricultural, biological, nutritional and food sciences
   - ☐ Engineering and applied sciences
   - ☐ Applied science technologies and trades
   - ☐ Health professions and related technologies
   - ☐ Mathematics, computer and physical sciences
   - ☐ Other (please describe): ____________________

7. In what year of your program are you currently enrolled?
   - ☐ 1st year (includes preparatory or foundation year)
   - ☐ 2nd year
   - ☐ 3rd year
   - ☐ 4th year
   - ☐ 5th year or more

8. From September 2016 to August 2017, how many months will you live in the Atlantic provinces (New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador)?
   - ☐ 1 month
   - ☐ 2 months
   - ☐ 3 months
   - ☐ 4 months
   - ☐ 5 months
   - ☐ 6 months
   - ☐ 7 months
   - ☐ 8 months
   - ☐ 9 months
   - ☐ 10 months
   - ☐ 11 months
   - ☐ 12 months

9. Please indicate your accommodation type.
   - ☐ University/college residence
   - ☐ Rented accommodation
   - ☐ Living with friends or relatives that I pay (boarding)
   - ☐ Living with friends or relatives that I do NOT pay
   - ☐ I live in accommodations that I own (or my family owns)
   - ☐ Other (please describe): ____________________

10. Tuition and fees paid to your institution PER TERM (Enter 0 if you don't know):

$___________

11. Books and supplies related to your studies PER TERM:

- ☐ $0
- ☐ $100
- ☐ $200
- ☐ $300
- ☐ $400
- ☐ $500
- ☐ $600
- ☐ $700
- ☐ $800
- ☐ $900
- ☐ $1000
- ☐ $1500
- ☐ $2000
- ☐ Over $2000
- ☐ I don't know

12. Health insurance, medical care, dental care, prescriptions, other health-related PER TERM:

- ☐ $0
- ☐ $100
- ☐ $200
- ☐ $300
- ☐ $400
- ☐ $500
- ☐ $600
- ☐ $700
- ☐ $800
- ☐ $900
- ☐ $1000
- ☐ Over $1000
- ☐ I don't know

13. Communications such as TV, phone, and internet not included in accommodation PER MONTH:

- ☐ $0
- ☐ $50
- ☐ $100
- ☐ $200
- ☐ $300
- ☐ $400
- ☐ $500
- ☐ $600
- ☐ $700
- ☐ $800
- ☐ $900
- ☐ $1000
- ☐ Over $1000
- ☐ I don't know

14. Household supplies and food from stores, restaurants, and meal plan at your institution PER MONTH:

- ☐ $0
- ☐ $100
- ☐ $200
- ☐ $300
- ☐ $400
- ☐ $500
- ☐ $600
- ☐ $700
- ☐ $800
- ☐ $900
- ☐ $1000
- ☐ Over $1000
- ☐ I don't know

15. Entertainment and recreation such as movies, music, live events, sports, or hobbies PER MONTH:

- ☐ $0
- ☐ $50
- ☐ $100
- ☐ $150
- ☐ $200
- ☐ $250
- ☐ $300
- ☐ $400
- ☐ $500
- ☐ Over $500
- ☐ I don't know

16. Clothing, footwear, grooming (e.g. hair cuts), other services PER MONTH:

- ☐ $0
- ☐ $50
- ☐ $100
- ☐ $150
- ☐ $200
- ☐ $250
- ☐ $300
- ☐ $350
- ☐ $400
- ☐ $450
- ☐ $500
- ☐ Over $500
- ☐ I don't know

17. Have you purchased a car in Atlantic Canada, and if so what was the price including all fees and taxes? (Enter 0 if you lease a car or do not have a car)

____

18. What do you spend on local bus fares, regional buses/trains such as VIA or MaritimeBus, taxis, airfare, or rentals PER MONTH:

- ☐ $0
- ☐ $25
- ☐ $50
- ☐ $75
- ☐ $100
- ☐ $150
- ☐ $200
- ☐ $250
- ☐ $300
- ☐ $400
- ☐ $500
- ☐ Over $500
- ☐ I don't know

19. If you have children living in Atlantic Canada, how much do you spend on child care PER MONTH:

- ☐ $0
- ☐ $100
- ☐ $200
- ☐ $300
- ☐ $400
- ☐ $500
- ☐ $600
- ☐ $700
- ☐ $800
- ☐ $900
- ☐ $1000
- ☐ Over $1000
- ☐ I don't know

20. Other expenses not included above PER MONTH:

- ☐ $0
- ☐ $50
- ☐ $100
- ☐ $150
- ☐ $200
- ☐ $250
- ☐ $300
- ☐ $350
- ☐ $400
- ☐ $450
- ☐ $500
- ☐ Over $500
- ☐ I don't know

21. What portion of your spending in Atlantic Canada from September 2016 to August 2017 will come from sources OUTSIDE Atlantic Canada(e.g. scholarships from another country, family in your home country)? Enter zero if none.

_________ %

22. What amount of scholarship, bursary, or other financial award do you receive from September 2016 to August 2017 from any of the following sources? (Canadian dollar amount, leave blank if none)

$ _________ Government of Canada Awards Program
$ _________ Canadian Commonwealth Scholarship Program
$ _________ Global Affairs Canada
$ _________ Your current educational institution in Atlantic Canada
$ _________ Other Atlantic Canada-based sources
$ _________ Other Canadian-based sources
$ _________ Home country or international sources
$ _________ Other Sources not listed above

23. What is your employment status in Canada?

- ☐ Unemployed (looking for work)
- ☐ Not employed and not looking for work
- ☐ Employed, and not looking for more or different work
- ☐ Employed, but looking for more or different work

24. What is your age?

____

25. Which is your home country?

Select country

1. China
2. United States of America
3. India
4. France...

26. Please indicate which family members live in Atlantic Canada? (select all that apply)

- ☐ Spouse
- ☐ Children
- ☐ Parents
- ☐ Other family
- ☐ None

27. Please indicate which family members are a Permanent Resident in Canada? (select all that apply)

- ☐ Spouse
- ☐ Children
- ☐ Parents
- ☐ Other family
- ☐ None
- ☐ I don't know

28. How many family or friends will visit you from outside Atlantic Canada from September 2016 to August 2017? (enter zero if none)

____

29. Have you applied or do you plan to apply for Permanent Residence in Canada?

- ☐ Yes
- ☐ No

30. How many children do you have living in Atlantic Canada? (zero if none)

____

31. Where did you complete high school (secondary school)?

- ☐ In my home country
- ☐ In Nova Scotia
- ☐ In Prince Edward Island
- ☐ In New Brunswick
- ☐ In Newfoundland and Labrador
- ☐ In a Canadian province outside of Atlantic Canada
- ☐ In another country that is not my home country

32. Why did you choose to study in Atlantic Canada?
(rank the TOP THREE ONLY: 1=top reason, 2=2nd reason, 3=3rd reason)

Attractive program of study _____
Cost of education _____
Opportunities for work _____
Reputation of institution _____
Reputation of province _____
Reputation of Canada _____
Scholarship or funding _____

33. Was your current institution your first choice?

- ☐ Yes, my current institution was my first choice
- ☐ No, another Atlantic Canada institution was my first choice
- ☐ No, another Canadian institution outside Atlantic Canada was my first choice
- ☐ No, an institution in my home country was my first choice
- ☐ No, an institution outside Canada and outside my home country was my first choice

34. What do you plan to do after graduation from your program?

- ☐ Enroll in another program at my current institution
- ☐ Enroll in another program at a different institution in Atlantic Canada
- ☐ Enroll in another program at a different institution in Canada that is outside Atlantic Canada
- ☐ Enroll in another program at an institution in my home country
- ☐ Enroll in another program at an institution outside Canada that is not in my home country
- ☐ Find employment in Atlantic Canada
- ☐ Find employment in Canada, outside Atlantic Canada
- ☐ Find employment in my home country
- ☐ Find employment in another country outside Canada that is not my home country
- ☐ I don't know
- ☐ Other (please describe): ______________________________

35. What THREE factors do you think have helped you the most in completing your program of study?

- ☐ Academic advice
- ☐ Small class sizes
- ☐ Academic support
- ☐ Friend network and support
- ☐ Host family, or Canadian friends
- ☐ Language support
- ☐ Other (please describe): ______________________________

36. What THREE factors do you think have helped you the most with living in your community?

- ☐ Housing quality
- ☐ Affordable living cost
- ☐ Counselling services
- ☐ Opportunity to network
- ☐ Off-campus housing services
- ☐ Host family, or Canadian friends
- ☐ Faith support
- ☐ Health support
- ☐ Student clubs/societies
- ☐ Other (please describe): ______________________________

37. What THREE factors do you think are most likely to influence your decision to seek work in Atlantic Canada after graduation?

- ☐ Language barrier
- ☐ Information on jobs
- ☐ Cost of living
- ☐ Feeling welcome as an international graduate
- ☐ Employers interest in hiring international graduates
- ☐ Family commitments in my home country
- ☐ Earning potential (salaries and wages)
- ☐ Availability of suitable jobs in my field of study
- ☐ Work permit restrictions
- ☐ Visa restrictions
- ☐ Job opportunities for your spouse/partner
- ☐ Other (please describe): ______________________

38. Has your institution provided you with any of the following experiences as part of your program that may help you obtain work after graduation? (select any that apply)

- ☐ Internship before graduation
- ☐ Teaching assistantship
- ☐ Other work experience
- ☐ Job ready skills (e.g. how to prepare for an interview, prepare a resume)
- ☐ Course requiring you to visit workplaces for learning and research
- ☐ Connecting with a mentor
- ☐ Class group visits to a workplace as part of a course
- ☐ Learning, owning, or managing a company
- ☐ Co-op work placement or field placement
- ☐ Apprenticeship
- ☐ Job shadowing – observing workers in your field of study
- ☐ Practicum or clinical placement where your work is supervised by experienced staff
- ☐ Volunteering to gain experience in your field of study
- ☐ Completing a project or assignment that is presented to a workplace representative
- ☐ Research skills learned on projects with faculty or department researchers
- ☐ Tutoring or assisting peers
- ☐ Work experience at your institution or off-campus
- ☐ Fellowship experience in your field of study

39. What THREE factors do you think are most likely to influence your decision to seek further studies in Atlantic Canada after graduation?

- ☐ Health care coverage
- ☐ Cost of study programs
- ☐ Programs of study with a high reputation
- ☐ Finding suitable programs for my field of study
- ☐ Visa restrictions
- ☐ Other (please describe)
- ☐ Cost of living
- ☐ Finding information about further study opportunities
- ☐ Programs of study that include work experience
- ☐ Language barrier

40. Please add any other comments about your experience in Atlantic Canada, and any issues that are important to international students.

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Council of Atlantic Ministers of
Education and Training (CAMET)

P.O. Box 2044, Halifax, NS B3J 2Z1
www.camet-camef.ca