

# **AN UPDATE ON THE ECONOMIC IMPACT OF INTERNATIONAL EDUCATION IN BRITISH COLUMBIA**

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November 2013

**ROSLYN KUNIN & ASSOCIATES, INC.**

Commissioned By **THE BC COUNCIL FOR INTERNATIONAL EDUCATION**



BRITISH COLUMBIA COUNCIL FOR INTERNATIONAL EDUCATION

**An Update on the Economic Impact of  
International Education in British Columbia  
Final Report**

Presented to:

**British Columbia Council for International Education**

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## Executive Summary

In this report, Roslyn Kunin and Associates, Inc. (RKA) has used primarily secondary sources to collect information on the quantitative impact of international students in various levels of study on the provincial economy. The RKA team has also worked closely with international education stakeholders and organizations to collect data on different types of expenditure items and their dollar amounts, and calculated total expenditure by level of study.

In 2011/12 academic year, international students in British Columbia spent close to \$2.1 billion on tuition, to pay for accommodation and food, and on discretionary items such as participating in arts, culture, and recreation activities. This sum is translated to a direct contribution equivalent to \$1.48 billion in provincial GDP; supporting over 23,410 jobs; and almost \$75 million in government revenue generated.

Enrolment of international students in Canadian education and training institutes has been increasing steadily over the past decade, and BC is not exception. During the period between 2009/2010 academic year and 2011/12 academic year where data on student enrolment is directly comparable, the number of international students in BC grew from 94,000 to 106,600, at an average growth rate of 6.5% per year. This rate of growth is much faster than enrolment growth of domestic students.

**Summary Table I Number of International Students in BC, by Type of Institution**

Institution	2009/10	2010/11	2011/12
Public post-secondary	28,000	32,000	33,500
Private post-secondary	11,000	11,400	12,800
Language schools	43,000	45,300	47,300
Elementary and secondary schools	12,000	12,000	13,000
<b>Total</b>	<b>94,000</b>	<b>100,700</b>	<b>106,600</b>

*Source: see details in the main report.*

Altogether there were about 46,300 international students in the province in 2011/12 pursuing various types of formal post-secondary education and training in both public and private institutions. These students spent a total of \$1.45 billion in the province contributing to tuitions and fees paid to the universities, retail trade businesses, food manufacturing industries, real estate rental services, transportation services, and various other sectors such as the arts, entertainment and recreation industries. In addition, there were about 47,300 international students pursuing language training programs in private language schools throughout the province. In total, these international students at the post-secondary level spent \$1.78 billion in the province.

There were also about 13,000 international students in BC in 2011/12 pursuing education in both public and independent schools in the K-12 system. These students brought in excess of \$305 million worth of economic activities to the province, through

contributions to the educational services sector, retail trade, food manufacturing, real estate rental services, and other industry sectors in the provincial economy.

The contribution of international education services to the provincial economy is significant. The provincial GDP generated by international education services was equivalent to \$1.48 billion, which is slightly greater than the provincial GDP contribution from the crop and animal production industry (\$1.1 billion), or almost as large as that from the logging and forestry industry (\$1.7 billion). The number of jobs supported in a year due to international education services was 23,410, which is about the same as the number of employed in the broadcasting and telecommunications sector (22,500), and greater than employment levels in many other industries in the province.

When the value of educational services provided in British Columbia to international students is compared to the value of the more traditional goods that BC exports, it is significant to note that international education services as a service export accounted for 7% of the total value of goods export from the province. The impact for some countries is even more striking. The Saudi Arabians, for example, spent the equivalent of almost 210% of the value of the goods they imported from BC on educational services. Similarly, we see that India (36%), Mexico (64%), Brazil (15%), China (11%), and Korea (12%) all spent significantly on educational services when compared to the trade goods they imported from BC.

The summary tables are presented as follows.

**Summary Table II Estimated Total Expenditure in Educational Services and Cost of Living  
by International Students, 2011/12**

		Tuition Fees	Additional Fees	Books & Supplies	Accommodation and Meals	Transportation	Discretionary Spending	Total Spending
Public PSE								
Undergraduate	\$	493,125,360	\$ 15,318,853	\$ 33,768,000	\$ 260,576,400	\$ 10,130,400	\$ 70,350,000	\$ 883,269,013
Graduate	\$	55,738,426	\$ 2,855,674	\$ 6,432,000	\$ 49,633,600	\$ 1,929,600	\$ 13,400,000	\$ 129,989,300
Private PSE	\$	256,000,000	\$ 3,200,000	\$ 15,360,000	\$ 115,200,000	\$ 15,360,000	\$ 32,000,000	\$ 437,120,000
Languages Canada Students	\$	190,713,600	\$ -	\$ -	\$ 100,654,400	\$ 15,892,800	\$ 26,488,000	\$ 333,748,800
K-12								
Public	\$	138,803,821	\$ -	\$ -	\$ 75,750,000	\$ -	\$ 5,050,000	\$ 219,603,821
Independent	\$	43,500,000	\$ -	\$ -	\$ 40,890,000	\$ -	\$ 1,450,000	\$ 85,840,000
Total								
PSE	\$	995,577,386	\$ 21,374,527	\$ 55,560,000	\$ 526,064,400	\$ 43,312,800	\$ 142,238,000	\$ 1,784,127,113
K-12	\$	182,303,821	\$ -	\$ -	\$ 116,640,000	\$ -	\$ 6,500,000	\$ 305,443,821

Source: RKA

**Summary Table III Estimated Economic Impact of International Education Services in BC, 2011/12**

		Direct Economic Impact			Direct and Indirect Economic Impact		
		GDP	Employment	Government Revenue	GDP	Employment	Government Revenue
Total							
PSE	\$	1,239,757,000	19,700	\$ 63,633,000	\$ 1,539,336,000	24,020	\$ 79,016,000
K-12	\$	242,829,000	3,710	\$ 10,760,000	\$ 282,536,000	4,300	\$ 12,781,000

Source: RKA

**Summary Table IV Comparison of International Education Services with Total Exports in Goods from BC to the Top Ten International Student Source Countries and to All Countries, 2011/12**

<b>Country/Area</b>	<b>Export of Educational Services</b>	<b>All Goods Exports</b>	<b>Educational Services Compared with Total Goods Export</b>
China	\$ 637,660,000	\$ 5,808,000,000	11%
Korea, South	\$ 223,359,000	\$ 1,896,000,000	12%
Japan	\$ 145,339,000	\$ 4,158,000,000	3%
Saudi Arabia	\$ 121,314,000	\$ 58,859,000	206%
India	\$ 118,548,000	\$ 327,616,000	36%
United States	\$ 84,511,000	\$ 13,855,000,000	1%
Brazil	\$ 69,546,000	\$ 477,602,000	15%
Mexico	\$ 68,604,000	\$ 107,268,000	64%
Taiwan	\$ 53,517,000	\$ 658,168,000	8%
Hong Kong SAR	\$ 38,076,000	\$ 247,546,000	15%
Top Ten Countries	\$ 1,560,474,000	\$ 27,594,059,000	6%
Total (All Countries)	\$ 2,089,571,000	\$ 31,746,000,000	7%

*Source: Statistics Canada and US Census Bureau for Trade Data; RKA*

## 1. Introduction

As Canada's and BC's economies become increasingly globalized, the benefits of international education to our economy are substantial and cannot be neglected. To remain competitive in the global economy, our province needs to attract the best and the brightest to contribute to our talent pool in so many areas – scientific and research development, economic development opportunities, cultural diversification, just to name a few. International students studying in the province also bring in substantial income to the local communities. International students can also become a valuable source of supply of highly skilled labour to our economy at a time when the western world is facing potential labour shortages especially among top talent. In essence, these benefits to the Canadian economy as a whole also apply to the economy in British Columbia.

Roslyn Kunin and Associates, Inc. (RKA) has been commissioned by the British Columbia Council for International Education to undertake an in-depth and comprehensive study evaluating the economic impact of international education in the province. Its purpose is to develop, implement, and analyze an economic model to determine the value of international education and student mobility brings to the provincial economy. The current study provides an update to a similar study of international students and their impact on the provincial economy using data for the 2009/2010 academic year.

The layout of the report is as follows. In Section 2, we provide a description of our research methodology and approaches taken to gather data and provide estimates of economic impact. In Sections 3 to 4 we examine how we collected data on student enrolment as well as student expenditure. In Section 5 we combine our data and provide estimates of economic impact of international education services in the province on provincial GDP, employment, and government revenue. Finally in Section 6, we summarize our findings and present our suggestions on areas for further research.

## 2. Methodology

RKA's methodology for the study on the economic impact of international education in British Columbia includes extensive secondary research involving literature review, collecting existing statistical data and information, as well as consulting with provincial education sector representatives, and representatives from organizations promoting and researching trends in international education in the province.

We have reviewed existing data on university, college, language school and elementary/secondary school enrolment and tuition as well as information regarding living expenses and spending estimates for international students. The following provided relevant research data and information:

- *Statistics Canada*
- *Citizenship and Immigration Canada*
- *Ministries representing advanced education and education branches for BC*
- *BC Council for International Education*
- *Languages Canada*
- *National Association of Career Colleges*
- *Association of Universities and Community Colleges*

The References section of this report provides a more detailed listing of the materials used in preparing this report.

The methodology undertaken is as follows:

1. Through research and references from key contacts, collect as much data as possible on the following:
  - International student enrollment in various programs and institutions
  - Tuition data
  - Data on other additional fees pursuing the education/training programs
  - Living and entertainment expense data
2. Compile data and analyze data above.
3. Follow up with data gaps.
4. Calculate total expenditure by multiplying average expenditure in different categories by the number of student enrollment by level of study.
5. Allocate expenditure values as demand for goods and services in different industries in the province.

6. Feed values in demand for goods and services in each industry related in the provincial input-output tables published by Statistics Canada to estimate impact in terms of GDP, employment, and government revenue.
7. Sum up all impact values in all industries to arrive at total impact in GDP, employment, and government revenue.
8. Repeat procedures 4 to 7 for impact analysis in each region if regional analysis is involved.

In the Table below, we show multiplier values we have applied in our current study in estimating economic impact of international education in terms of GDP, employment, as well as government revenue contribution to the provincial economy. These values are derived based on expenditure values calculated in step 4, in seven categories;

- Tuition and fees for universities: expenditure in this category is the sum of average tuition and additional fees (such as Student Society fees, recreation fees), as well as average cost of books and supplies for students pursuing post-secondary education and training, both public and private.
- Tuition and fees in language training schools: expenditure in this category is the sum of average cost of tuition and additional fees incurred for students participating in private ESL programs in the province, as well as the average cost of books and supplies.
- Tuition and fees in K-12 schools: expenditure in this category is the sum of average tuition cost, plus additional student fees charged by schools, either public or private, as well as the cost of books and supplies incurred during the course of study.
- Food expenses: this expenditure category is generally the cost of food and meals incurred during either a home-stay, student residence, or living in a private accommodation.
- Residence expenses: this category of expenditure is the average cost of living accommodation incurred during a home-stay, student residence, or private apartment rental.
- Transportation expenses: this expenditure category refers to the average cost of getting a monthly bus pass (U-passes for public post-secondary students), or the average cost of getting ground transportation to and from school in a community.
- Discretionary expenses: this category of expenditure refers to an estimate of the average amount spent for entertainment (going to movies and dining out, for example), arts activities, or recreational activities (going to sports activities, ski trips, for example).

The expenditure in each category in the table below is assumed to be \$1 million in a given year. The employment impact refers to the number of jobs created.

	Direct Impact			Direct and Indirect Impact		
	GDP	Employment	Govt Rev	GDP	Employment	Govt Rev
Tuitions and fees in universities	\$754,826	10	\$13,166	\$859,645	11	\$15,180
Tuitions and fees in language training schools	\$743,440	27	\$16,487	\$905,498	29	\$26,695
Tuitions and fees in K-12 schools	\$899,470	16	\$2,808	\$959,270	17	\$5,270
Food expenses	\$655,320	16	\$28,924	867,558	18	\$41,651
Residence expenses	\$642,920	1	\$115,363	\$882,488	5	\$128,004
Transportation expenses	\$416,179	14	-	\$713,442	18	-
Discretionary expenses	\$519,910	14	\$23,539	816,108	20	\$37,966

More detailed explanation of how we arrive at the expenditure values in each of the categories can be found in Section 4.

It should be noted when comparing estimates of economic impact of international education services in BC in this updated study with values released in a previous study (published in 2011), that we have used the 2008 provincial input-output multiplier values which are different, although only slightly, from those used in the previous study.

### 3. Number of International Students in BC

In this Section, we will describe data we have collected on the number of international students in British Columbia, as well as growth trends in recent years.

#### 3.1. By Level of Education

##### 3.1.1. Post-Secondary Education and Training

One of the main purposes of this study is to understand the number of international students in the province in different levels of study – in the K-12 system, and in the post-secondary system. Also, we need to determine the number of international students studying in language training programs.

Table 1 shows the total number of international students in BC in public funded colleges and universities from 2007/08 to 2010/11 academic year.

**Table 1 Number of International Students in BC Public Post-Secondary Institutions, 2007/08 to 2010/11, Unique Totals Only<sup>1</sup>**

	International Students	Domestic Students
AY 2007/08	23,100	394,839
AY 2008/09	25,304	404,387
AY 2009/10	29,015	412,200
AY 2010/11	31,985	411,274
Average Annual Growth Rate	11.5%	1.4%

*Source: Student Transitions Project, Fall 2011 submission; BC HEADset.*

Over this period, the number of international students in BC in public funded universities and colleges has increased at an average growth rate of 11% per year. By comparison, enrollment of domestic students has grown at an average rate of less than 2% per year during the same period.

<sup>1</sup> Detailed notes on the Table.

1. At Colleges, Institutes and Teaching-intensive Universities, international students include students who have paid an international fee for at least one course in the period. At Research-intensive Universities, international students are defined as those who hold a visa (student visa, work permit, diplomatic visa, or minister's permit).

2. Data exclude offshore students.

3. In any given year, some students attend more than one institution. Since these students are included in the headcount of each institution they attend, the sum of all institutions' headcounts will include some students more than once, producing an overstated institution headcount total. In the unique headcount, students who are identified as attending more than one institution are only counted once. This number represents the number of students served by the participating institutions as a whole.

We have also been provided data on the number of international students in private post-secondary institutions (including degree-granting institutions and private career training providers) from 2009/2010 to 2011/12, as well as enrollment of students in Languages Canada (private) member institutes in the same period. Over this period, the number of international students in private post-secondary institutions grew on average 7.9% per year, compared with 9.4% per year rate of increase in public post-secondary institutions. Over the same period, Languages Canada (private) member institutions saw their enrollment of international students grew by 4.9% per year.

**Table 2 Number of International Students in BC Public Post-Secondary Institutions, Private Post-Secondary Institutions, Languages Canada Member Institutions, and K-12, 2009/10 to 2011/12, Unique Totals Only<sup>2</sup>**

Institution	2009/10 <sup>1</sup>	2010/11 <sup>2</sup>	2011/12 <sup>3</sup>
Public post-secondary	28,000	32,000	33,500
Graduate <sup>4</sup>	4,300	5,120	5,360
Undergraduate <sup>5</sup>	23,700	26,880	28,140
Private post-secondary	11,000	11,400	12,800
Language schools	43,000	45,300	47,300
Elementary and secondary schools	12,000	12,000	13,000
<b>Total</b>	<b>94,000</b>	<b>100,700</b>	<b>106,600</b>

Source: see footnotes.

It is estimated that in 2011/12 academic year there are a total of 12,800 international students studying in private post-secondary institutes, and 47,300 Languages Canada students, representing approximately 530,000 student weeks. The latter indicates that Languages Canada students on average study for 11.2 weeks in the program in the current year.

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Detailed notes on the Table.

1. Data source: Central Data Warehouse, October 2010 submission, BC HEADset, University of Northern British Columbia Institutional Research report (public institutions); Citizenship and Immigration Canada international student visa data (private institutions); Languages Canada report (language schools); Ministry of Education, Student Statistics - 2009/10: Province - Public and Independent Schools Combined headcount report (primary and secondary institutions). Headcounts are presented as reported in 2011. Revisions are not included.

2. Data source: Student Transitions Project, Fall 2011 submission (public institutions); Citizenship and Immigration Canada international student visa data (private institutions); Languages Canada report (language schools); Ministry of Education, Student Statistics - 2010/11: Province - Public and Independent Schools Combined headcount report (primary and secondary institutions). Headcounts are presented as reported in September 2012. Revisions are not included.

3. Data source: Student Transitions Project, Fall 2012 submission (public institutions); Citizenship and Immigration Canada international student visa data (private institutions); Languages Canada report (language schools); Ministry of Education, Student Statistics - 2011/12: Province - Public and Independent Schools Combined headcount report (primary and secondary institutions).

4. Graduate category includes doctorate, master's degree, graduate diploma, graduate certificate, graduate other, post-degree diploma, and post-degree certificate.

5. Undergraduate category includes the following credential types: first professional degree, bachelor's degree, apprenticeship, advanced diploma, diploma, associate degree, advanced certificate, certificate, developmental, and programs that do not typically have a credential such as university transfer.

**3.1.2. K-12 Education**

Table 3 shows the number of international students in both the public and independent K-12 school system in the province between 2008/09 and 2012/13 school year. Of all years, international student enrollment grew at an average annual rate of 1.3%, much more modest in comparison with percentage increase of international students at the post secondary level. Student enrollment in the public system grew much faster than that in private (independent) system, at 1.9% and -0.7% per year respectively.

**Table 3 Number of International Students in BC in K-12 Education System, 2008/09 to 2012/13**

School Year	K-12 Combined		Public		Independent	
	#	% (All K-12)	#	% (Public)	#	% (Independent)
2008/09	12,358	1.9	9,498	1.6	2,860	4.1
2009/10	11,713	1.8	9,014	1.6	2,699	3.9
2010/11	11,918	1.8	9,300	1.6	2,618	3.7
2011/12	12,588	2.0	9,782	1.7	2,806	3.9
2012/13	13,040	2.0	10,259	1.8	2,781	3.7

*Source: Ministry of Education.*

Values in the table also indicate that international student enrollment decreased in both public and private schools in 2009/10 and 2010/11 school years in comparison with previous years. This is most likely reflective of the global economic recession which likely has delayed some students' choice of studying in a different country.

## 4. Student Expenditure

In this section, we detail the sources of information and data we relied on and the techniques we applied to derive estimates of basic educational expenses and living costs while international students stay in BC.

### 4.1. Tuition and Other Fees

#### 4.1.1. Long Term Students

We have relied upon a variety of data sources to arrive at average tuition and other fees for different levels of study.

For tuition and other fees at the K-12 level, we have relied upon information published by Ministry of Education reports on total revenue from offshore students in each of the school districts for international students in the public school system. We have relied upon information from the report *International Education Survey of Member Schools within FISABC* and a selected number of independent school websites to arrive at an average for tuition and fees paid by international students in independent schools.

Detailed tuition fees for full-time university level international students for each of the provinces are available from Statistics Canada's annual Tuition and Living Accommodation Costs (TLAC) survey. The information we have used is the final estimates for 2011/2012 academic year.

We note that we have applied the average for full time undergraduate tuition fees for those in the "undergraduate" level and average for full-time graduate tuition fees for those in the "graduate" level for the number of international students in the "undergraduate" and "graduate" category in the public post-secondary institutions.<sup>3</sup>

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

On the other hand, even though private post-secondary institutions have been included in Statistics Canada's data sample, no institutions in this category reported tuition and fees information in the current survey. Further, we do not have a breakdown of the number of international students studying at undergraduate and graduate levels, or a breakdown between the number of students in degree-granting institutions and career

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<sup>3</sup> We note that the weighted average tuition fees for undergraduate students in BC in 2011/12 were about \$17,500, while the weighted average tuition fees for graduate students were about \$11,000. However, it is noted that at graduate level study, the weighted average tuition fees did not take into account the fees charged in the Master of Business Administration (MBA) program as these are substantially higher than other graduate level programs. Dental, medical and veterinary residency programs offered in teaching hospitals and similar locations that may lead to advanced professional certification have also been excluded. On the other hand, financial assistance or tax rebates have not been accounted for in the calculation of these averages either.

development colleges in the province. As such, we have used a simple average of tuition and fees information reported (from websites) in a sample of private post-secondary institutes in the province for different levels of study.

We note that tuition fees data from the Statistics Canada TLAC survey for undergraduate students ranges from a minimum of eight months to a maximum of 10 to 12 months. We have assumed that all undergraduate international students are studying for at least 10 months in a given year.

#### **4.1.2. Languages Canada Short Term Students**

Information from Languages Canada indicates that short term language students pay an average \$360 per study week for tuition fees (including books and other study related expenses).

## **4.2. Living Expenses**

### **4.2.1. Long Term Students**

In this sub-section, we develop a model of estimating cost of living for international students while they study in BC.

We have also relied upon a variety of data sources to arrive at average living expenses for different levels of study. Information related to home-stay, average room and meals and other basic living expenses for international students in different levels of study, along with tuition and fees as discussed in the previous sub-section, is shown in Table 4.

For calculating living expenses at the K-12 level in the public domain, we have relied upon information published by school websites on average home-stay costs for a 10-month period. For independent K-12 schools, we have relied upon information from school websites on cost of residence on campus.

At the university level, we have relied upon Statistics Canada's annual Tuition and Living Accommodation Costs (TLAC) survey data to calculate the average costs of on-campus room and meal expenses for an eight months period. Higher values in a range have been applied and scaled up to full year values.

We note that these are fairly conservative estimates as they apply to single students living on campus. Students with a family generally pay more than the amount shown here in Table 4.

We have also made allowances for transportation costs for students staying in the province. For those studying in public post secondary institutions, we have applied a value of \$360 per year as all these students are eligible to purchase a bus pass at a cost of \$30 per month, across the province. For those studying in private post-secondary institutions, we have relied upon data from Statistics Canada's Survey of Household Spending (SHS), detailing household spending on public transportation, by province and territory. The values we used refer to the median expenditure per household that reported using public transportation. Values in 2012 have been derived by multiplying values in 2009 by the percentage increase in public transportation costs in the province between 2009 and 2012.

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

**Table 4 Estimated Total Expenditure on Tuition and Fees and Living Expenses for International Student in BC by Level of Study, 2011/12 Academic Year**

		Tuition Fees	Additional Fees	Books & Supplies	Accommodation and Meals	Transportation	Discretionary Spending	Total Spending
Public PSE								
Undergraduate	\$	493,125,360	\$ 15,318,853	\$ 33,768,000	\$ 260,576,400	\$ 10,130,400	\$ 70,350,000	\$ 883,269,013
Graduate	\$	55,738,426	\$ 2,855,674	\$ 6,432,000	\$ 49,633,600	\$ 1,929,600	\$ 13,400,000	\$ 129,989,300
Private PSE	\$	256,000,000	\$ 3,200,000	\$ 15,360,000	\$ 115,200,000	\$ 15,360,000	\$ 32,000,000	\$ 437,120,000
Languages Canada Students	\$	190,713,600	\$ -	\$ -	\$ 100,654,400	\$ 15,892,800	\$ 26,488,000	\$ 333,748,800
K-12								
Public	\$	138,803,821	\$ -	\$ -	\$ 75,750,000	\$ -	\$ 5,050,000	\$ 219,603,821
Independent	\$	43,500,000	\$ -	\$ -	\$ 40,890,000	\$ -	\$ 1,450,000	\$ 85,840,000
Total								
PSE	\$	995,577,386	\$ 21,374,527	\$ 55,560,000	\$ 526,064,400	\$ 43,312,800	\$ 142,238,000	\$ 1,784,127,113
K-12	\$	182,303,821	\$ -	\$ -	\$ 116,640,000	\$ -	\$ 6,500,000	\$ 305,443,821

Source: RKA

For each level of study, the formula to calculate total expenditure is as follows:

*Estimated number of students in that level of study x sum of (average tuition and additional fees, books, average room and meals, average transportation cost, average discretionary spending) per year = Total International Student Expenditure in one year in the level of study*

#### **4.2.2. Languages Canada Short Term Students**

Information from various language training school websites shows that an average short term student spends \$190 per study week for living expenses (full board). We have made an allowance of \$30 per week for transportation costs, and \$50 per week for discretionary spending. Thus, for short-term students covered by Languages Canada, the average weekly expenses (including tuition and fees and basic living expenses) amount to \$630.

## 5. Assessing the Economic Impact of International Education in British Columbia

In this section, we will combine estimated number of international students in the province by level of study and estimates on educational and living costs to arrive at an estimation of total expenditure by international students while they study in the province.

Based on the information above, we have estimated that students in the K-12 system contribute \$305.4 million to the provincial economy, and those in the post secondary system (public and private universities and colleges) contribute almost \$1.45 billion per year to the provincial economy. Students in language training institutions contribute another \$333.7 million.

In total almost \$2.1 billion worth of expenditure was put into the provincial economy in 2011/12 academic year from those students who studied in the province, long term or short term.

We note that our calculations have made use of various survey results and average expenditure data, as such, our estimates are fairly conservative. We realize that in certain cases the expenditure is substantially above the average. However, without consistent data set that shows the distribution of international students in different level of spending bracket, we have not included such data in our estimates.<sup>4</sup>

### 5.1. Direct and Indirect Economic Impact

#### 5.1.1. Provincial Aggregate

When we compare international education services in the province with other sectors in the economy, we need to translate those total expenditure values into Gross Domestic Products (GDP), employment, and government revenue contribution.<sup>5</sup>

In this subsection, we make use Statistics Canada's economic multipliers, as derived from its provincial Input-Output Tables, to estimate international education services' contribution to the province's GDP, employment, and government revenue.<sup>6</sup>

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<sup>4</sup> One instance is a report from the Department of Foreign Affairs and International Trade (DFAIT) indicating that the total value of the salary stipends alone that the Saudi Cultural Centre pays to its doctors and scholarship students in Canada now exceeds \$16 million monthly (\$195 million annually). In addition, the centre pays tuition for students and spouses, family travel, child benefits, health insurance, dental costs and other expenses.

<sup>5</sup> Total expenditure (or industrial output) refers to the value of outputs produced, whether the products are used as an intermediate product (think of a log cut down from a tree for the purposes of building houses, for example) or used as a final product (think of a beam in a completed house). If we calculate gross domestic product at the provincial level, or GDP at the provincial level, this way, the cost of the log will be counted many times, as it moves from a raw product to its eventual use as a beam, and it is wrong. The value of total industrial output thus includes both the value of intermediate inputs and primary inputs - the latter being the labour and the capital in production. It is the sum of the latter, which is also referred to as the value added, that is equal to gross domestic product at the provincial level.

In Table 5 that follows, we provide our estimates of the total expenditure by international students in all levels of study, and the corresponding contribution to the province's GDP, employment, and government revenue growth, using 2011/12's values.<sup>7</sup>

**Table 5 Direct and Indirect Economic Impact of International Education Services, BC, 2011/12**

	Direct Economic Impact				Direct and Indirect Economic Impact		
	Total Spending	GDP	Employment	Government Revenue	GDP	Employment	Government Revenue
Total	PSE \$ 1,784,127,113	\$ 1,239,757,000	19,700	\$ 63,633,000	\$ 1,539,336,000	24,020	\$ 79,016,000
	K-12 \$ 305,443,821	\$ 242,829,000	3,710	\$ 10,760,000	\$ 282,536,000	4,300	\$ 12,781,000

Source: RKA

Total GDP contribution of international education services amounted to over \$1.48 billion in the 2011/12 academic year in British Columbia. By comparison, the GDP contribution of the whole Educational Services sector in BC was \$11.362 billion (current dollars, 2012). Therefore, international education services accounted for about 13% of the province's overall educational services.<sup>8</sup>

In employment, international education services provided 23,410 jobs in BC. The overall educational services sector in BC employed about 177,300 persons in 2012. Therefore, international educational services also provided equivalent to about 13% of all the jobs in the educational services sector.

In economic impact analysis, a whole impact approach can be taken in which case indirect impact, measuring additional benefits brought on to industries providing goods and services to the industries directly impacted, is also measured in addition to direct impact.

Also in Table 5, we have shown values of combined direct and indirect impact international students bring to the provincial economy.

### **5.1.2. Regional Impact Analysis**

In this sub-section, we have further provided estimates of economic impact by international students studying in different regions of the province in terms of their contribution to the provincial GDP, employment, and government revenue.

For the purposes of this analysis, we have used the boundaries of eight Development Regions in the province, and collected data of international students in each of the region, and data on their spending patterns. After arriving at the total expenditure for

<sup>6</sup> Statistics Canada, *Provincial Input-Output Multipliers, 2008*.

<sup>7</sup> The types of taxes included in the Input-Output Tables include indirect taxes on products as well as indirect taxes on production, at the federal, provincial, and municipal levels, where applicable, net of subsidies on products and/or production.

<sup>8</sup> Note that direct economic impact in terms of GDP, employment, and government revenue is not attributed to the educational services industry only. In fact, total expenditure in the province has been allocated to these following industries in the provincial input-output model: universities; government education services; educational services (except universities); retail trade; transit and ground passenger transportation; lessors of real estate; and arts, entertainment and recreation.

students in the various types of institutions, we have replicated the procedures in applying the demand for goods and services by industry by multiplier values in the provincial input-output tables to arrive at our estimates of direct and indirect impact in terms of GDP, employment, and government revenue contribution.

In the table below, we have shown total number of international students in each region by level of study, their aggregate expenditure by category. For the purposes of the report, we have one region for Southern Interior which combines Thompson/Okanagan and Kootenay Development Regions, and another region for Northern BC which combines Cariboo, Nechako, Northcoast and Northeast Development Regions.

**Table 6 Estimated Total Expenditure on Tuition and Fees and Living for International Student in BC by Level of Study, by Region, 2011/12**

<u>Mainland/Southwest</u>									
	Number of Students	Tuition Fees	Additional Fees	Books & Supplies	Accommodation and Meals	Transportation	Discretionary Spending	Total Spending	
Public PSE	23,300	\$ 381,747,051	\$ 12,640,791	\$ 27,960,000	\$ 215,758,000	\$ 8,388,000	\$ 58,250,000	\$ 704,743,841	
Private PSE	9,900	\$ 198,000,000	\$ 2,475,000	\$ 11,880,000	\$ 89,100,000	\$ 11,880,000	\$ 24,750,000	\$ 338,085,000	
Languages Canada Students	43,800	\$ 176,601,600	\$ -	\$ -	\$ 93,206,400	\$ 14,716,800	\$ 24,528,000	\$ 309,052,800	
K-12								\$ -	
Public	7,850	\$ 107,882,178	\$ -	\$ -	\$ 58,875,000	\$ -	\$ 3,925,000	\$ 170,682,178	
Independent	2,250	\$ 33,750,000	\$ -	\$ -	\$ 31,725,000	\$ -	\$ 1,125,000	\$ 66,600,000	
<b>Total</b>									
PSE	77,000	\$ 756,348,651	\$ 15,115,791	\$ 39,840,000	\$ 398,064,400	\$ 34,984,800	\$ 107,528,000	\$ 1,351,882,000	
K-12	10,100	\$ 141,632,178	\$ -	\$ -	\$ 90,600,000	\$ -	\$ 5,050,000	\$ 237,282,000	
<u>Vancouver Island/Coast</u>									
	Number of Students	Tuition Fees	Additional Fees	Books & Supplies	Accommodation and Meals	Transportation	Discretionary Spending	Total Spending	
Public PSE	4,600	\$ 75,366,371	\$ 2,495,607	\$ 5,520,000	\$ 42,596,000	\$ 1,656,000	\$ 11,500,000	\$ 139,133,977	
Private PSE	400	\$ 8,000,000	\$ 100,000	\$ 480,000	\$ 3,600,000	\$ 480,000	\$ 1,000,000	\$ 13,660,000	
Languages Canada Students	3,200	\$ 12,902,400	\$ -	\$ -	\$ 6,809,600	\$ 1,075,200	\$ 1,792,000	\$ 22,579,200	
K-12								\$ -	
Public	310	\$ 4,260,315	\$ -	\$ -	\$ 2,325,000	\$ -	\$ 155,000	\$ 6,740,315	
Independent	90	\$ 1,350,000	\$ -	\$ -	\$ 1,269,000	\$ -	\$ 45,000	\$ 2,664,000	
<b>Total</b>									
PSE	8,200	\$ 96,268,771	\$ 2,595,607	\$ 6,000,000	\$ 53,005,600	\$ 3,211,200	\$ 14,292,000	\$ 175,373,000	
K-12	400	\$ 5,610,315	\$ -	\$ -	\$ 3,594,000	\$ -	\$ 200,000	\$ 9,404,000	
<u>Southern Interior</u>									
	Number of Students	Tuition Fees	Additional Fees	Books & Supplies	Accommodation and Meals	Transportation	Discretionary Spending	Total Spending	
Public PSE	4,700	\$ 77,004,770	\$ 2,549,859	\$ 5,640,000	\$ 43,522,000	\$ 1,692,000	\$ 11,750,000	\$ 142,158,629	
Private PSE	550	\$ 11,000,000	\$ 137,500	\$ 660,000	\$ 4,950,000	\$ 660,000	\$ 1,375,000	\$ 18,782,500	
Languages Canada Students	100	\$ 403,200	\$ -	\$ -	\$ 212,800	\$ 33,600	\$ 56,000	\$ 705,600	
K-12								\$ -	
Public	430	\$ 5,909,470	\$ -	\$ -	\$ 3,225,000	\$ -	\$ 215,000	\$ 9,349,470	
Independent	120	\$ 1,800,000	\$ -	\$ -	\$ 1,692,000	\$ -	\$ 60,000	\$ 3,552,000	
<b>Total</b>									
PSE	5,350	\$ 88,407,970	\$ 2,687,359	\$ 6,300,000	\$ 48,684,800	\$ 2,385,600	\$ 13,181,000	\$ 161,647,000	
K-12	550	\$ 7,709,470	\$ -	\$ -	\$ 4,917,000	\$ -	\$ 275,000	\$ 12,901,000	
<u>Northern BC</u>									
	Number of Students	Tuition Fees	Additional Fees	Books & Supplies	Accommodation and Meals	Transportation	Discretionary Spending	Total Spending	
Public PSE	900	\$ 14,745,594	\$ 488,271	\$ 1,080,000	\$ 8,334,000	\$ 324,000	\$ 2,250,000	\$ 27,221,865	
Private PSE	150	\$ 3,000,000	\$ 37,500	\$ 180,000	\$ 1,350,000	\$ 180,000	\$ 375,000	\$ 5,122,500	
Languages Canada Students	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
K-12								\$ -	
Public	120	\$ 1,649,154	\$ -	\$ -	\$ 900,000	\$ -	\$ 60,000	\$ 2,609,154	
Independent	30	\$ 450,000	\$ -	\$ -	\$ 423,000	\$ -	\$ 15,000	\$ 888,000	
<b>Total</b>									
PSE	1,050	\$ 17,745,594	\$ 525,771	\$ 1,260,000	\$ 9,684,000	\$ 504,000	\$ 2,625,000	\$ 32,344,000	
K-12	150	\$ 2,099,154	\$ -	\$ -	\$ 1,323,000	\$ -	\$ 75,000	\$ 3,497,000	

Source: RKA

Note that all headcounts by region in above are not the same as the province total due to exclusion of the number of students in "Region not stated"

In Table 7, we further show values of direct and combined direct and indirect economic impact from students in these regions to the provincial economy.

**Table 7 Direct and Indirect Economic Impact of International Students in BC, by Region, 2011/12**

Mainland/Southwest	Direct Economic Impact				Direct and Indirect Economic Impact			
	Total Spending	GDP	Employment	Government Revenue	GDP	Employment	Government Revenue	
Total	PSE \$ 1,351,882,000	\$ 938,417,000	15,490	\$ 48,252,000	\$ 1,167,553,000	18,770	\$ 60,164,000	
	K-12 \$ 237,282,000	\$ 188,643,000	2,890	\$ 8,358,000	\$ 219,487,000	3,340	\$ 9,928,000	
<b>Vancouver Island/Coast</b>								
Total	PSE \$ 175,373,000	\$ 122,072,000	1,830	\$ 6,348,000	\$ 151,206,000	2,250	\$ 7,828,000	
	K-12 \$ 9,404,000	\$ 7,476,000	110	\$ 332,000	\$ 8,699,000	130	\$ 394,000	
<b>Southern Interior</b>								
Total	PSE \$ 161,647,000	\$ 112,859,000	1,490	\$ 5,808,000	\$ 138,925,000	1,870	\$ 7,076,000	
	K-12 \$ 12,901,000	\$ 10,259,000	160	\$ 454,000	\$ 11,935,000	180	\$ 539,000	
<b>Northern BC</b>								
Total	PSE \$ 32,344,000	\$ 22,583,000	300	\$ 1,157,000	\$ 27,790,000	370	\$ 1,410,000	
	K-12 \$ 3,497,000	\$ 2,783,000	40	\$ 122,000	\$ 3,236,000	50	\$ 145,000	

Source: RKA

## 5.2. Comparison of International Education Services in BC with Other Export Trade

In this sub-section, we will provide a comparison of the total value of international education services by top source country, with the values of BC's exports of goods to these countries. We will also compare the value of total expenditure in international education services in the province with the total export of goods from BC.

The Table that follows details the number of international students by top ten source countries. (See Appendix 2 for data table showing the number of foreign students in BC by source countries.)

**Table 8 Number of International Students in BC by Top Source Countries, 2011/12, Unique Totals Only<sup>9</sup>**

Country	Public post-secondary <sup>1</sup>	Private post-secondary <sup>2</sup>	Language schools <sup>3</sup>	Elementary	Total: All Types
				and secondary schools <sup>4</sup>	
China	11,700	5,000	1,700	4,300	22,700
Korea, South	2,200	400	9,300	3,300	15,200
Japan	1,500	600	8,600	800	11,500
Brazil	200		8,000	300	8,500
Saudi Arabia	1,400	1,300	4,900		7,600
Mexico	600	500	2,400	700	4,200
India	2,000	1,700			3,700
Taiwan	700	300	1,800	400	3,200
United States	2,300	300		200	2,800
Switzerland	100		2,100		2,200
Top Ten Countries	22,700	10,100	38,800	10,000	81,600
Unknown <sup>5</sup>	1,500		500		2,000
<b>Total</b>	<b>33,500</b>	<b>12,800</b>	<b>47,300</b>	<b>13,000</b>	<b>106,600</b>

Source: see footnotes.

In general, international students from the top 10 source countries account for more than three-quarters of all international students coming to study in BC.

By multiplying an average total expenditure per student in 2011/12 (see Section 4.0) by the total number of international students in each of the top ten source countries, we

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Detailed notes on the Table.

1. Data source: Student Transitions Project, Fall 2012 submission.
2. Source country distribution has been estimated from Citizenship and Immigration Canada international student visa data (Table 3a: Top 10 Source Countries of International Students Present Dec. 1 in BC by Level of Study). Data include private degree-granting institutions and private career training providers. The headcount is estimated from Citizenship and Immigration Canada international student visa data.
3. Data source: Languages Canada report. Language schools include private language schools that are members of Languages Canada. Non-member language schools are not included. Public member schools are included in public post-secondary.
4. Source country distribution has been estimated from Citizenship and Immigration Canada international student visa data (Table 3a: Top 10 Source Countries of International Students Present Dec. 1 in BC by Level of Study). Data source for Elementary and secondary schools is Student Statistics - 2011/12: Province - Public and Independent Schools Combined headcount report by the Ministry of Education. Elementary and secondary schools include all public and independent schools from Kindergarten to Grade 12.
5. 'Unknown' category includes students whose source country was not identified.

have calculated the total amount of export in international education services from BC to each of these countries. This is summarized in Table 9.

**Table 9 Total Value of International Education Services by Top Ten Source Countries (by Number of Students), 2011/12**

Country	Public Post-Secondary	Private Post-Secondary	Languages Schools	Elementary and Secondary Schools	Total: All Types
China	\$ 353,884,000	\$ 170,750,000	\$ 11,995,000	\$ 101,031,000	\$ 637,660,000
Korea, South	\$ 66,542,000	\$ 13,660,000	\$ 65,621,000	\$ 77,536,000	\$ 223,359,000
Japan	\$ 45,370,000	\$ 20,490,000	\$ 60,682,000	\$ 18,797,000	\$ 145,339,000
Brazil	\$ 6,049,000	\$ -	\$ 56,448,000	\$ 7,049,000	\$ 69,546,000
Saudi Arabia	\$ 42,345,000	\$ 44,395,000	\$ 34,574,000	\$ -	\$ 121,314,000
Mexico	\$ 18,148,000	\$ 17,075,000	\$ 16,934,000	\$ 16,447,000	\$ 68,604,000
India	\$ 60,493,000	\$ 58,055,000	\$ -	\$ -	\$ 118,548,000
Taiwan	\$ 21,173,000	\$ 10,245,000	\$ 12,701,000	\$ 9,398,000	\$ 53,517,000
United States	\$ 69,567,000	\$ 10,245,000	\$ -	\$ 4,699,000	\$ 84,511,000
Switzerland	\$ 3,025,000	\$ -	\$ 14,818,000	\$ -	\$ 17,843,000
Top Ten Countries	\$ 686,596,000	\$ 344,915,000	\$ 273,773,000	\$ 234,957,000	\$ 1,540,241,000
Total (All Countries)	\$ 1,013,258,000	\$ 437,120,000	\$ 333,749,000	\$ 305,444,000	\$ 2,089,571,000

Source: RKA

As the column "Total: All Types" indicates, the ranking of these top ten source countries changes when total expenditure is being compared. This is due to the differences in the distribution of international students from these countries studying in the type of institutions in the province. Saudi Arabia, for example, ranks fifth in terms of the number of students studying in BC, but because the majority are in post-secondary institutions, their total expenditure share is larger than students from Brazil, which ranks fourth in the number of students in the province.

For this reason, we have constructed another table showing the top ten countries with international students in BC using values of student expenditure in BC. See Table 10.

**Table 10 Total Value of International Education Services by Top Ten Source Countries (by Value of Student Expenditure), 2011/12**

Country/Area	Public Post-Secondary	Private Post-Secondary	Languages Schools	Elementary and Secondary Schools	Total: All Types
China	\$ 353,884,000	\$ 170,750,000	\$ 11,995,000	\$ 101,031,000	\$ 637,660,000
Korea, South	\$ 66,542,000	\$ 13,660,000	\$ 65,621,000	\$ 77,536,000	\$ 223,359,000
Japan	\$ 45,370,000	\$ 20,490,000	\$ 60,682,000	\$ 18,797,000	\$ 145,339,000
Saudi Arabia	\$ 42,345,000	\$ 44,395,000	\$ 34,574,000	\$ -	\$ 121,314,000
India	\$ 60,493,000	\$ 58,055,000	\$ -	\$ -	\$ 118,548,000
United States	\$ 69,567,000	\$ 10,245,000	\$ -	\$ 4,699,000	\$ 84,511,000
Brazil	\$ 6,049,000	\$ -	\$ 56,448,000	\$ 7,049,000	\$ 69,546,000
Mexico	\$ 18,148,000	\$ 17,075,000	\$ 16,934,000	\$ 16,447,000	\$ 68,604,000
Taiwan	\$ 21,173,000	\$ 10,245,000	\$ 12,701,000	\$ 9,398,000	\$ 53,517,000
Hong Kong SAR	\$ 24,197,000	\$ 6,830,000	\$ -	\$ 7,049,000	\$ 38,076,000
Top Ten Countries	\$ 707,768,000	\$ 351,745,000	\$ 258,955,000	\$ 242,006,000	\$ 1,560,474,000
Total (All Countries)	\$ 1,013,258,000	\$ 437,120,000	\$ 333,749,000	\$ 305,444,000	\$ 2,089,571,000

Source: RKA

Note that the amounts generated as shown here in Table 10 are underestimates of the “true” amount of BC’s exports of educational services as we are only accounting for the number of students who stay in the province to study. We have not accounted for the province’s export of educational services in the form of setting up programs on campuses outside of Canada.

We have further compared BC’s export in international education services with other export in goods from BC.<sup>10</sup> This is shown in Table 11.

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<sup>10</sup> The data on export of goods is available at: [http://www.ic.gc.ca/sc\\_mrkti/tdst/tdo/tdo.php#tag](http://www.ic.gc.ca/sc_mrkti/tdst/tdo/tdo.php#tag) – the time period is 2012, Product Search is “Top 25 Product Groups – HS4”, and each country was chosen individually.

Table 11 Comparison of International Education Services with Other Top Exports in Goods from BC, 2011/12

Value in Thousands of Canadian Dollars	2012
2701 - Coal And Solid Fuels Manufactured From Coal	\$5,678,740
4407 - Lumber (Thickness >6Mm)	\$4,214,864
4703 - Chemical Woodpulp - Soda Or Sulphate	\$2,328,797
<b>International Education Services</b>	<b>\$2,089,571</b>
2603 - Copper Ores And Concentrates	\$1,912,360
2711 - Liquefied Petroleum Or Hydrocarbon Gases	\$1,327,221
4403 - Wood In The Rough	\$635,202
7901 - Zinc And Zinc Alloys	\$581,064
2710 - Preparations Of/Non-Crude Petroleum Oils And Oils Obtained From Bituminous Minerals	\$528,305
4802 - Uncoated Paper And Paperboard For Writing, Printing Or Graphic Uses	\$428,390
7601 - Unwrought Aluminum	\$408,170
Total (All Products)	\$31,746,141

*Source: Statistics Canada and US Census Bureau for Trade Data; RKA*

For comparison, we have also shown the value of international education services in each of the top 10 source countries as a percentage of total value of goods export to these countries. The final row in Table 12 shows the value of international education services in BC from all international students and the value of province's total export in goods.

**Table 12 Comparison of International Education Services with Total Exports in Goods from BC to the Top Ten International Student Source Countries and to All Countries, 2011/12**

<b>Country/Area</b>	<b>Export of Educational Services</b>	<b>All Goods Exports</b>	<b>Educational Services Compared with Total Goods Export</b>
China	\$ 637,660,000	\$ 5,808,000,000	11%
Korea, South	\$ 223,359,000	\$ 1,896,000,000	12%
Japan	\$ 145,339,000	\$ 4,158,000,000	3%
Saudi Arabia	\$ 121,314,000	\$ 58,859,000	206%
India	\$ 118,548,000	\$ 327,616,000	36%
United States	\$ 84,511,000	\$ 13,855,000,000	1%
Brazil	\$ 69,546,000	\$ 477,602,000	15%
Mexico	\$ 68,604,000	\$ 107,268,000	64%
Taiwan	\$ 53,517,000	\$ 658,168,000	8%
Hong Kong SAR	\$ 38,076,000	\$ 247,546,000	15%
Top Ten Countries	\$ 1,560,474,000	\$ 27,594,059,000	6%
Total (All Countries)	\$ 2,089,571,000	\$ 31,746,000,000	7%

*Source: Statistics Canada and US Census Bureau for Trade Data; RKA*

While the size of international education services is small in comparison with the value of total export in goods to countries such as Japan and the United States, such services contribute substantially to BC's total export to countries such as Saudi Arabia, Mexico, India, and Brazil. They are also significant when compared to export in goods to China (especially when combined with Taiwan and Hong Kong), and South Korea.

## 6. Conclusions

In 2011/12 academic year, BC welcomed 46,300 post secondary students from outside Canada. This number does not include the 47,300 short term language students who came to BC from abroad nor does it include 13,000 K-12 pupils. These numbers have grown at 9% per year since 2009/2010 academic year and are expected to continue to rise.

International students make a large and growing contribution to the economy of BC. Their total spending pumps over \$2.1 billion into the provincial economy. This means that our gross provincial product is \$1.48 billion higher than it otherwise would have been, the BC government has an additional \$75 million in revenue without raising taxes and over 23,410 British Columbians have jobs directly linked to the contributions of international students. If we also include those jobs created in industries indirectly linked to the educational services sector, the combined direct and indirect jobs supported by international students are even higher, about 28,320 in total.

Post-secondary international students, including those in the public and private universities and colleges as well as those in language training programs, spent \$1.78 billion in the province. Their enrolments have grown at 9.4% per year, 7.9% per year, and 4.9% per year respectively, since 2009/2010. This translates to an additional \$1.2 billion contribution to provincial GDP, 19,700 jobs created, and \$63.6 million in government revenue.

International students at the K-12 system have also seen their enrolment growth at 4.1% per year since 2009/2010. Their total spending is estimated to be adding \$305 million into the provincial economy. Again, this translates to an additional \$242.8 million contribution to provincial GDP, 3,700 jobs created, and \$10.8 million in government revenue.

Most people think of traditional sectors like logging and forestry when asked what supports the BC economy. Few realize that the contributions of international students are almost as great; \$1.7 billion for logging and forestry versus \$1.48 billion for international education. Furthermore, international education is not as cyclical as the resource sectors and continues on as upward trend. The number of jobs created in a year due to international education services was 23,410, which is about the same as employment total in the broadcasting and telecommunications sector (22,500), and greater than employment levels in many other industries in the province.

International education is a form of export in service. When we compare the value of international educational services with the value of the more traditional goods that BC exports, we note that international education services accounts for 7% of the total values of goods export from the province. The impact for some countries is even more striking. The Saudi Arabians, for example, spend the equivalent of 203% of the value of the goods they import from BC on educational services. Similarly, we see that India (36%), Mexico (64%), Brazil (15%), China (11%), and Korea (12%) all spend significantly for educational services when compared to the value of goods they import from BC.

## References

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- Statistics Canada (2010). Spending Patterns in Canada, 2009.

### **Website Information Reference**

*Cost of Program for International Students at Post-Secondary Training Institutes*

Alexander College: <http://www.alexandercollege.ca/admissions/fees-refunds/>

Art Institute of Vancouver: <http://www.artinstitutes.edu/vancouver/about/>

Centre for Arts and Technology (in Kelowna):

[http://www.digitalartschool.com/files/The\\_Value\\_of\\_Education\\_v3\\_0.pdf](http://www.digitalartschool.com/files/The_Value_of_Education_v3_0.pdf)

City University of Seattle: <http://www.cityu.edu/admissions-financialaid/admissions/tuition.aspx>

Columbia College: <http://www.columbiacollege.ca/en/content/fees>

Fairleigh Dickinson University: <http://view.fdu.edu/default.aspx?id=3812>

Quest University Canada tuition and fees:

[http://www.questu.ca/admission/costs\\_financial\\_assistance/tuition\\_room\\_and\\_board.php](http://www.questu.ca/admission/costs_financial_assistance/tuition_room_and_board.php)

Trinity Western University, undergraduate:

[http://www.twu.ca/undergraduate/finances/default.html?utm\\_source=ug-homepage&utm\\_medium=photo-btms&utm\\_campaign=tuition](http://www.twu.ca/undergraduate/finances/default.html?utm_source=ug-homepage&utm_medium=photo-btms&utm_campaign=tuition)

Trinity Western University, graduate: <http://twu.ca/services/enrolment/financial-information/graduate-studies-tuition-and-fees/tuition-fees.html>

*Cost of K-12 Education for International Students*

St. Michael's University School: <http://www.smus.ca/admissions/fees/day>

Shawnigan Lake School: <http://www.shawnigan.ca/parents/aid>

St. Margaret's School:

<https://www.stmarg.ca/sites/default/files/uploads/pdf/admissions/dayfees.pdf>

Victoria International High School:

<http://www.studyinvictoria.com/programs/academic.asp>

Bodwell High School: <http://www.bodwell.edu/highschool/admissions/fee-schedule/>

Mulgrave School: <http://www.mulgrave.com/admissions/financial-information/index.aspx>

Meadowridge School (in Fraser/Abbotsford):

<http://www.meadowridge.bc.ca/podium/default.aspx?t=125097>

Pattison School: <http://www.pattisonhighschool.ca/admissions/fee-schedule/>

## Appendix 1 Notes on Data Sources

Statistics Canada, in its Post-Secondary Information System, collects data on international student enrollment at the college and university levels (including breakdown of undergraduate and graduate levels) by field of study or by program level. However, the colleges and universities that are covered in the Statistics Canada's survey are essentially all in the public system, and as such we did not use enrollment numbers from this source as we were not able to gather information on those international students in the private post-secondary system. Also, university level data and college data is available for up to 2010/11 academic year only.

One way of getting information on the number of international students in the country is from data published by Citizenship and Immigration Canada (CIC). As international students need to obtain a study permit before arriving in Canada to pursue education and training for a period longer than six months, CIC's data allows us to know how many holders of study permits are in each of the provinces and territories at a given time. For all these reasons, we have relied upon CIC data for analytical purposes.

CIC defines foreign students as "Temporary residents who entered Canada mainly to study and have been issued a study permit (with or without other types of permits). A study permit is an official document issued by an officer that allows someone who is not a Canadian citizen or a permanent resident to study in Canada. In general, a study permit is not needed for any program of study that is six months or less. For statistical purposes, a temporary resident is designated as a foreign student on the basis of our determination of his or her "yearly status" – the main reason for which the person has been authorized to enter and stay temporarily in Canada during the year of observation. Foreign students exclude temporary residents who have been issued a study permit but who entered Canada mainly for reasons other than study."

Five levels of study are shown for foreign students.

- Secondary or less: primary or secondary educational institutions in Canada
- Trade: vocational trade at non-university educational institutions in Canada (such as technical and vocational institutions, CEGEPs and colleges)
- University: undergraduate, postgraduate (master's and doctoral) and other studies at universities in Canada
- Other post-secondary: post-secondary level of study, not at the university or trade level, including language institutions, private institutions and university qualifying programs
- Other: foreign students not classified in any of the above levels of study

One important source of international students that is not covered in the CIC data is the number of such students who study in Canada for periods shorter than six months, as they do not require a study permit to enter the country.

From previous research studies we have examined, the source of data on private language training schools generally comes from Languages Canada. One limitation of this data source is that it does not cover students studying in schools that are not members of Languages Canada.

The number of international students pursuing private vocational and career training programs which last for fewer than six months is an unknown value as well.

For the purposes of this study, we have referenced to CIC data but have not used the data set directly.

For the most part, data on private post-secondary training students have been provided to the research team by the Ministry of Advanced Education through the Student Transition Project, that have covered estimates of both long-term and short-term students in the province, although no detailed breakdown is available.

## Appendix 2 Number of International Students in BC by Top Source Countries

BC International Student Headcount Estimate by source country  
2011/12

Country	Public post-secondary <sup>1</sup>	Private post-secondary <sup>2</sup>	Elementary		Total: All Types
			Language schools <sup>3</sup>	and secondary schools <sup>4</sup>	
China	11,700	5,000	1,700	4,300	22,700
Korea, South	2,200	400	9,300	3,300	15,200
Japan	1,500	600	8,600	800	11,500
Brazil	200		8,000	300	8,500
Saudi Arabia	1,400	1,300	4,900		7,600
Mexico	600	500	2,400	700	4,200
India	2,000	1,700			3,700
Taiwan	700	300	1,800	400	3,200
United States	2,300	300		200	2,800
Switzerland	100		2,100		2,200
Germany	500		1,000	600	2,100
Hong Kong SAR	800	200		300	1,300
Vietnam	300	300	200	200	1,000
Spain	100		900		1,000
Iran	800				800
Russian Federation	300		500		800
France	300		500		800
Turkey	200		500		700
United Kingdom	400		100		500
Colombia	100		600		700
Venezuela	100		400		500
Italy	100		400		500
Indonesia	400				400
Chile	100		200		300
Nigeria	300				300
Malaysia	300				300
Thailand	200				200
Czech Republic			200		200
Australia	200				200
Austria	100		100		200
Pakistan	200				200
Bangladesh	200				200
Singapore	200				200
Ecuador	100		100		200
Peru	100		100		200
Philippines	100				100
Netherlands	100				100
Jamaica	100				100
South Africa	100				100
Norway	100				100
Kenya	100				100
Sweden	100				100
Kazakhstan	100				100
Ukraine	100				100
New Zealand	100				100
Denmark	100				100
Argentina			100		100
Israel	100				100
Belgium	100				100
Tanzania	100				100
Egypt	100				100
Zimbabwe	100				100
Top Ten Countries	22,700	10,100	38,800	10,000	81,600
All Other Countries	1,300	2,200	2,100	1,900	7,500
Unknown <sup>5</sup>	1,500		500		2,000
<b>Total</b>	<b>33,500</b>	<b>12,800</b>	<b>47,300</b>	<b>13,000</b>	<b>106,600</b>

Source: see footnotes.

Note: footnotes in the table above same as those in Table 8 in the main part of the report.

## Appendix 3 Expenditure of International Students in BC by Level of Study, 2011/12

Country	Public Post-Secondary	Private Post-Secondary	Languages Schools	Elementary and Secondary		Total: All Types
				Schools	Schools	
China	\$ 353,884,000	\$ 170,750,000	\$ 11,995,000	\$ 101,031,000	\$ 637,660,000	
Korea, South	\$ 66,542,000	\$ 13,660,000	\$ 65,621,000	\$ 77,536,000	\$ 223,359,000	
Japan	\$ 45,370,000	\$ 20,490,000	\$ 60,682,000	\$ 18,797,000	\$ 145,339,000	
Brazil	\$ 6,049,000	\$ -	\$ 56,448,000	\$ 7,049,000	\$ 69,546,000	
Saudi Arabia	\$ 42,345,000	\$ 44,395,000	\$ 34,574,000	\$ -	\$ 121,314,000	
Mexico	\$ 18,148,000	\$ 17,075,000	\$ 16,934,000	\$ 16,447,000	\$ 68,604,000	
India	\$ 60,493,000	\$ 58,055,000	\$ -	\$ -	\$ 118,548,000	
Taiwan	\$ 21,173,000	\$ 10,245,000	\$ 12,701,000	\$ 9,398,000	\$ 53,517,000	
United States	\$ 69,567,000	\$ 10,245,000	\$ -	\$ 4,699,000	\$ 84,511,000	
Switzerland	\$ 3,025,000	\$ -	\$ 14,818,000	\$ -	\$ 17,843,000	
Germany	\$ 15,123,000	\$ -	\$ 7,056,000	\$ 14,097,000	\$ 36,276,000	
Hong Kong SAR	\$ 24,197,000	\$ 6,830,000	\$ -	\$ 7,049,000	\$ 38,076,000	
Vietnam	\$ 9,074,000	\$ 10,245,000	\$ 1,411,000	\$ 4,699,000	\$ 25,429,000	
Spain	\$ 3,025,000	\$ -	\$ 6,350,000	\$ -	\$ 9,375,000	
Iran	\$ 24,197,000	\$ -	\$ -	\$ -	\$ 24,197,000	
Russian Federation	\$ 9,074,000	\$ -	\$ 3,528,000	\$ -	\$ 12,602,000	
France	\$ 9,074,000	\$ -	\$ 3,528,000	\$ -	\$ 12,602,000	
Turkey	\$ 6,049,000	\$ -	\$ 3,528,000	\$ -	\$ 9,577,000	
United Kingdom	\$ 12,099,000	\$ -	\$ 706,000	\$ -	\$ 12,805,000	
Colombia	\$ 3,025,000	\$ -	\$ 4,234,000	\$ -	\$ 7,259,000	
Venezuela	\$ 3,025,000	\$ -	\$ 2,822,000	\$ -	\$ 5,847,000	
Italy	\$ 3,025,000	\$ -	\$ 2,822,000	\$ -	\$ 5,847,000	
Indonesia	\$ 12,099,000	\$ -	\$ -	\$ -	\$ 12,099,000	
Chile	\$ 3,025,000	\$ -	\$ 1,411,000	\$ -	\$ 4,436,000	
Nigeria	\$ 9,074,000	\$ -	\$ -	\$ -	\$ 9,074,000	
Malaysia	\$ 9,074,000	\$ -	\$ -	\$ -	\$ 9,074,000	
Thailand	\$ 6,049,000	\$ -	\$ -	\$ -	\$ 6,049,000	
Czech Republic	\$ -	\$ -	\$ 1,411,000	\$ -	\$ 1,411,000	
Australia	\$ 6,049,000	\$ -	\$ -	\$ -	\$ 6,049,000	
Austria	\$ 3,025,000	\$ -	\$ 706,000	\$ -	\$ 3,731,000	
Pakistan	\$ 6,049,000	\$ -	\$ -	\$ -	\$ 6,049,000	
Bangladesh	\$ 6,049,000	\$ -	\$ -	\$ -	\$ 6,049,000	
Singapore	\$ 6,049,000	\$ -	\$ -	\$ -	\$ 6,049,000	
Ecuador	\$ 3,025,000	\$ -	\$ 706,000	\$ -	\$ 3,731,000	
Peru	\$ 3,025,000	\$ -	\$ 706,000	\$ -	\$ 3,731,000	
Philippines	\$ 3,025,000	\$ -	\$ -	\$ -	\$ 3,025,000	
Netherland	\$ 3,025,000	\$ -	\$ -	\$ -	\$ 3,025,000	
Jamaica	\$ 3,025,000	\$ -	\$ -	\$ -	\$ 3,025,000	
South Africa	\$ 3,025,000	\$ -	\$ -	\$ -	\$ 3,025,000	
Norway	\$ 3,025,000	\$ -	\$ -	\$ -	\$ 3,025,000	
Kenya	\$ 3,025,000	\$ -	\$ -	\$ -	\$ 3,025,000	
Sweden	\$ 3,025,000	\$ -	\$ -	\$ -	\$ 3,025,000	
Kazakhstan	\$ 3,025,000	\$ -	\$ -	\$ -	\$ 3,025,000	
Ukraine	\$ 3,025,000	\$ -	\$ -	\$ -	\$ 3,025,000	
New Zealand	\$ 3,025,000	\$ -	\$ -	\$ -	\$ 3,025,000	
Denmark	\$ 3,025,000	\$ -	\$ -	\$ -	\$ 3,025,000	
Argentina	\$ -	\$ -	\$ 706,000	\$ -	\$ 706,000	
Israel	\$ 3,025,000	\$ -	\$ -	\$ -	\$ 3,025,000	
Belgium	\$ 3,025,000	\$ -	\$ -	\$ -	\$ 3,025,000	
Tanzania	\$ 3,025,000	\$ -	\$ -	\$ -	\$ 3,025,000	
Egypt	\$ 3,025,000	\$ -	\$ -	\$ -	\$ 3,025,000	
Zimbabwe	\$ 3,025,000	\$ -	\$ -	\$ -	\$ 3,025,000	
All other countries	\$ 39,320,000	\$ 75,130,000	\$ 14,818,000	\$ 44,642,000	\$ 173,910,000	
Countries unknown	\$ 45,370,000	\$ -	\$ 3,528,000	\$ -	\$ 48,898,000	
Top Ten Countries	\$ 686,596,000	\$ 344,915,000	\$ 273,773,000	\$ 234,957,000	\$ 1,540,241,000	
Total (All Countries)	\$ 1,013,258,000	\$ 437,120,000	\$ 333,749,000	\$ 305,444,000	\$ 2,089,571,000	

Source: RKA

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