

Economic Impact of International Education at Public Post-Secondary Institutions

Presented to:

**Accountability Branch
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9. North Island College
10. Northern Lights College
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12. Selkirk College
13. Simon Fraser University
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15. University College of the Fraser Valley
16. University of British Columbia
17. University of Victoria
18. Vancouver Community College

Executive Summary

In this report, Roslyn Kunin and Associates, Inc. (RKA) has used both primary and secondary sources to collect information on the quantitative and qualitative impact of international students in public educational institutions on the British Columbia economy.

Qualitative information was gathered through primary research involving international students and officials at educational institutions. Benefits were not measurable, but included such factors as helping BC students prepare for a career in the global economy and generating long term international business and tourism opportunities for BC through networking and familiarity with the province.

Quantitative information was gathered primarily through secondary sources and analyzed to calculate the direct, indirect and induced impacts on the economy of British Columbia. The results were then totaled to provide an estimate of the overall impact of international students.

The direct provincial GDP contribution by international students is roughly twice that of the contribution provided by the fishing, hunting and trapping industry and comes close to equaling the contribution of computer and electronic manufacturing in the province.

The total employment generated by international students is comparable to employment in primary metal manufacturing industry, or information services and data processing.

The quantitative results are summarized in the tables below.

Summary Table I International Student Enrolment by Program Type

Program type	Enrolment
Graduate	2,900
Undergraduate	10,300
Diploma	1,800
Certificate	900
ESL	4,900
Short-term / any program	7,000
Exchange	500
Total	28,100

Source: RKA

Summary Table II Total Direct Expenditure of International Students by Type of Expense

Expense type	Amount (\$'000s)
Tuition	252,820
Books and Supplies	31,110
Shelter	128,840
Food	39,640
Misc. (personal & health care, clothing, household items, communications)	44,600
Local Public Transportation	13,880
Total	510,890

Source: RKA

Summary Table III Direct Impact of International Students on Provincial Economy

Economic Variable	Direct Impact
Employment (jobs)	6,000
GDP at Factor Cost, \$ millions	300
Provincial Tax Revenues, \$ millions	5.3
Federal Tax Revenues, \$ millions	18

Source: BC Stats customized Table

Summary Table IV Indirect and Induced Impacts of International Education in Public Post-secondary Education on Provincial Economy

Economic Variable	Indirect Impact	Induced Impact	Total Impact
Employment	1,300	1,800	9,100
GDP at Factor Cost, \$ millions	75	110	485
Provincial Tax Revenues, \$ millions	5.0	18	28.3
Federal Tax Revenues, \$ millions	5.3	15	38.3

Source: BC Stats customized Table

Summary Table V Employment Impact of International Education in Public Post-secondary Education on Provincial Economy by Industry

Sector	Direct	Indirect	Induced	Total Impact
Construction	0	110	30	140
Manufacturing	80	70	60	210
Wholesale Trade	40	70	70	180
Retail Trade	320	90	400	810
Transportation & Warehousing	410	110	70	590

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Information & Culture	60	60	50	170
Finance, Insurance & Real Estate	280	170	150	600
Prof., Scientific & Technical Services	30	170	70	270
Admin. & Other Support Services	0	210	70	280
Health Care & Social Assistance	0	10	100	110
Accommodation & Food Services	10	70	280	360
Other Services	80	50	150	280
Non-Profits Serving Households	0	0	110	110
Government Sector	4,690	60	90	4,840
Other Industries	0	50	100	150
Total	6,000	1,300	1,800	9,100

Source: BC Stats customized Table

**Summary Table VI Economic Impact of International Education at
Community Level – Four Representative Communities**

	Share of Enrolment	Total Expenditure	Total GDP Impact	Total Employment Impact
Kamloops (TRU)	8%	\$41,730,000	\$39,610,000	700
Cranbrook (CotR)	1%	\$3,070,000	\$2,920,000	100
Victoria (UVIC, Cam)	17%	\$89,120,000	\$84,610,000	1,600
Greater Vancouver (SFU, VCC)	18%	\$89,830,000	\$85,280,000	1,600

Source: RKA

1. Review of Background Information and Previous Reports

International education plays a key role in the future prosperity of British Columbia in the context of the global economy. Several studies have revealed the existence of positive impact of international education sector, as it generates a significant source of income as well as enhancing business' opportunities for the economy.

In seeking to understand the impact of international education sector, it is useful to estimate its size and interaction with the rest of the provincial economy. The difference in estimates of the economic impact of international students depends upon the method of calculation.

In 1999, Adams and Tait completed a report entitled **A Review of the Economic Impact of International Education in British Columbia's Public Post-Secondary Sector**. Through this study, the international education benefits on BC's economy were examined using three different approaches: student and related spending, value added and total impact approaches.

Estimates have revealed that the economic contribution of educating international students in BC's public post-secondary institutions range from \$126 million to \$274 million.

Using the valued added approach, they compared estimates of direct impact to the Gross Domestic Product estimates of other sectors of the economy. Results revealed that foreign education sector created as much direct value added as BC's fishing and trapping sector and approximately 2/3 of the GDP generated by the film production sector.

The authors listed other important but less quantifiable benefits including the enhancement of the quality of research and the development of overseas' relationships that can lead to business opportunities.

International education also has an important impact on the local economy. Seldon (2005) estimates the economic impact of international enrolment at Thompson Rivers University (TRU) to the local Kamloops economy (taking multiplier effects into account) to exceed \$40 million in 2005/6. Estimates also reveal a significant impact on the order of \$70 million in recent and current TRU construction activity. Another important finding in this study is that the international students' enrolment generates additional seats for Canadian students by increasing TRU's capacity by approximately 10%.

A recent study commissioned by BC Progress Board, entitled **The Role of International Education: Expanding Student Opportunity and Economic Development in British Columbia**, examines the existing and potential opportunities for expansion of BC's international education activities.

This study reveals that international education currently has an estimated yearly direct economic impact of over \$2 billion. Potential economic benefits include the encouragement of skilled international students to consider emigrating to BC upon graduation. A long-term significant impact lies in the expansion of provincial business opportunities made possible by the development of international relationships.

2. Discussion and Analysis of Alternative Methodological Approaches

Economic impact studies provide information on the amount and nature of spending generated by an agency/organization, facility, program, or event and are completed for a variety of purposes. Most often the impact figures generated measure the results of the proposed development, existing program or event. They can also help determine what specific actions or plans will provide the most benefits to a community or region.

The expenditures users make within the region for a specific program or event are recycled throughout the area and may sometimes significantly add to the local economy. While we may consider only the expenditures that users, in this case, international students, make on-site, such as tuition fees and money spent on food and accommodation and transportation, these expenditures usually make up only a portion of the total economic impact. To adequately assess economic impact, all expenditures related to an international student attending a public post-secondary education institute in BC need to be included. These include travel expenses airfare paid to a local carrier, gifts/souvenirs purchased, extra expenses incurred when family members come for a visit, etc.

Further beyond direct expenditures, economic impact models can be utilized to analyze additional benefits to the local economy in the form of businesses providing goods and services to entities where direct expenditures occur. In addition, as a result of increased household income, there may be further increases in overall expenditure. The latter is considered as spin-off impact which can also be captured by economic impact models.

In the following paragraphs, we will discuss different methods to capture the above and the limitations of each.

2.1. Direct estimate of expenditure

There are two different methods that can be employed to estimate direct expenditure of international students studying at BC's public post-secondary education institutes.

- (a) directly collecting expenditure data from students, or
- (b) estimating spending patterns based on previous studies.

The decision of what method to employ should be based on several variables including resources available to collect the information, how quickly the data is needed, availability of secondary data, and study goals. Generally speaking, the more accurate and detailed the information needed, the more expensive and time-consuming the data gathering technique.

Collecting data directly from students is the obvious choice when attempting to determine the economic impact of these students. In this case, random samples of students are interviewed via phone/email and/or mailback surveys that ask them to report the amount of money they spent related to their study during a specific period of time. These expenditures are then totaled to determine an average per-person expenditure figure. This figure is then multiplied by the total number of international students to determine the total direct economic impact resulting from international education.

Determining economic impact through the direct collection of data, however, can be a time consuming and expensive endeavor due to the need for collection and analysis of expenditure and behavior data derived from a sample of students. It becomes even more difficult when there is very little time to collect data, and when little or no baseline data is available for the specific set of students in question. One possible solution to this problem is to estimate the economic impact using secondary data sources. This involves the extrapolation of spending averages of similar students from previous studies, and does not require that empirical data be collected. However, it does involve an extensive review of existing data and literature, which may still require a significant commitment of time and effort.

Using secondary data sources should yield a ballpark estimate of economic impact derived from several sources that are similar in scale and attributes. The advantage of this method is that data are used from several sources, which can minimize the effect of extreme situations and provide relatively safe and defensible figures. However, this method does not account for any location-specific attributes that may greatly influence the amount of economic activity that international education may generate.

We have, to the best of our ability, employed both of these methods in collecting basic expenditure information from international students. However, given the

limited amount of time available, data collected from primary research (focus group and informal survey) will yield qualitative results and will be used to supplement secondary source data.

2.2. Total impact estimate

Information derived from direct expenditure estimates still needs to be converted into values of macroeconomic variables such as Gross Domestic Product (GDP) and employment and so on in order for readers to gauge the magnitude of the impact and make meaningful comparisons of such impact against other sectors of the economy. In addition to direct impact, indirect and induced impacts will also need to be estimated. To accomplish this, the appropriate model to use is an input-output model.

The input-output model is built based on the input-output structure of the economy, which is essentially a set of tables describing the flows of goods and services amongst the various sectors of the economy. Such a model is very useful to determine how much additional production is generated by a change in the demand for one or more commodities or by a change in the output of an industry.

Direct impact measures the increase in industrial output and the increase in an industry's labour force from the inflow of international students to the province on a yearly basis. In addition, we can measure the increase in government revenue.

Indirect impact measures the change in industrial output and employment demand in sectors that supply goods and services to the public post-secondary education sector in the province.

Induced impact measures the changes in output and employment demand over all sectors of the economy as a result of an income increase in households impacted both directly and indirectly.

Overall economic impact is the sum of direct, indirect, and induced impacts.

For the purposes of this study, the input-output model we derive our results from is the BC Input-Output Model (BCIOM). The BCIOM can be viewed as a snapshot of the BC economy, taken in 2001. It is derived from the 2001 Interprovincial Input-Output tables developed by Statistics Canada and includes details on 727 commodities, 300 industries, 170 "final demand" categories, and a set of computer algorithms to do the calculations required for the solution of the model.

It should be noted that useful as they are, input-output models have their own limitations. Some of these limitations are:

- Input-output models are linear. They assume that a given change in the demand for a commodity or for the outputs of a given industry will translate into a proportional change in production.
- Input-output models do not take into account the amount of time required for changes to happen. Economic adjustments resulting from a change in demand are assumed to happen immediately.
- It is assumed that there are no capacity constraints and that an increase in the demand for labour will result in an increase in employment (rather than simply re-deploying workers).
- The BCIOM is based on a “snapshot” of the BC economy in 2001. It is assumed that relationships between industries are relatively stable over time, so that the 2001 structure of the economy continues to be applicable today in 2005. However, it is noted that employment estimates have been adjusted to reflect wage levels for the year 2005.

3. Review and Discussion of Validity and Robustness of Data Sources

There is no consistent and comparable information on international students' enrolment and on their expenditure patterns in the public post-secondary education sector. Indeed, information on international students' activity in BC comes from different sources and each is based on specific definitions and classifications.

For the purpose of this project, data comes from different sources. Primary sources of information were extracted from interviewing a representative sample of public post-secondary institutions' administrators who deal with international students. Secondary sources of information are based on different official websites dealing with international education activities.

International student enrolments were taken from the information collected directly from BC's public post-secondary institutions by the BC Centre for International Education (BCCIE) in September 2005. These data appears to be more consistent and comprehensive. However, information for three institutions was missing and reported to be a zero enrolment level. To complete the enrolment figures, data for the missing institutions from the Central Data Warehouse on international students were plugged in. In consequence, the total number of international students' enrolment in BC's public post-secondary institutions is different from the level reported by the BCCIE.

Data on total enrolment at BC's university colleges, colleges and institutions was taken from the Central Data Warehouse and data on total enrolment at universities was extracted from the University Presidents' Council (TUPC) publications.

International students' tuition information was based on the BCCIE database if available, and on the institutions officials' answers otherwise. In the case that both sources do not contain the information, institutions' websites can supplement this incompleteness. If information does not exist in any of the above sources, assumptions are being used.

To examine students' living expenses, various published sources of information are reporting different ranges of living expenses. The basic source considered is the Education Planner web site managed by the BC Council on Admissions and Transfer. Other online resources detailing students' living costs estimates have been also consulted, such as Kwantlen University College, University of British Columbia, Simon Fraser University, and University of Victoria web sites.

In addition, we extracted some information from International Student Living Expenses charts prepared by the International Education Department of Langara College that are intended to provide new coming international students with a rough idea of how much money they will need for their stay in BC.

Average monthly expenditures derived from the individual observations that were collected from hundred international students in different BC post-secondary institutions were not used due to the issue of sample representativeness. However, these findings will be qualitatively used in the next section.

4. Data Analysis and Reporting of Findings

Data were gathered from the informed opinions of a representative sample of public post-secondary institutions' officials from eighteen different BC's post-secondary institutions and from the answers of hundred participants in the international students' survey. Three focus groups involving foreign students were created and conducted by Roslyn Kunin and Associates.

4.1. Focus groups

We used the focus group technique to qualitatively examine international education's economic impact in different regions of BC by conducting discussions on living expenses with full time international students. Focus group sessions lasted from 60 to 90 minutes.

The first focus group session took place at a large university located in the lower mainland of BC. Almost 10% of the university's student population comes from over 100 different countries. International students at the university major in a number of different fields, with the top three fields being business, computing and engineering. Eight international students, from a wide range of programs, participated in the focus group discussions. Half of them were graduate students, and all had been in BC for at least a year.

The second focus group session was conducted in BC's interior at a small university that has a very significant international education component. More than hundred Bachelor degrees, Diplomas and Certificates are available for international students, along with English language programs. Eleven international students, from a variety of Bachelor, Diploma and ESL programs, participated in the discussion session.

The third focus group session included six international students from a university college in the lower mainland. Most of them are in the second year of a four year program.

A fourth focus group session, scheduled in the month of April, will be organized in a small rural college in BC's interior.

Focus groups' questions included

1. "What major contributions do you think you give to the local community?"
2. "Have any of your friends or family been in BC to visit?"
3. "Have you traveled within or outside BC?"
4. "Do you plan on becoming a permanent resident of Canada upon graduation?"
5. What is your primary source of income?

Participants strongly believe that they are positively contributing to BC's economy as they:

- bring money to the province, as most the main source of their income is coming from outside of the province
- pay higher tuitions fees than domestic students
- bring in experience from their countries and expose the society to multicultural diversity
- facilitate trade, promote Canadian businesses abroad
- strengthen economic and social relationships between Canada and their countries by having advanced diplomatic relationships
- better fit BC labour force than immigrants, as a significant number of participants are intending to apply for immigration upon graduation
- volunteer in social activities and student associations' clubs
- have friends and family visitors who spend up to one month in BC
- invest in housing, as some international students buy new homes in BC

The most significant concerns raised by the participants are with respect to the:

- high tuition fees, in some institutions they are four times higher than domestic students' fees
- limited work opportunities since they are not allowed to work off campus and they believe that their economic contribution could be bigger if they were allowed to work
- difficulty of transportation to some campuses, and high cost as the U-Pass is only for a few universities in the Lower Mainland
- some organizations do not want to take any risks sponsoring international students in certain activities

4.2. International students' survey

In addition to focus groups discussions, questionnaires were emailed to international students in different post-secondary institutions. Their participations allowed us to widen discussions conducted in the three focus groups sessions.

Because of limited time, only one hundred international students have participated in the survey. Therefore, the sample data cannot be considered as representative and used for the quantitative analysis. The findings that will be reported in this section are illustrative only.

To derive expenditure data, students were asked to provide detailed information on their personal expenditures (and the expenditures of dependent family members living with them) in BC on a broad range of items. All the questions related to the last 12 months (from January 2005 to December 2005). For each item, students were asked to indicate their amount of average expenditures.

Only basic expenses are being reported and they seem to be consistent with the range given by officials' estimate. Entertainment, and Recreation, Travel and Childcare expenses are discretionary data and therefore they are not being accounted for.

The following Table shows the category of expenditure and the corresponding average monthly expenditure for all respondent including students with zero expenditure.

Table 1 Average Living Expenses Reported by International Students

Category of Expenditure	Average Monthly Expenditure
Rent	\$538
Food	\$274
Transportation	\$70

Students reported spending \$538 per month on rent, \$274 on foods and \$70 on transportation.

Of the students surveyed, 67% reported spending money on traveling within the province. Sixty one per cent of participants reported planning to apply for immigration and stay in Canada after graduation and twenty percent are still undecided on this issue.

4.3. Post-secondary officials' survey

Questionnaires were emailed to faculty administrators who are dealing with international students in BC's post-secondary institutions. A significant number of participants provided interesting information and fruitful discussion.

First, officials were asked about their objectives for recruiting international students. Some participants believe that the reasons for recruiting international students are not primarily financial since tuition fees paid by these students are "set at cost-recovery level". However, the main reason is to "create a vibrant and culturally diverse campus community" and to provide domestic students with an opportunity to gain a broader perspective and have interactions with people from different cultures.

Other officials strongly agree that enrolling foreign students contributes to the institution's financial stability and brings money to the community. They believe that the international education sector generates international connections and friendships for Canadian students. In addition, it insures a maximum choice of programs and courses and therefore creates additional seats for Canadian students.

Second, respondents were asked about how international students contribute to B.C.'s economy. They all agree that international students contribute significantly to the gross domestic product of the province. Respondents' answers are summarized in the following points:

- Direct economic benefits through international students' tuition payments, international students' living expenditures (rent, transportation, food, leisure activities, etc.), and salaries of those working in the international education sector.
- Contribute to the local economy in terms of consumption spending, tourism and provincial income taxes.
- Contribute to the local community by "bringing rich cultural perspectives, academic and technical skills, and future connections which will contribute to BC's economic and Canada's political ties to their countries of origin as they return home".
- Enhance academic, cultural and economic links with the world community.
- Build a future base of skilled immigrants and workers for Canada.

- Develop an excellent understanding and strong affiliation for BC and Canada
- Develop long term relationships with Canadians that set the stage for long term business and personal friendships.”
- Enhance academic collaborations between institutions in the students’ home countries and BC’s post-secondary institutions.

Third, officials were asked about the possible impact if they were to stop or lessen the recruitment of international students? They believe this would considerably reduce the international education sector’s contribution to the local economy through employment, homestay, and student spending and to post-secondary institutions’ capital fund. In addition, it would severely slow down the progress of the institutional mission of “Building pathways for career success in the global marketplace”.

Participants consider that reducing the process of hiring international students could have a negative impact on the internationalization of BC post-secondary institutions by lowering their reputation abroad as one of the world’s best colleges/universities.

Finally, they were asked how international students contribute at school in terms of interaction with domestic students and academic research. They strongly believe that the presence of international students in the classroom broadens the academic perspective in classrooms, and enriches the experience of campus communities. It also provides domestic students with an opportunity to gain a broader perspective and have interactions with people from different cultures. In terms of academic contribution, some universities’ officials said that graduate international students contribute substantially to the research process.

In order to increase BC’s benefits from international education sectors, post-secondary institutions’ officials made some recommendations summarized below.

- Need to lobby for policy and procedural changes in other departments to be more ‘service’ oriented.
- Provide effective support services by “a combination of highly targeted and strategic recruitment efforts, focusing on specific annual targets in different regions of the world, and cross-campus retention strategies, including outstanding orientation and transition services, developmental advising services, and thoughtful engagement of international students in all areas of campus life”.
- Have a problem of an increasing refusal rate for international student visas in some parts of the world like China, India and Indonesia compared with Japan and South Korea. Immigration Canada has to be more flexible in order to maintain our market in many parts of the world.
- Since Canada’s objective is to be an international destination of tourism; then we need to have friends abroad, this can happen by hiring international students.
- Need to be attracting not only young students, but also older ones in order to attract business people, an interesting source of income for tourism, etc.

5. Aggregate Impact on the Province as well as Impact on Local Community Level

5.1. Aggregate impact in the province

5.1.1. Direct expenditure

Based upon data reviewed and information collected, we summarize annual expenditure by international students in the province. The table that follows summarizes enrolment of international students by program type.

Table 2 International Student Enrolment by Program Type

Program type	Enrolment
Graduate	2,900
Undergraduate	10,300
Diploma	1,800
Certificate	900
ESL	4,900
Short-term / any program	7,000
Exchange	500
Total	28,100

Source: RKA

In arriving at the total amount of tuition, we have assumed that international students will study for eight months per year within the province. Tuition charges for each program type of students in each public post-secondary institute have been estimated mostly based upon information provided by each institute. The only exception in our estimate of tuition expenses is with exchange students. Due to the lack of information regarding the specific type of program these students are in, how tuition is paid, and how much on average such tuition expense is, we have not accounted for tuition under this category.

In arriving at the total of living expenses, we have first adjusted enrolment numbers as presented above to remove the number of students who are engaged in international education through distance education, and as such do not physically stay within the province and incur living expenses. We have further assumed that on average international students stay within the province for eight months per year, regardless of the type of program they are in.

The following Table summarizes expenditures incurred by international students each year on education and living expense.

Table 3 Total Direct Expenditure of International Students by Type of Expense

Expense type	Amount (\$'000s)
Tuition	252,820
Books and Supplies	31,110
Shelter	128,840
Food	39,640
Misc. (personal & health care, clothing, household items, communications)	44,600
Local Public Transportation	13,880
Total	510,890

Source: RKA

Total expenditure by international students, therefore, amounts to \$511 million per year for the province.

5.1.2. Direct impact in GDP, employment and government revenue

To estimate the contribution of international students to provincial GDP, employment and government revenue, we apply values of expenditure to the BC Input-Output Model. The computational process was carried out by BC Stats. The Table that follows summarizes direct impact of international students in public post-secondary education on the provincial economy.

Table 4 Direct Impact of International Students on Provincial Economy

Economic Variable	Direct Impact
Employment (jobs)	6,000
GDP at Factor Cost, \$ millions	300
Provincial Tax Revenues, \$ millions	5.3
Federal Tax Revenues, \$ millions	18

Source: BC Stats customized Table

By comparison, overall GDP contribution by the whole educational services sector in BC, which includes both private and public services providers from K-12 to post-secondary and other training, in 2002 was \$6,818 million. The size of international education in public post-secondary training, at \$300 million per year, is more than twice as large as BC's fishing, hunting and trapping industry (\$137 millions in 2002), and is almost comparable with the computer and electronic product manufacturing industry (\$375 millions in 2002).

Employment wise, total direct employment contribution to the provincial labour market as a result of international education is comparable with employment in

primary metal manufacturing (6,800 in 2004), employment services (5,000 in 2004), or information services and data processing services (6,300 in 2004).

Note that the direct impact of international education on the provincial economy is not limited to the educational services industry itself, but encompasses all sectors in the economy.

5.1.3. Indirect and induced economic impacts

As described earlier, economic impacts of international education go beyond the direct impact estimated in the previous section.

Indirect impact measures the change in industrial output and employment demand in sectors that supply goods and services to the public post-secondary education sector in the province.

Induced impact measures the changes in output and employment demand over all sectors of the economy as a result of an income increase in households impacted both directly and indirectly.

Again, to capture the magnitude of such impacts, an input-output approach was employed. The Table that follows summarizes indirect and induced contributions to the provincial economy in GDP, employment, and government revenues.

Table 5 Indirect and Induced Impacts of International Education in Public Post-secondary Education on Provincial Economy

Economic Variable	Indirect Impact	Induced Impact	Total Impact
Employment	1,300	1,800	9,100
GDP at Factor Cost, \$ millions	75	110	485
Provincial Tax Revenues, \$ millions	5.0	18	28.3
Federal Tax Revenues, \$ millions	5.3	15	38.3

Source: BC Stats customized Table

5.1.4. Employment impact by industry

As we discussed earlier, employment impact as a result of international education in public post-secondary education encompasses all industries in the province. Further, although estimates of employment impact with the BCIOM is generally in the form of person-years of employment, we can consider those estimated here as jobs as the expenditures are an annual estimate and are expected to recur each year.

The Table that follows summarizes employment impact allocated to industries in the province.

Table 6 Employment Impact of International Education in Public Post-secondary Education on Provincial Economy by Industry

Sector	Direct	Indirect	Induced	Total Impact
Construction	0	110	30	140
Manufacturing	80	70	60	210
Wholesale Trade	40	70	70	180
Retail Trade	320	90	400	810
Transportation & Warehousing	410	110	70	590
Information & Culture	60	60	50	170
Finance, Insurance & Real Estate	280	170	150	600
Prof., Scientific & Technical Services	30	170	70	270
Admin. & Other Support Services	0	210	70	280
Health Care & Social Assistance	0	10	100	110
Accommodation & Food Services	10	70	280	360
Other Services	80	50	150	280
Non-Profits Serving Households	0	0	110	110
Government Sector ¹	4,690	60	90	4,840
Other Industries	0	50	100	150
Total	6,000	1,300	1,800	9,100

Source: BC Stats customized Table

The largest employment impact falls upon the government sector, which in this case reflects public educational services. It accounts for almost 80 per cent of direct impact, and over half of the overall impact. This is no surprising given the “labour-intensive” nature of educational services. Generally speaking, the more labour intensive a product or service involves, the larger employment impact will be, for a given amount of expense.

It is interesting to note that although direct employment impact in retail trade and accommodation and food services is modest, especially with the latter, the size of induced employment impact in these sectors is larger. This is due to the nature of induced impact being estimated. It captures the increase in spending due to increase in household income, which is reflected in an increased level of consumption. This in turn is reflected in more retail and hospitality services.

¹ It is noted that there is one more industry grouping showing direct, indirect, and induced employment impacts in the BC Stats customized Table generated from the BCIOM. That industry is private educational services. This is because when tuition payment is allocated to different categories of commodities when the expenditure is incurred, tuition fees paid for ESL and Short-term programs have been allocated to “Other education fees” which are comprised of fees to both public and private educational services providers. However, given that we concentrate on international education in the province at the public post-secondary system, it would be reasonable to assume that there is little employment impact with private educational services. Public educational services are reflected in Government Sector.

5.2. Impact on local community level

One of the objectives of this study is to identify the positive economic impact of international students on the province as well as on the local community. To this end, we have first identified four communities within the province, each with one or more post-secondary institutions. We have assumed that the local economic impact contributed by international students is in proportion to the share of international students enrolment in that community. These four communities are Kamloops, Cranbrook, Victoria, and parts of Greater Vancouver where students from Burnaby and Vancouver reside.

The Table below shows the public post-secondary institutes covered in each of these communities, their share of overall international student enrolment, as well as estimated expenditure and total GDP and employment impact.

Table 7 Economic Impact of International Education at Community Level
- Four Representative Communities

	Share of Enrolment	Total Expenditure	Total GDP Impact	Total Employment Impact
Kamloops (TRU)	8%	\$41,730,000	\$39,610,000	700
Cranbrook (CotR)	1%	\$3,070,000	\$2,920,000	100
Victoria (UVIC, Cam)	17%	\$89,120,000	\$84,610,000	1,600
Greater Vancouver (SFU, VCC)	18%	\$89,830,000	\$85,280,000	1,600

Source: RKA

Major urban centres such as Victoria and the Greater Vancouver take up significant share of the overall economic impact. By contrast, international education with public post-secondary institutes outside these major urban centres accounts for only a small share of the overall economic impact. However, some institutes such as Thompson Rivers University are already pursuing more pro-active strategies to attract international students. With time, it is possible that overall economic impacts will increase outside the major urban centres.

6. Conclusions

In this report, we set out to estimate economic impacts of international students at public post-secondary institutes on the province. We have employed both primary and secondary research techniques to gather information and data on

enrolment, tuition fees, living expenses, etc. We have conducted surveys of officials in post-secondary institutions co-ordinating international education activities and international students to seek information and insights of the benefits of international education. We have also conducted focus groups with international students at universities and colleges.

We have found that international students studying in British Columbia bring substantial economic impacts to the provincial economy. Each year, these students spend close to \$511 million for direct purchases of goods and services. This translates into an overall contribution of \$485 million in provincial GDP, 9,100 jobs, and \$67 million in government revenue.

References

Adams Peter and Tait Cathy (1999) A Review of the Economic Impact of International Education in British Columbia's Public Post-Secondary Sector, Ministry of Advanced Education, July.

Kershaw Adrian Consulting (2005) The Role of International Education: Expanding Student Opportunity and Economic Development in British Columbia, BC Progress Board, December.

Seldon James R. (2005) The Economic Impact of Thompson River University's International: Students on the Kamloops Economy: 2005-06, Thompson River University, October.

Appendix I Questionnaire for Officials

Questionnaire for Officials

I. When did you start recruiting international students?

II. In general, what are your objectives for recruiting international students? Are your reasons primarily financial? Are there other reasons being considered? What are the other reasons?

III. Which programs are the international students attending?

- a. Graduate
- b. Undergraduate
- c. Diploma
- d. Certificate
- e. ESL
- f. Other (please specify)

IV. Do international students attending your institution study within B.C. or are they offshore students (i.e., via long distance education)? In other words, what is the percentage of international students that live in B.C.?

V. On average, how much are international students paying in dollars for tuition fees for each type of program?

- a. Graduate
- b. Undergraduate
- c. Diploma
- d. Certificate
- e. ESL
- f. Other (please specify)

VI. Are they getting any subsidies or scholarships from your institution?

VII. How do you set your prices each year? Are they linked to the consumer price index or to any other factors?

VIII. In what ways do you think international students contribute to B.C.'s economy? To your local community?

IX. In your opinion, what will the impact be if you were to stop or reduce recruiting international students?

X. Is there any significant decrease in overall international student enrollment in the recent past?

XI. What are the special steps taken to ensure that the number of international students on your campus does not decline? In other words what efforts are being made to improve the environment and support services to make international students feel more welcome on campus?

XII. How do domestic students benefit from international students in terms of interaction at school?

XIII. How do international students contribute to the research in your institution? Is there anything else you would like to add about the academic contribution of international students?

XIV. What are the most popular fields of study for international students in your institution?

Thank you for your cooperation!

Appendix II Questionnaire for International Students

Questionnaire for International Students

I. In which program are you registered?

- a. Graduate
- b. Undergraduate
- c. Diploma
- d. Certificate
- e. ESL
- f. Other (please specify)

II. Which year of your program are you in?

III. How many years are there in your program?

IV. Do you intend to take another program in B.C. after completion of your current program?

V. Do you have a spouse or conjugal partner?

A spouse or conjugal partner is defined as a person either to whom you are legally married, or with whom you have cohabitated with in a marital or conjugal relationship for a period of 12 consecutive months, as of December 31, 2005.

VI. Do you have any dependent children? If yes, how many are there?

Dependent children must be under 18 years of age and live at your home.

VII. Enter average MONTHLY COST for your household for the 12-month period from January 2005 to December 2005 for the items below.

Your household is defined as:

- *you,*
- *your spouse or conjugal partner, and*
- *any dependent children you have.*

Your roommates, parents, etc. are not considered part of your household for the purposes of this form.

a. Rent

Enter the amount of your average monthly rent payment.

b. Food

Enter the amount of your estimated average monthly food cost.

c. Utilities

Enter the amount of your average monthly cost for utilities, including gas, electricity, and water that is **not** otherwise included in any rent or mortgage payment.

d. Transportation

Enter the amount of your estimated average monthly transportation cost to and from university/college: bus passes, car insurance, gasoline, and bicycle maintenance. Do **not** include cost of returning to your home country.

e. Medical/dental

Enter the amount of medical, prescription and dental expense you incurred between January 1 and December 31 of each year.

f. Clothing and haircuts

Enter the amount of your estimated monthly cost for haircuts, clothing, household goods, etc.

g. Child care

h. Do you travel within the province of British Columbia or outside the province? How much do you spend for your travel?

i. How much money are you spending for your entertainment and recreation?

j. Additional monthly expenses

Enter the amount of any monthly expenses you have **that do not fit into categories a to i**, and describe them below.

VIII. Enter **ONE-TIME EXPENSES** for the 12-month period from January 2005 to December 2005 for the following items.

a. Tuition

Enter your annual tuition cost

b. Books/supplies

Enter your estimated annual cost for books and related school supplies.

c. Additional one-time expenses

Enter any additional one-time cost per year you have **that does not fit into categories a to b**, and describe them below.

IX. **Do you receive a scholarship, teaching or research assistantship? If not, do you have any other income that originates from within the province?**

X. Are you planning to apply for immigration and stay in Canada after graduation?

Thank you for your cooperation!

Appendix III International Students Enrolment in Public Post-Secondary Institutes

International Students' Enrolment in BC's Post-Secondary Institute

2004-2005

INSTITUTIONS	Total Full Time Enrolment	International Student Enrolment	International student as % of total Enrolment
UNIVERSITIES			
Royal Roads University	-	183	-
Simon Fraser University	22,705	2,868	12.6%
Thompson Rivers University	15,025	2,295	15.3%
University of British Columbia	42,330	8,242	19.5%
University of Northern British Columbia	3,664	182	5.0%
University of Victoria	18,245	3,504	19.2%
Sub-Total	101,969	17,274	16.9%
UNIVERSITY COLLEGES			
Kwantlen University College	16,803	727	4.3%
Malaspina University-College	20,482	1,257	6.1%
Okanagan University College	10,482	789	7.5%
University College of the Fraser Valley	13,880	485	3.5%
Sub-Total	61,647	3,258	5.3%
COLLEGES			
Camosun College	17,578	1,398	8.0%
Capilano College	8,849	481	5.4%
College of New Caledonia	6,457	88	1.4%
College of the Rockies	9,238	169	1.8%
Douglas College	16,376	617	3.8%
Langara College	17,973	600	3.3%
North Island College	9,409	33	0.4%
Northern Lights College	10,018	160	1.6%
North West College	5,244	4	0.1%
Selkirk College	10,340	205	2.0%
Vancouver Community College	25,078	2,073	8.3%
Sub-Total	136,560	5,828	4.3%
INSTITUTES			
British Columbia Institute of Technology	47,094	1,328	2.8%
Emily Carr Institute	3,813	175	4.6%
Justice Institute	30,889	201	0.7%
Sub-Total	81,796	1,704	2.1%
TOTAL	381,972	28,064	7.3%

Source:

Total Enrolment for colleges, University Colleges and Institutions from the Central Data Warehouse

Total Enrolment for Universities is from TUPC 3.1

International Students Enrolment is taken from BCCIE except enrolment in Langara College, Justice Institute and University of Northern British Columbia (missing from the BCCIE data)

Appendix IV Living Expense Estimates

From

<http://educationplanner.bc.ca/moneymatters.cfm?page=37&CFID=3777390&CFTOKEN=73188836>

British Columbia Council on Admissions and Transfer (Copyright 2004-06)

Average Student Costs
for a Single Student Living Away from Home

Shelter (2 bedroom apartment with utilities)	\$650 /month
Food	\$200/month
Miscellaneous (personal & health care, clothing, household items, communications)	\$225/month
Local Public Transportation	\$70/month
Total Monthly Living Expenses	\$1145/month
Multiplied by 8 months (1 academic year)	\$9160/year
Plus the average cost of tuition - University	\$4214/year
Plus the average cost of books & supplies	\$1,500/year
TOTAL AVERAGE STUDENT COSTS	\$14,874/year

Note: 1 year equals 8 months or 1 academic year (September - April)

From http://www.kwantlen.ca/international_ed/costs.htm

2005/2006 academic year

Sample Budget for a First Year Business or Arts Student:

Budget estimates provided are for the first academic year (2 semesters/8 months) of university studies. Estimates are based on current economic data and will vary according to individual student expenditures.

School Costs:

Application Fee	\$120.00
Registration Access Fee	\$80.00
Tuition Fees (30 Credits @ \$380/credit)	\$11,400.00
Student Association, Bursary, and Canadian Student Federation Fees	\$115.40
Library Fee (1% of total tuition)	\$114.00

Student Benefits and Dental Plan	\$179.00
Books and Supplies	\$1200.00
Subtotal	\$13,208.40

Living Costs:

Homestay Placement Fee	\$200.00
Airport Pick-Up Fee (Cost varies according to location)	\$50.00
Homestay (\$700/month includes meals and laundry)	\$5600.00
Public Transportation	\$960.00
Medical Insurance	\$648.00
Entertainment and Recreation	\$1000.00
Incidentals	\$1000.00
Subtotal	\$9458.00
Total Estimated Cost for a First Year Business or Arts Student	\$22,666.40

From <http://www.studyinbc.com/studyinbc/StudyCosts/index.asp>

In this source, tuitions payment are listed for all Post-Secondary Institutions in BC

Tuition Fees for University of Victoria, 2004/2005

Program Name	Cost (in \$CAD)	Term Length
Business	\$16,282.00	academic year (Sept-Apr) + BCom Int'l program fee
Engineering	\$13,514.00	academic year (Sept-Apr) fees vary with program
Law	\$17,974.00	academic year (Sept-Apr)
Humanities, Science, Social Sciences, Fine Arts, Education, Human and Social Development	\$12,495.00	academic year (Sept-Apr)
Co-op	\$1,786.00	per work term
Graduate Programs	\$3,494.00	academic year (Sept-Apr)
MBA	\$7,225.00	academic year (Sept-Apr)
Health Informatics	\$8,559.00	academic year (Sept-Apr)

Other Fees	Cost (in \$CAD)	Term Length
Application Fee	\$100.00	one time
Homestay Placement Fee	\$225.00	one time
Homestay Costs	\$700.00	month
Student Union Fees	\$127.00	academic year (Sept-Apr)
miscellaneous	\$462	academic year (Sept-Apr)

Academic year is based on a full course load of 15 credit units.

UBC's Estimates of living costs

<http://www.welcome.ubc.ca/finance.cfm?page=costs>

Tuition Fees at UBC

<http://students.ubc.ca/finance/fees.cfm?page=tuition>

Enrolment of UBC'S International Students by Origin

<http://www.pair.ubc.ca/student/enrolment.htm>

Enrolment, Tuition Fee of International Students, Locations of Alumni

<http://www.pair.ubc.ca/studies/factbook2004.pdf>

Living Cost at Simon Fraser University

<http://students.sfu.ca/uwc/UWCnews05.pdf>

<http://students.sfu.ca/uwc/UWCnewsFall05.pdf>