

Understanding the Value Created by Tertiary Foreign Fee-Paying Students in New Zealand

Authorship

This document was written by Jennie Coker.

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1 Introduction

This report is an output of the *Economic Value of Tourism* (EVT) project, which is a three year research programme funded by the Ministry of Science and Innovation. The purpose of the EVT research is to develop a better understanding of how tourism creates value in the New Zealand economy.

The EVT research has two main components:

1. A supply-side analysis to determine how various types of tourism businesses add value to the New Zealand economy.
2. A demand-side analysis to determine how three specific visitor segments - cruise ship passengers, tertiary foreign fee-paying (FFP) students, and campervan hirers - add value to the New Zealand economy.

The export education sector is of particular interest to the New Zealand government, and a key objective of the EVT research is to understand and document how the largest segment of the export education industry – tertiary FFP students - adds value to the New Zealand economy.

The Organisation for Economic Cooperation and Development (OECD) estimates that globally there are almost three million students studying in tertiary education outside of their country of permanent residence. New Zealand is a relatively small player in the market accounting for less than 1.5% of tertiary international students globally but the contribution of export education to the New Zealand economy is nonetheless significant (Collins, 2010). International students represent 8-10% of all enrolments in formal tertiary education annually and export education's contribution to GDP was estimated at \$545 million in 1999, growing to \$2.3 billion by 2007/8, including \$70 million from offshore provision (Infometrics, 2008; Ministry of Education, 2011a).

A key part of the EVT research on export education is to measure levels of spending by tertiary FFP students. Studies of the expenditure patterns of international students in New Zealand have been conducted previously but limitations include:

- Relying on aggregate level averages from secondary data
- Covering only discrete aspects of spend
- Relying on small population sizes for our particular group of interest.

New Zealand's Ministry of Education publishes actual data on expenditure on tuition fees, but relies on estimates of other expenses based on past research (Ministry of Education, 2011b). Ali and Subramaniam (2010) compare average spend on fees, living costs, insurance and visas by international students studying for a Masters degree in the USA, UK, Ireland, Canada, Australia and New Zealand.

They report average spend per student in New Zealand to be approximately \$42,300 based on average exchange rates for the 2007-2008 period¹ but use secondary data with limited consistency between countries. Payne (2009) limited her primary research to the domestic travel characteristics of international students and Sawir et al. (2009) based their findings on a small sample of 70 international students studying in New Zealand institutions.

The 2008 Infometrics study on the value of export education to New Zealand, although comprehensive in its analysis, does not provide spend itemised to the level that is required for the purpose of this project. Their annual totals are also based on extrapolated, part-year values which would ideally be confirmed by surveying students at the year end. In summary, the limitations of the existing body of research on export education mean more extensive primary research on the economic value of tertiary FFP students to New Zealand is justified and valuable.

The EVT export education research has two main objectives, which are consecutive:

1. Understand how tertiary FFP students spend money in New Zealand directly through purchases from New Zealand businesses and through visits from family and friends. This is the demand-side component of the EVT research on export education.
2. Understand and clearly explain how export education adds value to the New Zealand economy through the direct and indirect business activity it generates in the New Zealand economy. This will be achieved once an analysis of the financial structures of New Zealand businesses who transact with tertiary FFP students is complete. This is the supply-side component of the EVT research on export education.

The first objective has been achieved and we now have a good understanding of how tertiary FFP students spend money in New Zealand. The second objective is under way and will be achieved by late 2012. This report explains our research methodology for estimating the expenditure of tertiary FFP students in New Zealand and presents our results.

¹ www.OANDA.com

Scope of the EVT export education research

The 2011 calendar year was selected as the time period of analysis for the research and any FFP student studying at one of the following tertiary education providers in 2011 was the study population:

- Universities
- Polytechnics
- Private Training Establishments (PTEs)
- English Language Schools (ELS)

Spend in New Zealand by tertiary FFP students was divided into the following categories:

1. *Tuition fees* - International students pay foreign fees, which are substantially higher than those paid by domestic students. For example, international fees for an undergraduate course in Physical Education at the University of Otago were \$25,500 in 2011 compared to domestic fees which were between \$5,155 and \$6,384 (Universities New Zealand, 2011).
2. *General living expenses* - For example, accommodation, groceries and leisure activities within the region of study. Our hypothesis was that international students would tend to act like locals, with money spent on similar items to those purchased by domestic students.
3. *Other purchases* - This category includes insurance, visas, big ticket items (generally set-up costs such as furniture, cars and appliances), medical and dental expenses, and tourism in New Zealand outside their usual place of residence.

2 Methodology

Survey medium

Given the strong shift towards online surveying, including the proposed transition of the New Zealand International Visitor Survey from face-to-face to online, our selected approach was to develop and test online surveying as a method of capturing expenditure data from tertiary FFP students.

Tourism surveys are increasingly being conducted online as web access becomes more widespread, and technological advances provide survey developers with more flexibility and survey respondents with a less burdensome experience. The main advantages of online surveying relative to face-to-face surveying are:

1. Survey distribution can be timed so that the respondent has completed their trip and can report on all expenditure associated with that trip
2. The respondent is able to complete the survey in their own time
3. Large samples can be generated relatively inexpensively

Further support for online surveying is provided by studies that compare online surveying versus conventional mail surveys and find little difference between the response rates and substantive results produced by each distribution type. For example, Fleming and Bowden's 2009 study of online versus conventional mail for a travel cost survey produced response rates and socio-demographic compositions of respondents that were not significantly different and both distribution types yielded similar consumer surplus estimates (see also Evans & Mathur 2009; Paolo et al. 2009).

In the sections that follow, we discuss four main aspects of our online surveying methodology:

- Survey design
- Survey distribution
- Data processing and analysis
- Weighting

Survey design

We designed and scripted two online surveys in SurveyGizmo², a web-based online survey platform selected for its flexibility and ease of use. Survey 1 collected information about length of stay in New Zealand and spending on:

- Tuition fees
- Insurance and visas
- General living expenses in the region they were studying in

² Widgix Software LLC, Boulder, CO, USA (see www.surveygizmo.com).

At the end of Survey 1, respondents were invited to opt into a second online survey that they would receive once they finished studying in New Zealand and left the country or, in the case of longer-term FFP students, at the beginning of 2012. Survey 2 collected information for the 2011 calendar year about:

- Purchases of big ticket items
- Domestic tourism activity and expenditure in New Zealand
- Spend on entertainment within their study region
- Scholarship details
- The number overseas friends and relatives that came to visit students
- International outbound travel by tertiary FFP students

The question structures were informed by existing tourism surveys such as the International Visitor Survey, the Convention Delegate Survey and various major event surveys that Covec has developed and implemented.

The initial surveys were piloted on 68 tertiary FFP students in March 2011, and the data were analysed to assess response rates to each question and overall data quality, resulting in a number of refinements to the original surveys.

Survey distribution

An invitation to participate in the research was distributed to 348 tertiary education providers. Consent was granted by 45 education providers, comprising 5 Universities, 6 Polytechnics, 24 PTEs and 10 English Language Schools. For confidentiality reasons, the online survey link (to Survey 1) was distributed by the providers themselves to international students currently on their roll. This approach was essential to securing the support of the education providers but as a result we are unable to report how many students in total were invited to participate in the research. Responses to Survey 1 were received during the months of July through December 2011. Survey 1 respondents who opted into Survey 2 were emailed the survey link either when they had finished studying and left New Zealand or in February 2012 if they were still in the country.

Primary data processing and analysis

Only complete responses from tertiary FFP students were included in the analysis (partial responses and responses from PhD and exchange students were excluded). Sample sizes were not sufficient in some groups for 24 sub-populations to be formed by segmenting by both the six country groups and four provider types concurrently. Instead, two separate analyses were performed by country group and by education provider type using the segmentations shown in Table 1.

Table 1: Country group and education provider type segmentations for analysis.

Country groups	Education provider types
China & Hong-Kong	Universities
India	Polytechnics
Japan	PTEs & other
Saudi Arabia	ELS
South Korea	
Other countries	

Outliers were identified and treated using frequency analysis and knowledge of realistic value ranges based on communication with industry members, online research and previous experience of tourism expenditure analyses. For each of the 10 sub-populations (six country groups and four education provider types) sub-population specific values were imputed onto blank cells and per student averages calculated for each variable.

Weighting

The main intention of the EVT research on tertiary FFP students is to form estimates for per-student spend on a range of items. To produce per student averages for the entire tertiary FFP population, all variables were weighted based on country group except tuition fees which were weighted based on education provider type. Both methods used the Export Education Levy (EEL) data (Ministry of Education, 2011c) as the weights for each sub-sample. The EEL was selected as the optimal data source for weighting purposes in preference to immigration statistics. Immigration data are unreliable for international students due to multiple visas being granted to some students, discrepancies in the number of visas granted versus visas used, and the range of visa types used by students (Education New Zealand, 2004; Wu et al., 2007; Infometrics, 2008).

Sample

A total of 1,344 complete responses were received for Survey 1. This included 170 responses from PhD and exchange students who are not officially recognised as tertiary FFP students and were therefore excluded from the sample. Our final sample from Survey 1 was therefore 1,174 tertiary FFP student responses.

1,088 of the 1,174 students that completed Survey 1 opted in to receive Survey 2 (93%), and from this group a total of 340 responses were received (a response rate of 31%). Breakdowns of these samples by country group and education provider type are provided in Table 2.

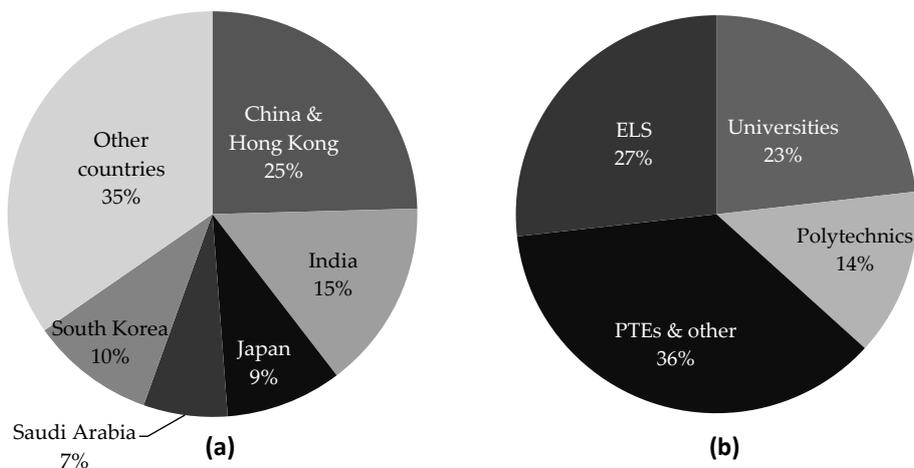
Table 2: Comparison of population and sample shares by country group and education provider type

	Population	Share	Sample 1	Share	Sample 2	Share
China & Hong Kong	20,049	25%	284	24%	64	19%
India	12,288	15%	145	12%	36	11%
South Korea	8,033	10%	53	5%	14	4%
Japan	7,495	9%	40	3%	9	3%
Saudi Arabia	5,416	7%	59	5%	13	4%
Other countries	28,323	35%	593	51%	204	60%
Total	81,604	100%	1,174	100%	340	100%
Universities	18,918	23%	601	51%	202	59%
Polytechnics	11,073	14%	251	21%	73	21%
PTEs & other	29,761	36%	102	9%	27	8%
ELS	21,852	27%	220	19%	38	11%

According to the EEL, there were 81,604 tertiary FFP studying onshore in New Zealand in 2011 in Universities, Polytechnics, PTEs, ELS and other tertiary providers (Ministry of Education, 2011c). Of these, *China & Hong Kong* accounted for the largest share by country (25%), followed by *India* (15%) and *South Korea* (10%) (see Figure 1). In terms of education provider types, PTEs and other tertiary providers (*PTEs & other*) together accounted for the largest share (36%) while *Polytechnics* accounted for the smallest (14%).

As shown in Table 2, the two sub-populations that were most over-sampled by our survey were *Universities* and *Other countries*, while *South Korea*, *Japan* and *PTEs & other* were under-sampled. Despite this, the sub-samples of 53, 40 and 102 from Survey 1 for *Japan*, *South Korea* and *PTEs & other* respectively are large relative to previous studies.

Figure 1: Share of tertiary FFP student population by (a) country group and (b) provider type

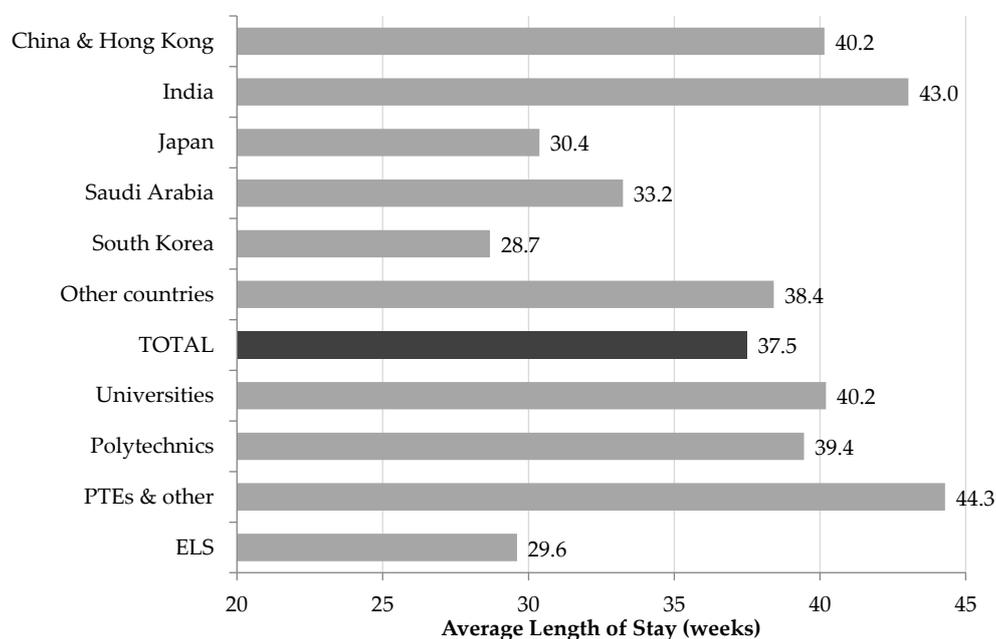


3 Key findings

Length of stay of tertiary FFP students in New Zealand in 2011

Average length of stay in New Zealand for all tertiary FFP students surveyed was 37.5 weeks in 2011 with sub-samples showing a range of 28.7 weeks (*South Korea*) to 44.3 weeks (*PTEs & other*) (see Figure 2). These averages are a more accurate depiction of the length of stay of tertiary FFP students than immigration or arrival card data due to the use of multiple visa types across the population, repeated entry into the country by some students, and the lack of definition in this data set around education provider types or specific student types (e.g. domestic fee-paying international PhD students versus tertiary FFP students).

Figure 2: Average length of stay of tertiary FFP students in New Zealand in 2011



Average expenditure per tertiary FFP student in 2011

Average expenditure per tertiary FFP student in New Zealand in 2011 was \$37,493 including GST, which equates to \$1,000 per week. The most recent Household Economic Survey reports that in 2010 average household expenditure in New Zealand was \$1,010 including GST, which equates to \$378 per person when divided by the average number of 2.67 occupants per household (Statistics New Zealand, 2010). Tertiary FFP students therefore spend an average of \$622 (165%) more than a typical New Zealand resident each week.

Based on our survey results, the average annual expenditure per tertiary FFP student of \$37,493 can be broken down as follows:

- \$15,872 (43%) on tuition fees
- \$15,769 (41%) on living expenses within their study region

- \$5,852 (15%) on other items including insurance, visas, tourism outside of their study region, big ticket items³ and medical and dental expenses.

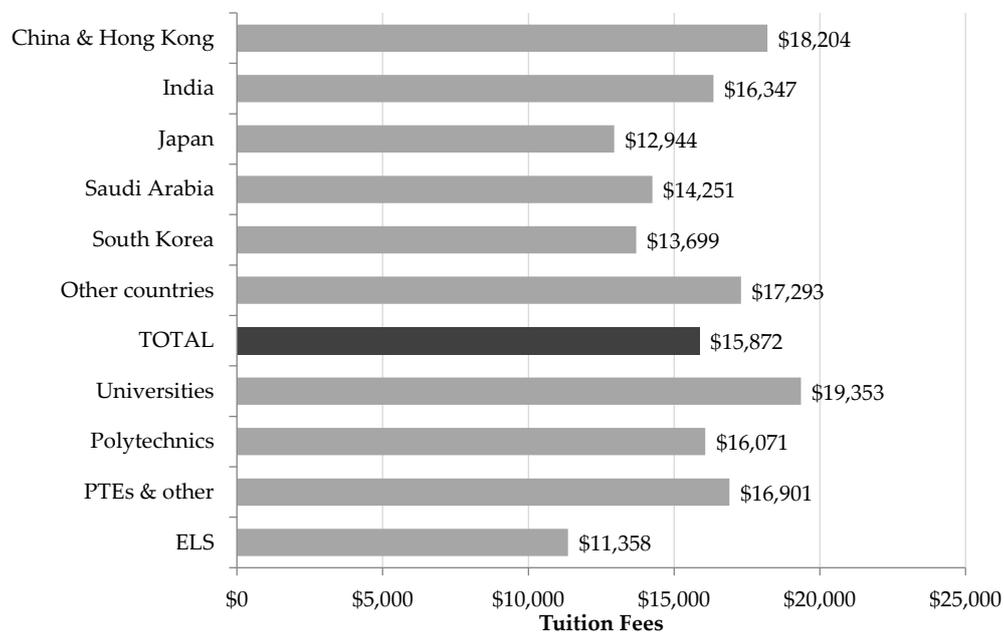
On average, \$35,822 of this expenditure was paid for using foreign exchange, while the remaining \$1,671 came from income earned through paid work in New Zealand (\$1,486) and scholarships from New Zealand-based businesses or organisations (\$185). Our findings of average annual earnings per tertiary student are similar to the Infometrics (2008) estimate of \$1,237 including GST (weighted by education provider type).

Expenditure on tuition fees in 2011

The EEL records average fees per equivalent full time tertiary FFP student of \$16,404 including GST, which aligns well with our estimate of \$15,872 including GST (Ministry of Education, 2011c). The EEL figure is stated in ‘per equivalent full time student’ (EFTS) terms while our estimate is stated in ‘per student’ terms. A proportion of the tertiary FFP student population study part time and/or for less than one year; hence the count of EFTS will be lower than the total number of actual students. Our estimate of average fees per student will therefore be lower than the EEL’s.

Based on our survey results, the highest tuition fees (including GST) were paid by the sub-populations of *Universities* (\$19,353) and *China & Hong Kong* (\$18,204). The lowest tuition fees were paid by the sub-populations of *ELS* (\$11,358) and *Japan* (\$12,944) (see Figure 3).

Figure 3: Average tuition fees per tertiary FFP student in 2011 (NZ\$ incl. GST)



³ Net spend on large retail items e.g. vehicles (gross spend minus income from sale of items while in New Zealand)

Expenditure on living expenses within their study region in 2011

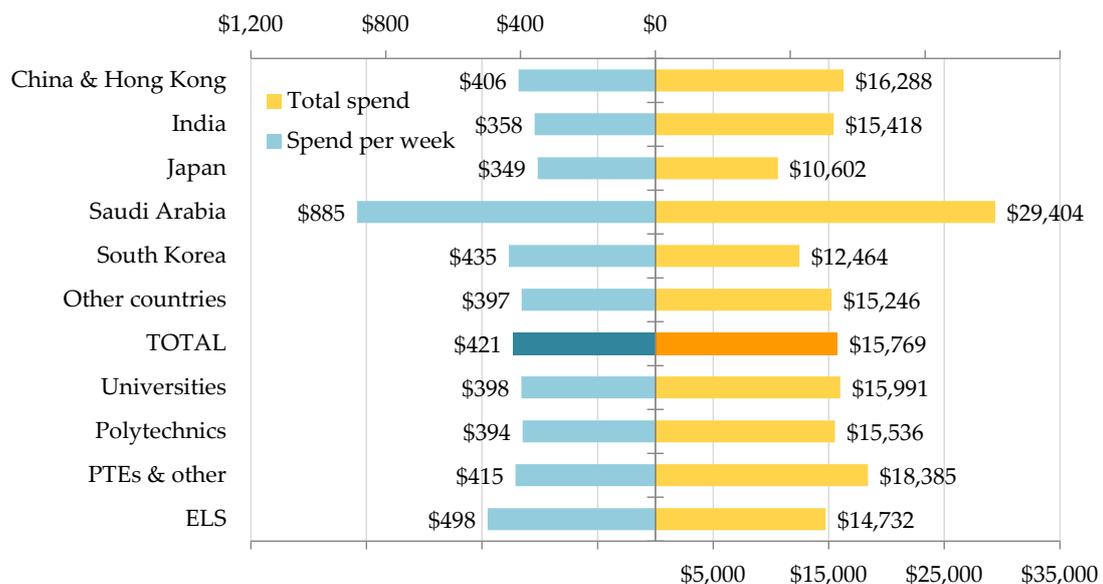
Each tertiary FFP student spent an average of \$15,769 including GST on living expenses in their region in 2011, which equates to \$421 per week. This excludes purchases of large assets, big ticket items and one-off expenses in their study region such as cars, computers, household appliances, medical expenses, text books, insurance, and travel visas, all of which are included in the following section. Around two thirds of this expenditure (\$270 per week) was on basic living expenses (accommodation, utilities and groceries), 15% (\$65 per week) was on entertainment and food/beverage purchased from cafes, restaurants and bars, 10% (\$42 per week) was on transport and fuel and the remaining 11% (\$43 per week) was on recreation, personal services, retail, printing and stationery (see Table 3).

Table 3: Average expenditure per tertiary FFP student on living expenses in 2011 (NZ\$ incl. GST)

	Spend/week	Total spend	Share
Expenditure on living expenses	\$421	\$15,769	100%
Accommodation, utilities & groceries	\$270	\$10,135	64%
Entertainment, food & beverage	\$65	\$2,436	15%
Transport & fuel	\$42	\$1,592	10%
Retail	\$15	\$573	4%
Gym/sport, personal care & laundry	\$20	\$741	5%
Printing & stationery	\$8	\$293	2%

Expenditure on living expenses varied more substantially by country group than by education provider type (see Figure 4). *Saudi Arabia* is notably higher than any other sub-population both at the weekly and total level - \$885 per week and \$29,404 in total compared to the sample average of \$421 and \$15,769.

Figure 4: Average expenditure per tertiary FFP student on living expenses in 2011 (NZ\$ incl. GST)



Expenditure on other items in 2011

In addition to tuition fees and living expenses, tertiary FFP students spent a total of \$5,852 including GST on large assets, big ticket items⁴ and one-off expenses in their study region, and domestic tourism outside their study region. Around half of this expenditure (\$3,004) was on big ticket items including books and course materials, vehicles, electronic equipment, appliances, furniture, sports equipment and gifts. A further 30% (\$1,736) was on domestic tourism in New Zealand and the remaining 19% (\$1,111) was spent on other expenses such as medical services, insurance and travel visas (see Table 4).

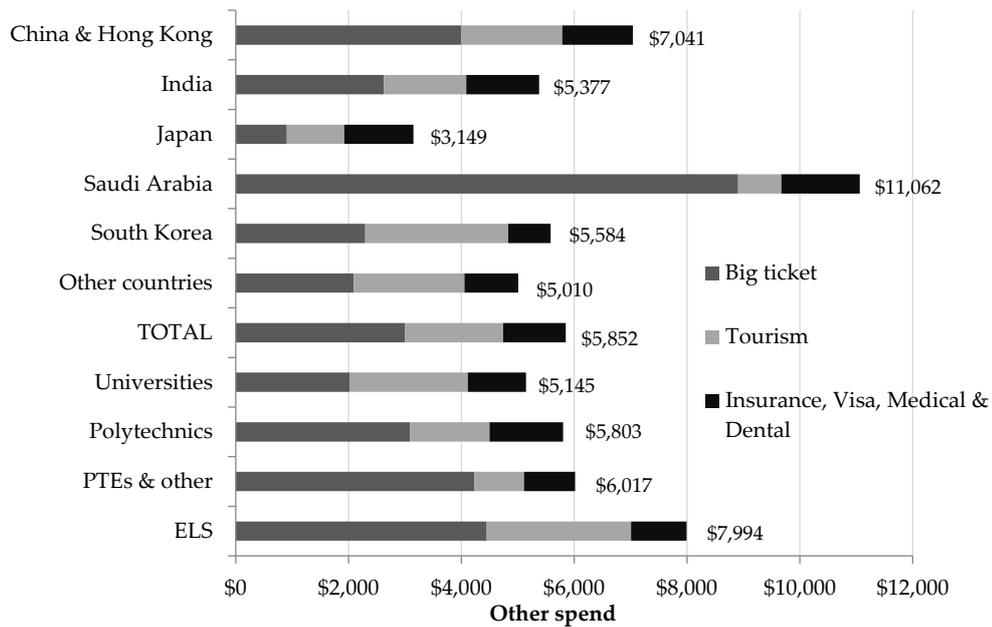
Table 4: Expenditure per tertiary FFP student on other expenses in 2011 (NZ\$ incl. GST)

	Big Ticket items	Tourism	Insurance, Visa, Medical & Dental	Total
China & Hong Kong	\$3,998	\$1,791	\$1,251	\$7,041
India	\$2,626	\$1,460	\$1,291	\$5,377
Japan	\$906	\$1,022	\$1,222	\$3,149
Saudi Arabia	\$8,905	\$769	\$1,388	\$11,062
South Korea	\$2,297	\$2,534	\$753	\$5,584
Other countries	\$2,092	\$1,965	\$953	\$5,010
TOTAL	\$3,004	\$1,736	\$1,111	\$5,852
University	\$2,026	\$2,091	\$1,028	\$5,145
Polytechnic	\$3,088	\$1,412	\$1,304	\$5,803
PTEs & other	\$4,232	\$881	\$905	\$6,017
ELS	\$4,450	\$2,558	\$986	\$7,994

The variation in expenditure by country group and education provider type is shown in Figure 5 (next page). The sub-populations of *South Korea* and *ELS* tend to spend more on tourism while *Saudi Arabia* displays high spend on big ticket items but very little spend on trips around New Zealand.

⁴ Net purchases, measured as gross purchases of assets less gross sales of assets

Figure 5: Expenditure on other items per tertiary FFP student in New Zealand in 2011 (NZ\$ incl. GST)



Tourism behaviour in 2011

Tertiary FFP students took an average of 2.6 domestic trips within New Zealand in 2011, staying away from their study region for an average of 4.1 nights per trip. Each tertiary FFP student therefore generated the equivalent of 10.5 domestic visitor nights in New Zealand in 2011. Average spend per night was \$165 including GST, and average spend per trip was \$680.

Using 2011 data from the Domestic Travel Survey (Ministry of Economic Development, 2011a) and the national population estimate (Statistics New Zealand, 2011) it is estimated that each New Zealand resident aged 15 years or older made 5 domestic overnight trips in 2011, with an average duration of 3 nights per trip. Average spend per night was \$115 including GST for New Zealand residents and average spend per trip was \$344 including GST. The sub-group of “holiday” travellers spent only \$1 more per night. Tertiary FFP students therefore take longer trips than typical domestic tourists in New Zealand and spend more both per trip and per night during overnight trips.

Using data from the International Visitor Survey (Ministry of Economic Development, 2011b) it is estimated that international visitors spent an average of \$128 per night in New Zealand in 2011, and the sub-group of “holiday” travellers spent an average of \$179 per night including GST. Tertiary FFP students are therefore most similar to international leisure visitors in terms of their expenditure levels when they travel within New Zealand. Domestic tourism characteristics by country group and education provider type are outlined in Table 5.

Table 5: Tourism characteristics of tertiary FFP students in New Zealand (NZ\$ incl. GST).

	Trips taken	Nights / trip	Total nights	Places/ trip	Spend / night	Spend / trip	Total spend
China & Hong Kong	2.1	3.8	7.9	2.1	\$226	\$856	\$1,791
India	2.6	4.4	11.3	1.3	\$130	\$565	\$1,460
South Korea	3.1	3.1	9.7	2.1	\$263	\$825	\$2,534
Japan	2.0	4.7	9.3	1.2	\$109	\$511	\$1,022
Saudi Arabia	1.2	2.7	3.3	1.4	\$232	\$625	\$769
Other countries	3.1	4.7	14.5	1.8	\$135	\$630	\$1,965
Total	2.6	4.1	10.5	1.7	\$165	\$680	\$1,736
Universities	3.0	4.6	13.9	1.8	\$150	\$690	\$2,091
Polytechnics	2.4	4.4	10.8	1.5	\$131	\$579	\$1,412
PTEs & other	1.7	2.0	3.4	1.4	\$260	\$529	\$881
ELS	2.8	4.3	11.9	2.4	\$216	\$926	\$2,558

Impact of tertiary FFP students on inbound travel

According to our survey results, an average of 0.6 friends and relatives travelled to New Zealand to visit each tertiary FFP student in 2011 which, weighted to population, equates to 48,900 extra international visitor arrivals to New Zealand in 2011 in addition to the 81,604 students themselves. Based on the average spend per VFR visitor to New Zealand of \$1,375 estimated in the International Visitor Survey (Ministry of Economic Development 2011b), we estimate that these visitors spent around \$68 million in New Zealand in 2011 excluding international airfares.

Impact of tertiary FFP students on Air New Zealand

Around 20% of tertiary FFP students used Air New Zealand flights to travel to and from New Zealand for international trips (predominantly back to their home country). Our survey reports an average spend per student of \$341 on Air New Zealand flights which, with a population of 81,604, would equate to approximately \$28 million of additional spend accruing to Air New Zealand not including any spend on Air New Zealand fares by visiting friends and relatives.

4 Next steps

The next steps in the EVT export education research are to complete the supply side component of the research. Over the next few months we will be conducting economic footprint analyses of business segments that tertiary FFP students spend money in to understand the economic value created directly and indirectly by these transactions. These analyses will rely on the following data:

- Financial data collected from directly affected business e.g. education providers, student accommodation, rental car companies
- External data sources e.g. Statistics New Zealand's Annual Enterprise Survey

The demand-side analysis (expenditure patterns of tertiary FFP students) will then be matched up to the supply-side analysis (economic footprint analyses of businesses that transact with these students) in order to understand the full economic impact of tertiary FFP students.

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