

Trade and Economic Analysis Division of the Ministry of Foreign Affairs and Trade, New Zealand (Ed.)

**Working Paper**

## New Zealand exports of education services

NZ Trade Consortium Working Paper, No. 8

**Provided in Cooperation with:**

New Zealand Institute of Economic Research (NZIER), Wellington

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# NEW ZEALAND EXPORTS OF EDUCATION SERVICES

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Prepared by the Trade and Economic Analysis Division of the  
Ministry of Foreign Affairs and Trade

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NZ Trade Consortium Working Paper No. 8

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## CONTENTS

	Page
Sources, Assumptions and Limitations	5
Summary	7
1 Background	9
2 International Student Numbers and Trends	11
3 Methodology	15
4 Employment	19
5 Results	21
7 Annex and Glossary of Terms	25

## Sources, Assumptions and Limitations

Hard data is difficult to obtain. The number of international students in the school and tertiary sectors was obtained from the Ministry of Education. Data for the numbers in the private training establishments (PTEs) was obtained from Statistics New Zealand. Estimates of course costs are from the Ministry of Education and Education New Zealand. Confusion between (a) a head count of students at any one time and a full time equivalent (FTE) basis, and (b) between the July 1 and the full year data, makes analysis difficult. We use an FTE basis for the Forex calculations, with the state tertiary sector based on the full year data and the remainder on 1 July data.

For the living expenses component we used the allowances paid to Ministry of Foreign Affairs and Trade Official Development Assistance (ODA) students as a benchmark. These allowances are not related to expenditure or consumer patterns relevant to the home country of these students; rather it is based upon a level of income sufficient for these students to meet a reasonable standard of living while studying in New Zealand as our guests. There is anecdotal evidence of students spending more than this, but anecdotal evidence is no substitute for hard data. Furthermore, our analysis is consistent with official Australian research and an unofficial survey of New Zealand students expenditures for tertiary students.

The term “multiplier” is often (mis)used in research of this nature. This study has used the term “ratio”, or the ratio between the cost of course fees and the living expenses of the student. It does not include the monies associated with family and friends visiting in a support role, as we believe this to be tourism expenditure. Our ratio is above that found by the Australian Bureau of Statistics in Australia and is similar to the median expenditure from a Students’ Association survey in New Zealand. We consider that other, higher, claims have no substantial basis.

Employment effects as calculated are only those in the education sector; we do not include the employment created from living cost expenditure. As a general rule this would about double the employment effects. We have not used multipliers as done in the conventional Input/Output computer model to derive subsequent effects.

In the final analysis while we are reliant upon data from several sources, we are confident that our study places a firm flag in the ground on the analysis of the contribution from the export of educational services. We acknowledge that there are some educational operations offshore which should be included, but consider these relatively small. Likewise, there is a degree of off-shore consultancy work being undertaken by New Zealanders, but much of this may be being funded from New Zealand development assistance.

Our hope is that this analysis will give rise to further research in this important area, building upon these initial results.

## SUMMARY

The education export industry is an important and growing sector of the economy. This study examines the foreign exchange contribution of international students (the largest component of this sector) to the New Zealand economy and provides a base from which work can be extended to assess the nature of this key service industry.

2 At 1 July 1999, there were 13,674 international students enrolled in formal courses of study at state institutions in New Zealand. This represented 1.4 percent of the student population. Eighty three percent (11,388) of these international students were international full-fee paying, of which 83 percent (9,378) came from the Asian region. International full-fee paying school and tertiary student numbers increased by 6.7 percent and 9.2 percent respectively between 1 July 1998 and 1 July 1999. This follows a fall in full-fee paying international student numbers for the previous period, 1 July 1997 to 1 July 1998, when school numbers fell by 13.5 percent and the number of tertiary students declined by 6.8 percent. For the full December 1999 year data is available for the tertiary sector, and this revision increased the state institution numbers to 13,951. These December numbers are used to assess the 1999 forex contribution.

3 The study finds that approximately \$415 million in foreign exchange earnings was contributed by full-fee paying international students to the New Zealand economy for the 1999 year. This expenditure includes tuition fees (\$181 million), accommodation and living costs (\$209 million), international airfares (\$20 million) and revenue from NZIS fees (\$4 million). This makes the average ratio of the cost of living in New Zealand to the average tuition fee approximately 1.15, but this figure is inflated by exchange and post-grad and diplomatic/military (“other”) students who are considered to contribute living expenses but not fees. In Australia, total international student foreign exchange earnings for 1998 were estimated to be \$A3,018 million; 3.39 percent of merchandise exports from Australia, 56 percent above comparable 1.90 percent from New Zealand in the July 1999 year.

4 Based on the July 1 data, foreign exchange earnings from full-fee paying international school and tertiary students have risen by 98 percent over the five year period 1994 to 1999, from \$129 million in 1994 to \$255 million in 1999. Estimated earnings actually peaked at \$256 million in 1997 but were subsequently affected by the drop in Asian student numbers due to the Asian economic downturn.

6 Education exports are New Zealand’s 4th largest service sector export earner and 15th largest foreign exchange earner overall, (based on Statistics New Zealand’s classification of service industries and the Ministry of Foreign Affairs and Trade’s export data). Education exports contribute a similar amount of foreign exchange to the economy as communication services, and more than exports from the textiles and apparel industry.

7 The overall education industry employed approximately 102,700 full-time equivalent persons for the full year 1999. On a pro-rata basis the export of New Zealand education services contributed around 2,054 of these full time positions in the education sector alone.

# 1 Background

## International Students in New Zealand

In the late 1980s, following Australia's earlier move, there was a change from 'aid' to 'trade' in the philosophy of the provision of education services to international students studying in New Zealand. The objectives were to foster the development of international linkages and mutual goodwill and understanding through reciprocal exchange schemes; to promote increased foreign exchange earnings from educational services; and to enhance the quality of New Zealand's educational services.

Legislative changes to support these objectives were passed in the December 1989 Education Act and the 1990 Education Amendment Act. In order to avoid these fee-paying students being cross-subsidised, Section 20, sub-section 4 of the 1989 Act, states that international students at tertiary institutions have to pay a fee which is not less than the sum of:

- (i)...the "cost to the [institution's] council ... of providing tuition in the subject, course, or programme for one student; and
- (ii) An amount that is ... [an] appropriate reflection of the use made by one student receiving tuition in the subject, course, or programme of the council's capital facilities.

Sub-section 10 of the same section of the Act also states that:

"no foreign student who is not an exempt student shall be enrolled at a tertiary institution if the student's enrolment has the effect that a domestic or exempt student who is entitled to enrol there and has applied for enrolment is not able to be enrolled."

International students are therefore able to be enrolled where they do not displace local students and where they are charged the full cost of providing the educational services. With this shift in policy the export of education services has become a growth industry for the New Zealand economy. The objective of this report is to provide an analysis of the contribution the sector is making to both foreign exchange earnings and employment in the New Zealand economy. Emphasis is on the contribution of both foreign exchange and employment for the 1999 year.

The General Agreement on Trade and Services (GATS) defines four modes for delivery of services:

- Mode 1 - cross-border supply
- Mode 2 - consumption abroad
- Mode 3 - commercial presence
- Mode 4 - presence of natural persons

Because of data limitations only mode 2, consumption abroad, has been assessed in this study. This mode covers international students consuming education services in New Zealand. It does not cover other ways of exporting education services, such as enrolling international students in correspondence courses (mode 1) or twinning or partnership arrangements between New Zealand and off-shore facilities (mode 3). While mode 2 delivery represents the largest share of the current earnings, it would be useful to begin to establish data gathering arrangements to chart the development of earnings through these other modes of supply.



## 2 International Student Numbers and Trends

There are three broad categories of international students. These are (1) school, both primary but mainly secondary; (2) tertiary, international students '*enrolled in formal programmes of study at tertiary institutions*'; and (3) the post-secondary Private Training Establishments (PTEs), which include the short term English language students. Data for the numbers in schools and tertiary institutions was obtained from the Ministry of Education. Data on the PTEs was obtained from both the Ministry of Education and Statistics New Zealand, although there are several definitional issues associated with this sector accentuating data problems.

As at 1 July 1999 there were 5044 full-fee paying international school students in New Zealand. This was a 7.8 percent decline over the two-year period from 1997. These students represented 0.8 percent of the New Zealand school student population, with some 84 percent of being international fee paying students, 11 percent being exchange students and the final 5 percent being Official Development Assistance (ODA) scholarship students managed by the Ministry of Foreign Affairs and Trade (MFAT). See Table A1 in the Annex for details.

Similarly, at 1 July 1999 there were 6344 full-fee paying international tertiary students in New Zealand. This new high resulted from an increase of 9.2 percent between 1998 and 1999. International students accounted for 3.5 percent of the 1999 tertiary student population, and, of these, 81 percent were full-fee paying students, 4 percent were exchange students, 12 percent were ODA scholarship students and the final 3 percent were classified as research or diplomatic/military staff students<sup>1</sup>. However, by December 1999 the number of full-fee paying international students on a full-time equivalent (FTE) basis was assessed at 6,375, and this figure is used for analysis of the foreign exchange contribution from the sector. Note that it is usual for this increase to occur in the tertiary (although not school) sector, but the data has historically been reported on the 1 July assessment.

The overall full-fee paying school and tertiary institution student numbers increased by 8 percent between 1 July 1998 and 1 July 1999. Over the longer five year period from 1994 to 1999 Asian student numbers in New Zealand schools and tertiary institutions increased by 70 percent and 116 percent respectively, with most of this increase coming in the first part of the period. Students from several other sources also increased by similar or greater magnitudes, albeit sometimes from a low base. Table 1 provides the data, with more detailed information in the Annex Tables A2 and A3.

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<sup>1</sup> These students are classified as "other" in subsequent analysis. They are assumed not to pay tuition fees but contribute living expenses.

<b>From</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
Asia	4,897	6,814	8,582	10,281	8,976	9,378
Pacific	497	523	603	683	741	761
Europe	196	238	311	351	359	526
North America	141	154	182	192	238	313
Central/Sth America	22	32	43	50	96	211
Africa	34	32	39	29	52	71
Middle East	21	22	27	24	17	16
not stated	280	150	41	86	57	112
<b>Total</b>	<b>6,088</b>	<b>7,965</b>	<b>9,828</b>	<b>11,696</b>	<b>10,536</b>	<b>11,388</b>

Source: Ministry of Education

Table 1 highlights:

\* the increase in international student numbers over the six year period and the overwhelming importance of Asia as our main source;

\* how the Asian economic crisis may have impacted on the average growth trend to 1997 of 35.7 percent per annum. A simple linear extrapolation on the growth of Asian students between 1994-1997 forecasts numbers of around 14,500 for the 1999 year, much lower than the actual 9,378 students at 1 July 1999; and

\* of the students from other sources, the Pacific Islands made up 6 percent, Europe 4 percent, North America 3 percent, Central and South America 2 percent, Africa 0.62 percent and Middle East 0.14 percent. More detailed numbers are shown in Tables A1 to A4 in the Annex.

The PTEs form a substantial part of New Zealand's post-secondary education sector. The numbers enrolled (refer to the Annex Table A1) are high but the nature of that enrolment is often short term and can be as short as one week. Most of these students are in fully private institutions. At 1 July 1998 there were 33,772 people enrolled in formal state sponsored or partially state funded programmes of study at registered PTEs. The separate category of international full-fee paying students represented 8.94 percent (3,020) of all students attending PTEs at 1 July 1998. This is a 13.5 percent decline for the period 1997 to 1998<sup>2</sup>.

As in the school and tertiary sectors, the majority of international full-fee paying students at PTEs were from Asia (77 percent), with Japan and South Korea contributing 63 percent of the total overall. By subject, around three-quarters (74 percent) of all these fee paying students were English Language students, although a wide range of courses are provided by PTEs across the spectrum of professions and skilled trades. Subjects include the main one, English language, and Training Opportunities Programmes (TOPs), religion, business,

<sup>2</sup> For this trend analysis we have used Ministry of Education data. In working out the foreign exchange earnings we have used a combination of this and the Statistics New Zealand Census of English Language Training Providers for the year ended 30 June 1999. This means the totals will not necessarily agree in different parts of the study.

information technology, teaching, agriculture/horticulture, health, dance/drama, hairdressing, art/design, film, other language, counselling, communication and recreation courses.

### Summary

- Of the 946,519 students studying at New Zealand schools and tertiary institutions at 1 July 1999, 1.4 percent (13,674) were international students.
- Eighty three percent (11,388) of these international students were full-fee paying, of which 83 percent (9,378) were from the Asian region.
- International full-fee paying school and tertiary student numbers increased by 6.7 percent and 9.2 percent respectively between 1 July 1998 and 1 July 1999.
- This follows a fall in numbers for the previous period, 1 July 1997 to 1 July 1998, when school and tertiary numbers fell 13.5 and 6.8 percent respectively.

This fall between 1997 and 1998 can, in part, be explained by the economic crisis which affected the Asian region, as from 1994 through to 1997 Asian student numbers had been on the rise. Similarly, Australian international student enrolments in 1998 fell by 2.7 percent, from 151,150 to 147,130, compared with the year before. This turnaround on the growth experienced in 1997 (+5.4 percent) was the first decline in international student numbers since fee paying students began studying in Australia in the mid 1980s. In the five years from 1993, international student enrolments increased by almost 62,500 students or 74 percent<sup>3</sup>.

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<sup>3</sup> Australian Department of Education, Training and Youth Affairs, page 9, 1998

### 3 Methodology

The absence of hard data makes assessing the foreign exchange contribution international students make to the New Zealand economy difficult. There are two parts; firstly assessing the course fees, and secondly, the more controversial question of assessing the living expenditure data. Average tuition fees for schools, and tertiary institutions and PTEs have been taken from analysis Education New Zealand has conducted in this area<sup>4</sup>. These fees are then multiplied by the relevant number of full-fee paying international students to get the best estimate of the tuition fee component of foreign exchange earnings. A Full-Time Equivalent (FTE) status figure is used in this analysis, so that annual living and fee costs can be multiplied by an accurate estimate of student numbers; therefore, numbers may not reconcile with the head-count data used elsewhere in the study. ODA scholarship, exchange<sup>5</sup> and “other” students have been removed from the analysis as their tuition fees do not contribute foreign exchange<sup>6</sup>. Finally, added to this figure is the Statistics New Zealand estimate of English Language students’ tuition fee payments (available only for the 1999 July year).

In this study we have used the Ministry of Foreign Affairs and Trade ODA international student scholarship data as a proxy for the average living cost of an international student in a year. This equates to \$14,000/annum for postgraduate students, \$9333/annum for undergraduate students and \$10,000/annum for school students. The rationale for the difference lies in the length of stay and accommodation costs. The assumption is that postgraduate students stay for a longer period than undergraduate students and school student accommodation costs are higher because they are in a home stay environment. In addition to this, an up-front ‘establishment’ payment (\$1500 for tertiary and PTE students and \$1000 for school students) and medical care costs (\$325/student) are incorporated.

The living cost assessments are then weighted to reflect the composition of the international tertiary student population. That is, 16 percent of international tertiary students are postgraduate and 84 percent are undergraduate. Thus, the proportions are multiplied by the total student numbers and then by the appropriate ODA living allowance outlined above. The study assumes private training students have the same living cost as a international full-fee paying tertiary student. Finally, the estimate from Statistics New Zealand of English Language students’ living costs is added to the total.

This study has not assessed the extent to which partners and/or dependents of international students add to the foreign exchange contribution of the education sector.

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<sup>4</sup> The average tuition fee is calculated from the course fees published in the NZEIL Handbook of courses and costs. This data has been supplied by domestic education providers offering courses/places for international students.

<sup>5</sup> Exchange students are exempt from paying tuition fees under the Education Act as long as the exchange scheme is Government recognised.

<sup>6</sup> Australian students studying in New Zealand are classed as domestic students and are not subject to international student regulations. It is not possible therefore to separately analyse their numbers or their forex contribution to the New Zealand economy.

To the tuition fee and living allowance contribution the study adds foreign exchange earned through international flights made by international students. This study assumes that all full-fee paying and exchange students in all categories make one return trip to their home country once per year. We believe this is a realistic assumption given that those students who do not return every year will be compensated by those who return more often. The study has taken the proportion of students from the Asia and Pacific (Island) regions and multiplied this by an average airfare to that region. This figure was then adjusted to reflect an estimate of the Air New Zealand 'utilisation rate' and rounded to \$20 million, a figure which we acknowledge could vary by a million or two either way.

The final foreign exchange contribution the study adds is the New Zealand Immigration Service (NZIS) fee of \$150 per student as this is a cost over and above those allowed for in calculating the living allowance. In order to base the study on officially reported figures we have opted not to estimate the contribution of "family tourism", or family members visiting students during their study. This contribution will be captured by the tourism sector data.

### The Ratio

International students living in New Zealand generate expenditure other than fees on accommodation, living expenses and travel while studying in New Zealand. Using the benchmark living allowances of the ODA scholarship holders we have calculated a supplementary spending ratio (fee to living cost ratio) that is used to estimate the full impact of foreign exchange earnings from the industry. This ratio is analogous to the foreign exchange "multiplier" used in other studies assessing the contribution international students make to foreign exchange and hence the economy. We believe ratio is a better term because the number is not a multiplier in the conventional economic sense. It is simply an assessment of the ratio of the cost of living in New Zealand to the average tuition fee.

Estimates of the relevant ratio vary from study to study. Statistics New Zealand applies a ratio of one for international tertiary students. Education New Zealand, formerly NZEIL, the company charged with the generic promotion of New Zealand educational services in international markets, uses a ratio ranging from 1.67 for secondary full-fee paying international students to 1.5 for full-fee tertiary and PTE students. The Federation of Independent English Language Schools of New Zealand (FIELS) uses a ratio of 2 in assessing the supplementary spending by their international students. Statistics New Zealand, in their census of English Language providers, arrived at a ratio of 1.14.

The overall ratio contained in this study is 1.15. This means that for every dollar spent by full-fee paying international students on tuition fees they spend an additional \$1.15 cents on accommodation, living expenses and internal travel. However, this figure is inflated by the 654 school exchange students and the 656 exchange and "other" tertiary students who do not pay fees but are assessed as contributing foreign exchange through living costs. By sector, and excluding the non-fee paying students, the ratio varies from 1.32 for full-fee paying school students to 0.92 for full-fee paying tertiary students, with the Statistics New Zealand PTE ratio of 1.14 at the mid-point.

## Deriving the Ratio

This study has used the Ministry of Foreign Affairs and Trade living allowance currently paid to ODA Scholarship students as a benchmark. That allowance is not related in any way to expenditure or consumer patterns relevant to the home country of these students; rather, it is based upon a level of income sufficient for the student to meet a reasonable standard of living while studying in New Zealand<sup>7</sup>. While conceding that some international students from wealthier backgrounds may spend more, many are from developing economies and therefore may spend less.

The benchmark is supported by survey data on the average New Zealand resident student income for the year of \$9643.50<sup>8</sup>. In that unofficial student survey, the median weekly expenditure for all full-time students was \$249 per week, a figure which equates to \$12,948 per year. This survey asked for information on expenditure on cars/bikes and other capital items such as computer/stereo/appliances. However, included in this figure is childcare costs of \$25 per week, or over ten percent of the total. As it is unlikely this expenditure would apply to international fee-paying students, the figure reduces to \$11,648 annually. The figure inclusive of childcare equates to a ratio of just under 1.0, while excluding childcare it is just under 0.9. The tertiary ratio derived in this study is below the former but above the latter of these two ratios.

The results from the Australian Bureau of Statistics survey on fee-paying students studying in Australia is discussed below. Its ratio works out to be just under 1.0, almost exactly the ratio including childcare from the New Zealand student survey but below the ratio used in this study and ten percentage points above the New Zealand Students' Association survey excluding childcare costs. Interestingly, the Australian Asian student ratio of 0.98 was marginally lower than the average<sup>9</sup>.

Another reference point is Statistics New Zealand. This study has used Statistics New Zealand data for the foreign exchange contribution of PTEs. Statistics New Zealand also estimated the overall contribution of the sector at \$393.6 million for the 1999 year based on the 1 July student numbers. That figure is very close to our assessment using, in the main, a different approach. After an extensive investigation into tuition costs at New Zealand Universities, Secondary Schools and other training institutes Statistics New Zealand calculated various "average" tuition costs, and using the Ministry of Education student numbers attending these various institutions a total tuition fee revenue figure is calculated. From there, Statistics New Zealand used a ratio of 1.0 to obtain the final figure.

Taking the annual average fee for an international tertiary student of \$13,000 the NZEIL ratio of 1.5 equates to the equivalent of an after-tax income of \$19,500. The gross income that a single person in New Zealand would have to be earning in order to have a disposable income

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<sup>7</sup> At the time of compiling this report the Development Cooperation Division of the Ministry of Foreign Affairs and Trade is reviewing the allowance. Preliminary results support the comments made here.

<sup>8</sup> Taken from the CM Research 'Student Income and Expenditure survey 1998 Research Report' commissioned by the NZ University Student's association.

<sup>9</sup> These ratios are based upon Australian fees, and, while indicative, may not necessarily be directly comparable to the data used in this report.

of \$19,500 is \$23,963. This is \$11,500 below the average yearly wage in New Zealand (\$35,516<sup>10</sup>), and the \$19,500 is almost double the unemployment benefit combined with accommodation allowance for a single 20 to 24 year old New Zealander living away from home in one of the main centres other than Auckland.

The question then becomes: are the living expenses of an average international student 1.5 times those of the average New Zealand student and double those of those of an unemployed New Zealander? The answer to this varies from study to study, as outlined above. We believe our present study gives a realistic representation of international student expenditure, as we have benchmarked it to the best available data on actual living expenses of ODA students. While the data may be on the conservative side, it nevertheless provides an accurate base on which to assess the relative importance of this industry to the New Zealand economy.

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<sup>10</sup> Taken from Statistics New Zealand's Quarterly Employment Survey - May 1999

## 4 EMPLOYMENT

A marginal analysis investigating how much staff time is devoted to international students would be complex and not necessarily yield additional insight. Instead, we have used aggregate data to assess the contribution of education exports to employment in the education sector<sup>11</sup>. For the December year 1999 the overall New Zealand education industry employed approximately 102,700 Full-Time Equivalent (FTE) people. This makes it the 4th largest employer using the Australia/New Zealand Standard Industry Classification (ANZIC) system.<sup>12</sup>

Although accurate data on employment emanating from the sale of education services (international students) is unavailable we can derive a figure by multiplying the proportion of the student population that are international students by the numbers employed in the overall sector. If we assume that on average international students account for approximately 2 percent<sup>13</sup> of the student population then full time equivalent (FTE) employment in the 'mode 2' component of education exports can be estimated at around 2,054 ( $0.02 \times 102,700$ ). Note also that this figure is just the education sector employment, and using the same ratio of fees to living expenses would about double the direct employment creation contribution from international students studying in New Zealand to just over 4,000 persons.

Based on the growth of student numbers we can estimate that approximately 878 FTE people were employed in the education component of the education export sector in 1994 before rising to approximately 2054 in 1999. This is a 133 percent increase over the five year period. The average annual increase in FTE employment in the education sector between 1994 and 1999 is approximately 20 percent.

The 102,700 FTE people employed in the education industry possess a wide range of skills and are classed in a range of job families. The industry includes academic staff, research staff, executive staff, advisory and teacher support, and other staff<sup>14</sup>. Thus, the 2054 estimate of the numbers of FTE people employed in the international aspect of the industry would include the range of jobs mentioned above.

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<sup>11</sup> We recognise that a similar approach could be taken to estimating the employment contribution resulting from the cost of living expenditure contribution of these students to the New Zealand economy.

<sup>12</sup> Full-Time Equivalent (FTE) employment data is taken from Statistics New Zealand's 'Quarterly Employment survey' and the industry classification is based on the Australia/New Zealand Standard Industry Classification system (ANZSIC). The data covering Agriculture, Agricultural Services, Hunting and Fishing is taken from Statistics New Zealand's Annual Business Frame Update Survey - February 1998 and does not follow the ANZSIC system.

<sup>13</sup> **Total** international students studying in New Zealand schools, tertiary institutions and PTE's divided by the total student population.

<sup>14</sup> Includes Technicians, Librarians, Community services, grounds staff etc.



## 5 RESULTS

The study finds that approximately \$415 million in foreign exchange earnings were contributed by full-fee paying international students to the New Zealand economy for the 1999 year. This expenditure includes tuition fees (\$181 million), accommodation and living costs (\$209 million), international airfares (\$20 million) and revenue from NZIS fees (\$4 million).

Table 2 below gives the foreign exchange breakdown by student category and shows the NZIS fee contribution and the international airfare component.

This estimate of the value of education exports makes the sector New Zealand's 4th largest service export earner and 15th largest foreign exchange earner overall based on Statistics New Zealand's classification of service industries and a Ministry of Foreign Affairs and Trade's classification of merchandise exports. The education export sector represents 1.43 percent of total New Zealand exports and contributes more foreign exchange to the economy than the communication services exports (\$346 million) and exports from the textiles and apparel sector and wine (\$286m and \$124m in the year to June 1999 respectively).

<b>Table 2: Direct Education</b>	<b>Students 1998/99</b>	<b>Average Fee</b>	<b>Average Living</b>	<b>FX \$NZ Mill</b>
School Full-Fee	5,045	\$8,609	\$11,325	100.6
School Exchange	654	no fee	\$11,325	7.4
Tertiary Full-Fee	6,376	\$13,000	\$11,906	158.8
Tertiary Exchange & "other"	653	no fee	\$11,906	7.8
Private Training Establishments	755	\$13,000	\$11,906	18.8
English Language Training Providers	15,718	\$2,882	\$3,297	97.1
NZIS fees (@ \$150 per student)				4.4
Int Airfares (GST exempt)				20.0
<b>TOTAL FOREIGN</b>				<b>415</b>

Source: For English Language student tuition and living allowance, estimates are taken from Statistics New Zealand's 1999 Census of English Language Providers.

Table A1 in the Annex shows the foreign exchange earnings breakdown by fee and living costs by major region for the 1999 year. This data is further disaggregated in Table A2 for the Asia region and Table A3 for the Pacific region. The total amount of foreign exchange earned through full-fee paying international students (excluding the airfare component and the NZIS fees) is approximately \$390 million. Based on the July data, eighty two percent of this emanates from the Asian region. The Pacific and Europe<sup>15</sup> both contribute approximately 6 percent.

Based on the full year data (Tables A2) the most important sources of education foreign exchange earnings from the Asian region are Japan \$92 million, Malaysia \$40 million, South Korea \$38 million, China \$25 million, Thailand \$25 million, Taiwan \$23 million, Hong Kong

<sup>15</sup> The European countries of significance in regard to full-fee paying students are Germany, Switzerland, Sweden, Finland, France, Denmark, Great Britain and Russia.

\$20 million, Indonesia \$12 million, Singapore \$5 million and Vietnam \$3 million. Japan accounts for 32 percent of the Asian total and 26 percent of the overall earnings.

The most important sources of foreign exchange in the Pacific region (Table A3) are Fiji \$6 million, Tonga \$3 million, French Polynesia \$1.2 million, Samoa \$1.8 million and Papua New Guinea \$1.3 million. Full-fee paying students from Fiji contributed 31 percent of the total Pacific foreign exchange earnings.

As a comparison with Australia, it is officially estimated that total international student expenditure in that country for 1998 was \$A3,018 million. This was a 2.3% increase on the 1997 estimate of \$2,951 million, despite a 2.7 percent fall in international student numbers. This was the first decline in international student numbers since fee paying students began studying in Australia in the mid 1980s. The 1998 total comprised expenditure of \$1,510 million (50%) on fees that were paid directly to institutions and expenditure of \$1,508 million (50%) on goods and services, including accommodation, food, and transportation<sup>16</sup>. To place the Australian sector in perspective, education services were worth 3.39 percent of merchandise exports from Australia, 56 percent above the 1.90 percent from New Zealand in the July 1999 year.

#### Historical Analysis

Table 3 below gives the foreign exchange earnings from foreign full-fee paying school and tertiary students for the years 1994 through to 1999.<sup>17</sup> The study's estimates are based on the same tuition fee and allowance fees applied in the 1999 year analysis and have been adjusted for inflation.<sup>18</sup>

Table 3 shows that foreign exchange earnings from foreign full-fee paying school and tertiary students have increased by 98 percent over the five year period 1994 to 1999, from \$129 million in 1994 to \$255 million in 1999. Foreign exchange earnings from international school and tertiary students peaked at \$256 million in 1997 but were subsequently affected by the drop in Asian student numbers due to the Asian economic downturn. Foreign exchange earnings increased by 8 percent between 1998 and 1999.

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<sup>16</sup>The Australian data on goods and services expenditure is derived from data collected by the second International Student Survey conducted by the Australian Bureau of Statistics in 1997. It is contained in the publication "Overseas Student Statistics, 1998", Australian Education International, Commonwealth of Australia, 1999.

<sup>17</sup> Lack of reliable data prevented incorporating Private Training and English Language student statistics. The historical analysis does not use EFTS statistics as these were not available.

<sup>18</sup> CPI data used in the adjustments was taken from Statistics New Zealand Key Statistics series.

<b>TABLE 3 - FX EARNINGS, FOREIGN FULL-FEE SCHOOL &amp; TERTIARY STUDENTS</b>						
<b>REGION</b>	<b>Foreign Exchange Earnings \$NZ Million</b>					
	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
<b>ASIA</b>	<b>102.5</b>	<b>146.5</b>	<b>187.3</b>	<b>223.8</b>	<b>200.8</b>	<b>208.9</b>
<b>PACIFIC</b>	<b>10.7</b>	<b>11.6</b>	<b>13.5</b>	<b>15.4</b>	<b>16.8</b>	<b>17.4</b>
<b>NORTHERN AMERICA</b>	<b>3.3</b>	<b>3.7</b>	<b>4.3</b>	<b>4.6</b>	<b>5.9</b>	<b>7.6</b>
<b>CENTRAL/STH AMERICA</b>	<b>0.5</b>	<b>0.7</b>	<b>1.0</b>	<b>1.1</b>	<b>2.0</b>	<b>4.3</b>
<b>EUROPE</b>	<b>4.4</b>	<b>5.4</b>	<b>7.1</b>	<b>8.1</b>	<b>8.4</b>	<b>12.4</b>
<b>AFRICA</b>	<b>0.7</b>	<b>0.7</b>	<b>0.9</b>	<b>0.7</b>	<b>1.2</b>	<b>1.7</b>
<b>MIDDLE EAST</b>	<b>0.5</b>	<b>0.5</b>	<b>0.6</b>	<b>0.6</b>	<b>0.4</b>	<b>0.4</b>
<b>NOT STATED</b>	<b>6.7</b>	<b>3.7</b>	<b>1.0</b>	<b>2.1</b>	<b>1.4</b>	<b>2.8</b>
<b>TOTAL</b>	<b>129.3</b>	<b>172.8</b>	<b>215.8</b>	<b>256.3</b>	<b>237.0</b>	<b>255.5</b>

Source: MFAT calculations based on Ministry of Education student numbers.

In 1999 Asia contributed 82 percent of the foreign exchange earnings and over the 1994 to 1999 period foreign exchange earnings from Asia increased by 104 percent. Similarly, all other regions except the Middle East registered an increase in foreign exchange earnings. The Pacific increased by 63 percent, Northern America 134 percent, Central and Southern America 796 percent (but from a very low base), Europe 182 percent and Africa 125 percent.

# ANNEX

and

## Glossary of Terms

ODA students who are funded under the Ministry of Foreign Affairs and Trade Official Development Assistance programme.

PTEs private training establishments in the tertiary sector.

FTE converting the head count of student numbers to a full time equivalent basis.

“other” refers to the Ministry of Education categories of (a) post-graduate research and (b) diplomatic/military staff students. The former are (usually) students studying or researching at tertiary institutions under some kind of arrangement with another government or institution. The latter are family members of diplomatic and military attache staff on posting in New Zealand.