Development and Implementation of a new Valuation Methodology for New Zealand's Education Services Exports

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Executive Summary

Background and Objectives

The Government has set goals for international education in its *Leadership Statement for International Education*.[1] This study aims to assist Education New Zealand (ENZ) to measure progress towards Goal 2, which includes the measureable objective to "*Increase annual revenues from providing education services offshore to at least $0.5 billion*" to be achieved over the 15 years from 2011.

Previously, Infometrics (with National Research Bureau) has provided ENZ with an analysis of the GDP contribution of the international education industry.[2] It focussed on Goal 1 (the value of the services delivered onshore in New Zealand) but revenue from offshore activities (the subject of this report) was estimated using a survey to be $104 million in 2012.

The intent of this current study is to estimate the broader value to the New Zealand economy of international education exports delivered offshore rather than only measuring recorded export revenues. This includes the inclusion of more activities within the definition of *educational services exports* (ESE) and the extension of the analysis to a wider set of impacts across the economy which includes the indirect[3] and induced[4] effects.

Approach

To update the numbers an on-line survey was used. The text of the survey is included as an Annex to this report along with the number and percentage recording specific answers. Participation in the survey was sought through direct invitations to known participants and requests to industry bodies. The questions included those relating to the industry of the participant, the type of education, the organisation's specific activities, regions exported to, employment and revenue.

Invitations were sought from over 400 organisations from which there were 58 responses, reduced to 51 to take account of duplicates and blank responses.

Results

On the basis of a survey of firms that we consider are part of this industry, it is estimated that revenues from the offshore education industry were approximately $171 million in 2015 (Table ES1). This is an increase over the $104 million in 2012 as a result of

[1] New Zealand Government (2011) Leadership Statement for International Education. Version One.
[2] Infometrics and National Research Bureau (2013) The Economic Impact of International Education 2012/13 for Education New Zealand; Stroombergen A (2014) The Economic Impact of International Education 2014. Infometrics.
[3] The economic activities of those further back in the supply chain, ie suppliers to the ESE.
[4] The economic activities of households whose incomes are from firms associated with the ESE sector. Induced effects capture the effects of additional spending by people employed as a result of the direct and indirect effects.

growth in the industry of over 20% (by revenue) and because we have widened the sample of firms and activities included in the survey.

Table ES1: Direct and Indirect Economic Effects

	Direct	Indirect	Induced	Total
Revenue/Gross output ($ million)	$171	$84	$171	$426
Value-Added ($ million)	$118	$38	$86	$242
Employment (number)	895	251	439	1,584

In addition, we estimate that the value added (contribution to GDP) of the industry is $118 million or $242 million if we include the wider impacts in the economy, both upstream and downstream.

Direct employment by the industry is estimated to be 895 and a total of 1,584, including the employment more widely in the economy.

1 Introduction

1.1 Background and Study Objectives

Education is an important component of New Zealand's economy, and education exports are a significant contributor to GDP and to New Zealand's international reputation. In 2014 international education exports, including offshore activities, were estimated to contribute $2.85 billion to GDP[5] or 1.2% of total GDP and close to 6% of exports. They are identified as a major contributor to the Government's Business Growth Agenda,[6] which is a central component of the Government's achievement of a more productive and competitive economy. Consistent with this, the Government has established a vision, goals and objectives in its *Leadership Statement for International Education* (Box 1).

Box 1 Vision, Goals and Objectives for International Education

Vision: *New Zealand's quality education services are highly sought after internationally, and expand our international social, cultural and economic engagement.*	
Goals	**Objectives**
1. New Zealand's education services delivered in New Zealand are highly sought after by international students.	New Zealand will, over the next 15 years, double the annual economic value of these services to $5 billion, through increasing international enrolments in our tertiary institutions, private providers, and schools.
2. New Zealand's education services in other countries are highly sought after by students, education providers, businesses and governments overseas.	New Zealand will, over the next 15 years: • Develop and sustain mutually beneficial education relationships with key partner countries as a leading part of "New Zealand Inc" strategies in Asia, the Pacific, the Middle East, Europe and the Americas. • Increase annual revenues from providing education services offshore to at least $0.5 billion. • Increase the number of international students enrolled in providers offshore, from 3,000 to 10,000.
3. New Zealand makes the best possible use of its international education expertise to build skills in our work force, to grow research capability and to foster wider economic connections between New Zealand and overseas firms	New Zealand will, over the next 15 years: • Double the number of international postgraduate students (particularly in programmes in addition to those at PhD level), from 10,000 to 20,000. • Increase the transition rate from study to residence for international students with bachelors level qualifications and above • Increase New Zealanders' skills and knowledge to operate effectively across cultures.

Source: New Zealand Government (2011) Leadership Statement for International Education. Version One

This study aims to provide Education New Zealand (ENZ) with information to track progress towards Goal 2. ENZ is the lead Government agency for the promotion of New Zealand education internationally. It is charged with leading the education industry in achieving the goals of the Leadership Statement. In this context, this study aims to:

[5] Stroombergen A (2014) The Economic Impact of International Education 2014. Infometrics.
[6] NZ Government (2015) Building Export Markets. Chapter 1 in *Towards 2025: The Business Growth Agenda.*

"*more comprehensively determine the value of New Zealand's educational services exports to better meet the Government's Goals for International Education*".

1.2 Goal 2 and Wider Economic Benefits

Goal 2 includes two measurable objectives to be achieved over the 15 years from 2011:

- *Increase annual revenues from providing education services offshore to at least $0.5 billion; and*

- *Increase the number of international students enrolled in providers offshore, from 3,000 to 10,000.*

Progress towards these objectives is a measure of progress towards the overall goal that "*New Zealand's education services in other countries are highly sought after by students, education providers, businesses and governments overseas*" because it would be expected that being highly sought after would be expressed in student numbers and revenues of providers.

This study aims to provide a more comprehensive estimate of the value of educational services exports. The greater focus on determining the value of the sector, as opposed to only the value of exports, shifts the monitoring framework beyond simply tracking the progress of Goal 2. Rather, it provides a *rationale* for Goal 2: the Government would want New Zealand's education services to be sought after by other countries if exporting these services results in significant (net) economic benefits to New Zealand.

These more comprehensive economic benefits are likely to include additional products and services, and to extend beyond export revenues to include wider effects in the economy. This study will seek to identify and quantify the wider economic benefits to New Zealand that are derived from the export of educational products and services.

1.3 Previous Studies

In previous years, Infometrics (with National Research Bureau) has provided ENZ with an analysis of the GDP contribution of the international education industry.[7] It had focussed on Goal 1, i.e. the value of the services delivered onshore in New Zealand, which are mainly the expenditure (fees and living expenses) of international students.

The value of the onshore segment of the industry was estimated using data on tuition fees supplied by the Ministry of Education, and data on student expenditure obtained from a web-based questionnaire. About 7,500 responses were received so the sample size was probably large enough to offset any serious bias that might have existed from respondents self-selecting into the survey.

[7] Infometrics and National Research Bureau (2013) The Economic Impact of International Education 2012/13 for Education New Zealand; Stroombergen A (2014) The Economic Impact of International Education 2014. Infometrics.

Revenue from offshore activities (the subject of this report) was estimated using a short emailed questionnaire combined with personal contact (by telephone, email or in-person), together with data on educational publishing already held by ENZ. The questionnaire went to 55 providers of whom 44 responded positively.

In that study the definition of offshore education services providers was somewhat tighter than is the case for this report, although how significant the implied difference in total revenue is remains to be seen.

Overall the size of New Zealand's international education industry in terms of export revenue was estimated to be about $2.6 billion of which only about 4% was attributable to offshore activity. The indirect and induced spending effects of the onshore activities generated about $2.5 billion of value-added, or contribution to Gross Domestic Product (GDP). Note though, as discussed below, that this contribution does not mean that GDP would be lower by $2.5 billion if the onshore industry did not exist, as not all resources employed by the industry would remain for ever unemployed or unused.

1.4 International Experience

Several other countries measure the economic impact of international education services. We discuss a number of examples below. As with the previous New Zealand work, the focus has been on measuring the export revenues defined as the fees and living expenses of international students that have come to the individual countries (Table 1).

Table 1 Summary of selected international analyses of international education economic impacts

Country	Inclusions	Method (what is counted)
Australia	• International students in higher education • Vocational education and training • English language courses • Schools • Foundation students and study abroad students	Fees paid + expenditure on goods and services (living expenses)
United Kingdom (UK)	• International students in higher education • International conferences using UK universities • Transnational education (programmes offered in other countries)	Fees paid + expenditure on goods and services; research income
United States (US)	• International students in higher education	Fees paid + expenditure on goods and services (living expenses) – US support costs (subsidy)
Canada	• International students in higher education • Language school students • Schools	Fees paid + expenditure on goods and services (living expenses)

This emphasis is partly explained by the proportion that export revenues from international students are of the total in studies that have examined a wider set of contributors.

- In Australia, for example, analysis has included the contribution of export revenues from consultancy and some other service exports, but estimates that the fees and living expenses of international students in Australia account for

97% of total revenues (see Table 2 below).

- In the UK, recent analysis has extended the analysis of the value of universities (largely international student fees and expenses) to include the value of transnational education (TNE) in which foreign students can study in UK institutions while staying in their home countries.[8] The value of universities represents 96% of the total estimated export values.

Below we discuss the approaches used by the individual countries in turn.

1.4.1 Australia

The Australian Department of Education and Training monitors export revenues of international education activity. The different categories and values for 2014 are shown in Table 2. The analysis includes a number of exports of products and services in addition to the spend (fees plus living expenses) of international students in Australia.

Table 2 Australia's total exports of education-related services (2014)

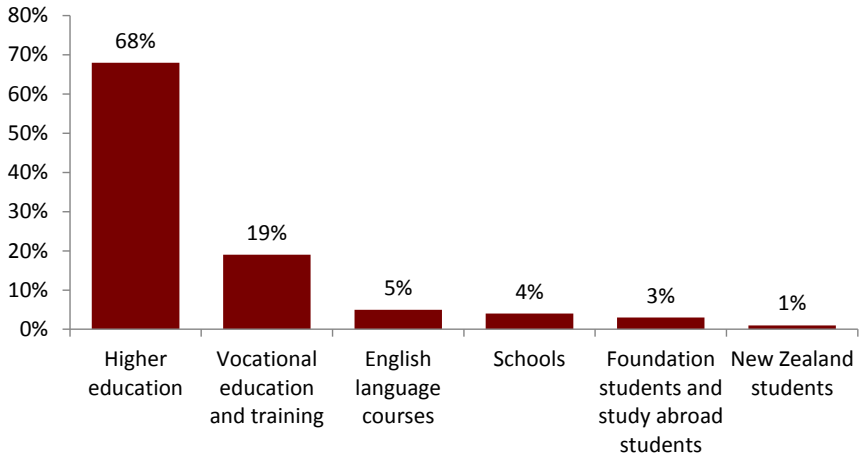
Category	A$ million	% of total
Education-related personal travel (spend of foreign students)	$17,037	96.7%
Education consultancy services	$140	0.8%
Correspondence courses	$9	0.1%
Services through educational institutions	$334	1.9%
Other educational services	$75	0.4%
Royalties on education services	$31	0.2%
Total	$17,626	13.6%

Source: Australian Department of Education and Training (2015) Research Snapshot June 2015. Export income to Australia from international education activity in 2014.

The Australian Productivity Commission used this data to suggest that "*In 2014, international education services (IES) contributed around $17 billion to the Australian economy.*"[9] The Commission also noted that the sector "*represented around 27 per cent of services exports and close to 5 per cent of total Australian exports.*" The estimate of contribution to the economy was based on the spend of foreign students (fees paid to educational institutions and expenditure on goods and services by international students living in Australia). Education exports are Australia's fourth largest export, following just iron ore, coal and gold.[10] The contribution of different types of education to the total value of the foreign student component of exports is shown in Figure 1, with the majority (87%) being from higher education and vocational education and training.

[8] McNamara J and Knight J (2014) Transnational education data collection systems: awareness, analysis, action. British Council and German Academic Exchange Service.
[9] Australian Productivity Commission (2015) *International Education Services, Productivity Commission Research Paper.*
[10] Group of Eight Australia (2014) Policy Note: International students in higher education and their role in the Australian economy.

Figure 1 Composition of Australia's Education Exports



Source: Connelly S and Olsen A (2013) Education as an Export for Australia: Green Shoots, First Swallows, but Not Quite Out of the Woods Yet. Paper behind the presentation at the Australian International Education Conference, Canberra, 10 October 2013.

1.4.2 United Kingdom

Analysis in the UK has included the economic contribution of international students at UK universities and transnational education (TNE) in which foreign students can study in the UK while staying in their home countries.[11]

A recent analysis for Universities UK noted that there were 435,235 students from outside the UK registered at UK institutions in 2011-12, making up over 17% of the total student population.[12] They estimated total export revenues of £10.7 billion in 2011-12, largely on the basis of fees and living expenses of students and visitors (Table 3). Additional revenues included were research income and the spend of attendees at conferences held at UK universities.

Table 3 Export earnings of UK universities

Component	Amount
Universities (fees and expenses of students and visitors)	
Non-EU fees	£3.24
Rest of EU fees	£0.39
Research income from non-UK sources	£0.92
Residence and catering payments from non-UK sources (students, visitors)	£0.74
Other operating income from non-UK sources	£0.37
Total (Universities)	**£5.66**
Off-campus personal & living expenses (students)	£4.91
Visitors spending (friends & family of students etc)	£0.14
Total Exports	**£10.71**

Source: Kelly U, McNicoll I and White J (2014) The impact of universities on the UK economy. Viewforth Consulting Ltd for Universities UK.

[11] McNamara J and Knight J (2014) Transnational education data collection systems: awareness, analysis, action. British Council and German Academic Exchange Service.
[12] Kelly U, McNicoll I and White J (2014) The impact of universities on the UK economy. Viewforth Consulting Ltd for Universities UK.

A study for the UK Department for Business, Innovation and Skills (BIS)[13] identified three broad modes of delivery of TNE:

1. some form of direct in-country presence by the UK higher education institution, overseas such as a branch campus, use of flying-faculty or a local study-centre operated as a joint venture
2. distance learning, including online delivery
3. collaborative or partnership teaching provision – usually with a locally based higher education provider – although other forms of delivery partnership exist.

McNamara and Knight discuss the rapid development and change in the sector and that research and monitoring is not keeping pace with the accelerated rate of change.[14] They note that the absence of data makes it difficult to track progress and understand the success of the programmes, and this is not helped by differences in terminology.[15] They include common definitions of TNE categories as shown in Table 4 below.

The Higher Education Statistics Agency (HESA) has collected and published data annually on international student numbers. To obtain more detailed data, a transnational education 'census' was conducted of higher education institutions and case studies were collected from a sample of active institutions, to understand practice in more detail and to obtain information on:

- fee revenues
- other income, e.g. articulation arrangements[16]
- costs of provision for different delivery modes.

Fee income from the case studies was scaled up to a national figure based on total enrolment numbers derived from census returns and the HESA's published data (Aggregate Offshore Record, or AOR) to ensure full coverage for all UK institutions.

Little data on costs was collected. The authors noted that "*Relatively few UK higher education institutions had a strong understanding of the costs that were associated with the delivery of their distance learning programmes*" and that there was "*a general reluctance across the institutions to share financial information covering transnational education, either costs or revenues, some of which was due to increasing levels of competition in some partnership markets.*" Because of these data gaps, reliable estimates could not be made of economic surpluses from transnational education, or any overall estimation of its net value nationally.

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[13] Mellors-Bourne R, Fielden J, Kemp N, Middlehurst R and Woodfield S (2014) The value of Transnational Education to the UK. BIS Research Paper Number 194. Department for Business, Innovation and Skills.

[14] McNamara J and Knight J (2014) Transnational education data collection systems: awareness, analysis, action. British Council and German Academic Exchange Service.

[15] British Council (2013) *The shape of things to come. The evolution of transnational education: data, definitions, opportunities and impacts analysis*.

[16] Articulation arrangements are the processes by which qualifications or credits from an international institution are accepted for credit to a degree or other qualification in the institution to which they are transferring.

Table 4 TNE framework and definitions

TNE Mode	Definition
Collaborative TNE provision	
Twinning (or franchise) programme	A foreign sending HEI offers academic programme(s) through a host country HEI. Foreign sending HEI provides curriculum and awards qualification.
Joint/double/ multiple degree programme[17]	Curriculum is jointly designed, delivered and monitored by all local and foreign partners. Different combinations of qualification provided, depending on host country regulations.
Co-founded/ developed universities	A HEI is established in the host country in collaboration with foreign sending HEIs. The academic programmes are offered through twinning or joint/double/multiple degree arrangements. Local host HEI also develops academic programmes independent of foreign partners.
Locally supported distance education programmes	A foreign distance education HEI provider offers programmes with academic support for students, available from local entity. Qualification and curriculum offered by foreign distance education provider.
Independent (foreign) TNE provision	
Branch campus	A foreign sending HEI offers academic programmes through their own satellite campus, located in the host country. Qualification and curriculum offered by foreign sending HEI.
Franchise university	A private independent country HEI/provider offers a series of franchised academic programmes from different foreign sending HEI/providers. Qualification and curriculum offered by foreign sending HEIs.
Distance education	Foreign sending distance education provider offers academic programmes directly to host country students. No local academic support available. Qualification, curriculum, quality assurance and accreditation offered by foreign sending HEI.

Source: McNamara J and Knight J (2014) Transnational education data collection systems: awareness, analysis, action. British Council and German Academic Exchange Service

However, the study made recommendations on data collection and categorisation of transnational education, noting the interest in a more systematic nomenclature and categorisation of modes of transnational education to enhance sector-level data collection and improve comparability across the sector.

The value of transnational education exports was estimated to be £496 million for 2012/13 (equivalent to approximately NZ$1 billion) based on fees paid. Table 5 shows the contributions to the total. The revenue per student numbers also illustrates the methodology with an estimate of the revenue per student from the case studies used to estimate the total per category.

The inclusion of TNE adds an additional £0.5 billion to the total estimate of the value of international education exports in the UK; this represents 4% of the total of £11.2 billion.

[17] A joint degree programme offers one qualification with badges of both sending and host HEI on the certificate. A double degree programme offers two qualifications – one certificate/qualification from each partner. A multiple degree programme offers three or more certificates/ qualifications, depending on the number of partners.

Table 5 Summary of 2012/13 revenues by category

Mode of delivery	Active enrolments	Revenue (£million)	Revenue per student
Postgraduate distance learning	43,440	£184	£4,240
Taught postgraduate registered with overseas partner	20,080	£73	£3,631
University of London International and Open University	92,700	£70	£758
Taught postgraduate registered with UK institution	14,955	£54	£3,631
Undergraduate registered with UK institution	90,790	£43	£470
Undergraduate distance learning	9,345	£28	£3,007
Undergraduate registered with overseas partner	48,460	£23	£470
Postgraduate research (including professional doctorates)	3,960	£21	£5,177
Total	323,730	£495.8	£1,532

Source: Mellors-Bourne R, Fielden J, Kemp N, Middlehurst R and Woodfield S (2014) The value of Transnational Education to the UK. BIS Research Paper Number 194. Department for Business, Innovation and Skills

1.4.3 United States

In the US, NAFSA, the Association of International Educators,[18] measures the contribution of international education using its *International Student Economic Value Tool*.[19] The economic benefit is calculated from the fees and expenses of students and their dependants, minus the support (subsidy) paid by the US.[20] Using multipliers, estimates are also made of the number of jobs created.[21]

The data are largely from the Integrated Postsecondary Education Data System (IPEDS) which is operated by the US Department of Education's National Center of Educational Statistics.[22] IPEDS gathers information from every college, university, and technical and vocational institution that participates in federal student financial aid programs. Legislation requires that institutions that participate in federal student aid programmes report data on enrolments, programme completions, graduation rates, faculty and staff, finances, institutional prices and student financial aid (Table 6).

[18] NAFSA was formerly named the National Association for Foreign Student Affairs, but since 1990 it has renamed itself the Association of International Educators while retaining the NAFSA acronym.

[19] www.nafsa.org/Explore_International_Education/Impact/Data_And_Statistics/NAFSA_International_Student_Economic_Value_Tool/

[20] Baumgartner JL (2014) The Economic Benefits of International Student Enrollment to the US Economy. NAFSA: Association of International Educators.

[21] The calculation includes estimates of direct and indirect jobs. **Direct Jobs** are directly created and/or supported by the import of revenue from outside the US as a result of higher education exports, along with living expenses, for an international student during their time in the US while using money from their home country. **Indirect Jobs** are created and/or supported indirectly from the direct job's existence. This is a multiplier effect in which the spending from a directly-supported job will help to indirectly create and/or support other jobs in the economy.

[22] http://nces.ed.gov/ipeds/about/

Table 6 Data collected by IPEDS

Category	Data collected
Institutional characteristics	Basic institutional contact information, tuition and fees, room and board charges, control or affiliation, type of calendar system, levels of awards offered, types of programs and admissions requirements.
Institutional prices	Tuition and fee data, and information on the estimated student budgets for students (on-campus or off-campus)
Enrolment	Race/ethnicity, gender, enrolment status (part-time or full-time), and or level of study (undergraduate or graduate), residence of first-time students, age distribution, annual head-count, instructional activity (total credit and/or contact hours delivered), total entering class (first enrolments and transfers)
Student financial aid	Numbers receiving grants and loans, average dollar amount of aid received, average net price of students
Degrees and certificates conferred	Number who complete qualification, by field.
Student persistence and success	First-year retention rates, graduation rates.
Institutional human and fiscal resources	Number and type of staff, salaries, finances (revenue by source, expenditures by category, and assets and liabilities).

Source: http://nces.ed.gov/ipeds/about/

1.4.4 Canada

An analysis of the economic impacts of international education in Canada estimated that "*in 2010, international students in Canada spent in excess of $7.7 billion on tuition, accommodation and discretionary spending, created over 81,000 jobs, and generated more than $445 million in government revenue.*"[23] Using multipliers from Statistics Canada's Provincial Input-Output tables, they further estimated that the annual expenditure by international students translated to almost $4.9 billion worth of contribution to GDP, 86,570 jobs, and $455 million of government tax revenue. The data sources are shown in Table 7.

Table 7 Data sources for expenditure estimates

Student category	Data source
International students	Tuition and Living Accommodation Costs (TLAC) survey; Survey of Household Spending (SHS).
Language school students	Languages Canada's survey of its own membership schools in each province (or groups of provinces).
School students	Provincial education ministries, and websites publishing information for potential international students studying in Canadian provinces.

Source: Roslyn Kunin & Associates, Inc (2012) Economic Impact of International Education in Canada -- An Update. Final Report. Presented to: Department of Foreign Affairs and International Trade

The study also added an amount for discretional spending of students, e.g. recreation and entertainment. This is assumed to be $2,500 per year for post-secondary students, and $1,500 per year for school (K-12) students. These estimates are "not based on any survey of international students" but "on student budgeting information gathered from websites."

[23] Roslyn Kunin & Associates, Inc (2012) Economic Impact of International Education in Canada -- An Update. Final Report. Presented to: Department of Foreign Affairs and International Trade.

1.4.5 Implications

The international experience provides only limited experience in extending the analysis of economic impact beyond that of international student numbers in the home country and based on their fees paid and living expenses. The objectives of this study are ambitious and the work will break new ground in education export valuation.

1.5 Extended Measurement Approaches

1.5.1 Scope

The intent of this study is to broaden the approach used to measure the value of the offshore provision of education beyond that used in previous years. Specifically ENZ wishes to estimate the broader value to the New Zealand economy of international education exports delivered offshore rather than only measuring recorded export revenues. A measure of export revenues is still required to meet the requirements for measuring progress towards one of the measurable targets of Goal 2, ie to "*Increase annual revenues from providing education services offshore to at least $0.5 billion*."

The broader value might be measured through:

- inclusion of more activities within the definition of *educational services exports* (ESE)

- extension of the analysis to a wider set of impacts across the economy that include the indirect and induced effects.

The additional activities included in the definition of *Education Services Exports* are discussed below under Taxonomy (Section 2). In this section we examine how wider effects might be measured.

1.5.2 Including Wider Effects

GDP Contribution

To date, the focus of analysis has been on export revenues from the offshore ESE sector. Export revenues add to total income of New Zealand and are an input to the calculation of gross domestic product (GDP). Extending the estimation of value of the offshore ESE sector might usefully extend to measuring its contribution to GDP.

GDP is an aggregate indicator of economic activity measured as the market value of all goods and services produced in a country that are not sold to other industries. It can be a useful guide to the overall financial wealth of a nation. Total GDP is measured in different ways, but one approach is the expenditure-based approach which adds up the value of goods and services sold to final consumers. It is defined as:

GDP = Gross Private Consumption Expenditure (C) + Gross Private Investment (I) + Government Purchases (G) + Net Exports (Exports (X) – Imports (M))

Thus, all other things being equal, an increase in exports adds to GDP.

However, increasing exports is likely to require some imports, whether directly as in examination papers being sent offshore via an overseas courier, or indirectly via universities buying imported teaching resources. Thus the ultimate impact on GDP will be smaller than the original change in exports.

The net effect on the expenditure measure of GDP must equate to the net effect on the income measure. That is, the costs of inputs such as energy, transport services, paper, etc used to produce the education services need to be subtracted from the value of output. This calculation produces an estimate of *value added*. It is the total income (for owners and workers), that the industry has produced, which is available for final consumption. Value added can also be measured as "gross operating surplus (business profits) plus compensation of employees (mainly salaries and wages)."[24]

This approach, namely calculating the direct, indirect and induced changes (see below) in value added on the income side as a result of the change in exports on the expenditure side, was used in the previous Infometrics studies to calculate the overall impacts of onshore international education on GDP.

Wider Effects: Direct, Indirect and Induced

The contribution of a sector, measured as gross output or value added, can include the wider effects of the sector across the economy. The total contribution can be defined as the sum of three components:

- **direct effects** are those generated by the ESE sector alone
- **indirect effects** are the economic activities of those further back in the supply chain. Each of the firms has other suppliers from a number of other industries beyond the ESE sector. These suppliers, in turn, draw on the goods and services of other industries to produce their own output. The sum of all these interdependencies is the indirect effect
- **induced effects** are the economic activities of households whose incomes are from firms associated directly and indirectly with the ESE sector. Induced effects capture the effects of additional spending by people employed as a result of the direct and indirect effects. For instance, staff will purchase a range of goods and services to support their households, which further stimulates the economy.

These effects can be included in the assessment using multipliers. Multipliers relate the indirect and induced effects to the direct effects.

Multipliers are estimated from historical input-output tables. These tables show the flow of goods and services between industries and sectors in the economy. For example how

[24] Statistics NZ (2012) National Accounts (Industry Benchmarks): Year ended March 2010 www.stats.govt.nz/browse_for_stats/economic_indicators/NationalAccounts/NationalAccountsIndustryBenchmarks_HOTPYeMar10/Commentary.aspx

much roundwood is required to produce a tonne of pulp, or how much households spend annually on electricity. However, they come with some limitations:

- there are no changes in relative prices – ESE activities do not change the exchange rate for example
- average relationships apply at the margin – for example if it takes one teacher to teach 20 children it takes 0.5 of a teacher to teach 10 children
- resources are available to meet the stipulated increment in demand – more internet bandwidth to meet increasing demand for distance learning for example.

For small changes in demand these limitations are acceptable, but for large changes it is better to move to general equilibrium modelling which is not subject to these shortcomings.

1.5.3 Gross or Net Effects

As is intimated by the previous discussion, although estimates of value added obtained by multiplier analysis take account of some costs of producing economic output, they do not fully account for opportunity costs, particularly for labour. This contrasts with the approach used if valuing the contribution of an export industry in a cost benefit analysis (CBA). In a CBA, the benefits of an industry (or project or policy) are evaluated by subtracting the opportunity costs of all resources employed from the benefits received. In an evaluation of the education services export industry this would measure export revenues less the costs of obtaining those revenues, ie the opportunity costs of staff, buildings and other resources used in providing and exporting education services and products.

Such an analysis can be termed a net evaluation to contrast with the gross valuation of benefits as value added or export revenues. A CBA provides an estimate of the value to New Zealand and could be used to identify industries for which New Zealand has particular competitive advantage, eg because of low costs compared with other countries. A general equilibrium analysis does much the same thing.

In contrast, a gross evaluation provides information on the size of the industry but it does not suggest its incremental or relative value to New Zealand.

If the reason for measuring economic contribution is to understand how it is changing over time rather than attempting to value the contribution of the industry, then the main requirement is for consistency, and the gross approach provides a useful indicator. It is also consistent with historical data and with approaches used in other countries.

We propose to use an estimate of the gross contribution in this study as a way to measure progress over time, while noting that the results do not provide a measure of the relative value of the industry to New Zealand.

1.6 Approach

The measurable targets for Goal 2 include a requirement to measure the annual revenues from providing education services offshore. This is a gross revenue measure based on export sales. This comprises one element of the output.

The other element is an estimate of *value added* that includes wider effects across the economy. The approach used in this study includes the following elements:

Export Revenues

Gross contribution of education services exports delivered offshore =
fees of NZ education institutions for transnational education and training services +
revenues from sales of other education products and services, including books, software

The full set of activities is discussed under *Taxonomy* below.

Gross value added

Gross valued added of education services exports =
export revenue as above, re-defined as industry gross output
less inputs of other goods and services (leaving the return to capital and labour)
Adjusted by multipliers[25] to capture indirect and induced spending effects.

[25] See Section 1.5.2

2 Taxonomy of Education Providers

2.1 Activities

In previous years the assessment of economic contribution has been based on the identification of student numbers and education providers. However, there is a much wider number of firms that could be said to be providing education services. Thus an important element of the study will be the development of a taxonomy for *educational service exports*.

Conceptually, offshore provision includes the following activities:

- offshore delivery of teaching and learning, either without certified qualifications or as whole or part of degree, diploma or certificate programmes
- distance delivery of the above via electronic or correspondence means
- sales of curricula, intellectual property, systems, software and learning materials
- educational consulting and advisory work
- research and commercialisation of education goods and services
- audit, moderation, assessment and quality control work.

Consistent with Balance of Payments classifications, excluded are non-education business services such as consultancy, research and technology development, even if they are undertaken by (predominantly) educational institutions. Arguably, however, parts of such activities could be defined as education, and thus be of interest to ENZ.

As an example of the difficulty of defining education exports, under the current System of National Accounts, revenue from the offshore use of curriculum material developed in New Zealand is classed as an export of educational services or perhaps as royalty income. But if the material is sold it becomes an export of either printed or electronic matter, and is then no longer treated in the National Accounts as an educational service.

2.2 Modes

The classification system used internationally distinguishes four modes of trade in services:

- Mode 1: cross-border supply such as when suppliers of services in one country supply services to consumers in another country without either supplier or consumer moving into the territory of the other
- Mode 2: consumption abroad, describes the process by which a consumer resident in one country moves to another country to obtain a service
- Mode 3: commercial presence, where enterprises supply services internationally through the activities of their foreign affiliates abroad
- Mode 4: presence of natural persons, where the producer moves to the country of the consumer to provide the service.

A university providing online tuition to a foreign student (Mode 1), may request that the pupil travel for an examination in New Zealand (Mode 2), or may decide to open a

teaching facility abroad (Mode 3). An individual lecturer may travel abroad temporarily to teach (Mode 4).

The following data (Table 8) have been derived from Statistics New Zealand's (SNZ) 2011 Business Operations Survey (BoS), which is the latest BoS to have an expanded section on international engagement. A 2015 version of the survey included a more limited set of data that cannot be compared directly with the 2011 numbers.

Table 8 Profile of Education and Training Industry

Category	No. of Firms	Table No.
Firms in the Education and Training industry	768	1
- Received overseas income (all modes)	146	44
- Provided services	143	45
- Received royalties from licensing, franchising etc	3	45
- Exported (mode 1)	69	1
- Produced services offshore (modes 3 and 4)	31	70

Source: Statistics NZ Business Operations Survey: 2011 – detailed tables

Receipt of royalties is technically part of Mode 1 so it is likely that the total number of Mode 1 exporters is 72, not 69. Note though that, as the BoS is based on SNZ's Business Frame, enterprises that are below the GST threshold are excluded.

Our interest is in Modes 1, 3 and 4, and extending beyond the Education and Training industry (see Table 9). As enterprises could be in more than one group, the total number of enterprises of interest is likely to be less than 103 (3+69+31) given in Table 8. Note that enterprises relate to activity or industry, not a type of product or service.

Table 9 Offshore provision activities by mode

Activity	Mode 1	Mode 3	Mode 4
Sale of books and curriculum/learning resources, whether in hard copy or digitally. Includes royalties and licence fees from books and curriculum materials.	Sales of products could be 'goods' exports rather than services	Licence fees could be paid by foreign affiliates who deliver education services using education materials from New Zealand	
Online platforms for data management and content delivery, software and education technology tools.	X	X : as above	
Distance learning and training via electronic or correspondence means. Distance consultancy: educational and advisory in relation to education and instructional support; audit, moderation, assessment and quality control work.	Eg. University offering courses on-line		
Offshore teaching and accreditation, both in short term packages or as whole or part degree, diploma or certificate programmes . Includes consultancy: educational and advisory in relation to education and instructional support; audit, moderation, assessment and quality control work. Includes offshore workplace and industry education and training.		Branch campus, perhaps with offshore partner or off-shore office delivering training	New Zealand teachers, lecturers and trainers offshore

Activity	Mode 1	Mode 3	Mode 4
Other.			

Exclusions:

- education products and services delivered on-shore i.e. within New Zealand
- New Zealand-based 'Edutourism' and activities contracts to arrange such
- hosting of study tours, delegations and familiarisation visits in NZ
- training customers in the use of their products by firms that do not produce educational products (for example training in how to use a photocopier), but including non-educational firms that provide training as a stand-alone revenue generating activity.

Companies which supply training services that are not their main activity are not captured in the BoS as part of the Education and Training industry, although they are of interest to this project. Similarly, for educational publishing. From data published by SNZ there is no method of identifying such cases. Thus we are forced to compile our own list, starting from sources such as New Zealand Trade and Enterprise.

Data from SNZ shows revenue from exports from the Education and Training services industry as follows:

- 2010/11: $84m
- 2011/12: $54m
- 2012/13: $38m
- 2013/14: $37m

Note that Mode 3 is not included in the Balance of Payments.

Mode 4 includes teachers who teach abroad and who are placed there via an organisation such as an education consultancy. It does not include individuals who teach while abroad and who are not classed as New Zealand residents, e.g. those having an "overseas experience". While theoretically there is a case for including the independent teachers within the definition of New Zealand's International Education industry, there are both conceptual and practical issues involved in actually measuring the associated dollar values. They are:

- from a practical perspective there is no readily available sampling frame of individual teachers abroad
- even if it was possible to identify New Zealand teachers living abroad, not all of them would be employed as teachers
- for those that are employed as teachers and remitting funds back to New Zealand, there is no conceptually straightforward way to determine how much is attributable to the proceeds of teaching income compared to say returns to investments or income earned by a non-teaching partner

- Statistics New Zealand provides estimates of the value of international transfers into New Zealand, but is unable to provide any extra detail such as splits by country or occupation.

We include individuals teaching abroad in our calculations (see Section 3.5), but the estimates of the value of transfers will be subject to a wide margin of error.

3 Survey

3.1 Method for Online Survey

We have used *Survey Monkey*[26] to deliver a short online survey to gather information about the type of export product and service, revenue, number of employees and industry type. The text of the survey is included as an Annex to this report along with the number and percentage recording specific answers.

In undertaking a survey, there is always a balance that needs to be struck between maximising the information obtained and limiting the number of questions to increase the expected response rate. Our survey limits the information requested to data on revenue and employee counts, reflecting previous experience with surveys of offshore providers which demonstrated that data relating to costs are much more difficult to obtain, let alone in a consistent way.

The additional cost information required to estimate value added will be taken from cost-revenue ratios and multipliers derived from input-output studies, as discussed in Section 1.5.2.

3.2 Sample

As there is no known list of offshore providers from which to draw a sample or take a census, participation in the survey was sought by the following means:

- 50 or so direct invitations by email and/or telephone to individuals, companies and institutions that are known to be in the offshore provision industry
- 12 industry bodies (including NZTE and NZQA) that were asked to promote the survey to their members
- emails to nine of the Focus 750 companies from an earlier ENZ study
- 343 invitations sent by ENZ to names (not necessarily unique) on their EdTech database
- articles in two issues of ENZ's *E-news* inviting readers to participate in the survey.

3.3 Timing

The survey was piloted with approximately 10 people from a range of exporters of education products and services then revised accordingly before going live. The Survey was conducted over the period February to April 2016.

[26] www.surveymonkey.com

3.4 Results

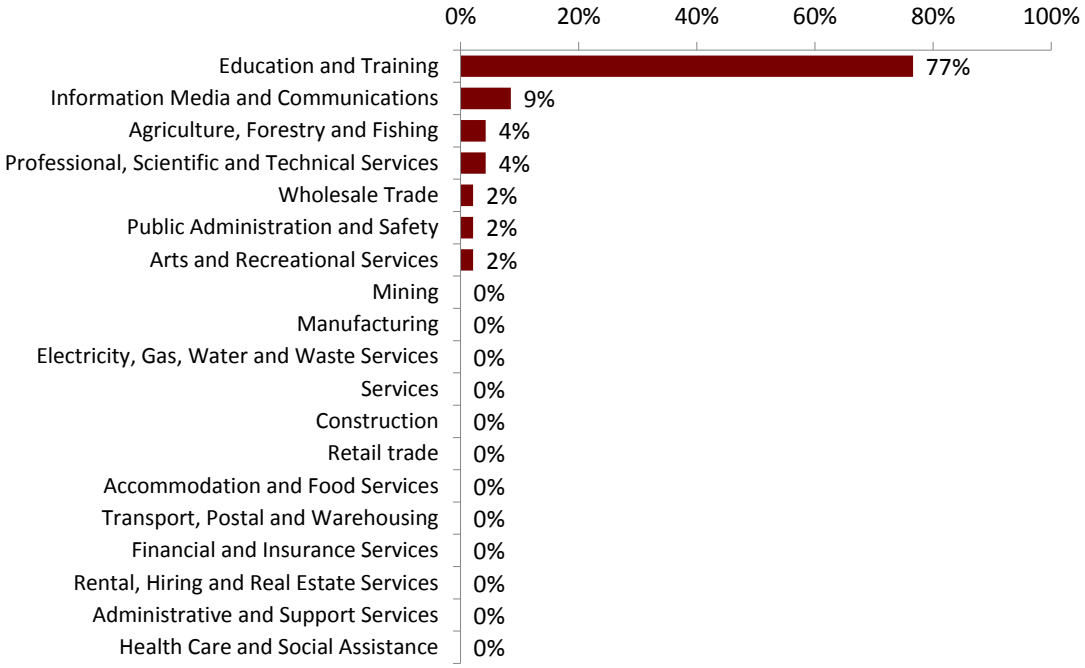
The number of responses recorded by Survey Monkey is 58, but a combination of pilot testing, duplicate entries and empty responses reduces the actual number to 51, approximately 50% of the estimated maximum of 103 firms (Section 2.2). With the exception of one which no longer exists, all of the large offshore providers (identified in the previous study) responded to the survey, as did most (if not all) of the next largest tier. For the sake of confidentiality, we do not name the respondents.

We analyse the results in two sections below. The first looks at industry activity in a general sense as addressed by Questions 2-5 in the survey (see Annex), and the second presents data on industry size, drawn from Questions 6-8 (Question 1 is contact information).

3.4.1 Principal Industry

Question 2 in the survey asks the respondent to describe the principal industry of the organisation using Australia and New Zealand Standard Industrial Classification (ANZSIC). The results are shown in Figure 2. Unsurprisingly around three quarters of respondents (36 of 47 who responded) are in the Education and Training industry. However, the fact that a quarter of responses are not in this industry justifies ENZ's argument that the offshore provision of education and services related to education encompasses a wider range of activities than traditional industry definitions suggest. The next most prominent industry is Information Media and Communications with a 9% share.[27]

Figure 2 Principal Industry of the Respondents

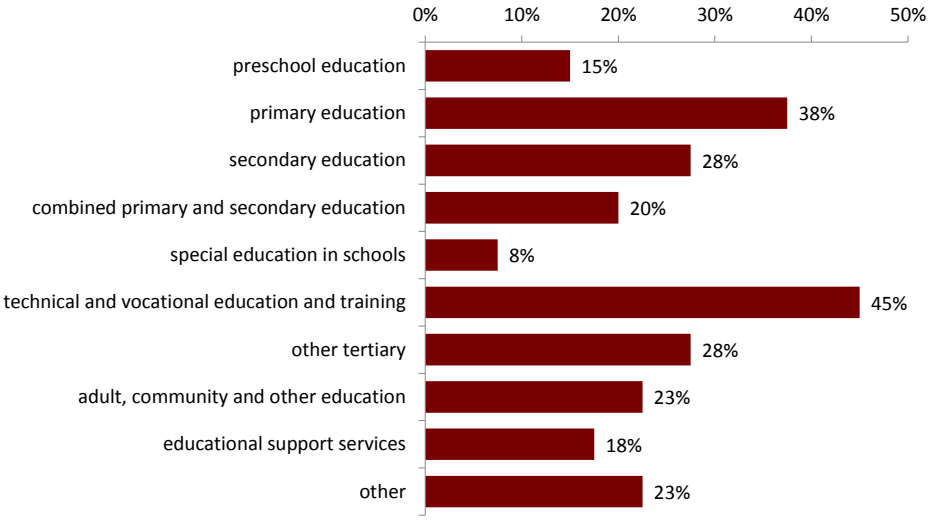


[27] While respondents self-selected into industries, each would have an ANZSIC industry code assigned to them by Statistics New Zealand that they could have used.

3.4.2 Type of education or training provided

Question 3 asks what type of education or training the respondent undertakes. Respondents could select multiple categories. The results are shown in Figure 3.

Figure 3 Sector of education and training

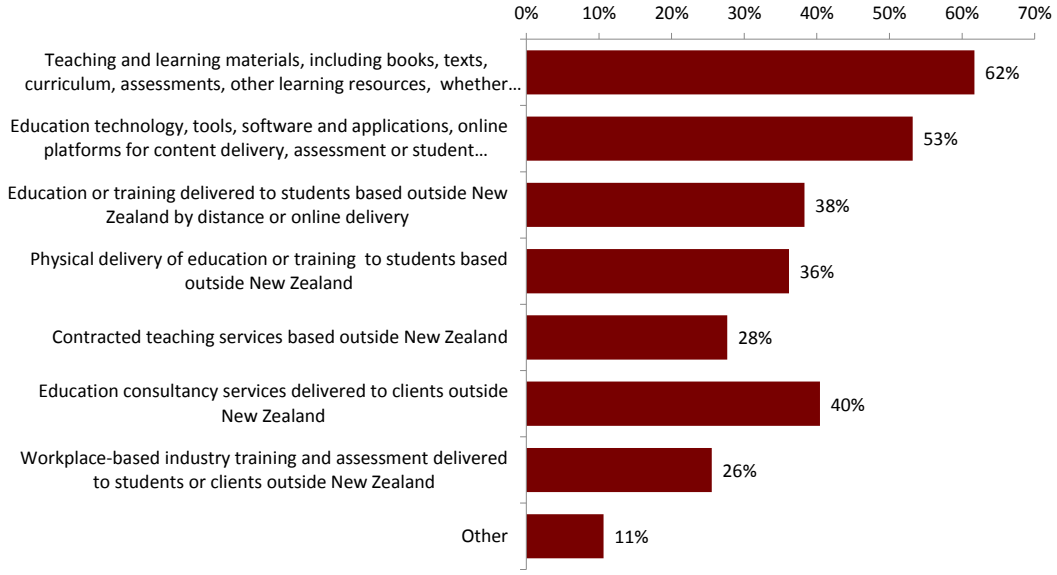


The largest areas of activity are 'technical and vocational education and training' and 'primary education', which are undertaken by 45% and 38% of respondents respectively. 18% of respondents provide educational support services.

3.4.3 Products and services

With respect to the mix of products and services being delivered, Figure 4 shows that teaching and learning materials are provided by 62% of respondents, while 53% provide education technology (such as software for online assessment). However, with the total number of responses being close three times the number of respondents, it is apparent that many organisations deliver a varied mix of goods and services.

Figure 4 Products and Services

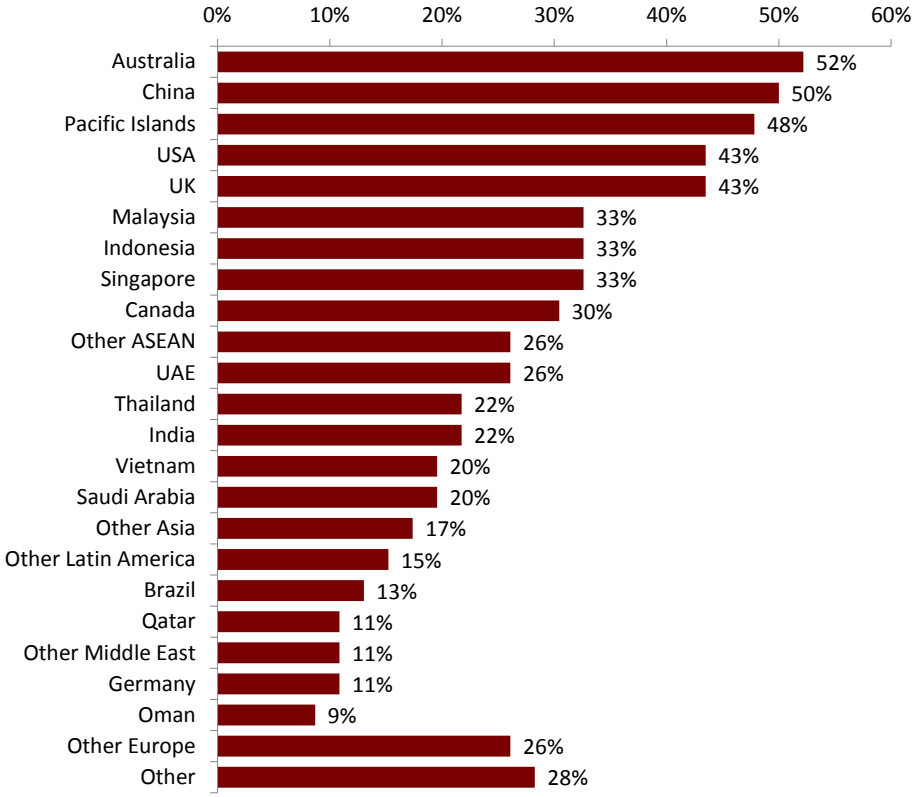


Presumably there are considerable economies of scope[28] across a number of the products and services given in Figure 4.

3.4.4 Countries exported to

Figure 5 shows the countries or broader geographic regions to which providers export. On average, each respondent exports to, or receives income from over six countries/regions. Exports to Australia, reported by 52% of respondents, are the most common source of foreign earnings (up from 39% in 2012/13). China is not far behind – cited by 50% of respondents (and significantly up from 21% in 2012/13), followed by the Pacific Islands at 48%. The USA and United Kingdom were each mentioned by 43% of respondents. Collectively, South East Asia and the Middle East are also significant regional markets.

Figure 5 Export Destinations



3.4.5 Employment

The employment questions received 46 responses. There were 895 associated personnel based in New Zealand with 514 based offshore.

The profile of employment is quite skewed. The 895 people employed in New Zealand encompass 44 respondents, but four respondents account for more than half of the total. In contrast, more than half (59%) of respondents employ fewer than 10 people in New

[28] The costs of producing more than one good are lower than the costs of producing them separately.

Zealand (excluding those with no employees). Some employ no one. None of the respondents are sole owner-operators although one institution has a single person employed in this area.

The 527 people employed overseas encompass 43 respondents. Three respondents account for 57% of the total while just under a half of respondents employ fewer than 10 people offshore (excluding those with zero employees).

The time periods to which the employment figures relate span the period from the 12 months ended March 2015 to the 12 months ended March 2016 (the latter are likely to be estimates). Of those respondents who reported a time period, 73% reported data for the year ending December 2015. The average reporting period is also the year ended December 2015. Larger organisations, as measured by employment, tended to report slightly older data.

Revenue per person employed (see *Revenue* results below) averages about $116,000 per annum which is very credible. However, the range extends from a few thousand (excluding organisations that are new to exporting) to over $600,000. While high values are plausible for an established business with good leverage, the low values could mean that some responses to the question have not fully appreciated the requirement for employment to be "directly associated" with the export activity. Thus we should probably interpret the employment figures as upper bounds.

3.4.6 Revenue

Forty-six respondents answered this question. Table 10 shows a categorisation of revenue by size group, the amount of total revenue in each category and the cumulative percentage of revenue. To preserve confidentiality, as guaranteed in the introduction to the survey, we follow Statistics New Zealand practice and report no cells with fewer than three respondents.

Total revenue, as estimated by the industry *in this survey*, amounts to $164m, a 58% increase on the $104m estimated for 2012/13. As for employment, the average reporting period is for the year ended December 2015.

Table 10 includes revenue for four offshore providers which did not participate in this survey. Data have come from other sources including a separate interview and data held by ENZ. Including this group brings the total revenue to $171m.

A few caveats should be noted:

1. One provider which was not in the sample in 2012/13 participated this time, although one company which previously had relatively large revenues exited from the sample and from the industry.

2. A number of smaller, but still significant providers entered the sample, due to a widening of the previous definition of education and training, as discussed above.

3. One provider obtains a large share of its export revenue from foreign aid programmes funded by the New Zealand government. Arguably this revenue should be excluded from the above total. However, if the aid funds are thought of as being remitted to the overseas countries and then spent on New Zealand education products and services, they would be counted as part of the gross export earnings of the education industry. The amount involved is probably in the hundreds of thousands of dollars.

4. Virtually all respondents rounded their revenue figures to one order of magnitude less than the revenue figure itself. For example, a respondent which recorded $130,000 of revenue would not typically record more accurately than the nearest $10,000. A respondent recording $1.5m would round to the nearest $100,000.

Table 10 Revenue of the international education industry (2015)

Revenue band	Number	Total $'000	Cumulative %
$0 to <$20,000	5	$1	0.0%
$50,000 to < $100,000	4	$220	0.1%
$100,000 to < $250,000	9	$1,316	0.9%
$250,000 to < $500,000	3	$1,100	1.6%
$500,000 to <$1m	4	$2,710	3.3%
$1m to < $2m	6	$8,200	8.3%
$2m to < $5m	7	$22,835	22.2%
$5m to <$10m	3	$20,200	34.6%
>$10m	4	$107,143	100.0%
Total from 2016 survey	**45**	**$163,725**	
From other data sources	4	$7,180	
Overall total	**49**	**$170,905**	

The implication of this last point is that the error margins on the larger revenue figures frequently exceed the smaller figures. As shown in Table 1, the smallest 25 providers (56% of the responding sample) which have revenue of less than $1m account for less than 4% of revenue. In 2012/13 the $1m ceiling covered 75% of respondents and accounted for 6% of total revenue.

The entire block of revenue earned by exporters which are below the $1m threshold is probably smaller than the variability in the revenue of the major providers. Therefore, while a small provider could of course become a large provider over time (perhaps even quite quickly) the skewed nature of the distribution suggests that following the top sixteen or so providers would give ENZ a very good estimate of the revenue trend in the offshore provision industry.

Of the seven largest providers, two are (traditional) educational institutions and five supply a wide range of educational services, technology, software and resources (including publishing).

Presumably there may also be dozens of small players, mostly with revenue in the tens of thousands of dollars or less, who have not participated in the survey. Unfortunately

there is no way to reliably estimate how much of this revenue our sample has missed. We can probably assume though that it is within the error margin attached to the revenue of the large players.

As discussed in Section 2, export revenue from the Education and Training Services industry is estimated by SNZ as falling from $84m in 2010/11 to $37m in 2013/14. These values are clearly much lower than the above revenue figure obtained from our survey. Possible reasons for the difference include:

- revenue has increased since 2013/14 (consistent with our findings)
- as discussed above we use a wider definition of the industry than purely 'education and training services'. In particular educational publishing is a substantial additional component. The revenue of respondents who reported at least some educational publishing as an activity amounts to almost $57m, but the share of this that relates solely to publishing is unknown
- our revenue figure includes Mode 3 delivery – commercial presence offshore, which is not part of the Balance of Payments. We are unaware of the precise legal and institutional structures used by survey respondents when they have an offshore presence, but suspect that Mode 3 provision could well be significant.

3.4.7 Revenue Expectations

The last question in the survey asks about expected revenue from the export of education products and services over the next three years. There were 45 respondents of whom 40 (89%) expect revenue to increase. The previous 2012/13 survey recorded a very similar 88% with positive expectations. Two respondents expect no change, two expect a decrease and one has no expectations.

Of the 40 organisations expecting an increase:

- 5 expect a rise of less than 10%
- 13 expect 10-25%
- 22 expect more than 25%.

Clearly the industry is optimistic with average growth over the next three years expected to be around 20%. Six of the seven largest organisations expect an increase.

There are only 15 organisations that responded to this question and also responded to a similar question in 2013. In that year, 12 expected to increase revenue in the future, of which eight managed to do so between 2012 and 2015, while for two of them revenue was essentially static. However, three organisations which expected no change managed to raise revenue.

Due to the multiple responses to Question 4 on the types of products and services that are exported and the predominance of organisations that expect to increase revenue over the next three years, it is not possible to identify a statistically robust relationship between growth expectations and the type of market in which that growth is expected – or not expected.

3.5 Individual Teachers Offshore

Individuals teaching offshore who have no link to any New Zealand education service organisation are not captured in our survey. This group consists of, for example, people who have a teaching job offshore as part of an 'overseas experience', whether or not they are qualified teachers.

As outlined in Section 2 there are conceptual and practical issues involved in actually measuring the associated dollar values:

- from a practical perspective there is no readily available list of individual teachers abroad from which to draw a sample
- even if it was possible to identify New Zealand teachers living abroad, not all of them would be employed as teachers
- for those that are employed as teachers and repatriating funds back to New Zealand on their return, there is no conceptually straightforward way to determine how much is attributable to the proceeds of teaching income compared to say returns to investments or income earned by a non-teaching partner.

We are not convinced that individuals teaching offshore should be counted as part of New Zealand's Export Education industry, although we concede that the argument is not without merit.

The only study of the possible economic value of this activity was undertaken by Prescient.[29] Prescient estimated 5,000-20,000 teachers remitting an average of $20,000 and a total of $100m-$400m per annum. These values are highly uncertain and appear too high to us.

If New Zealand teachers are abroad for more than one year, any assets or income that they bring back with them are classified under balance of payment statistics[30] as part of 'other changes' in the International Investment Position reconciliation statement.[31] Inward migrant transfers over recent June years are estimated by SNZ as follows:[32]

- 2012/13: $1,802m
- 2013/14: $2,205m
- 2014/15: $1,987m.

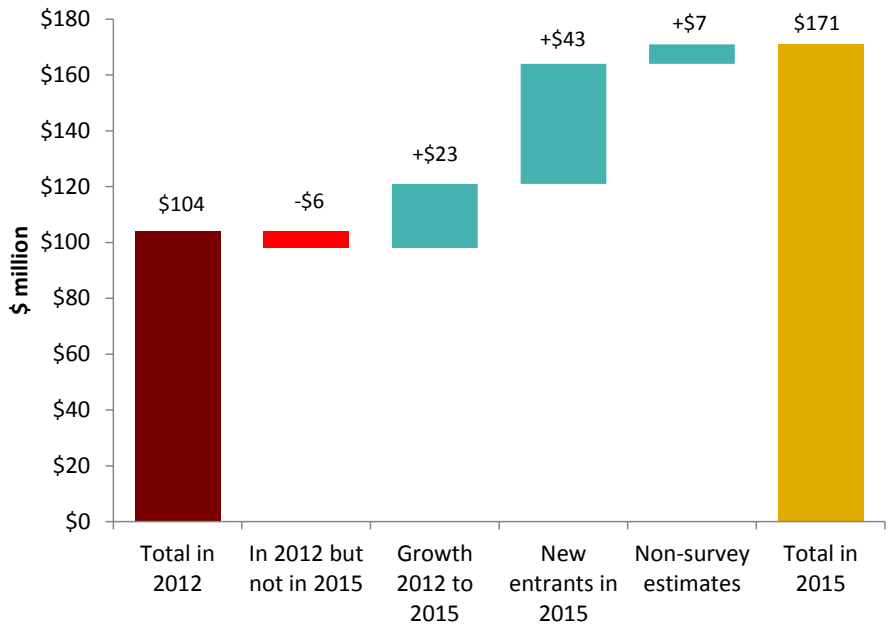
[29] Prescient Management Consulting (2014): How significant to our economy are New Zealand teachers who work overseas? Report to Education New Zealand.
[30] International Monetary Fund (2009) Balance of Payments and International Investment Position Manual. Sixth Edition (BPM6).
[31] Under BPM6 the International Monetary Fund decided that there is no change in ownership as migrants move from one country to another, so therefore only the stock of a country' assets/liabilities changes to capture the migration, but no actual transaction for the change in ownership is captured in the capital account, as was previously the case.
[32] Commissioned from Statistics New Zealand.

Typically about 3% (around 2,900 people) of permanent and long term migrants are classed as 'Education Professionals' by occupation[33] which, on a *pro rata* basis, implies about $60m per annum for this group of migrants – encompassing both returning New Zealand citizens and foreign citizens. This might be a reasonable estimate if: (1) it is assumed that those classified as education professionals worked as such abroad, and (2) that the amount remitted by teachers is equal to the average of remittances by all workers across all employment types.

3.6 Revenue Decomposition

Figure 6 illustrates how the measured size of the offshore provision industry has changed between 2012 and 2015. The largest contribution to the increment in revenue of $67m (being $171m less $104m) is the contribution of around $43m from firms and organisations that were previously not sampled. Another $23m is contributed by revenue growth across organisations that responded to both surveys.

Figure 6 Revenue Decomposition



There is also a small negative revenue contribution from organisations that have dropped out of the sample, although this is offset by the revenue estimated from non-respondents. The latter group includes the more significant providers who responded in 2013, as well as some new companies. Therefore while it is likely that the revenue from some smaller providers is missing, as noted above that revenue is probably smaller than the error margin on the revenue estimates from the large providers.

3.7 Indirect Effects

The indirect effects of offshore providers' revenue on the wider economy can be estimated using multipliers. They are factors that, if multiplied by, say, the output of a firm or sector, can be used to identify, direct, indirect and induced value added (see Section 1.5.2 on page 11 for explanations). These categories are explained below.

[33] Defined as in footnote 3.

- Type I multipliers capture the indirect effects;
- Type II multipliers capture the induced effects.

The multipliers used in this analysis are shown in Table 11. Multipliers developed for individual industries have been averaged using the industry mix of survey respondents: Gross Output (GO) and Value Added (VA) multipliers and the VA:GO ratio were weighted on the basis of revenues;[34] employment multipliers were weighted using employment data.

Table 11 Multipliers used in analysis

Multipliers	Direct	Type I (direct + indirect)	Type II (direct + indirect + induced)
Gross Output		1.54	2.49
VA:GO ratio	0.657		
Value-Added (VA)		1.4	2.12
Employment		1.35	1.86

Source: Original multipliers from Butcher Partners

We use these multipliers to estimate the wider effects in the economy (Table 12). As noted in Section 3.4, revenue in 2015 was $171m, with employment of 895. This created value added (or contribution to GDP) of $118m. The total direct and indirect value added was $242m, while direct plus indirect employment amounted to 1,584 people. Broadly speaking the value added contribution of the offshore education industry is about one tenth of the value added contribution of the onshore international education industry.[35] The onshore international education industry is comprised primarily of international students who come to study in New Zealand.

Table 12 Direct and Indirect Economic Effects (2015)

	Direct	Indirect	Induced	Total
Revenue/Gross output ($ million)	$171	$84	$171	$426
Value-Added ($ million)	$118	$38	$86	$242
Employment (number)	895	251	439	1,584

Some caveats should be noted:

1. the total effects do not measure the **net** contribution of offshore education to the economy. For example we cannot say that total employment would be lower by 1,584 people if the offshore education industry did not exist. Some or all of those people would be otherwise employed in different industries at higher or lower wages

[34] Multipliers for the different industries as shown in Figure 2 above were multiplied by the percentage of revenues from companies that classified themselves (in the survey) as belonging to those industries.
[35] Stroombergen A (2014) The Economic Impact of International Education 2014. Infometrics.

2. The multipliers used here are based on a large set of industry multipliers,[36] weighted by the industry composition of revenue and employment reported by survey respondents

3. It is assumed that the offshore providers in the Education and Training industry have a similar industrial structure to onshore providers in this industry. However, this may not be the case as offshore providers are more likely to export products and digitally-based services than onshore providers.

[36] These were supplied by Butcher Partners and relate to 2006/07, the latest year for which official input-output tables exist. A new set of tables for 2012/13 is expected in April or May 2016.

4 Summary and Conclusions

This study has aimed to provide ENZ with information on:

- progress towards the Goal 2 objectives and specifically the objective to "*increase annual revenues from providing education services offshore to at least $0.5 billion.*"
- other factors that are relevant to measuring the overall success of the industry.

On the basis of a survey of firms that we consider are part of this industry, it is estimated that revenues from the offshore education industry were approximately $171 million in 2015. This amount is closer to the target than that estimated for 2012 ($104 million) which is as a result of growth in the industry of over 20% (by revenue) and because we have widened the sample of firms and activities included in the survey.

In addition, we estimate that the value added (contribution to GDP) of the industry is $118 million or $242 million if we include the wider impacts in the economy, both upstream and downstream.

Direct employment by the industry is estimated to be 895 and a total of 1,584, including the employment more widely in the economy.

Annex: Survey

Survey: Please complete answers below

We have been contracted by Education New Zealand to measure the broader value to the New Zealand economy of the export of education products and services. This includes a diverse range of activities such as publishing, consulting and education technology. Exporters of education services include educational organisations and companies as well as an increasing number of companies whose primary business is not education.

As part of this research we invite you to participate in this short survey. Please note that for this survey we are not including the provision of educational services delivered within New Zealand, whether to international students or to foreign companies.

All revenue information will remain confidential to the researchers and will be aggregated so that no published data will be able to be associated with a particular entity.

Please contact us if you have any questions about the research.

With thanks

Covec: Tim Denne; 09 916 1960; tim.denne@covec.co.nz.
Covec: Sue Watson; 021 711858; sue.watson@covec.co.nz
Infometrics: Adolf Stroombergen; 04 474 2141; adolfs@infometrics.co.nz

Q1: Contact Details

Contact information		
Answer Options	**Response Percent**	**Response Count**
Name	100.0%	54
Company	96.3%	52
Address	90.7%	49
Address 2	50.0%	27
City/Town	92.6%	50
Website	77.8%	42
Email Address	92.6%	50
Phone Number	88.9%	48
answered question		51

Q2: Your Industry

Which of the following best describes the principal industry of your organisation?		
Answer Options	**Response Percent**	**Response Count**
Agriculture, Forestry and Fishing	4.3%	2
Mining	0.0%	0
Manufacturing	0.0%	0
Electricity, Gas, Water and Waste	0.0%	0
Services	0.0%	0
Construction	0.0%	0
Wholesale Trade	2.1%	1
Retail Trade	0.0%	0
Accommodation and Food Services	0.0%	0
Transport, Postal and Warehousing	0.0%	0
Information Media and Communications	8.5%	4
Financial and Insurance Services	0.0%	0
Rental, Hiring and Real Estate Services	0.0%	0
Professional, Scientific and Technical Services	4.3%	2
Administrative and Support Services	0.0%	0
Public Administration and Safety	2.1%	1
Education and Training	80.9%	38
Health Care and Social Assistance	0.0%	0
Arts and Recreational Services	2.1%	1
Other (please specify)		16
answered question		**47**

Q3: Type of Education and Training

Please select the type of Education and Training from the list below. Please select all that apply.		
Answer Options	**Response Percent**	**Response Count**
preschool education	15.0%	6
primary education	37.5%	15
secondary education	27.5%	11
combined primary and secondary education	20.0%	8
special education in schools	7.5%	3
technical and vocational education and training	45.0%	18
other tertiary	27.5%	11
adult, community and other education	22.5%	9
educational support services	20.0%	8
Other (please specify)		9
answered question		**40**

Q4: Your Activities

What types of education products and services does your organisation export? Please select all that apply.

Answer Options	Response Percent	Response Count
Teaching and learning materials, including books,	61.7%	29
Education technology, tools, software and	53.2%	25
Education or training delivered to students based	38.3%	18
Physical delivery of education or training to students	36.2%	17
Contracted teaching services based outside New	27.7%	13
Education consultancy services delivered to clients	40.4%	19
Workplace-based industry training and assessment	25.5%	12
Other (please specify)		5
answered question		47

Q5: Regions

Which of the following countries do you export educational products and services to? Please select all that apply.

Answer Options	Response Percent	Response Count
Australia	52.2%	24
Pacific Islands	47.8%	22
USA	43.5%	20
Canada	30.4%	14
Brazil	13.0%	6
Other Latin America	15.2%	7
Vietnam	19.6%	9
Malaysia	32.6%	15
Thailand	21.7%	10
Indonesia	32.6%	15
Singapore	32.6%	15
Other ASEAN	26.1%	12
China	50.0%	23
India	21.7%	10
Other Asia	17.4%	8
Saudi Arabia	19.6%	9
Oman	8.7%	4
UAE	26.1%	12
Qatar	10.9%	5
Other Middle East	10.9%	5
UK	43.5%	20
Germany	10.9%	5
Other Europe	26.1%	12
Other (please specify)		13
answered question		46

Q6: Employment

For a recent twelve month period, how many personnel were directly associated with the export of your education product or service? Includes		
Answer Options	**Response Percent**	**Response Count**
Number of personnel based in New Zealand	100.0%	46
Number of personnel based offshore	93.5%	43
Please define the twelve-month period your data refer	100.0%	46
answered question		**46**

Q7: Revenue:

For the same twelve month period as the previous question please provide an estimate of the revenue that you	
Answer Options	**Response Count**
	46
answered question	**46**

Q8: Future Revenue

In the next three years do you expect your revenue from the export of education products and services to:		
Answer Options	**Response Percent**	**Response Count**
Increase	88.9%	40
Decrease	4.4%	2
Stay the same	4.4%	2
Don't know	2.2%	1
Other (please specify)		5
answered question		**45**

Q9: Future Revenue

How much do you expect your revenue to increase in the next three years?		
Answer Options	**Response Percent**	**Response Count**
0-10%	12.2%	5
10-25%	31.7%	13
More than 25%	53.7%	22
Don't know	2.4%	1
Other (please specify)		3
answered question		**40**

Q10: Future Contact

Can we contact you to discuss your responses to this survey?		
Answer Options	Response Percent	Response Count
Yes	91.5%	43
No	8.5%	4
Comments		5
answered question		47

Q11: Thank You

Thank you for participating in this survey. Please add any other comments that could help us to interpret the	
Answer Options	Response Count
	8
answered question	8