



INDEPENDENT SCHOOLS
OF NEW ZEALAND

Representing the nation's leading private schools

REPORT

ECONOMIC
CONTRIBUTION OF
INDEPENDENT SCHOOLS
IN NEW ZEALAND

MARTIN
JENKINS



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PREFACE

This report has been prepared for Independent Schools of New Zealand (ISNZ) by Jason Leung-Wai and Tim Borren from MartinJenkins (Martin, Jenkins & Associates Limited).

MartinJenkins advises clients in the public, private and not-for-profit sectors, providing services in these areas:

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Caveats

By their nature, economic impact studies rely on a large number of assumptions as well as on imperfect data. Where we have encountered limitations in available data, assumptions have been made, which are outlined in the report. Any calculations deriving from assumptions should be treated as estimates of the actual economic benefits.

We have not been required, or sought, to independently verify the accuracy of information provided to us. Accordingly, we express no opinion on the reliability, accuracy, or completeness of the information provided to us and upon which we have relied for the purposes of this study.

We reserve the right, but will be under no obligation, to review or amend this Report, if any additional information, which was in existence on the date of this Report, was not brought to our attention, or subsequently comes to light.

Economic contribution of independent schools in New Zealand



88 independent schools teach **28,652** students – **4%** of NZ's students.

They received **\$42.2 million** in government funding in 2015 (\$1,580 per student) – a **quarter** the per student funding of state schools.

Independent school facilities are also used for a variety of community purposes



Contribution to GDP, employment and government tax revenue



Independent schools spend **\$489 million** annually, directly contributing **\$361 million** in GDP to New Zealand's economy.

And contribute **\$64 million GST** annually in tax revenue from GST on fees.

Total GDP impact, including direct, indirect and induced impacts: **\$697 million**

They support **8,590 FTE jobs***



*Direct, indirect and induced impact

Savings to government



Independent schools save the government about **\$130 million** per year in operational and salary costs.

And between **\$270 and \$840 million** in one-off capital investment for new schools and classrooms, if independent school students were educated in the public system.

Value of higher educational achievement

Students from independent schools in NZ scored **17% higher** than state school students in international PISA tests across maths, reading and science.



\$110 million of New Zealand's GDP growth in 2015 can be attributed to the level of educational attainment at independent schools.



INTRODUCTION

Purpose

Independent Schools of New Zealand (ISNZ) is a national body representing 48 private schools, which educate about 88 percent of private school students in New Zealand. ISNZ is preparing a submission to government, which is currently undertaking a review of school funding as part of a wider review of the Education Act.

The purpose of this report is to quantify the economic contribution of New Zealand's independent schools to support ISNZ's submission to government on the benefits of independent schools and the public policy settings needed to maximise these benefits to New Zealand.

Background

There are over 2,500 schools in New Zealand servicing a school roll of around 776,000 in 2016. Within the New Zealand education system, there are 88 independent schools (private schools) who educate close to 29,000 pupils (4 percent of New Zealand school pupils) including over 1,900 international students.¹

Independent schools receive some government funding, but most of their support is provided by school fees and endowments. Government funding to independent schools was \$42.2 million in 2015, equating to about \$1,580 per student. This is just 25 percent of the operating funding allocated per student at state and state-integrated schools. Independent schools with annual turnover greater than \$60,000 are required to be registered for GST and to charge GST on all fees paid by parents.

Independent schools are not required to follow the national curriculum, though curricula are regulated by the Ministry of Education.

Independent schools are not charter schools, so this report does not include any charter schools information.

Approach

Our analysis is based on the approach taken by Oxford Economics in their 2014 report *"The impact of independent schools on the British economy"*².

Underlying data for the analysis was sourced from:

- financial statements via the New Zealand Charities Register,

¹ As at May 2016. Data is from school directories accessed from the Education Counts website.

² (Oxford Economics, 2014).



- schools directly,
- the Ministry of Education,
- OECD Programme for International Student Assessment, and
- Independent Schools of New Zealand.

New Zealand input-output multipliers were used to calculate the total economic activity generated by independent schools' operations in terms of national gross output, GDP (value added) and employment.

The calculation of government savings resulting from the existence of independent schools is based on a simple model which does not attempt to capture all the ramifications of a world without independent schools. The model is based on average cost measures, rather than marginal cost measures, so the estimate gives an indication of the order of magnitude of savings to the government rather than an exact figure.

We have attempted to quantify the impact higher educational attainment at independent schools has on New Zealand's economic growth. Following the Oxford Economics approach, this calculation was based on a 2010 OECD research paper³ relating improved PISA outcomes to economic growth.

Output

This report focuses on the economic contribution of independent schools arising from:

- school operations,
- tax contribution,
- savings to government, and
- the value of higher educational achievement.

Each of these areas of activity has been assessed separately.

³ (Woessmann, 2010) The High Cost of Low Educational Performance: The long-run economic impact of improving PISA outcomes.



INDEPENDENT SCHOOLS IN NEW ZEALAND

There are 88 independent schools in New Zealand educating 28,652 pupils, of which 1,953 are international students⁴. 48 of these schools, with 25,181 students (88 percent of independent school pupils), are represented by ISNZ. ISNZ member schools employ 2,400 FTE academic staff nationwide.

There are 88 independent schools in New Zealand educating about 4 percent of New Zealand students. The 48 ISNZ member schools employ 2,400 FTE academic staff.

Independent schools have a long history of teaching privately determined curricula, regulated by the Ministry of Education. Most are operated by charitable trusts and a number of schools have religious affiliations.

Table 1 shows the independent school roll by school type as at April 2016. See Appendix 2 for a list of independent schools in New Zealand.

Table 1: Number of independent school pupils by school type, April 2016

	Full Primary	Secondary (Year 7-15)	Secondary (Year 9-15)	Composite (Year 1-15)	Intermediate	Contributing	Total Roll
ISNZ schools	4,184	4,207	2,813	13,977	0	0	25,181
Non-ISNZ schools	406	0	967	1,896	196	6	3,471
Total							28,652

Source: Ministry of Education, Education Counts.

In 2015, independent schools received \$42.2 million of government funding⁵, which was allocated according to the number and year level of enrolled students. Averaged over New Zealand citizen students, the 2015 subsidy was about \$1,580 per student. This subsidy is about a quarter of per student government funding for salaries and operations of state schools.

⁴ Ministry of Education, Education Counts. Roll as at April 2016.

⁵ Ministry of Education, Education Counts.



Independent schools receive a subsidy of \$1,580 per student, a quarter of the per student government funding received by state schools.

Independent schools contribute to New Zealand's economy and to the community more widely in a number of ways. From an economic perspective, they:

- generate productive output by employing people and purchasing a variety of goods and services
- contribute to government revenue through GST charged on fees paid by parents
- save the government money that would otherwise have to be spent educating private school students in the public system
- help students attain higher academic grades, which research has shown improves economic growth.

From a broader societal perspective, independent schools:

- provide scholarships to worthy students in need
- provide facilities for community groups to use
- instil values in their students that are beneficial to wider society
- offer alternative qualifications to NZQA such as the International Baccalaureate Diploma or Cambridge IGCSE.

Some independent schools provide a safe, specialised environment for children with intellectual impairment or social and learning difficulties.

While social benefits are real and contribute to improved societal and economic outcomes, the focus of this analysis is on the economic benefits listed in the first four bullets.



ECONOMIC CONTRIBUTION

This section presents the estimated economic contribution of independent schools in New Zealand arising from school operations, tax contribution, saving to government and the value of higher educational achievement.

The direct and total economic impacts of school operational expenditure, in terms of economic activity generated and number of jobs supported, are presented for ISNZ member schools, independent non-ISNZ member schools and all independent schools. Tax contribution is also presented for both ISNZ and independent non-ISNZ member schools, while government saving and the value of higher academic achievement have been calculated for all independent schools.

Independent school expenditure

Independent schools create economic activity by employing staff and by purchasing a variety of goods and services from suppliers. This activity can be quantified by calculating all annual operating expenditure made by independent schools, such as salaries to teachers and support staff, course materials, IT, building maintenance and insurance.

Independent schools spent \$489 million on operations in 2014. ISNZ independent schools accounted for 93 percent of that expenditure.

Total expenditure of independent schools in a financial year was the basis for estimating the economic impact of independent schools. Financial performance statements of independent schools were used to estimate annual expenditure of ISNZ and non-ISNZ private schools.

Financial performance statements were available, for most independent schools, on the New Zealand Charities Register. For schools where expenditure could not be sourced, expenditure was estimated based on school roll and school type, using average expenditure of known schools. The majority of the financial statements were for 2014, so that was used as the year of analysis. Based on comparing expenditure for schools where statements for both 2014 and 2015 were available, we consider that total expenditure would not have changed significantly in 2015 or the current year.

Individual school expenditure was categorized into the relevant industry. The aggregated expenditure for each industry was used as input for the input-output multiplier model. The most recent (2012/13) New Zealand input-output multipliers⁶ were used in the model.

⁶ Butcher Partners Ltd.



Table 2: Independent school expenditure by industry, 2014

Industry	ISNZ Independent \$m	Non-ISNZ Independent \$m
School education	407.8	27.2
Repair and maintenance	18.0	1.5
Banking and financing, financial asset investing	9.3	0.9
Health and general insurance	7.2	0.7
Building cleaning, pest control and other support services	2.7	0.5
Advertising, market research, and management services	3.2	0.5
Other store based retailing; non-store and commission based retailing	2.0	0.3
Computer system design and related services	1.3	0.3
Telecommunication services	0.8	0.3
Food and beverage services	2.1	0.1
Non-residential property operation	1.6	0.2
Total expenditure	456.1	32.6

Source: MartinJenkins

On average, 64 percent of ISNZ member schools' expenditure was on salaries and wages for teaching, administrative, and other staff.

In categorising school expenditure, school education was the largest category, accounting for close to 90 percent of the identified expenditure.

Economic impact from the operation of independent schools

The underpinning method for estimating the economic contribution of independent schools is Input-Output (I-O) Multiplier Analysis, which estimates the economy-wide effects that an initial change in economic activity has on a defined geographic area.

The economic impact analysis follows the accepted practice of identifying direct expenditure associated with the activity or event. This expenditure is assigned to the likely industry where it is incurred. Ratios and multipliers are applied to calculate the total impact on economic activity in terms of gross output, value added (GDP), and employment (FTEs).⁷

Direct impacts are those that are generated by the initial expenditure with businesses. Indirect impacts occur when those initial businesses purchase materials, goods and services from supplier firms, who in turn make further purchases from their suppliers and so forth. Induced impacts occur when

⁷ Gross output, value added and FTE employment are defined in Appendix 1.



employees in those businesses providing the materials, goods and services are paid wages and the enterprises generate profits that are then spent on consumption.

In this case, the activity is independent school operational expenditure and the defined geographic area is New Zealand. As noted, the analysis is broken into: all independent schools; ISNZ independent schools; and non-ISNZ independent schools.

All independent schools

Independent schools spend about \$489 million dollars annually, which, including indirect and induced impacts, contributes \$697 million to GDP and supports employment of 8,590 FTEs nationally.

Table 3 summarises the annual impact of all independent schools on the New Zealand economy. It includes ISNZ and non-ISNZ schools.

Table 3: Economic impact of all independent schools, 2014

New Zealand	Direct	Total
Output (\$m)	489	1,150
GDP (\$m)	361	697
Employment (FTEs)	5,474	8,590

* Total includes direct, indirect and induced impacts.

In total, independent schools directly spent an estimated \$489 million annually on salaries, goods and services. This generated about \$361 million in GDP and employed 5,474 FTEs.

Applying indirect and induced multipliers, where businesses that provide goods and services to independent schools then purchase goods and services from other businesses and so forth; and employees of those businesses consume goods and services, independent schools support a GDP contribution of \$697 million to New Zealand's economy and employment of 8,590 FTEs annually. To put this into context, independent schools directly generated about 0.16 percent of the New Zealand's GDP in 2015.⁸

⁸ Based on 2015 GDP of \$219.53 billion, Infometrics.



ISNZ independent schools

48 of the 88 independent schools in New Zealand (55 percent) are members of the ISNZ national body and these member schools teach about 88 percent of all private school students.

ISNZ independent schools spend about \$456 million dollars annually, which, including indirect and induced impacts, contributes \$651 million to GDP and supports employment of 8,027 FTEs nationally.

Table 4 and Table 5 summarise the annual economic impacts of ISNZ member schools and non-ISNZ independent schools respectively.

Table 4: Economic impact of ISNZ independent schools, 2014

New Zealand	Direct	Total
Output (\$m)	456	1,073
GDP (\$m)	337	651
Employment (FTEs)	5,118	8,027

* Total includes direct, indirect and induced impacts.

ISNZ independent schools spend around \$456 million per year, which is 93 percent of all independent school spending. They directly generate \$337 million in GDP and employ an estimated 5,118 FTEs. After taking into account the flow-on effects as this spending works through the economy, ISNZ member schools contribute \$651 million in GDP to the national economy and employ 8,027 FTEs annually.

Non-ISNZ independent schools

Non-ISNZ independent schools spend about \$33 million dollars annually, which, including indirect and induced impacts, contributes \$46 million to GDP and supports employment of 562 FTEs nationally.

The 40 non-ISNZ independent schools are typically smaller schools. Combined, they spend around \$33 million annually, generating \$24 million in GDP and employing 356 FTEs.



Table 5: Economic impact of non-ISNZ independent schools, 2014

New Zealand	Direct	Total
Output (\$m)	33	77
GDP (\$m)	24	46
Employment (FTEs)	356	562

* Total includes direct, indirect and induced impacts.

Including indirect and induced impacts, non-ISNZ independent schools generate \$46 million in GDP and support 562 FTE jobs.

Tax contribution

Independent schools pay taxes to government. This analysis looks at the additional tax paid by independent schools over what would be collected if they did not exist. This additional tax contribution is a result of how independent schools are taxed differently from state schools as a result of students paying fees. If we consider the counterfactual as a world with no independent schools, the government would forego a significant proportion of the GST paid by independent schools on fees. This is because a significant part of what is currently spent on independent school fees would likely be spent in areas that do not incur GST, such as: paying off a mortgage more quickly; saving for retirement; donations to state schools; overseas travel; or goods and services purchased overseas.

If independent schools did not exist, the government would still gain PAYE and indirect taxes paid by teachers, assuming those teachers were employed in the public system. PAYE, ACC and indirect taxes paid by independent school employees have been accounted for implicitly in the calculation of the operational savings to government in the next section.

Goods and services tax (GST)

In 2014, independent schools paid approximately \$64 million in GST on fees. ISNZ member schools accounted for about 95 percent of this.

If an independent school's annual turnover is greater than \$60,000, the school is required to be registered for GST and charges GST on all fees received. This is an additional tax contribution from independent schools as state and integrated schools do not charge fees.

The total GST paid on fees by independent schools was calculated based on available financial statements, with estimates made for schools without available financial statements, based on the school's roll and type.



It is estimated that in 2014, independent schools in New Zealand paid \$64 million in GST on fees. Of that, ISNZ member schools contributed \$61.3 million, while non-ISNZ schools contributed about \$2.3 million.

Rebate on donations

State and integrated schools fund a significant proportion of their expenditure through donations. These non-compulsory fees, used to fund additional activities, are tax deductible. Independent schools are not able to collect such donations as these are included in fees parents pay, which are not tax deductible.

The government therefore collects less tax through state and integrated schools. Due to resource constraints, we have not calculated the amount of tax foregone through rebates on donations, but it is worth noting, as many state and integrated schools do supplement operational expenditure through collecting relatively large donations.

Savings to the government

This analysis estimates the extra cost to government in a counterfactual world where private schools did not exist. There are currently around 26,700 New Zealanders enrolled at independent schools in New Zealand. This creates cost savings for the government, which would have to provide a fully-funded public education to those students if independent schools did not exist. This section estimates both the operational and capital components of these savings.

Operational savings

Independent schools save the government up to \$130 million in operational and salary costs annually.

Operational savings were estimated based on:

- per student state funding for operational and salary expenses at state and state-integrated schools.
- the number of New Zealand pupils currently attending private schools. International students were excluded for this calculation.
- Ministry of Education funding currently given to independent schools.



In 2015, the government spent \$6,489 per student on operational and salary costs across all state primary and secondary schools⁹ (Table 6).

Table 6: Public school government funding, 2014

School level	Per student government funding (\$)	
	Operational & salaries	Property, operational & salaries
Primary school	5,924	
Secondary school	7,607	
All years	6,489	7,046

Source: Ministry of Education, Education Counts.

Salaries and wages paid to teachers and other staff are the largest component of operational savings, which also include all other costs associated with the day-to-day running of a school.

Assuming that the government had to fully fund 26,700 domestic students currently in private schools, the annual cost, at \$6,489 per student, would be around \$170 million. This calculation assumes that the average operational and salaries cost per student is representative of the marginal cost per additional student. The public school system may be able to absorb some additional students at a lower level of additional cost than has been assumed, but with many schools at, or close to, capacity, absorbing 26,700 students would require significant additional operational spending, which would be funded by the taxpayer.

After accounting for \$42.2 million of Ministry of Education funding allocated to independent schools in 2015, we estimate independent schools save the government up to \$130 million in operational costs. This is shown in Table 7.

Table 7: Annual operational savings to government

	(\$000)
Gross operations cost saving (based on average cost*)	\$173,256
<i>Less Ministry of Education funding to private schools, 2015</i>	<i>(\$42,243)</i>
Annual operational savings to government	\$131,013

Source: Ministry of Education, Education Counts

* Based on per student funding of \$6,489

⁹ Ministry of Education, Education Counts.



Capital savings

Capital investment for classrooms or schools to house independent school students could cost government between \$267 million and \$838 million.

In the absence of independent schools, the New Zealand government would face capital investment costs to increase the capacity of its schools in order to accommodate the additional 26,700 students. This section uses the cost of new classrooms, and the cost of recently built schools in New Zealand, to indicate the order of magnitude of government investment required, were it not for the existence of independent schools.

Capital savings, arising from the government not having to build new schools or new classrooms to cope with the additional students, were estimated based on:

- government's estimated cost per new classroom (\$300,000–\$400,000)¹⁰
- the cost of recent newly built schools, as shown in Table 8.

Table 8: Cost of recently built schools

New school	Cost (\$)	Student capacity
Tauranga primary school, 2016	18,000,000	650
Endeavour primary, Hamilton, 2014	20,700,000	600
Churton Park primary school, Wellington, 2012	9,000,000	250
Lyttelton primary school, Christchurch, 2016	14,900,000	300
The Gardens primary school, Manurewa, 2016	22,000,000	700
West Rolleston primary school, Christchurch, 2016	16,800,000	750
Rāwhiti primary school, Christchurch, 2016	13,600,000	600
Ormiston primary school, South Auckland, 2016	17,500,000	370
<i>Average</i>	<i>16,562,500</i>	<i>528</i>
Average new school cost per student	31,398	

¹⁰ (Shadwell, 2016).



Source: (Gerritsen, 2016), Ministry of Education¹¹

Capital savings were calculated for three hypothetical scenarios where additional school capacity is created by:

- 1 building new classrooms at existing schools only
- 2 a combination of new schools and new classrooms at existing schools (50/50)
- 3 building only new schools.

We have assumed that there is no additional capacity currently available at existing schools for students.

Scenario 1 – new classrooms at existing schools

The first scenario assumes all current independent school students are accommodated by building extra classrooms at existing state schools. Based on a new classroom cost of between \$300,000 and \$400,000, this would cost the government between \$270 million and \$360 million (Table 9).

Table 9: Capital savings to government, Scenario 1 – new classrooms at existing schools

Scenario 1	Low	High
New classrooms required		890*
Cost per new classroom	\$300,000	\$400,000
Estimated savings (\$m)	\$267	\$356

Source: MartinJenkins calculations.

*Assuming 30 students per classroom.

Scenario 2 – new classrooms at existing schools and new schools

The second scenario assumes half of all current independent school students are accommodated by building extra classrooms at state schools, and half are accommodated by the government building new schools.

Under this scenario, 445 new classrooms would be required (at 30 students per classroom) and sufficient new schools built for 13,350 students. Based on our research, the average cost for new schools was \$31,398 per student (Table 8), giving a total cost of \$419 million for new schools. With these assumptions, the cost to government would be between \$550 million and \$600 million (Table 10).

¹¹ <http://www.education.govt.nz/school/school-news/>



Table 10: Capital savings to government, Scenario 2 – new classrooms at existing schools and new schools

Scenario 2	Low	High
New classrooms required	445	
Cost per new classroom	\$300,000	\$400,000
New classrooms cost (\$m)	\$133	\$178
New school cost, per student	\$31,398	
New schools cost (\$m)	\$419	
Total estimated savings (\$m)	\$552	\$597

Source: MartinJenkins calculations.

Scenario 3 – new schools

The third scenario assumes all current independent school students are accommodated by government building new schools. The cost to government under this scenario is estimated to be around \$840 million (Table 11).

Table 11: Capital savings to government, Scenario 3 – new schools

Scenario 3	
New school cost, per student	\$31,398
Number of students	26,699
Total estimated savings (\$m)	\$838

Source: MartinJenkins calculations.

Value of higher educational achievement

Higher levels of academic attainment have been shown to have a positive causal effect on a nation's economic performance.

The OECD's Programme for International Student Assessment (PISA) tests 15 year-olds in over 60 countries every three years on reading, maths and science capability. An OECD study¹², published in 2010, used data on PISA test scores and economic performance in 23 OECD countries between 1960

¹² (Woessmann, 2010).



and 2000 to explore the relationship between educational attainment and long-term economic growth. The study found that a one standard deviation improvement in maths and science test scores (equivalent to 100 points on the PISA scale) correlates to an increase of 1.74 percentage points in annual average GDP per capita growth.

In this section, we have used these findings to estimate the impact on economic growth of higher educational achievement at independent schools in New Zealand.

Using 2012 PISA scores for both private and public schools in New Zealand, the impact private schools had on New Zealand's average PISA score was calculated. This impact is the difference between the average PISA score for public schools and the average PISA score when the 3.7 percent of students attending private schools are taken into account. This assumes that in the absence of private schools, the 3.7 percent of students would achieve at the average public school level, rather than at the higher private school level.

The number of points by which private school students lifted the national average PISA score was then used to calculate the resulting increase in GDP, based on the relationship described above.

The level of detail of the available PISA data has not allowed the analysis to take into account the influence of factors such as a student's socio-economic background or parent's education/occupation, on academic achievement.

New Zealand PISA scores are significantly higher at independent schools

Independent school students scored, on average, 84 points higher (17 percent), than their counterparts at state schools in 2012 PISA tests across mathematics, reading and science.

On average, students from independent schools in New Zealand have a higher level of academic achievement than their public school counterparts¹³. Research has shown a causal link between academic attainment and a nation's economic performance. Following the approach by Oxford Economics¹⁴, we have estimated the positive impact independent schools have on New Zealand's economic growth and GDP.

2012 PISA test results show that 15 year olds attending independent schools in New Zealand score, on average, 84 points higher (17 percent), than their counterparts at state schools across mathematics, reading and science (Table 12).

¹³ (OECD, 2013).

¹⁴ (Oxford Economics, 2014).



Higher educational attainment achieved in independent schools could contribute about 0.05 percent to New Zealand GDP. In 2015, this would be about \$110 million.

Table 12: Difference in PISA scores between independent and public schools

2012	PISA score			
	Mathematics	Science	Reading	Average
NZ independent schools	583.0	593.0	593.0	589.8
NZ public schools	496.0	512.0	509.0	505.8
Difference	87.0	81.0	84.0	84.0
NZ all schools - weighted average	499.0	515.2	511.9	508.7
Impact of independent schools on NZ average (PISA points)	+3.0	+2.8	+2.9	+2.9

Source: PISA 2012 Results: What Makes a School Successful? (Volume IV) Resources, Policies and Practices. (OECD, 2013)

Table 12 shows students at independent schools increase the overall New Zealand average PISA score by 2.9 points when compared to the average score of students at public schools. Based on the correlation established by Woessmann (2010), this corresponds to 0.05 percentage points of GDP growth (Table 13). In other words, without independent schools, New Zealand's GDP would be 0.05 percentage points lower.

Based on New Zealand's GDP of \$219.5 billion in 2015, the value of this additional growth to the New Zealand economy would be about \$110 million.

Table 13: Change in PISA scores related to GDP growth

	Change in PISA score	Percentage point change in annual growth
OECD model	100	1.74
New Zealand (2012)	2.9	0.050

Source: The High Cost of Low Educational Performance. (Woessmann, 2010), MartinJenkins calculations.



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APPENDIX 1: NATIONAL I-O MULTIPLIER ANALYSIS

Underlying logic

The underlying logic of National Input-Output Multiplier Analysis is that enterprises create flows of expenditure (direct impacts) that are magnified or 'multiplied' as they flow on to the wider economy. This happens in two ways:

- 1 indirect impacts - the enterprise purchases materials and services from supplier firms, who in turn make further purchases from their suppliers and so forth
- 2 induced impacts - employees in the enterprises and in firms supplying services are paid a wage and the enterprises generate profits, which is then spent on consumption.

The total impact is then the sum of the direct, indirect and induced impacts.

Measures of economic activity

An analysis allows for the determination of three measures of economic activity – Gross Output, Value Added and Employment.

Gross Output is the value of production, which is built up through the national accounts as a measure of gross sales or turnover. It is essentially the initial expenditure incurred by the activity.

Value Added is the increase in output generated along the production process, which when aggregated totals GDP. Value Added is the sum of:

- compensation of employees (salaries and wages)
- income from self-employment
- depreciation
- profits and
- indirect taxes less subsidies.

Employment is generally expressed as full-time equivalents (FTEs) to allow for comparison. FTEs is the number of full-time employees and working proprietors. FTEs provide a measure of total labour demand associated with gross output for one year. For example, four full-time jobs running for three months would be shown as one FTE.

Estimating GDP and FTEs

National I-O tables and multipliers are constructed from a detailed set of industry accounts that measure the commodities produced by each industry and the use of these commodities by other industries and final users within a geographic area. An initial change in economic activity results in



diminishing rounds of new spending as leakages occur through saving or spending outside of the geographic area.

As I-O tables show the relationships between gross output and GDP, they can be used to estimate the GDP that is likely to result from expenditure in an industry. As employment is known by industry, the relationship between gross output and employment can also be calculated.

Multipliers

Multipliers are used to capture the indirect and induced impacts of an initial (direct) level of expenditure, GDP or employment at a regional or national level. Multipliers used in this analysis are from I-O tables supplied by Butcher Partners Limited.

The size of the multiplier depends upon the degree of economic self-sufficiency in a region and the industry. The more self-sufficient a region or nation is, the higher the multiplier is likely to be. Initial expenditure is assigned to the industry where it occurs. Each industry has a different multiplier based on the average pattern of purchases of goods and services, capital formation, profits, wages and salaries.



APPENDIX 2: INDEPENDENT SCHOOLS IN NEW ZEALAND

Table 14: ISNZ member schools

ISNZ member schools	Roll ¹	International students	Academic staff FTEs	School type	Boarding facilities	Region	Financial statement sourced from NZ Charities register ²
ACG Parnell College	754	32	61	Composite (Year 1-15)		Auckland	Estimated
ACG Senior College	202	93	22	Secondary (Year 9-15)		Auckland	Estimated
ACG Strathallan	873	93	60	Composite (Year 1-15)		Karaka	Estimated
ACG Sunderland	309	49	27	Composite (Year 1-15)		Waitakere	Estimated
ACG Tauranga	69	0	8	Composite (Year 1-15)		Tauranga	Estimated
Auckland International College	311	196	28	Secondary (Year 9-15)	Yes	Auckland	Estimated
Carncot Independent School	95	4	9	Full Primary		Palmerston North	Yes
Chilton St James School	369	15	50	Composite (Year 1-15)		Lower Hutt	Yes
Christ's College	603	7	75	Secondary (Year 9-15)	Yes	Christchurch	Yes
Dilworth School	635	0	64	Composite (Year 1-15)	Yes	Auckland	Yes
Diocesan School For Girls	1,307	54	116	Composite (Year 1-15)	Yes	Auckland	Yes
Ficino School	108	1	10	Full Primary		Auckland	Yes
Hereworth School	229	1	14	Full Primary	Yes	Havelock North	Yes
Huanui College	259	4	23	Secondary (Year 7-15)		Whangarei	Estimated
Huntley School (Marton)	145	2	13	Full Primary	Yes	Marton	Yes
Kings College	1,031	54	91	Secondary (Year 9-15)	Yes	Auckland	Yes
Kings School (Remuera)	685	3	46	Full Primary		Auckland	Yes
Kristin School	1,521	68	162	Composite (Year 1-15)		Auckland	Yes
Matahui School	49	0	5	Full Primary		Katikati	Yes
Medbury Preparatory School	334	5	31	Full Primary	Yes	Christchurch	Yes
Pinehurst School	777	62	85	Composite (Year 1-15)		Auckland	Yes
Queen Margaret College	671	18	63	Composite (Year 1-15)		Wellington	Yes
Rangi Ruru Girls' School	605	24	52	Secondary (Year 7-15)	Yes	Christchurch	Yes
Rangitaiki Independent School	38	1	4	Composite (Year 1-15)		Whakatane	Estimated
Saint Kentigern Boys' School	513	0	43	Full Primary		Auckland	Yes
Saint Kentigern Girls' School	192	1	24	Full Primary		Auckland	Yes
Samuel Marsden Collegiate School	459	13	48	Composite (Year 1-15)		Wellington	Yes
Samuel Marsden Collegiate School -Whitby	148	0	17	Secondary (Year 7-15)		Porirua	Yes
Scots College	857	34	79	Composite (Year 1-15)	Yes	Wellington	Yes
Selwyn House School	177	3	19	Full Primary	Yes	Christchurch	Yes
Seven Oaks School	50	0	5	Full Primary		Christchurch	Yes
Southwell School	553	4	51	Full Primary	Yes	Hamilton	Yes
Springbank School	167	13	12	Composite (Year 1-15)		Kerikeri	Estimated
St Andrew's College (Christchurch)	1,425	24	135	Composite (Year 1-15)	Yes	Christchurch	Yes



ISNZ member schools	Roll ¹	International students	Academic staff FTEs	School type	Boarding facilities	Region	Financial statement sourced from NZ Charities register ²
St Cuthbert's College (Epsom)	1,359	50	132	Composite (Year 1-15)	Yes	Auckland	Yes
St George's Preparatory School	76	0	9	Full Primary		Whanganui	Yes
St Kentigern College (Pakuranga)	1,948	40	163	Secondary (Year 7-15)	Yes	Auckland	Yes
St Margaret's College	725	20	92	Composite (Year 1-15)	Yes	Christchurch	Yes
St Mark's Church School (Mt Victoria)	198	1	27	Full Primary		Wellington	Estimated
St Michael's Church School	61	0	28	Full Primary		Christchurch	Yes
St Paul's Collegiate (Hamilton)	666	34	65	Secondary (Year 9-15)	Yes	Hamilton	Yes
St Peter's School (Cambridge)	1,054	56	101	Secondary (Year 7-15)	Yes	Cambridge	Yes
The Cathedral Grammar School	236	1	33	Full Primary		Christchurch	Yes
Waihi School	85	0	8	Full Primary	Yes	Winchester	Yes
Wellesley College	344	0	22	Full Primary		Lower Hutt	Yes
Wentworth College	193	22	25	Secondary (Year 7-15)		Whangaparaoa	Yes
Wentworth Primary	54	3	included in College	Full Primary		Whangaparaoa	Yes
Westmount School	1,662	0	153	Composite (Year 1-15)		Auckland	Estimated
Total	25,181	1,105	2,407				

1. As at April 2016.

2. Expenditures were estimated for schools whose financial statements could not be found, based on school roll and type.



Table 15: Non-ISNZ member schools

Non-ISNZ independent schools	Roll ¹	International students	School type	Boarding facilities	Region	Financial statement sourced from NZ Charities register ²	Notes
ACG New Zealand International College	779	759	Secondary (Year 9-15)		Auckland	Estimated	
Amana Christian School	8	0	Composite (Year 1-15)		Mosgiel	Yes	
Ambury Park Centre	54	0	Secondary (Year 9-15)		Auckland	Yes	
Carey College	25	3	Composite (Year 1-15)		Auckland	Estimated	
Chapman College	60	0	Composite (Year 1-15)		Rotorua	Yes	
City Impact Church School	113	0	Full Primary		Auckland	Estimated	
City Impact Church School (Secondary)	63	0	Secondary (Year 9-15)		North Shore	Estimated	
Destiny School	185	0	Composite (Year 1-15)		Auckland	Yes	
Drury Christian School	31	2	Composite (Year 1-15)		Drury	Estimated	
Eden Christian Academy	61	0	Composite (Year 1-15)		Tuakau	Estimated	
Gloriavale Christian Community School	0	0	Composite (Year 1-15)		Greymouth	Estimated	
Golden Grove School	38	1	Full Primary		Auckland	Estimated	
Hamilton Christian School	322	11	Composite (Year 1-15)		Hamilton	Yes	
Hebron Christian College (Auckland)	197	8	Composite (Year 1-15)		Auckland	Yes	
Hohepa School	43	0	Composite (Year 1-15)		Napier	Estimated	School for intellectual impairments
Immanuel Christian School	87	1	Composite (Year 1-15)		Auckland	Yes	
Iqra Academy	6	0	Contributing		Auckland	Estimated	
Jean Seabrook Memorial School	18	0	Full Primary		Christchurch	Yes	School for learning/social difficulties
Living Way Christian School	24	0	Composite (Year 1-15)		Wellsford	Yes	
Manukau Christian School	175	4	Composite (Year 1-15)		Auckland	Estimated	
Meraki Montessori School	14	0	Full Primary		Silverdale	Estimated	
MindAlive	43	0	Composite (Year 1-15)		Auckland	Estimated	
Motueka Rudolf Steiner School	52	0	Full Primary		Motueka	Yes	
Mt Hobson Middle School	38	2	Composite (Year 1-15)		Auckland	Yes	
Nelson College (Prep.Dept.)	113	2	Intermediate	Yes	Nelson	Estimated	
Nelson College For Girls Prep School	83	0	Intermediate	Yes	Nelson	Yes	
Nova Montessori School	48	0	Full Primary		Christchurch	Yes	
Odyssey House School (Auckland)	12	0	Secondary (Year 9-15)		Auckland	Estimated	
Otamatea Christian School	22	0	Composite (Year 1-15)		Maungaturoto	Estimated	
Pacific Christian School	0	0	Full Primary		Auckland	Estimated	
Pukekohe Christian School	212	3	Composite (Year 1-15)		Pukekohe	Yes	
Seven Oaks Secondary School	10	0	Secondary (Year 9-15)		Christchurch	Estimated	
Silverstream Christian School	21	0	Composite (Year 1-15)		Upper Hutt	Estimated	



Non-ISNZ independent schools	Roll ¹	International students	School type	Boarding facilities	Region	Financial statement sourced from NZ Charities register ²	Notes
St Anthony's School (Wanganui)	81	1	Full Primary		Whanganui	Estimated	
St Dominic's College	49	8	Secondary (Year 9-15)		Whanganui	Estimated	
The Bridge Academy	0	0	Composite (Year 1-15)		Auckland	Estimated	
The Corelli School	37	19	Composite (Year 1-15)		Auckland	Estimated	
Titirangi Rudolf Steiner School	197	24	Composite (Year 1-15)		Auckland	Estimated	
Tyndale Park Christian School	108	0	Composite (Year 1-15)		Manukau	Yes	
Waikato Montessori Education Centre	42	0	Full Primary		Hamilton	Estimated	
Total	3,471	848					

1. As at April 2016.

2. Expenditures were estimated for schools whose financial statements could not be found, based on school roll and type.



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