



Briefing for the Incoming Minister

Universities New Zealand

(The New Zealand Vice-Chancellors' Committee)

1. Executive Summary

Universities New Zealand shares the Government's aspirations for the role of the universities in delivering a high performing, smart, and resilient economy.

Because you are already very familiar with your portfolio, this briefing paper identifies a number of areas where universities and you can work together to advancing your objectives for the sector. These are:

- Producing graduates that are more work-ready.
- Lifting research quality, export earnings and international rankings simultaneously.
- Improving the skills available to industry by better advice to young people – particularly Māori & Pasifika youth.
- Getting longer-term policy and funding signals around your priorities

We welcome the opportunity to meet with you quarterly and to brief you on common issues and challenges as they arise.

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2. NZ University Business Model

Over the past two decades, the NZ university business model has become heavily reliant upon increasing student numbers to remain financially viable. Although you understand this portfolio well, it is worth explaining some elements of this 'volume-driven' business model because they provide a context for some of the options we propose for advancing the Government's objectives for the sector.

Looking just at the decade from 2003 to 2012, there was a:

- +17% Increase in Student Achievement Component (SAC) funding on a per-capita student basis.
- +24% Increase in CPI over the ten year period¹.
- +39% Increase in domestic student fees.
- +58% Increase in international student fees.
- +71% Increase in reported university expenditure².

University expenditure is predominantly driven by staffing (57% of costs), equipment, library resources and the operation and maintenance of capital infrastructure. None of these costs are reflected in CPI and all have risen faster than CPI over the past ten years.

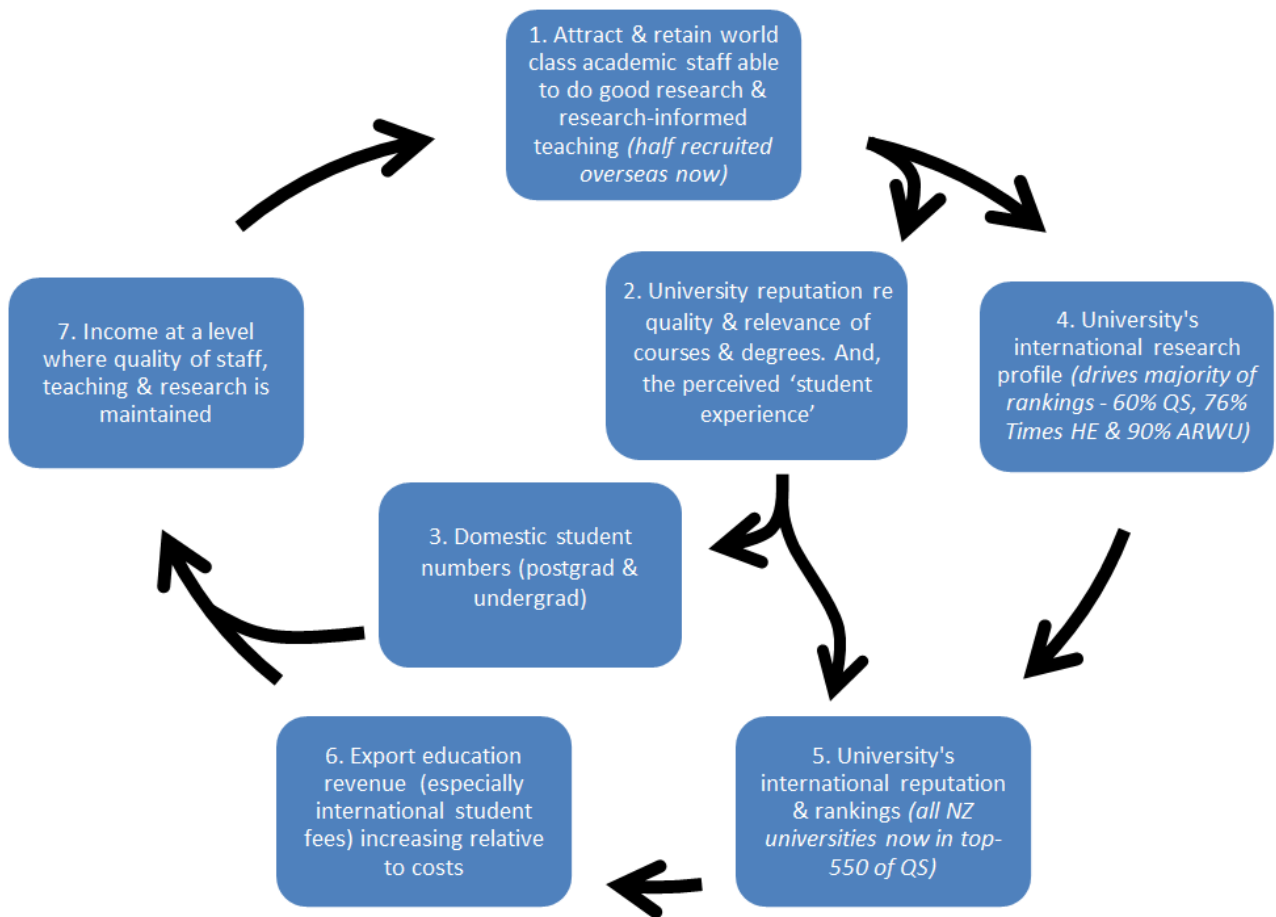
¹ CPI does not reflect the real increase in costs experienced by organisations like universities where costs are mostly driven by salaries and the costs of operating capital-intensive infrastructure. The Ministry of Education reviewed this in 2009 and, at that time, found that university costs actually increased at an average of around 1.5 times CPI annually . ['University Input Cost Inflation 2000-2008', Ministry of Education, December 2009]

² The combined expenditure reported in the eight university annual reports from 2003 was \$1.872 billion compared with \$3.2 billion in 2012.

Salaries are particularly problematic because universities compete in an international market place for top academics. New Zealand already pays well below comparable universities in Australia, the UK and Canada. Although New Zealand offers lifestyle factors as partial compensation for lower salaries, it can only do this to a point. The further New Zealand slips behind international remuneration levels, the more difficult it becomes to recruit and retain good staff. **Quality of academic staff is the single-most important determinant of the quality of a university.**

TEC funding criteria require universities to generate 2-3% surpluses each year. Outside of Christchurch, universities have managed to generate the required level of surplus, however, this level of surplus has become increasingly difficult in recent years as all cost management options have been progressively exhausted. In order to continue generating surpluses over a period where costs have risen faster than per-capita income, universities have had to carefully manage costs while growing income via a volume strategy – maximising numbers of domestic and international students. Student numbers have grown 11,133 EFTS over the decade – an increase of 9.1%.

The resulting business model is depicted in the following diagram.



This diagram demonstrates the requirement for continuous growth in [3] domestic and [6] international student number to fund [7] ongoing increases in the associated costs of [1] recruiting and retaining high quality academic staff, [4 & 5] maintaining and improving each university's reputation and positioning in international rankings and in [2] delivering a quality student experience on and off campus.

You will note that generation of research revenue does not feature strongly in this diagram and this is deliberate. Most research is funded on a cost-recovery basis and, relative to student tuition revenue, has much more limited impact on a university's ability to offset the

impact of increasing costs. The focus is therefore [7] generating sufficient tuition fee revenue from [3] domestic and [6] international students so as to be able to maintain the quality of offerings (including learning & teaching) in other parts of the business model.

As a consequence of these business drivers, universities are focussed on delivering a system that aligns well with your policy objectives. Specifically, New Zealand universities are;

- focussed on maintaining a world-class standard of teaching and research for this country.
- very responsive to student demand for courses and degree programmes that are relevant and of high quality and underpinned by the best modes of learning and teaching possible.
- Supportive of Government pipeline and pathways initiatives that increase university participation rates (particularly Māori & Pasifika), that grow numbers of students entering university education, progressing successfully through it and achieving positive employment outcomes at the end of their studies.
- very focussed on having their academic staff producing and disseminating high quality relevant research.
- very supportive of the Government's broader international education objectives.
- keen to diversify and grow alternative income streams.

The volume-driven business model will face two key challenges in coming years:

- Demographic trends mean that the average number of young people progressing out of the schools will decline year on year for much of the next 5-6 years. The only growth in the next decade or so will come from growing the pipeline of students choosing to pursue tertiary education from school.
- International student numbers have significant opportunity for growth, but the international student market place is increasing competitive and the ability to grow revenue will be highly dependent upon factors such as strong university rankings and a strong student experience with positive graduate employment outcomes. Affordability of education is a key factor in the international student market and, at this time, with a strong New Zealand dollar and weak currencies in the UK and US, we are a less attractive study destination from an affordability perspective.

3. Options for advancing the Government's objectives for the university sector

The following initiatives would support a strong university system and contribute to your objectives for the university system.

3.1 Lifting research quality, export earnings and international rankings simultaneously.

International rankings are now a critical part of the university business model and underpin our ability to attract and retain the best staff internationally and to meet 2025 international education Leadership Statement objectives. Research (publications, citations and reputation) makes up the largest component in all three of the main ranking systems – comprising 60% of all metrics used in the QS rankings, 76% of Times Higher Education and 90% of Academic Rankings of World Universities.

Any significant adjustment to research settings or priorities may have an unintended impact on the ranking of New Zealand universities internationally and, in turn, this will impact on

each university's ability to attract and retain international staff and to meet international education revenue objectives.

Universities face an ongoing challenge of assisting early-career academics quickly and successfully developing the research profile and reputation that will allow them to secure funding and collaborations that lead to the production of relevant impactful research mid and later career. With the right incentives and support, this early, mid and later career research can contribute equally to international rankings and the production of good mission and industry-led research.

Universities NZ has separately provided a submission on the National Statement of Science Investment. Among other points, we concluded that quality and quantity of relevant and impactful research is lifted wherever researchers are co-located and can share ideas and infrastructure. Co-location of university and CRI staff continues to vary from place to place, but where it exists, there is a significant increase in joint research, joint supervision of postgraduate students, teaching opportunities for CRI staff and the sharing of research infrastructure.

Recommendations

- a. Provide more targeted funding to early career researchers to assist in developing research profiles and partnerships in areas that align with Government social and economic objectives.
- b. Progressively facilitate closer physical and operational alignment of Crown Research Institutes (per the Lincoln Hub model). This will increase the transfer of ideas and research collaborations and also encourage more mission and industry-led research in areas relevant to Government and industry. It should also boost a number of the metrics that underpin international rankings.

3.2 Improve the skills available to industry by better advice to young people – particularly Māori and Pasifika.

Universities strongly support Government objectives of creating a more joined-up education system with clear pathways for young people, well-managed transitions for young people moving between different parts of the education system and increased numbers of graduates with the skills and qualifications sought by employers.

In working towards these goals, universities are observing a number of initiatives aimed at trying to improve advice given to young people. These include the Ministry of Education's Vocational Pathways work, the TEC's Information for Learners work and MBIE's Occupation Outlook. While we support their objectives, they don't appear sufficiently aligned at this stage. We're not seeing an overall plan for how these initiatives will be brought together so that, over time, they will provide coherent, comprehensive and authoritative advice for students, their families and their advisors.

For example, MBIE's Occupation Outlook lists 50 vocations or professions and the Ministry of Education's Vocational Pathways lists 420. Though MBIE's 50 vocations are a subset of the Ministry of Education's larger list of vocations, both agencies continue to publish and make their own information online. This has potential to mislead or confuse young people.

Being a larger list of 420 vocations and professions, we think that the Ministry of Education's list of vocational options is better than the list maintained by MBIE, but comparable information available overseas typically provides advice on more like 1800-2000 job types – all with different education and employment pathways (*for example, accounting is typically*

broken down into roles such as accounts clerk, accounting technician, accounts supervisor, systems accountant, management accountant, and financial accountant). The Vocational Pathways project was conceived as providing advice for the high school students who don't go on to do university study, but it's increasingly clear as the initiative is being worked up to NCEA level 3 that it can and should be providing pathways advice to all young people – particularly as 114 (27%) of the 420 jobs listed within Vocational Pathways require a degree.

Similarly, we continue to see a range of progression issues for young people being adequately prepared academically and culturally for university. Though universities do a lot of work in schools, much of it is relatively unstructured and lacks a specific set of strategies or targeted funding. More could be done for getting young people to university, particularly Māori, Pasifika and students who are the first in their family to attempt university.

There are similar issues in getting more young people into STEM subjects. If they have not gained the appropriate foundation in subjects like maths and the sciences at school, they are typically unable to take STEM subjects at university. Creating interest and supporting this with advice and support starts at primary school and needs to continue through all years at high school.

There are more opportunities for universities to work with schools and with Government agencies on improving policy and operating settings across these areas.

We think that the ICT Graduate Schools initiative will contribute most to young people and industry if a proportion of the funding is directed to pre-university programmes. There are a number of exciting programmes that aim to grow the interest and understand of young people in technology and to improve the skills and competencies of their teachers.

Recommendations

- a. Get an agreed whole-of-Government strategy for the overall pipeline so the disparate initiatives providing vocational and study advice to young people are better joined up.
- b. Broaden the advice available to young people and their families between years 9 and 13 so they understand the full range of options available to them after year 13 and do not close off any viable study or career option unnecessarily.
- c. Universities are keen to work with Government on improving transitions to university, through university and out of university into the workplace. Universities are already doing a lot of work in these areas but lack the resourcing to quickly scale them up and support them at the level necessary to ensure success.
- d. Facilitate international linkages for domestic students to increase their skills and capability

3.3 Produce graduates that are more employable

The Tertiary Education Strategy is very clear that a priority for tertiary education providers is delivering skills for industry and in ensuring that graduates have the transferrable skills and specific qualification in line with industry demand.

The Ministry of Education's 2014 research on 'What Young Graduates Earn When they Leave Study' showed that graduates with any university qualification already enjoy the highest average earnings and lowest overall unemployment rates.

Notwithstanding this, universities are already moving quickly to incorporate work-integrated learning opportunities into academic programmes and can see the importance of graduate outcomes to society and to their own efforts to attract domestic and international students.

Student employability and employment outcomes are a key differentiator for universities in the international student market place. If universities can demonstrate they are producing excellent outcomes in this area, they will be better placed to support international education objectives.

Approximately 37,000 students graduated and left a university in 2013. 21% of these students were in subjects like engineering, health and teacher education where work-experience and work-readiness are already integrated into the curriculum.

The other 79% of graduates currently have varying amounts of work-integrated learning formally integrated into their education and feedback.

Resourcing is emerging rapidly as the constraint to extending work-integrated learning to greater numbers of students. It takes resources to identify placement opportunities with employers and to oversee placements and gather feedback from employers to inform learning.

At present, around 79% of the 37,000 graduates leaving university annually have not been through any formal work placement. To offer work experience as a part of study, universities would need significant additional resourcing in areas such as identifying suitable employers and overseeing student placements. Estimates for a programme of this sort range from \$15-\$20m annually. Note that work placements are just one option for improving graduate work readiness and there may be other better alternatives.

Recommendations

- a. As part of a Tertiary Education Strategy implementation plan for the university sector, Government and universities should agree on the broad profiles sought from graduates and the sorts of initiatives and approaches that would deliver graduates that meet them.
- b. Provide funding for initiatives that will improve the employability and work-readiness of all university graduates.

3.4 Provide longer-term policy and funding signals around your priorities

From the perspective of universities, your Government's policy objectives are clear, but the way they are being thought about and operationalised is being complicated by the number of Government agencies involved in policy for the sector and by the fact that agencies with operational experience in delivery of education and research are being involved relatively late in planning.

For instance, Universities New Zealand is aware of five different education pipeline projects affecting university education across the Ministry of Education, MBIE, TEC and Treasury. There are good inter-agency official-level processes that mean that the projects are all aware of each other and remain joined up from a policy perspective. However, there continues to be quite a bit of variation between the agencies in terms of relative priorities and thinking around how to operationalise policies.

For example, there is quite a bit of variation across the agencies as to the issues and options associated with improving graduate outcomes. Some officials see it as being about making graduates more employable. Some see it as a work-force planning exercise aimed at purchasing certain types of graduates. Others see it as being about discrete initiatives such as universities linking graduates to employers so graduates are more likely to get job offers.

Universities have significant experience in working with young people and employers and could bring some useful perspectives to initiatives to operationalise policy.

Similarly, universities do not feel they are receiving sufficiently clear long-term funding signals around what the Government is purchasing from them. Investment plans are set for two years at a time where university investment in capital infrastructure and staffing is typically made on a multi-decade basis. PBRF has maintained the same broad objectives since it was established and has given the sector clear funding signals six years at a time. These well-established objectives have allowed universities to progressively adjust their systems and resourcing in response to these long term signals.

In 2013/14, the university sector received 56.5% of SAC funding and 95.4% of PBRF funding. It is the largest single part of the tertiary education system and would benefit from agreed strategies and approaches for implementing overall policy.

Overall funding levels also need attention given costs are rising faster than available research funding and per-capita tuition fee income.

Investment in universities has a significant economic benefit. So long as New Zealand universities remain high-quality and highly-ranked, we expect to be generating another \$1bn of export revenue a year by 2025. Every job in a NZ university supports at least one other job in the wider community and every graduate from a NZ university earns more over their working life than the rest of the population and typically, contributes disproportionately more to economic activity and social wellbeing.

Recommendations

- a. Move the tuition subsidy appropriations within Vote Tertiary Education from single-year appropriations to multi-year appropriations.
- b. Extend investment planning for universities from the current two year period to at least three years.
- c. Develop a university sector implementation plan that provides more specific middle-term goals and objectives around how universities will support Tertiary Education Strategy and National Statement of Science Investment objectives and that will improve alignment of work of all parts of Government developing policy and advising on the university system and sector.
- d. Encourage agency and inter-agency officials groups to engage with the university sector and other relevant sectors as work is done on operationalising policy.
- e. Lift the annual fee maximum increase above the 4% that has been applied over most of the past decade.
- f. Increase the overall SAC funding pool annually to prevent universities hitting an unrecoverable tipping point that will threaten export earnings and graduate quality.
- g. Recognising the Government's commitment to maintaining interest-free student loans, move to a model where several years after completion of study, outstanding loan balances are adjusted annually by CPI so they maintain their real value over time. This would progressively make more funding available for reinvesting back into education provision.

Appendix - Key facts and figures about New Zealand universities

1. Numbers

- New Zealand has 8 universities – 7 are ‘comprehensive universities’ that provide a wide range of courses and subjects for students.
- A total of 131,553 equivalent full time students (EFTS) enrolled in 2013 (173,744 individual students)
- New Zealand has one university per 500,000 people. This concentration is on a par with
 - Australia: 40 universities for a population of 22 million (1:550,000)
 - UK: 138 universities for 63 million people (1:456,000), and
 - Canada: 80 universities for 35 million people (1:437,500).
 - The USA: 4,140 universities for 314 million people (1:76,000)
- New Zealand universities are generally ranked among the best in the world.
 - Seven NZ universities were placed in the 2014 QS World Top 500 University Rankings
 - Six are in the Times Higher Education rankings Top 500
 - Five are in the Academic Ranking of World Universities Top 500
 - Being in the top 500 puts a university in the top 3% of world universities.
- Individual New Zealand universities appear in the Top 50 university rankings for accounting, agriculture, civil engineering, medicine, law, psychology, computer science, English language and others.
- NZ universities are amongst the best value, cost-efficient and high performing universities in the world based on their rankings relative to the level of public funding they receive.

2. Economic impact

- Each university is a key contributor to its local and national economy.
- Together, the eight universities
 - employ 19,807 FTE staff (2013)
 - have combined expenditure of \$3.3 billion per annum
 - economic impact estimated at 1.5% of GDP at approximately \$7bn
 - account for one job outside of universities for every job inside a university
 - generate a third of all research in NZ, with annual research expenditure of around \$834m (2012)
- International education is NZ’s 5th largest export market at \$2.6bn annually – of which Universities are the largest sector and generate \$901m
- There were 15,517 international EFTS at NZ universities in 2013 - NZ has the fifth highest proportion of international students in the world (12.9% of all students)

3. Social impact

- On average, every New Zealand university graduate earns more over their working life than the rest of the population and contributes disproportionately more to economic activity and social wellbeing.

- A university graduate's average weekly income is around 1.65 times greater than someone without a tertiary qualification by age 30 and this rises to 2.2 times greater by age 60. The higher the qualification the higher the likely income benefit.
- Only 3.6% of people with a bachelors level qualification or higher were unemployed in NZ in 2012, compared with 9.2% for those with no qualification or only a high school qualification.
- Nearly 30% of school leavers went on to study at one of NZ's eight universities (2011).
- Student numbers have grown 11,133 EFTS over the decade – an increase of 9.1%
- the number of people (aged 25 to 64) with a bachelor's degree or higher more than tripled, from 6% to 22% between 1986 and 2009.
- Demand for degree-holders is forecast to grow at an average of 1.8 percent per year over the next 10 years, almost double the forecast rate of overall employment growth.

4. Key financial and non-financial measures

- 42% of university sector income comes from the Government and 28% from students. The remaining 30% comes from a range of sources, including research, commercial activity and investments.
- 9.4% of university sector income comes from full-fee paying international students. International students make up 13% of all EFTS, but their fees represent 34% of all student fee income.

Other key metrics (from the 2013 financial statements of the eight universities)

2013 Financial Year	Auckland	AUT	Waikato	Massey	Victoria	Canterbury	Lincoln	Otago	TOTAL
Academic Staff	2,131	1,058	640	1,081	861	740	217	1,648	8,376
Other Staff	2,778	1,085	880	1,913	1,025	1,167	393	2,190	11,431
Total Staff	4,909	2,143	1,520	2,994	1,886	1,907	610	3,838	19,807
Total EFTS	33,028	18,837	10,094	19,074	17,277	12,108	3,238²	18,896	132,553
Total Headcount	41,363	25,920	12,696	32,136	21,481	14,646	5,851	20,965	173,153
International EFTS	4,369	3,314	1,586	2,901	2,207	1,275	657	2,231	18,539
Māori EFTS	2,254	1,527	1,871	1,787	1,520	790	236	1,532	11,518
Pasifika EFTS	2,865	2,306	618	737	854	309	69	600	8,358
Postgrad EFTS (incl honours)	9,145	2,502	2,146	6,007	3,106	4,117	425	2,931	30,379
	Auckland	AUT	Waikato	Massey	VUW	Canterbury	Lincoln	Otago	TOTAL
Income \$m									
<i>Domestic</i>	\$150.9	\$79.9	\$44.2	\$96.4	\$77.1	\$57.5	\$8.9	\$97.3	<i>\$612.2</i>
<i>International Full Fee</i>	\$87.9	\$58.5	\$26.2	\$47.5	\$29.7	\$18.4	\$11.3	\$44.0	<i>\$323.5</i>
Student Fees	\$238.8	\$138.4	\$70.4	\$143.9	\$106.8	\$75.8	\$20.2	\$141.3	\$935.6
Govt SAC Funding	\$299.8	\$132.6	\$70.3	\$147.5	\$127.5	\$127.0	\$32.4	\$215.3	\$1,152.3
Govt PBRF Funding	\$80.6	\$12.4	\$14.9	\$35.3	\$26.5	\$24.6	\$8.7	\$53.4	\$256.3
Other Govt Funding	\$8.5	\$5.1	\$16.4	\$0.7	\$16.5	\$15.1	\$0.0	\$2.3	\$64.6
Research & contracts	\$230.2	\$9.6	\$28.7	\$58.0	\$33.6	\$50.8	\$28.7	\$85.3	\$524.9
Other Income	\$115.6	\$29.0	\$30.2	\$53.1	\$47.0	\$132.2	\$24.3	\$128.9	\$560.2
Total Income	\$973.5	\$327.1	\$230.9	\$438.4	\$357.9	\$425.6	\$114.3	\$626.5	\$3,494.1
Expenses \$m									
People Costs	\$568.0	\$194.2	\$128.3	\$251.4	\$185.1	\$159.2	\$61.2	\$359.8	\$1,907.1
Operating Costs	\$265.0	\$79.4	\$72.8	\$131.9	\$90.3	\$92.6	\$45.2	\$104.4	\$881.6
Deprn & Amortisation	\$110.6	\$36.5	\$20.0	\$46.0	\$36.2	\$36.9	\$9.9	\$56.9	\$352.9
Other expenses	\$0.2	\$3.0	\$0.3	\$2.3	\$28.7	\$60.6	\$1.0	\$69.0	\$165.0
Total Expenditure	\$943.8	\$313.1	\$221.3	\$431.5	\$340.3	\$349.3	\$117.3	\$590.0	\$3,306.6
Net surplus before tax	\$29.7	\$14.0	\$9.5	\$6.8	\$17.6	\$76.3 ¹	-\$3.1	\$36.5	\$187.4
	3%	4%	4%	2%	5%	18% ¹	-3%	6%	5%
Property, plant & equipment book value	\$1,703.0	\$578.9	\$355.9	\$945.3	\$673.8	\$651.5	\$200.0	\$1,305.5	\$6,413.8

¹Note that the University of Canterbury's results are skewed by non-recurring earthquake related insurance proceeds.

²The Lincoln total EFTS figure includes Telford students. All other Lincoln figures exclude Telford.