



CHAPTER EIGHT

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AN OVERVIEW

After five years of significant growth in the number of students enrolled in level 4 to 7 non-degree study, there was a decrease in 2006 of students enrolled in both level 4 certificates and level 5 to 7 certificates and diplomas. While international student numbers have been declining since 2003, the number of domestic students decreased for the first time in recent years in 2006.

There were decreases in the number of domestic students enrolled in level 4 to 7 non-degree study across all types of providers in 2006, except private training establishments. Despite a decrease in domestic students enrolled in polytechnics in 2006, a significant increase in numbers between 2003 and 2005 has resulted in them providing more than half of all level 4 to 7 non-degree study. The number of domestic students aged 25 years and over declined in 2006; however this age group continued to dominate this level of study with two-thirds of all domestic students aged 25 years and over.

The number of domestic students completing a level 4 certificate decreased significantly in 2006. While the number of domestic students completing a level 5 to 7 certificate or diploma also decreased, the rate of decrease was less than that for level 4 certificates. The five-year completion rates increased, with almost two in five domestic students who had started a level 4 to 7 non-degree qualification in 2002 completing that qualification by 2006.

THE 2007 YEAR

There are early indications that enrolments in level 4 to 7 non-degree study will flatten out in 2007. Reasons for this may include the continued effect of the government's prioritisation of the provision of non-degree qualifications in recent years and the effect of a strong labour market.

The results of the Tertiary Education Commission reviews are likely to be evident in the 2007 provision. Another third of private training establishment provision was reviewed in 2006, which had an impact on the funding decisions for 2007. As the review of the provision funded in categories A1 and J1 resulted in some qualifications being phased out, student numbers in these qualifications will continue to decrease. It also resulted in providers looking to increase provision in more relevant areas.

The continued strong labour market is also likely to have an ongoing impact on provision at this level, with fewer students seeking study and more students likely to leave study without completing a qualification.

A priority outcome of the tertiary education strategy is to have more young New Zealanders achieving at level 4 and above. This focus is likely to move enrolments away from level 1 to 3 certificates and into level 4 certificates as well as level 5 to 7 certificates and diplomas.

Mid-register qualifications provide continuing pathways for students progressing from school and they create entry points into the system for those seeking to gain vocation-ready qualifications or change careers. The level of complexity of study approximates to advanced trades, technical and business qualifications. They can also be used as prerequisite qualifications for higher-level programmes such as bachelors degrees. All qualifications at level 4 are certificates while those at levels 5 to 7 are either certificates (advanced level) or diplomas.

FEWER LEVEL 4-7 NON-DEGREE STUDENTS

For the first time in recent years there was a decrease in 2006 of students enrolled in both level 4 certificates and level 5 to 7 non-degree study.

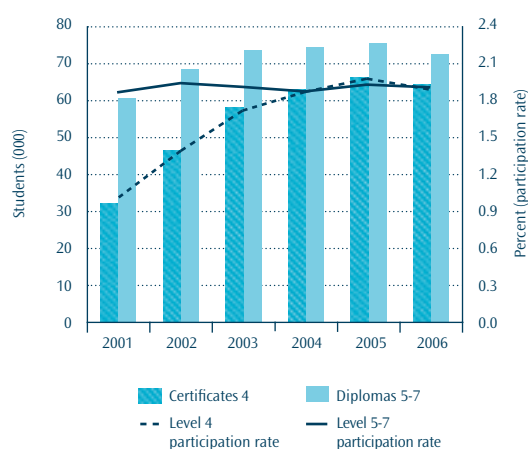
Students enrolled in level 4 to 7 non-degree study in 2006:

Total	134,000	(down 3.2% on 2005)
Certificates 4	64,300	(down 3.0% on 2005)
Diplomas 5-7*	72,600	(down 3.9% on 2005)

Expressed as equivalent full-time students, enrolments in level 4 to 7 non-degree study totalled 66,900 in 2006 (down 7.0 percent on 2005).

*This category includes level 5 to 7 certificates.

Figure 8.1// Participation in level 4 to 7 non-degree study¹



DOMESTIC/INTERNATIONAL

Figure 8.2// Distribution of domestic and international level 4 to 7 non-degree students

The number of international students enrolled in level 4 to 7 non-degree study declined between 2003 and 2006. However, enrolments by domestic students declined for the first time, in recent years, in 2006.

Students enrolled in level 4 to 7 non-degree study in 2006:

Domestic

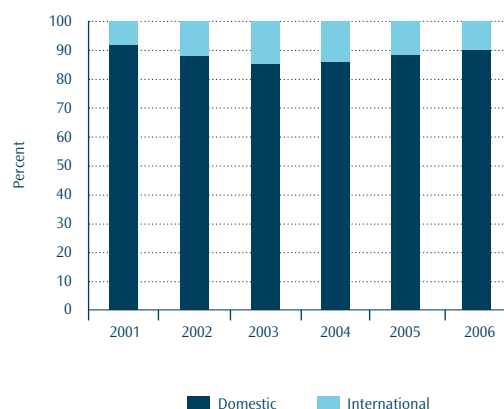
Total enrolments	121,000	(down 1.3% on 2005)
Participation rate	3.7%	(3.8% in 2005)
Expressed as equivalent full-time students	58,400	(down 3.9% on 2005)

Twenty-seven percent of all domestic students were enrolled in level 4 to 7 qualifications.

International

Total enrolments	13,200	(down 18% on 2005)
Expressed as equivalent full-time students	8,480	(down 24% on 2005)

Ten percent of all students enrolled in level 4 to 7 qualifications were international.



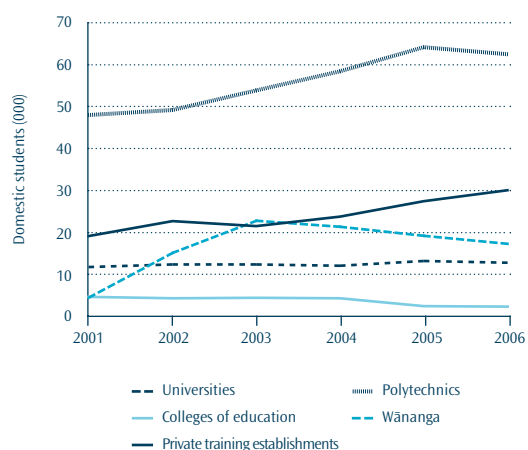
TYPE OF PROVIDER

Figure 8.3// Level 4 to 7 non-degree domestic students by type of provider

There was a decrease in the number of domestic students across all types of providers in 2006, except for private training establishments. The significant growth in domestic students enrolled in polytechnics between 2001 and 2005 means they provided over half of all level 4 to 7 non-degree study in 2006.

Domestic students enrolled in level 4 to 7 non-degree study in 2006:

Universities	12,400	(down 3.8% on 2005)
Polytechnics	62,100	(down 2.8% on 2005)
Colleges of education	1,670	(down 9.0% on 2005)
Wānanga	16,900	(down 9.9% on 2005)
Private training establishments	29,700	(up 9.5% on 2005)



1. The participation rate is the percentage of New Zealanders aged 15 years and over enrolled at this level.

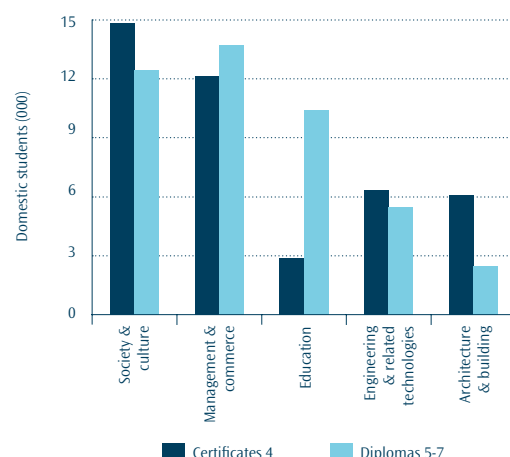
FIELD OF STUDY

Just under half of all domestic students in level 4 to 7 non-degree study were enrolled in management and commerce and society and culture in 2006. The top five fields of study included education, engineering, and architecture and building. These five fields of study together constituted 71 percent of all domestic enrolments in level 4 to 7 non-degree study.

Domestic students enrolled in level 4 to 7 non-degree study in 2006:

Society and culture	26,900	(down 2.3% on 2005)
Management and commerce	25,600	(down 15% on 2005)
Education	13,200	(down 5.6% on 2005)
Engineering and related technologies	11,800	(up 3.7% on 2005)
Architecture and building	8,540	(up 13% on 2005)

Figure 8.4// Top five fields of study for level 4 to 7 non-degree students



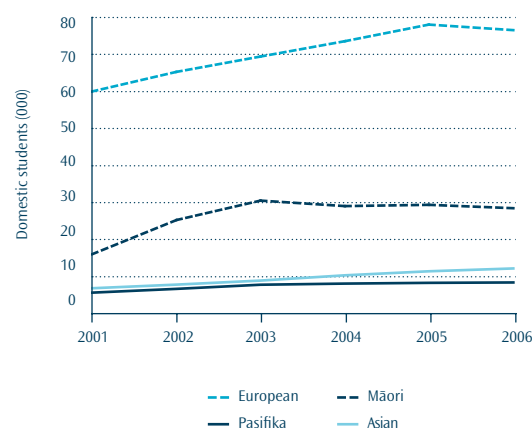
ETHNIC GROUP

The number of Māori students enrolled in level 4 to 7 non-degree study has been declining since 2003, although Māori still participated in this level of study at a higher rate than other ethnic groups.

Domestic students enrolled in level 4 to 7 non-degree study in 2006:

European	76,400	(down 2.0% on 2005)
Māori	28,200	(down 3.3% on 2005)
Pasifika	8,220	(up 1.8% on 2005)
Asian	11,900	(up 6.9% on 2005)
Other	5,030	(up 7.6% on 2005)

Figure 8.5// Level 4 to 7 non-degree domestic students by ethnic group



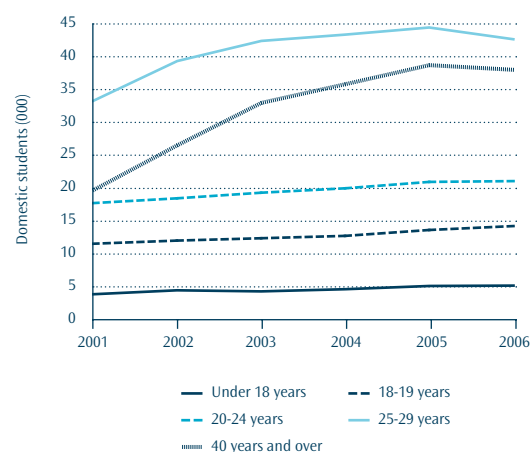
AGE AND GENDER

More domestic students aged 25 years and under enrolled in level 4 to 7 non-degree study in 2006, while the number of those aged 25 years and over declined. Nevertheless, students aged 25 years and over continued to dominate this level of study, making up two-thirds of domestic students.

Domestic students enrolled in level 4 to 7 non-degree study in 2006:

Under 18 years	5,050	(up 1.2% on 2005)
18 to 19 years	14,100	(up 5.1% on 2005)
20 to 24 years	21,000	(up 0.9% on 2005)
25 to 39 years	42,500	(down 4.0% on 2005)
40 years and over	37,900	(down 1.8% on 2005)
Female	67,200	(down 1.7% on 2005)
Male	53,500	(down 0.8% on 2005)

Figure 8.6// Level 4 to 7 non-degree domestic students by age group



FIRST-TIME STUDENTS AND PRIOR ACTIVITY

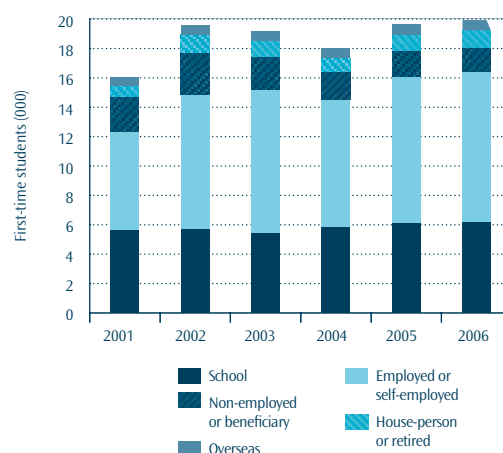
Figure 8.7// Distribution of first-time domestic students in level 4 to 7 non-degree study by prior activity

First-time students enrolled in level 4 to 7 non-degree study increased in 2006 for the second consecutive year.

Prior activity of first-time domestic students enrolled in level 4 to 7 non-degree study in 2006:

Total first-time students	19,900	(up 1.4% on 2005)
Secondary school	6,200	(up 0.7% on 2005)
Employed or self-employed	10,200	(up 3.4% on 2005)
Non-employed or a beneficiary	1,620	(down 9.2% on 2005)
House-person or retired	1,170	(up 6.1% on 2005)
Overseas	718	(no change from 2005)

Note: Prior activity refers to a student's main activity at 1 October in the previous year. Care is needed in interpreting trends, as many students' predominant activity in the previous year may be different from what they were doing at 1 October. In addition, data on whether a student is new to tertiary education or not has traditionally been less reliable than other fields.



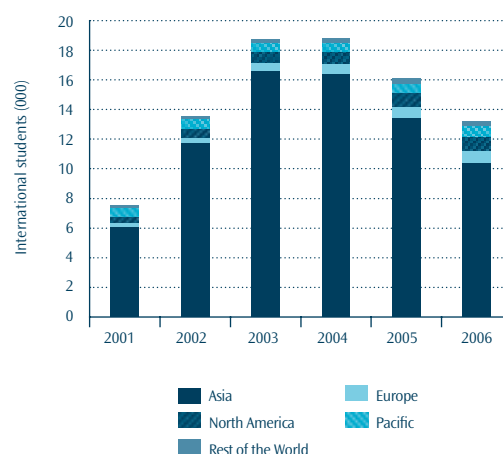
INTERNATIONAL STUDENTS

Figure 8.8// Level 4 to 7 non-degree international students by region of origin

The number of international Asian students enrolled in level 4 to 7 non-degree study decreased significantly in 2006. Despite this decline, they still made up over three-quarters of all international students.

International students enrolled in level 4 to 7 non-degree study in 2006:

Asia	10,400	(down 22% on 2005)
Europe	972	(up 2.6% on 2005)
North America	788	(up 3.7% on 2005)
Pacific	688	(up 20% on 2005)
Rest of the world	308	(down 13% on 2005)



COMPLETION OF QUALIFICATIONS

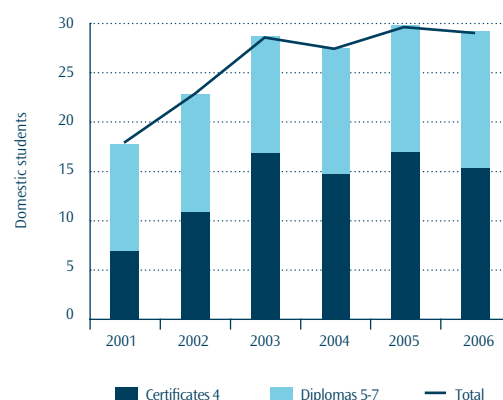
Figure 8.9// Domestic students completing level 4 to 7 non-degree qualifications

The number of students completing level 4 certificates decreased significantly in 2006. However, there was a significant increase in the number of students completing level 5 to 7 certificates and diplomas.

Domestic students completing qualifications in 2006:

Total	29,000	(down 2.1% on 2005)
Certificates 4	15,400	(down 9.7% on 2005)
Diplomas 5-7*	13,800	(up 7.9% on 2005)

*This category includes level 5 to 7 certificates.



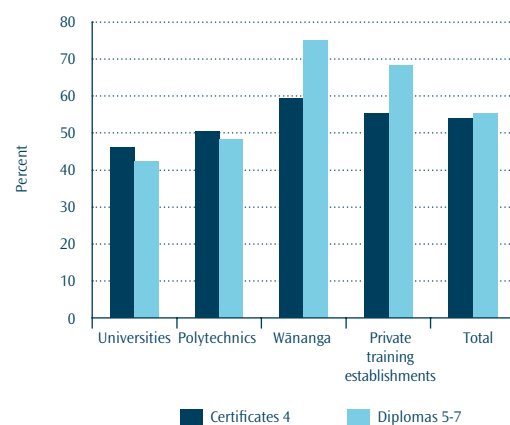
FIRST-YEAR RETENTION

Figure 8.10// First-year retention rates in level 4 to 7 non-degree study by sub-sector

Fewer students who started study in 2005 completed their qualification or returned to study in 2006 in both level 4 certificates and level 5 to 7 certificate and diploma study.

Domestic students who started study in 2005 and either completed or continued study in 2006:

Total	56%	(down from 60% in 2005)
Universities	43%	(down from 44% in 2005)
Polytechnics	51%	(down from 60% in 2005)
Wānanga	63%	(up from 56% in 2005)
Private training establishments	62%	(no change from 2005)



FIVE-YEAR COMPLETION

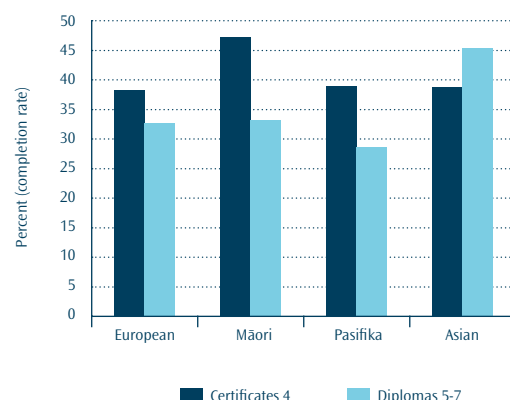
Figure 8.11// Five-year completion rates in level 4 to 7 non-degree study by ethnic group

Māori students were more likely to complete a level 4 to 7 non-degree qualification within five years than domestic students from other ethnic groups.

Domestic students who started study in 2002 and had completed by 2006:

Total	39%	(up from 35% in 2005)
European	36%	(up from 35% in 2005)
Māori	45%	(up from 37% in 2005)
Pasifika	36%	(up from 32% in 2005)
Asian	41%	(up from 38% in 2005)

Note: These completion rates are for students starting in 2002.



SKILL ENHANCEMENT PROGRAMMES

Figure 8.12// Learners enrolled in Skill Enhancement

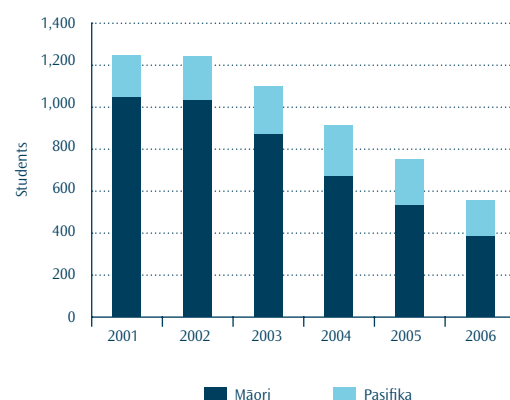
Skill Enhancement aims to provide young Māori and Pasifika peoples with qualifications at level 3 and above. These qualifications lead to employment at higher occupational levels in fields where they are under-represented.

While Māori account for the majority of learners in Skill Enhancement programmes, their participation decreased by over 60 percent between 2001 and 2006. Pasifika participation decreased by 13 percent over this period. These decreases are likely to be because of the stronger employment market.

Learners enrolled in Skill Enhancement programmes in 2006:

Total	558	(down 26% on 2005)
Māori	386	(down 27% on 2005)
Pasifika	171	(down 21% on 2005)

Source: Tertiary Education Commission.



TRANSITIONS INTO TERTIARY EDUCATION

Participation in tertiary education is a natural progression for many school leavers, whether it is to study for a degree at university or to undertake training as part of a Modern Apprenticeship. There are very real benefits to society as well as to the individual in participating in and completing tertiary qualifications. Tertiary qualifications improve people’s labour force participation and lead to higher incomes. In addition, tertiary education is associated with increased labour productivity and improved health and life satisfaction (Smart, 2006).

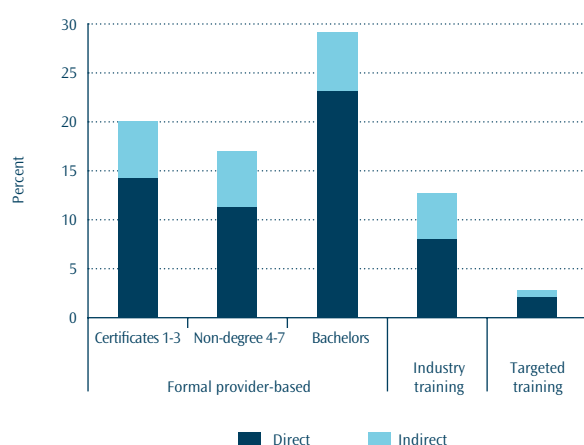
Students who enrol in tertiary education directly from school are more likely to complete a qualification than students who enter from the workforce or unemployment (Ussher, 2006). Given the benefits of tertiary education and the greater success of students who engage in tertiary education soon after leaving school in terms of completing qualifications, effective and appropriate transitions between school and tertiary education are an important part of a well-functioning education system.

Of the 53,000 students who left school during 2004 after having gained some credits on the National Qualifications Framework, 65 percent had enrolled in some form of tertiary education by the end of 2006. This included 52 percent of the school leavers who made a direct transition and 13 percent who made an indirect transition; that is, they had taken a year off between school and tertiary education.

The most popular type of tertiary education among school leavers was bachelors-level study at tertiary education providers. Of the 2004 school leavers 29 percent transitioned into this type of tertiary education, including 23 percent who transitioned directly.

The figures in this article are based on a newly created longitudinal unit record-level dataset which follows a student through their accumulation of National Qualifications Framework credits in senior secondary school and enrolment into tertiary education, including industry training. Because the senior secondary school data comes from the National Qualifications Framework, the dataset is missing those students who gained no credits on the framework, including those who exclusively undertook alternative qualifications such as the International Baccalaureate. Given this and other data differences, the rates published in this article may differ from those previously published by the Ministry of Education, which have been based on aggregate-level data.

Figure 8.13 // Transition rates of 2004 school leavers by level and type of tertiary study



Around 8 percent of 2004 school leavers went directly into industry training and 5 percent made an indirect transition. This includes 4 percent of 2004 school leavers who commenced Modern Apprenticeships. School leavers who went into industry training were more likely to make an indirect transition from secondary school than other students. Of those 2004 school leavers who moved into industry training, 36 percent made an indirect transition, compared to 21 percent of students who moved directly into formal provider-based programmes. This could be due to school leavers who go directly into the labour force and delay formal learning, whether through their personal choice or that of their employer.

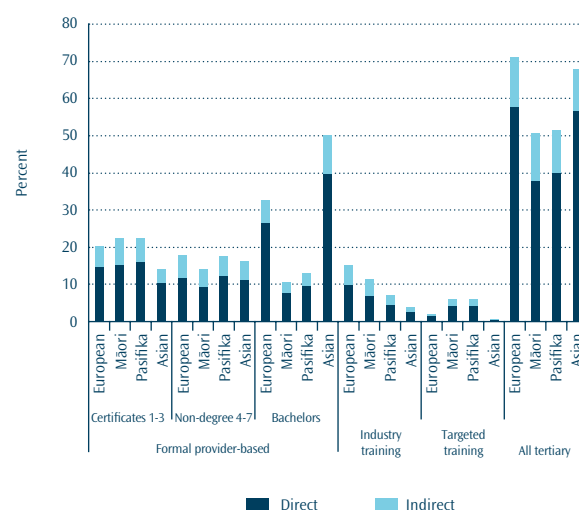
Ethnic differences

Overall, European school leavers moved into tertiary education at a higher rate than other ethnic groups. Of the 2004 school leavers, 71 percent of Europeans started tertiary education, compared to 68 percent of Asians, 52 percent of Pasifika and 51 percent of Māori. Māori and Pasifika school leavers were more likely to go into targeted training programmes or level 1 to 3 certificate study than other ethnic groups but less likely to go into bachelors-level study. European school leavers were more likely to transition into industry training than other ethnic groups.

Asian school leavers were more likely to undertake bachelors-level study than other ethnic groups. Of the 2004 school leavers, 50 percent

of Asians transitioned into bachelors-level study, compared to 33 percent of Europeans, 13 percent of Pasifika and 11 percent of Māori. In contrast, Asian school leavers were less likely to transition into level 1 to 3 certificate study, industry training or targeted training programmes than other ethnic groups. European and Asian school leavers were more likely to move into bachelors-level study than any other level of study. Māori and Pasifika, however, were more likely to undertake level 1 to 3 certificate studies than any other level of study.

Figure 8.14 // Transition rates of 2004 school leavers by ethnic group and by level and type of tertiary study



What difference does school qualification make?

The proportion of school leavers who started tertiary education directly from school increased with higher-level secondary school qualifications. Of those students who left school in 2004 with between 1 and 13 credits on the National Qualifications Framework, just 33 percent transitioned into tertiary education, compared to 88 percent of students who left school in 2004 with a level 3 qualification. There was a significant increase in almost every step up in highest school qualification level, so while 33 percent of school leavers with between 1 and 13 credits moved into tertiary education, a step up to between 14 and 39 credits meant an increase to 40 percent of school leavers.

There were, however, very different trends between different types and levels of tertiary study. The proportion of school leavers who started

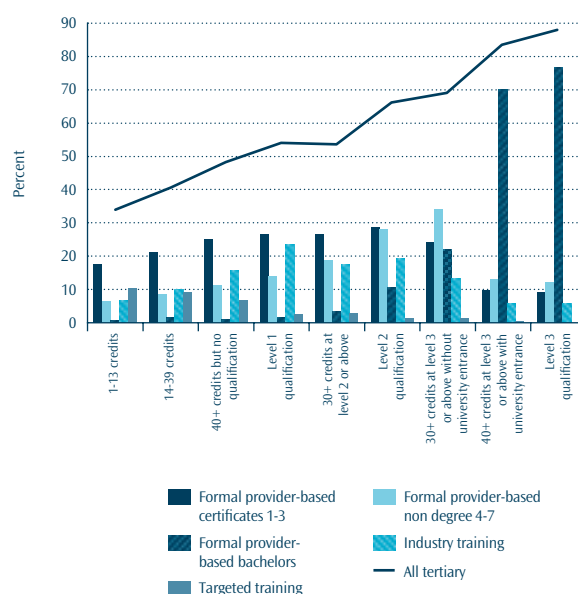
targeted training programmes actually decreased with higher school qualifications. This is not surprising given that these programmes are targeted at people with no or low school qualifications.

Having a higher-level school qualification did not necessarily improve the transition rates of school leavers into industry training. The proportion of school leavers undertaking industry training reached a peak for students with a level 1 qualification and then decreased for those school leavers with higher-level school qualifications. School leavers with a level 3 qualification transitioned into industry training at a similar rate to those who left school with between 1 and 13 credits.

Three-quarters of 2004 school leavers who had achieved a level 3 qualification undertake bachelors-level study. Indeed, 81 percent of those 2004 school leavers who had achieved the university entrance standard transitioned into bachelors-level study, compared to just 9 percent of school leavers who did not achieve a university entrance standard. This is not surprising given that most degree programmes require the university entrance standard as a minimum for entrance.

Those school leavers who had achieved any secondary school qualification up to a level 2 qualification went into level 1 to 3 certificate tertiary study at similar rates. These transition rates varied from 17 percent for 2004 school leavers with between 1 and 13 credits and up to 29 percent for those with a level 2 qualification. School leavers with a level 2 qualification were more likely to go into level 5 to 7 non-degree study than school leavers with other school qualifications. Of those 2004 school leavers with a level 2 qualification, 28 percent transitioned into level 5 to 7 non-degree study.

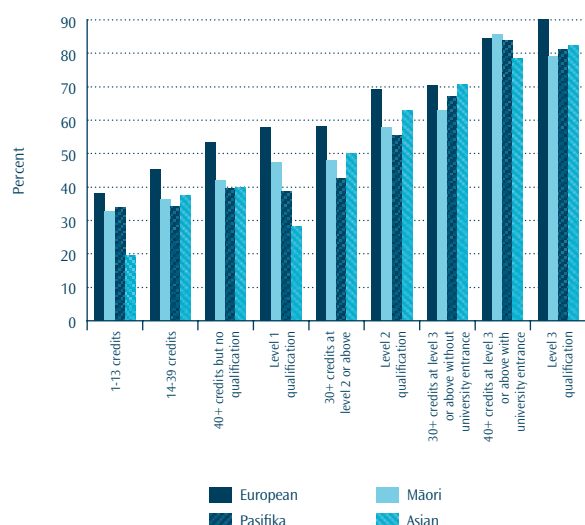
Figure 8.15 // Transition rates of 2004 school leavers by highest school qualification and by level and type of tertiary study



The differences in transition rates between ethnic groups, specifically the lower rates for Māori and Pasifika, were reduced once the effects of highest school qualification are taken into account. When a student left school with any school qualification higher than a level 2 qualification the transition rates were very similar among ethnic groups. While this trend generally held true across all school qualifications, there were some exceptions, particularly that European school leavers with lower-level school qualifications were more likely to go into tertiary education than other ethnic groups.

While more Māori students leave school with no or low qualifications than other ethnic groups (Ministry of Education, 2006), when Māori students did achieve at secondary school their transition rate into tertiary education was as high as that of other ethnic groups. As Earle (2007) points out, in order for more Māori to participate and achieve in higher levels of tertiary education, the most important change that can be made is to increase the number of Māori secondary school students achieving university entrance or better.

Figure 8.16 // Transition rates of 2004 school leavers by highest school qualification and ethnic group



slightly lower at 11 percent. This is a strong indication that the differences that exist in transition rates into tertiary education associated with ethnic group, academic achievement, and socio-economic status may not exist for transition into industry training.

There was a large disparity among school leavers from different decile schools when moving into bachelors-level study. School leavers from decile 9 or 10 schools were over four times more likely to go into bachelors-level study than school leavers from decile 1 or 2 schools. Around 45 percent of 2004 school leavers from decile 9 or 10 schools went into bachelors-level study compared to 11 percent of school leavers from decile 1 or 2 schools.

School leavers from low-decile schools were more likely to move into level 1 to 3 certificate study than school leavers from high-decile schools. However, the transition rates into level 4 to 7 non-degree study were very similar for school leavers across all decile schools. School leavers from decile 1 to decile 4 schools were more likely to start level 1 to 3 certificate study than any other level, while school leavers from decile 7 to decile 10 schools were more likely to undertake bachelors-level study than any other level.

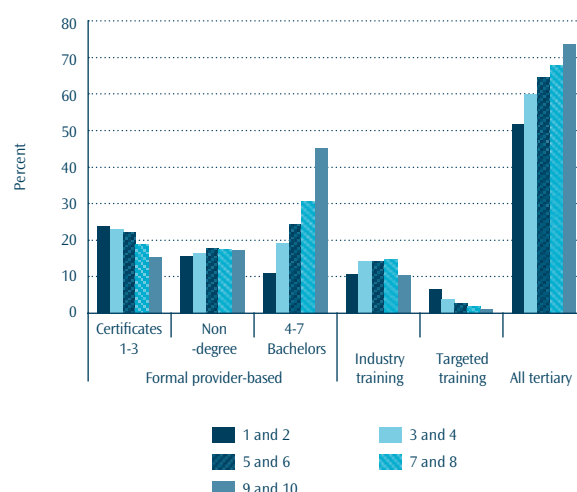
School decile differences

School leavers from high-decile schools were more likely to transition into tertiary education than school leavers from low-decile schools. Almost three-quarters of students who left a decile 9 or 10 secondary school in 2004 went into tertiary education, compared to 52 percent of school leavers who left a decile 1 or 2 school.

Again, quite different patterns existed for transitions into different types and levels of tertiary study. School leavers from low-decile schools were more likely to go into targeted training programmes than school leavers from other schools. Around 7 percent of students who left a decile 1 or 2 secondary school in 2004 went into targeted training programmes, compared to 1 percent of those who left a decile 9 or 10 school.

The differences that existed between school leavers from different decile schools for transitions into all tertiary education were not so obvious for transition into industry training. This was particularly so across school leavers from decile 3 to decile 8 schools, where 2004 school leavers went into industry training at the same rate of 14 percent. The rate for transition into industry training for school leavers from decile 1 or 2 schools and decile 9 or 10 schools was

Figure 8.17 // Transition rates of school leavers by school decile and by level and type of tertiary study



Once again, the effect of highest school qualification reduces the differences among school leavers from different decile schools. When school leavers from low-decile schools achieved the same school qualifications as school leavers from high decile schools, they transitioned into tertiary education at very similar rates.

For a fuller picture of the transitions from secondary school to tertiary education refer to the tertiary education reports on www.educationcounts.edcentre.govt.nz

References:

- Earle, D. (2007) *Te whai i nga taumata atakura: Supporting Māori achievement in bachelors degrees*, Wellington: Ministry of Education.
- Ministry of Education (2006) *New Zealand Schools 2005: A report on the compulsory schools sector of New Zealand*, Wellington: Ministry of Education.
- Smart, W. (2006) *Outcomes of the New Zealand tertiary education system – a synthesis of evidence*, Wellington: Ministry of Education.
- Ussher, S. (2006) *From school, work or unemployment: A comparison of pathways in tertiary education*, Wellington: Ministry of Education.
- Ussher, S. (2007) *Tertiary education choices of school leavers*, Wellington: Ministry of Education.



CHAPTER NINE

STUDENTS IN BACHELORS AND POSTGRADUATE PROVIDER-BASED QUALIFICATIONS // 123-134

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AN OVERVIEW

For the first time in recent years, there was a decline in students enrolled in bachelors-level and higher study in 2006. While numbers in bachelors and masters-level study decreased, there was a significant increase in doctorate students. The main contributor to the overall decline in numbers was a decrease in international students, particularly from Asia, for the first time since 1998. In comparison, domestic student numbers remained relatively unchanged in 2006.

Universities continued to dominate bachelors-level and higher provision in 2006, with four in every five students studying at a university. Universities and private training establishments were the only types of providers to experience an increase in students in 2006. There was a continued decline in domestic students aged 25 years and over enrolled in bachelors-level and higher study in 2006. In comparison, the number of domestic students aged under 25 years continued to rise.

The number of students completing a bachelors-level or higher qualification increased slightly in 2006. This was due in part to an increase in the five-year completion rate for those domestic students who started study in 2002. Level 8 qualifications¹ experienced the largest increase in domestic students completing qualifications. The five-year completion rates were highest for European and Asian domestic students in 2006.

The University of Auckland economist Dr Sholeh Maani recently explored the relationship between parental income during adolescent years and the tertiary education choices of New Zealand youth at age 18 years. The study by Maani showed that while parental income did not have a statistically significant influence on participation in tertiary education overall, it did significantly influence participation at university. Academic performance at school and peer influence were the most important influences on participation in tertiary education. A summary of Dr Maani's study is provided later on in this chapter.

THE 2007 YEAR

Early indications suggest that student numbers at bachelors-level and higher study will increase in 2007 due to an increase in the number of domestic students aged 17 to 20 years enrolling in bachelors degrees. This trend is consistent with the 'baby blip' that has begun to move into tertiary education and which is predicted to peak in 2007 and 2008. This increase is expected to be moderated by a further fall in the number of domestic students aged 25 years and over and a flattening out of international students in bachelors-degree study.

Early indications also suggest that growth in doctorate students will continue into 2007. Increases in the Performance-Based Research Fund and the 2006 policy change to treat international doctorate students as domestic are likely to exert a positive influence on enrolments at this qualification level.

From 1 January 2007, the remaining two colleges of education became part of the university sub-sector, leaving the universities, institutes of technology and polytechnics, and wānanga as the remaining three types of public provider offering bachelors-level and higher qualifications.

Bachelors-level and higher qualifications are largely theoretically-based qualifications which make up four levels of the New Zealand Register of Quality Assured Qualifications. Level 7 is made up of bachelors degrees, graduate certificates and diplomas, and certificates of proficiency. Level 8 qualifications comprise postgraduate certificates and diplomas, and bachelors degrees with honours. Level 9 qualifications are masters degrees. Level 10 qualifications are doctoral degrees, including doctor of philosophy, professional doctorates and higher doctorates.

ANALYTICAL TABLES: An associated set of tables on the students in bachelors and postgraduate provider-based qualifications is available on the Education Counts website, Tables ENR1-40, EFT1-38, PPN1-13, PRG1-15, COM1-36, CSC1-10 and ARN1-18. Detailed technical information on the data presented here can be found in chapter 18.

1. This category covers bachelors degrees with honours, postgraduate certificates and postgraduate diplomas.

STUDY AT BACHELORS LEVEL AND HIGHER

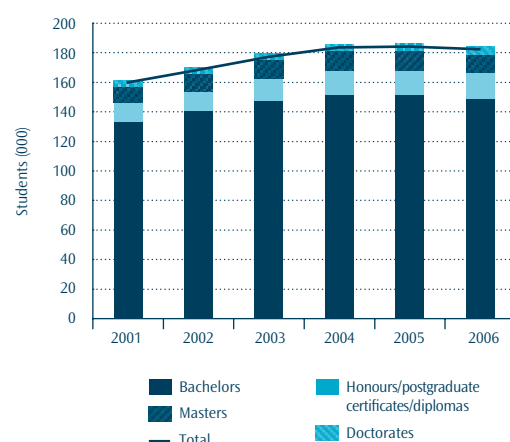
For the first time in recent years there was a decrease in 2006 of students enrolled in bachelors-level and higher study. However, increases in student numbers occurred in honours/postgraduate qualifications and doctorates, which had the highest increases of all qualifications levels in 2006. The rise in doctoral enrolments was influenced by cohort effects of larger intakes of international doctoral students.

Students enrolled in bachelors-level and higher study in 2006:

Total	182,000	(down 1.0% on 2005)
Bachelors	149,000	(down 1.8% on 2005)
Honours/postgraduate certificates/diplomas	17,800	(up 5.5% on 2005)
Masters	12,400	(down 5.4% on 2005)
Doctorates	5,470	(up 13% on 2005)

Expressed as equivalent full-time students, enrolments at bachelors-level and higher totalled 136,000 in 2006 (down 1.6 percent on 2005).

Figure 9.1// Participation in bachelors-level and higher study



DOMESTIC/INTERNATIONAL

Figure 9.2// Distribution of domestic and international bachelors-level and higher students

A significant decrease in international students during 2006 resulted in their making up a lower proportion of students at bachelors level and higher. Enrolments by domestic students remained virtually unchanged in 2006, although the participation rate decreased slightly.

Students enrolled in bachelors-level and higher study in 2006:

Domestic:

Total enrolments	156,000	(no change from 2005)
Participation rate ²	4.8%	(down from 4.9% in 2005)
Expressed as equivalent full-time students	115,000	(no change from 2005)

Thirty-five percent of all domestic students were enrolled in bachelors-level or higher study.

International:

Total enrolments	26,300	(down 7.0% on 2005)
Expressed as equivalent full-time students	21,500	(down 10% on 2005)

Fourteen percent of all bachelors-level and higher students were international.



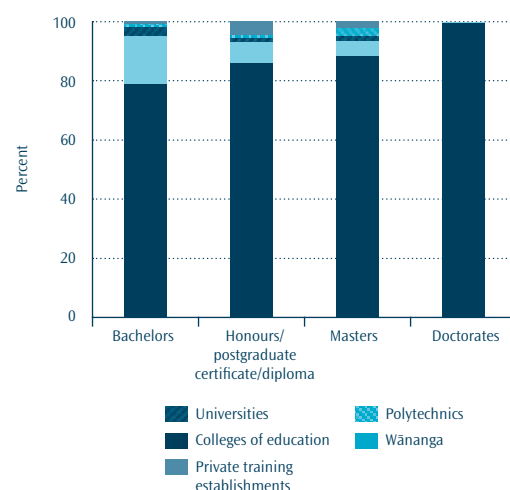
TYPE OF PROVIDER

Figure 9.3// Distribution of domestic bachelors-level and higher students by type of provider

Universities continued to dominate the provision of bachelors-level and higher study, with four in five domestic students studying there in 2006. Students enrolled in higher-level qualifications such as doctorates and masters were much more likely to be studying at a university.

Domestic students enrolled in bachelors-level and higher study in 2006:

Universities	126,000	(up 0.7% on 2005)
Polytechnics	22,300	(down 2.2% on 2005)
Colleges of education	4,100	(down 11% on 2005)
Wānanga	1,600	(down 5.7% on 2005)
Private training establishments	2,900	(up 6.4% on 2005)



2. The participation rate is the percentage of New Zealanders aged 15 years and over enrolled at this level.

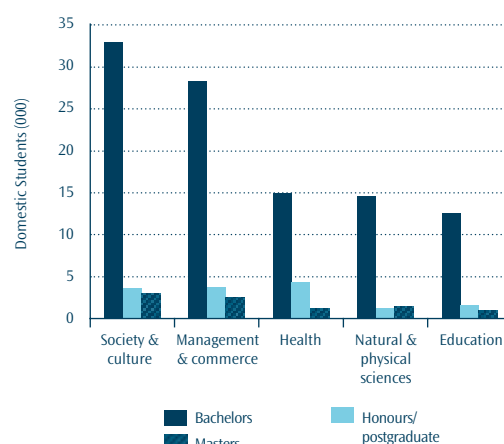
FIELD OF STUDY

Figure 9.4// Top five fields of study for domestic bachelors-level and higher students

The most common fields of study for domestic students enrolled in bachelors-level and higher study in 2006 continued to be society and culture, and management and commerce. Other fields of study that drew large numbers of enrolments were health, science and education. Together these five fields constituted 81 percent of all enrolments at these levels.

Domestic students enrolled in bachelors-level and higher study in 2006:

Society and culture	39,600	(down 1.0% on 2005)
Management and commerce	34,200	(up 1.6% on 2005)
Health	20,400	(up 2.6% on 2005)
Natural and physical sciences	17,300	(up 0.9% on 2005)
Education	15,200	(down 7.6% on 2005)



ETHNIC GROUP

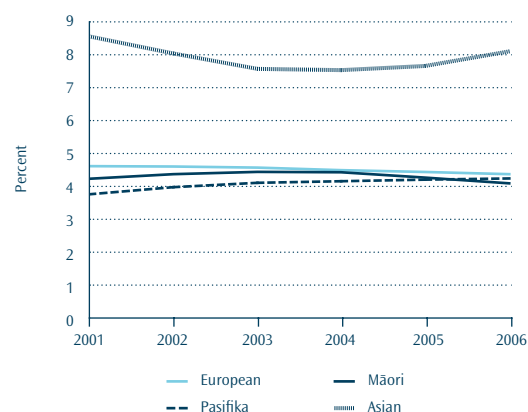
Figure 9.5// Age-standardised participation rates in bachelors-level and higher study by ethnic group

Despite a decrease in European students for the third consecutive year, they still made up almost 70 percent of all domestic students enrolled in bachelors-level and higher study in 2006. Participation rates in bachelors-level and higher study increased for Asians and remained unchanged for Pasifika in 2006.

Domestic students enrolled in bachelors-level and higher study in 2006:

European	109,000	(down 1.0% on 2005)
Māori	17,000	(down 2.4% on 2005)
Pasifika	7,850	(up 4.0% on 2005)
Asian	24,800	(up 8.7% on 2005)
Other	8,950	(no change from 2005)

Asian students had the highest participation rate at 8.0%.



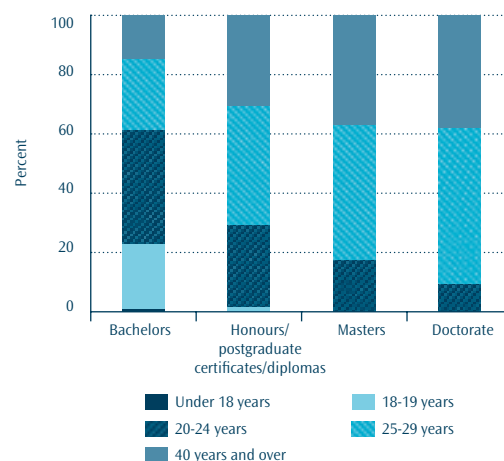
AGE AND GENDER

Figure 9.6// Distribution of domestic bachelors-level and higher students by age group

There was a continued decline in domestic students aged 25 years and over enrolled in bachelors-level and higher study in 2006 while the numbers aged under 25 years increased slightly by 2.6 percent. Domestic students enrolled in higher levels of bachelors-level and higher studies were, on average, older than those enrolled in lower levels.

Domestic students enrolled in bachelors-level and higher study in 2006:

Under 18 years	1,170	(down 2.1% on 2005)
18 to 19 years	28,200	(up 4.3% on 2005)
20 to 24 years	54,600	(up 1.9% on 2005)
25 to 39 years	43,300	(down 3.1% in 2001)
40 years and over	28,400	(down 2.6% on 2005)
Female	94,100	(no change from 2005)
Male	61,500	(no change from 2005)



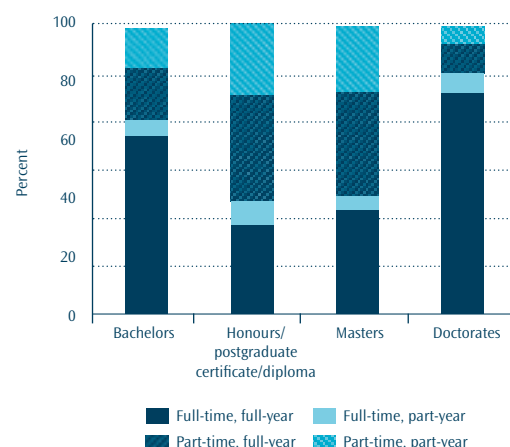
STUDY TYPE

Figure 9.7// Distribution of domestic bachelors-level and higher students by study type

There were significant differences in study type among students in bachelors-level and higher study in 2006. Bachelors and doctorate students were more likely to be studying full-time.

Domestic students enrolled in bachelors-level and higher study in 2006:

Full-time, full-year	89,800	(down 0.4% on 2005)
Full-time, part-year	9,050	(down 0.4% on 2005)
Part-time, full-year	32,400	(down 0.9% on 2005)
Part-time, part-year	24,400	(up 2.8% on 2005)
Extramural	23,800	(up 5.5% on 2005)



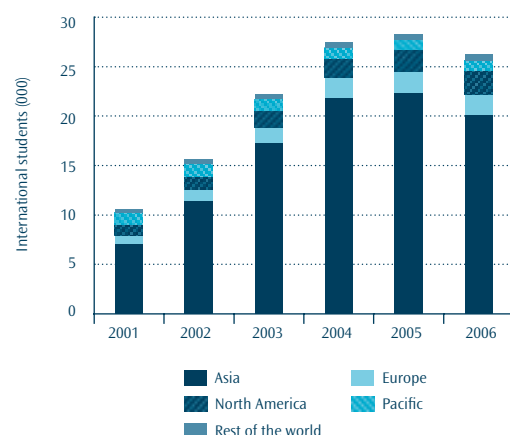
INTERNATIONAL STUDENTS

Figure 9.8// International students in bachelors-level and higher study by region of origin

Students from Asia made up over three-quarters of all international enrolments in bachelors-level and higher study, despite a large decline in their numbers in 2006.

International students enrolled in bachelors-level and higher study in 2006 by region of origin:

Asia	20,200	(down 10% on 2005)
Europe	2,370	(up 7.0% on 2005)
North America	2,030	(down 3.8% on 2005)
Pacific	1,010	(up 5.8% on 2005)
Rest of the world	704	(up 21% on 2005)



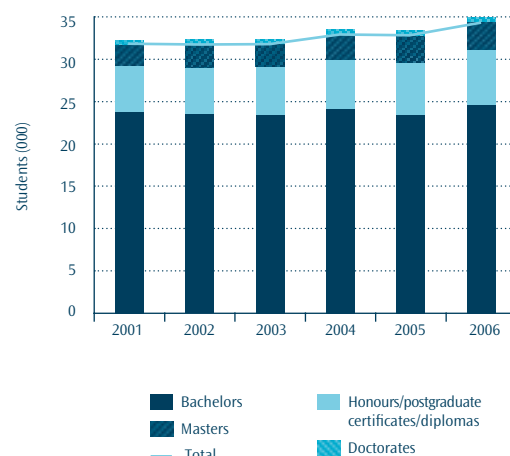
COMPLETION OF QUALIFICATIONS

Figure 9.9// Domestic students completing bachelors-level and higher qualifications

While more domestic students completed a bachelors-level and higher qualification in 2006, this increase was highly influenced by a 5 percent increase in students completing bachelors-level qualifications.

Domestic students completing a bachelors-level or higher qualification in 2006:

Total	34,200	(up 4.7% on 2005)
Bachelors	24,600	(up 5.0% on 2005)
Honours/postgraduate certificates/diplomas	6,580	(up 6.9% on 2005)
Masters	3,240	(no change from 2005)
Doctorates	570	(no change from 2005)



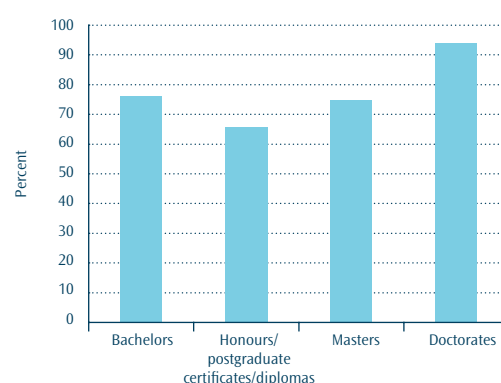
FIRST-YEAR RETENTION

First-year retention rates decreased across all bachelors-level and higher qualifications in 2006, except for masters, which increased by two percentage points.

Domestic students who started study in 2005 and either completed or continued study in 2006:

Total	76%	(78% in 2005)
Bachelors	76%	(78% in 2005)
Honours/postgraduate certificates/diplomas	66%	(68% in 2005)
Masters	75%	(73% in 2005)
Doctorates	94%	(96% in 2005)

Figure 9.10// First-year retention rates in bachelors-level and higher study



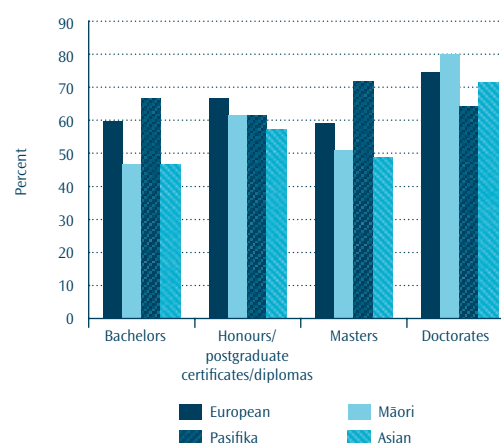
FIVE-YEAR RETENTION

The five-year retention rates, which overall remained around 60 percent in 2006, were highest for domestic European and Asian students.

Domestic students who started study in 2002 and had either completed or continued studying in 2006:

Total	61%	(60% in 2005)
European	62%	(61% in 2005)
Māori	49%	(48% in 2005)
Pasifika	47%	(48% in 2005)
Asian	69%	(68% in 2005)
Other	60%	(58% in 2005)

Figure 9.11// Five-year retention rates in bachelors-level and higher study by ethnic group



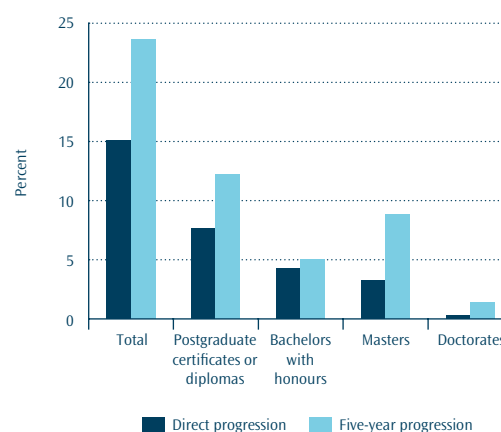
PROGRESSION TO HIGHER-LEVEL STUDY

Figure 9.12// Higher progression rates for domestic students who completed a bachelors degree in 2001

Almost a quarter of all domestic students who completed a bachelors degree in 2001 progressed to further study at a higher level by 2006. Half of these progressed to postgraduate certificate or diploma study.

Domestic students completing a bachelors degree in 2001 who progressed to postgraduate study by 2006:

Total	24%	(23% in 2005)
Postgraduate certificates/diplomas	12%	(12% in 2005)
Bachelors with honours	5.0%	(4.7% in 2005)
Masters	8.8%	(9.9% in 2005)
Doctorates	1.4%	(1.3% in 2005)



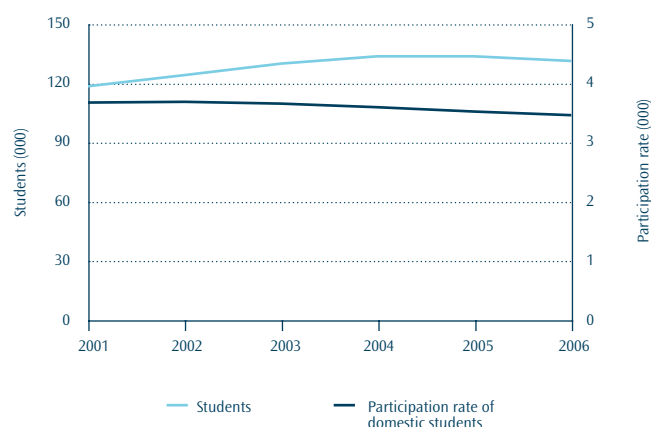
BACHELORS-DEGREE STUDENTS – A MIXED STORY

For the first time in over 10 years, the number of students enrolled in bachelors degrees decreased in 2006. After steady growth in bachelors-degree students until 2004, the numbers remained relatively unchanged in 2005 and then declined by 2,570 students or 1.9 percent to reach 131,000 students in 2006. Over 80 percent of the 2006 decrease in bachelors-degree enrolments was attributable to a fall in international enrolments.

The overall decrease in bachelors-level students masks the full picture of what has happened with these enrolments. When the numbers are broken down, the 2006 decline in bachelors-degree study was in fact due to decreases in the numbers of international students and domestic students aged 25 years and over, while the number of traditional bachelors-degree students – those aged under 25 years – continued to increase in 2006. This is consistent with the fact that the population bulge from people born around 1990 is now reaching the age for tertiary education.

In relation to domestic students, 3.4 percent of the New Zealand population aged 15 years and over participated in bachelors-degree study in 2006, down from 3.5 percent in 2005 and down from 3.7 percent in 2002, when participation peaked. In comparison,

Figure 9.13 // Participation in bachelors-degree study



the participation of people aged 15 to 24 years in bachelors-degree study increased from 12.3 percent in 2005 to 12.4 percent in 2006.

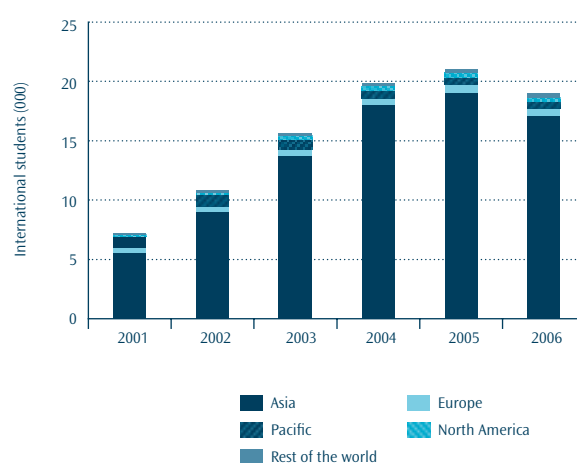
While other qualification levels experienced a greater decline in student numbers than bachelors degrees in 2006, bachelors-degree study experienced the slowest growth in student numbers of all qualification levels in the five years from 2001 to 2006.

Reduction in international student numbers

For the first time since 1998, the number of international students enrolled in bachelors-degree study decreased. In 2006 there were 19,000 international students enrolled in bachelors-degree study, a decrease of 10 percent from 2005. While there was annual growth of between 20 and 50 percent between 2000 and 2004, there was a significant slowdown in 2005, when international student numbers increased by 6.1 percent.

The 2006 decline in international students came from all the major regions of citizenship represented in bachelors-degree study. Student numbers from Asia, North America, Europe and the Pacific all decreased by around 10 percent. Only students from the Middle East increased in 2006. Asian students continued to make up over 90 percent of all international bachelors-degree students in 2006.

Figure 9.14 // International students enrolled in bachelors-degree study by region of citizenship



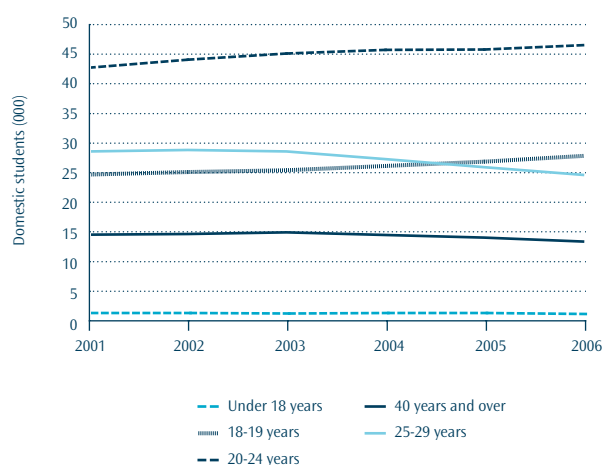
This latest decline in the number of bachelors-degree international students should not come as a surprise. After strong growth in all international student enrolments in tertiary education in New Zealand between 1999 and 2002, growth slowed in 2003 and 2004 and numbers declined in 2005 and 2006. Given the longer duration of bachelors degrees compared with non-degree qualifications, international students who first arrived in New Zealand to study in the peak years of 2002 and 2003 would have only been finishing their degrees in 2005 and 2006. Therefore the slowdown in international students which first hit the New Zealand tertiary education sector in 2003 would have been expected to have only hit bachelors-degree study in 2005.

The decline in first-year international students enrolled in bachelors-degree study between 2003 and 2006 also signalled the slowdown. First-year international student enrolments peaked at 2,670 in 2003 but have been declining since then and numbered 1,540 in 2006.

Fewer mature students

Since reaching a peak of 43,300 in 2003, the number of domestic students aged 25 years and over enrolled in bachelors degrees declined by over 14 percent to 37,200 in 2006. From 2005 to 2006, these enrolments decreased by 5.6 percent. In comparison, domestic students aged under 25 years increased by 5.7 percent from 2003 to 2006.

Figure 9.15 // Domestic bachelors-degree students by age group



2006 and by 2.4 percent from 2005 to 2006. In 2001, students aged 25 years and over made up 39 percent of all domestic bachelors-degree students, but this decreased to 33 percent in 2006.

There are two likely explanations for this decrease in mature students in bachelors-level study. Firstly, the improving employment conditions which existed during this period led to more people taking on employment and reducing or leaving tertiary study. Secondly, the proportion of the population aged 25 years and over with bachelors-level or higher qualifications had risen significantly up to 2005. In 2005, 25 percent of the New Zealand population aged 25 to 39 years had a bachelors or higher qualification, compared to 10 percent in 1991. One driver of this increase was the rise in tertiary participation of mature students that occurred in the late 1990s. It would be unrealistic to assume that this growth in participation and the resultant continued increase in the tertiary-qualified population are sustainable in the longer term.

The 2006 decrease in domestic bachelors-degree students aged 25 years and over occurred across all ethnic groups except for Asian students. The number of Asian students increased by 7.2 percent on 2005 and compared to 2001 these were up 25 percent. Māori student numbers decreased by 9.6 percent in 2006, the third consecutive year that numbers decreased. However, Māori people aged 25 years and over continue to have the highest participation rate in bachelors-degree study at 2.1 percent.

The 2006 reduction of enrolments in bachelors-degree study by people aged 25 years and over affected men and women equally. Women aged 25 years and over continued to outnumber men enrolled in bachelors-degree study by two to one.

While the decrease of mature domestic students enrolled in bachelors-degree study has occurred across all types of providers in 2006, proportionally the largest decreases occurred at wānanga and private training establishments.

More bachelors students under 25 years of age

The number of young domestic students enrolled in bachelors degrees continued to increase in 2006. There were 75,000 domestic students aged under 25 years enrolled in bachelors-degree study in 2006, an increase of 2.4 percent on 2005. As well as being driven by the population bulge that is currently reaching tertiary education age, this increase in younger students is a result of increased participation by younger people

in bachelors-degree study in recent years. In 2006, 22.9 percent of the New Zealand population aged 18 or 19 years were enrolled in bachelors-degree study, up from 22.0 percent in 2001. Additionally, 15.9 percent of the New Zealand population aged 20 to 24 years was also enrolled in bachelors degrees, against 16.5 percent in 2001.

For more information on the transition of young students from secondary school into tertiary education see the article titled *Transitions into tertiary education* in chapter 8.

Bachelors-degree study in 2007

Early indications show that the trend in bachelors-degree study in 2006 has continued in 2007. Growth in the number of domestic students aged 25 years and under has continued and increased in some regions, and the number of domestic students aged 25 years and over has continued to decline. The early indications also show that the number of international students enrolled in bachelors-degree study has flattened out.

PARENTAL INCOME AND THE CHOICE OF PARTICIPATION

It is a widely accepted theory that youth from disadvantaged families are less likely to participate in tertiary education. The Ministry of Education's school leaver statistics show that students from high-decile schools are considerably more likely to proceed directly to tertiary education after leaving school and to enrol in a degree course. While previous New Zealand studies³ have used school decile as a proxy for parental income or socio-economic status in testing this theory, studies which use rich parental income data for New Zealand youth have been limited to date.

The University of Auckland economist Dr Sholeh Maani recently explored the relationship between parental income during adolescent years and the tertiary education choices of New Zealand youth at age 18 years. The study by Maani (2006) examined the tertiary education choices of youths, using the *Christchurch Health and Development Surveys*, a longitudinal dataset with extensive socio-economic and academic information from people born in Christchurch in 1977. The use of this dataset allowed Maani to include a number of relevant factors in her study that are not commonly available for studies of this type. These factors included, for example, childhood IQ, academic performance at secondary school and parents' qualifications, as well as parental resources. The size of the cohort used in this study was 586.

Maani developed two models to look at the participation of New Zealand's youth in tertiary education at age 18 years. The first model looked at the factors that influenced participation in any type of tertiary study. The second model looked at the factors that influenced the choice of tertiary education provider against the other labour market choices of employment and unemployment.

Summary statistics

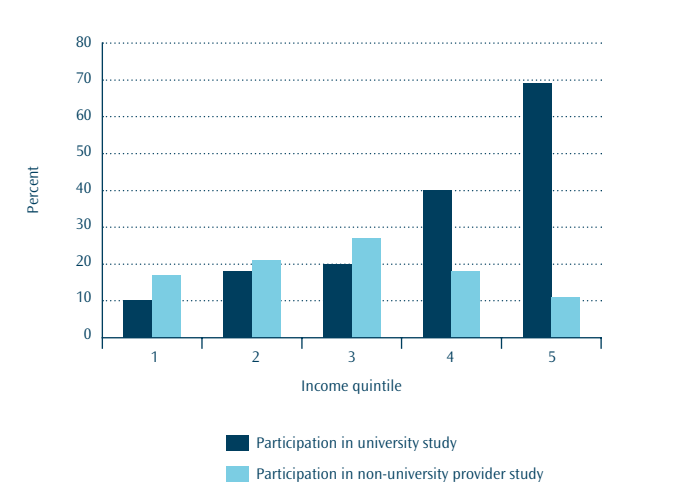
Figure 9.16 summarises the study data to show the percentage of 18 year-olds who participated in tertiary education by their parental income quintile.⁴ There were significant differences in the tertiary participation rates among the parental income quintiles, particularly participation at a university. Around a quarter of youths from the lowest parental income quintile participated in tertiary education at age 18, compared to 80 percent of youths from the highest parental income quintile. Youths from the highest parental income quintile were seven times more likely to attend a university than youths from

3. See, for example, Choat (1998).

4. A proportion of a ranked distribution that contains one-fifth of the total cohort.

the lowest parental income quintile. Youths from the three lowest parental income quintiles were more likely to study at a non-university provider than at a university.

Figure 9.16 // Participation in tertiary education by income quintile



Source: Maani (2006).

Participation in tertiary education

Results from Maani’s first model indicate that, if people continue at school at age 16, participation in tertiary education is not significantly influenced by parental income. Rather, it is largely influenced by academic performance at secondary school, peer influence and intentions expressed at age 16 to attend university or polytechnic. The effect of a one-grade increase in average school certificate⁵ mark (for example from C to B) is associated with a 13 percentage points increase in the probability of participating in tertiary education at age 18 years, while holding all other factors constant. In addition, the effect of having passed sixth form certificate increased the probability by 15 percentage points.

This means that the strong relationship between parental income and participation in tertiary education as shown in Figure 9.16 is not statistically significant once factors such as academic performance at secondary school and peer influence are controlled for. This result is not as surprising as it may first seem, given that there is a strong relationship between academic performance at secondary school and

5. The cohort used in this study would have attended secondary school in the early to mid-1990s, before the introduction of the National Certificate in Educational Achievement. The average School Certificate mark achieved and whether a student passed Sixth Form Certificate were therefore used as indicators of academic performance at school.

parental income. A further study on this dataset by Maani and Kalb (2006) looked at the factors that influenced academic performance in year 11 of secondary school. This study found that academic performance is influenced by many personal and family factors, including parental income in adolescent years. Hence, it is possible to conclude that parental income has an indirect influence on participation in tertiary education at age 18 years through academic performance at secondary school.

Other variables that did not have a significant influence on participation in tertiary education were gender and ethnicity. Any of the observed differences among these groups can be explained by controlling for academic performance at secondary school. Private schooling also did not show a statistically significant influence on participation in tertiary education.

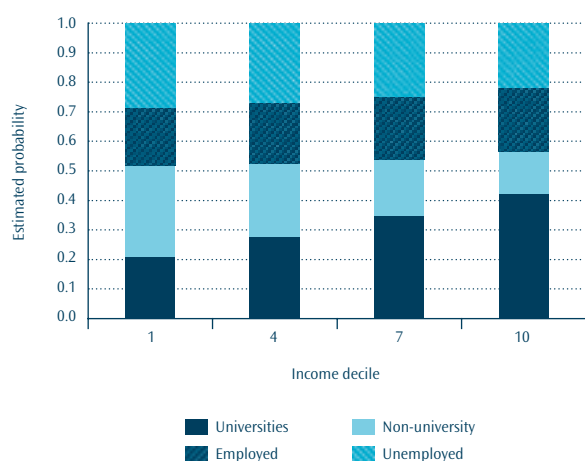
Choice of post-school activity

Maani’s second model⁶ analysed the influence of the factors included in model one on the choice of tertiary education provider and on entering employment on leaving school, in relation to a base category of unemployment. The results from this model show that the parental income decile during adolescence has a statistically significant influence on participation at university. While the study showed that parental income did not have a statistically significant influence on participation in employment or non-university study, there were other family resource variables that did. The probability of choosing employment over other post-school choices was negatively influenced by the amount of financial assistance received from whānau or family – people who received less financial support from their families were more likely to choose employment. The more siblings a youth had, and potentially less parental financial assistance available, the more likely they were to choose employment as a post-school option.

Figure 9.17 shows that the estimated probability of attending university increased for youths whose parental income deciles were higher. For youths with a parental income decile of 1, the probability of attending a university was 21 percent, compared to 42 percent for decile 10. The reverse is true, in terms of the probability of attending a non-university provider, with youths from parental income decile 1 more likely to attend than youths from decile 10. The probability of entering employment was similar for all youths irrespective of their parental income deciles.

6. The pseudo R² for both models in the study was around 0.25.

Figure 9.17 // Estimated probabilities of post-school choices by parental income



Source: Maani (2006).

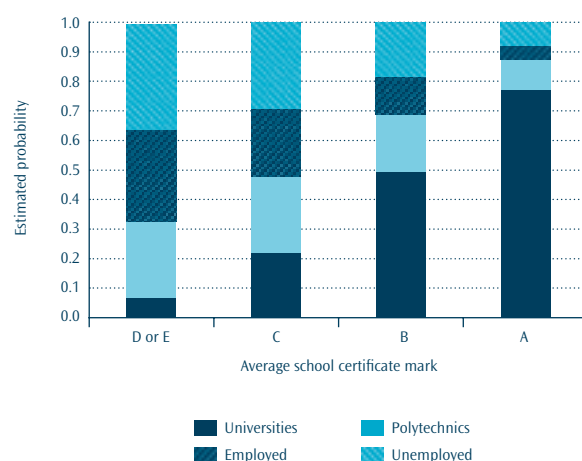
Note: The estimated probability levels are for specific choices in model two, while placing all other explanatory variables at their mean value.

The study results showed that participation at a university is influenced significantly by academic performance at secondary school as measured by both the average school certificate grade and a pass in sixth form certificate. However, academic performance at secondary school did not significantly influence attendance at tertiary education providers other than universities. Entering employment is negatively influenced by passing sixth form certificate. If a youth passed sixth form certificate, the probability of entering employment at age 18 years decreased by 19 percent. The study results also showed that the IQ at age eight years was also a statistically significant factor, indicating that early innate academic ability influenced post-school choices.

Figure 9.18 highlights the strong relationship between academic performance at secondary school and post-school choices. The probability of attending university increased significantly with an improvement in the average school certificate mark. It was estimated that one in five of the youths with an average school certificate mark of C would choose to attend a university, compared to three out of four for youths with an average mark of A. Similarly, the estimated probabilities of undertaking non-university study, entering employment or becoming unemployed decreased with an increase in the average school certificate mark.

It is possible to see how lower school grades can limit the post-school choices of youth. Youths with an average school certificate mark of C, D or E are less likely to attend a university and more likely to enter employment or become unemployed at age 18. Additionally, those youths with an average school certificate mark of D or E are more likely to be unemployed than they are to either participate in tertiary education or enter employment.

Figure 9.18 // Estimated probabilities of post-school choices by academic performance at secondary school



Source: Maani (2006).

Note: The estimated probability levels are for specific choices in model two, while placing all other explanatory variables at their mean value.

Maani also presented a number of multiple-effect scenarios that further emphasised the role that academic performance at secondary school plays in predicting post-study choices. Youths who achieved an A, on average, as their school certificate mark and passed sixth form certificate, as well as having all of their year 11 peers continue to year 12, had an estimated probability of attending a university of 84 percent. This compares with an estimated probability of attending a university of 20 percent for youths who achieved an average school certificate mark of C, did not achieve sixth form certificate and had no year 11 form peers continue to year 12. The estimated probability of being unemployed for this group was 54 percent.

References:

- Choat, D. (1998) *The myth of equal opportunity: wealth of school-district as a determinant of tertiary participation*, Wellington: Aotearoa Polytechnic Student Union and New Zealand University Students' Association.
- Maani, S.A. (2006) Parental income and the choice of participation in university, polytechnic or employment at age 18: a longitudinal study, *Research in Economic Inequality*, Volume 13, pp. 217-248.
- Maani, S.A. & Kalb, G. (2006) Academic performance, childhood economic resources, and the choice to leave school at age 16, *Economics of Education Review*, Volume 26, Issue 3, pp. 361-374.
- Ministry of Education (2006) *New Zealand schools 2005*, Data Management & Analysis Division, Wellington: Ministry of Education.



CHAPTER TEN

NON-FORMAL EDUCATION // 135-136

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ADULT LITERACY

In 2006, there were 146 projects funded from the Foundation Learning Pool valued at over \$5.6 million. Fifty-four projects valued at \$3 million were funded in 2005.

A total of 24 providers were funded to deliver 193 workplace literacy projects, including needs assessment and training, for more than 1,000 learners. A total of \$1.8 million was allocated in 2006 to support these projects.

In the area of refugee and migrant literacy education, 5,740 learners received English for speakers of other languages tuition and resettlement support from the National Association of English as a Second or Other Language (ESOL) Home Tutor Schemes (down from 6,480 in 2005).

Home tutor schemes were provided by 2,990 volunteers (down from 3,080 in 2005) and 1,000 new volunteers trained for the schemes to certificate level (up from 981 in 2005).

In 2006, 320 learners received ESOL tuition from the Multicultural Learning and Support Services (up from 263 in 2005). There were 1,360 migrants assessed by the ESOL Advisory Services in 2006, down from 1,520 in 2005. Seventy-eight providers contracted to provide English for Migrants programmes with 16,100 migrants registered for programmes since the programme's inception (up from 14,300 in 2005).

ADULT AND COMMUNITY EDUCATION IN SCHOOLS

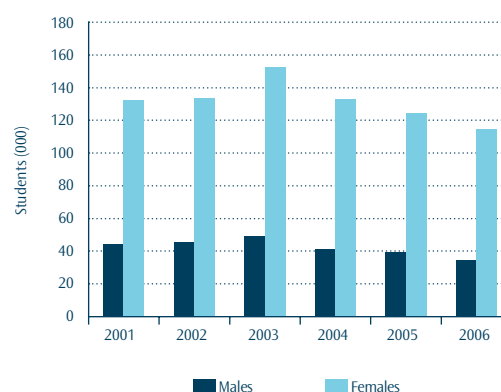
Secondary schools provide community education programmes for adults in addition to their regular daytime curriculum

Enrolment in ACE in schools in 2006:

Total	149,000	(164,000 in 2005)
European	84%	
Asian	8.8%	
Māori	5.0%	
Pasifika	2.2%	
Women	77%	
Aged 30 to 49 years.	41%	

The two most common subjects for all students were art, music and crafts, and fitness, sport and recreation. The next most common subject for women was home management and maintenance. The next most common subject for men was other languages (ie languages other than Māori and English).

Figure 10.1// Students in community education at schools



ADULT & COMMUNITY EDUCATION IN TERTIARY EDUCATION INSTITUTIONS

Figure 10.2// Students in adult & community education at tertiary education institutions

After peaking in 2004, the number of students enrolled in ACE courses at tertiary institutions has continued to decrease.

The decrease is due to a shift from demand-led funding to a capped funding pool in 2006.

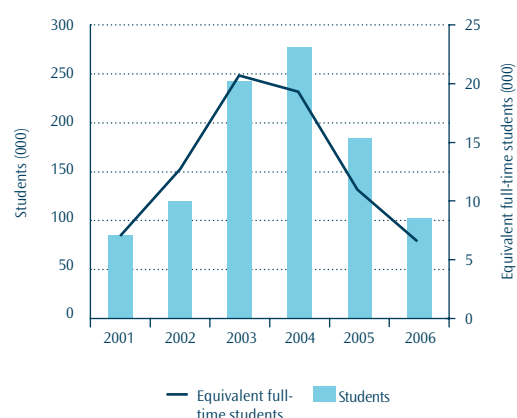
Students in 2006:

Total	102,600	(down 44% on 2005)
Polytechnics	71,300	(down 51% on 2005)
Universities	24,500	(down 15% on 2005)

Enrolments represented 6,400 EFTS (down 29% on 2005).

European 64%, Māori 17%, Asian 9%, Pasifika 5%.

The proportion of women in ACE was 60% and those aged 25 years and over accounted for 80%. The most common fields of study were management and commerce, society and culture, and creative arts. Courses were provided by 20 polytechnics, 7 universities, 9 private training establishments, 2 colleges of education and 1 wānanga.





CHAPTER ELEVEN

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.....

AN OVERVIEW

In 2006, student allowances uptake increased, after several years of decline. Between 2001 and 2005, the number of recipients fell each year – largely because, for most students, eligibility for allowances depends on their parents' incomes. As incomes have risen, the number of students whose parents' income fell below the thresholds has been declining. From the beginning of 2005, the government began a series of increases in parental income thresholds. These thresholds are now indexed – they move each year with inflation. In addition, in 2006, there was an increase in the personal income limit – the amount a student can earn from part-time work while still retaining eligibility for an allowance. These policy changes led to a 4.6 percent increase in the number of allowances recipients in 2006. The total paid out in allowances also rose in 2006 – by 8 percent – again, the first rise after several years of reductions.

The uptake of student loans increased in 2006 – the year in which interest-free student loans were introduced. The number of borrowers rose by 8.4 percent on 2005. Around 5.2 percent of the New Zealand population aged 15 and over borrowed from the loan scheme in 2006. The uptake rate – the proportion of eligible students who choose to use the loan scheme was 56 percent, up from 49 percent in 2005.

Another consequence of interest-free student loans is a change in repayment patterns. Loan repayments for the year to 30 June 2007 were no higher than in the previous year, despite there being a larger number of borrowers. The amount repaid – \$487 million – was about 5 percent below the amount collected in the year to 30 June 2005. While it will take some time for new repayment trends to emerge, the expectation is that repayments will start to increase from 2008 and that they will rise steadily from then on.

THE 2007 YEAR

Early indications are that the increases in loans and allowances uptake observed in 2006 have continued in 2007. In the period 1 January 2007 to 30 June 2007, the number of allowances recipients went up by 6 percent while the number of people borrowing rose by 7 percent. The average amount received in allowances reduced slightly – by 1.6 percent – while the amount borrowed under the loan scheme went up by nearly 2 percent.

MORE STUDENT ALLOWANCES RECIPIENTS

There were 2,625 more student allowances recipients in 2006 than in 2005, an increase of 4.6 percent. The total number of student allowances recipients in 2006 was 59,431 compared to 56,806 in 2005.

The number of student allowances recipients by gender in 2006:

Females	31,831	(up 5.1% on 2005)
Males	27,600	(up 4.1% on 2005)
Total	59,431	(up 4.6% on 2005)

Source: Ministry of Social Development.

Figure 11.1// Student allowances recipients by gender



MOST ALLOWANCES HOLDERS AGED UNDER 25 YEARS

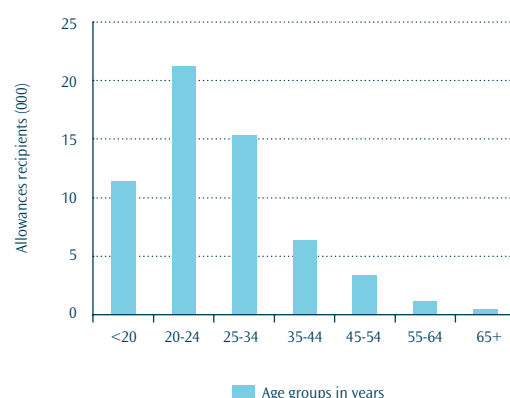
In 2006, there were 32,671 student allowances recipients under 25 years of age, comprising 55 percent of the total. The majority of students under 25 years are subject to parental income testing. The exceptions are those under-25-year-old students who have a dependent child or children or those who are awarded an Independent Circumstances Allowance because of exceptional family circumstances.

The proportion of student allowances recipients by age group in 2006:

Under 20 years	19%	(18% in 2005)
20 to 24 years	36%	(36% in 2005)
25 to 29 years	17%	(27% in 2005)
30 to 39 years	15%	(11% in 2005)
40 to 49 years	8.0%	(5.4% in 2005)
50 to 59 years	3.5%	(1.8% in 2005)
60 years or over	1.5%	(0.7% in 2005)

Source: Ministry of Social Development.

Figure 11.2// Student allowances recipients by age group



MORE ALLOWANCES RECIPIENTS WITH DEPENDANTS

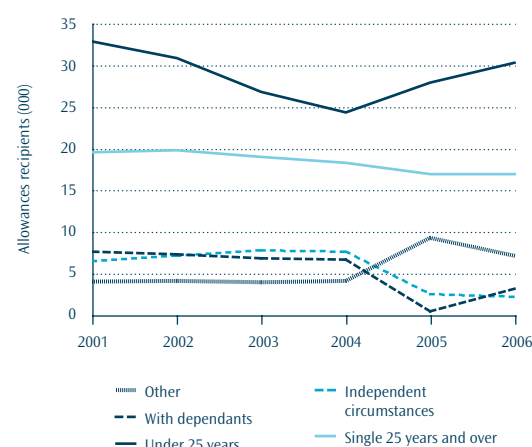
The majority of student allowances recipients are under 25 years of age and receive a parental-income-tested allowance. In 2006, there was a very large increase in the number of students who had dependants and received student allowances (although this increase was from a very low base, following a large dip in 2005, and the numbers receiving this form of allowance is now at around half the 2004 level).

The number of student allowances recipients by allowance type in 2006:

Under 25 years	30,246	(up 8.5% on 2005)
Single – 25 years and over	16,834	(down 0.3% on 2005)
Independent circumstances	2,186	(down 10.3% on 2005)
Students with dependants	3,111	(up 648% on 2005)

Source: Ministry of Social Development.

Figure 11.3// Student allowances recipients by type of allowance



ALLOWANCES RECIPIENTS BY SUB-SECTOR

There were more student allowances recipients in 2006 studying in private training establishments, universities and polytechnics but fewer at colleges of education and wānanga.

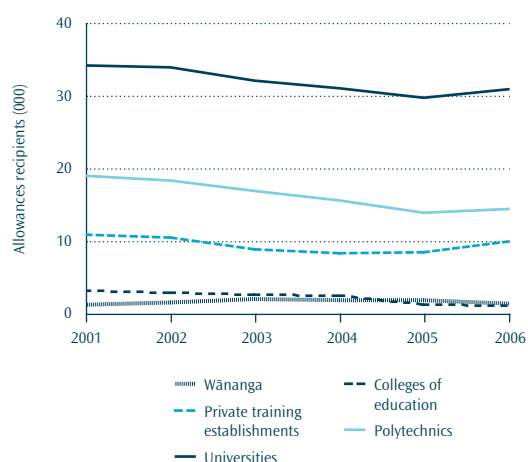
The number of student allowances recipients by sub-sector in 2006.

Universities	30,787	(up 3.8% on 2005)
Polytechnics	14,345	(up 4.2% on 2005)
Wānanga	1,317	(down 19.3% on 2005)
Colleges of education	994	(down 12% on 2005)
Private training establishments	9,713	(up 15% on 2005)

Note: Colleges of education have been progressively merging with the universities since 2004. In 2007 the mergers were completed when the Christchurch College of Education joined with the University of Canterbury and the Dunedin College of Education became part of the University of Otago.

Source: Ministry of Social Development.

Figure 11.4// Student allowances recipients by sub-sector



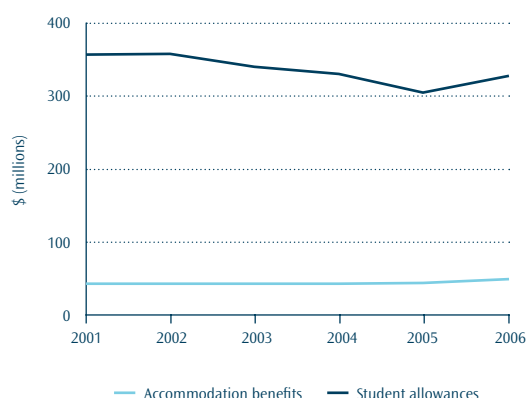
EXPENDITURE ON ALLOWANCES INCREASED

In 2006, the expenditure on student allowances and accommodation benefits increased.

Student allowances expenditure by allowance type in 2006:

Student allowances	\$23 million	(up 7.5% on 2005)
Accommodation benefits	\$5 million	(up 11% on 2005)

Figure 11.5// Expenditure on student allowances and accommodation benefits



MORE STUDENTS BORROWED

More students took up student loans in 2006 – the year in which interest-free student loans were introduced. There were also more first-time borrowers in 2006, but still fewer than in 2002 (62,763) and 2003 (60,131).

The number of student loan borrowers in 2006:

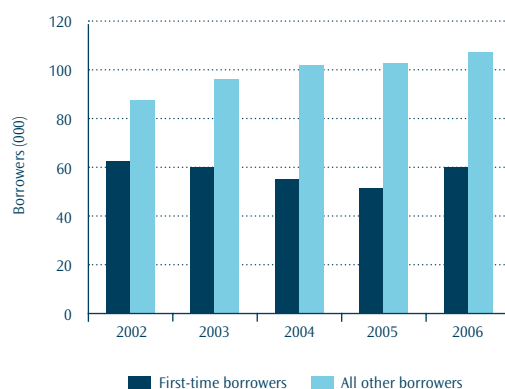
Total	167,420	(up 8.4% on 2005)
First-time borrowers	60,016	(up 17% on 2005)
All other	107,404	(up 4.3% on 2005)

Notes:

1. This data is provisional.
2. First-time borrowers are those who have not borrowed in 2000 or subsequently.

Source: Ministry of Social Development.

Figure 11.6// Student loan uptake



STUDENT LOAN UPTAKE INCREASED

A greater proportion of people eligible to use the loan scheme borrowed in 2006. This applied to full-time and part-time students.

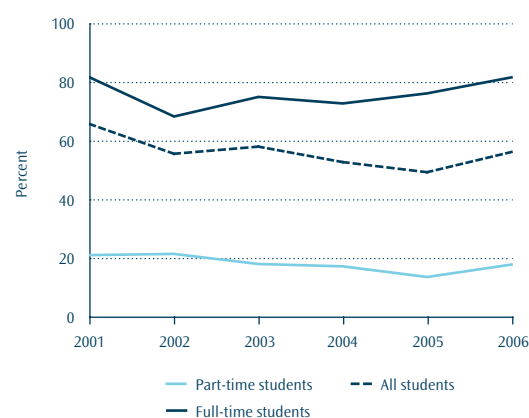
The proportion of eligible students who borrowed in 2006:

Total	56%	(49% in 2005)
Full-time	82%	(76% in 2005)
Part-time	18%	(13% in 2005)

Note: Overall uptake rates depend on the mix of full-time and part-time borrowers. The low uptake of part-time borrowers, compared with the high uptake of full-time borrowers, reduces the overall uptake rate.

Source: Ministry of Social Development.

Figure 11.7// Student loan uptake rates by study status



MORE BORROWED TO PAY THEIR FEES

In 2006, there was a significant increase in the number of students borrowing to cover the cost of their tuition. Most of the increase was generated by university and private training establishment students.

The number of students borrowing their fees by sub-sector in 2006:

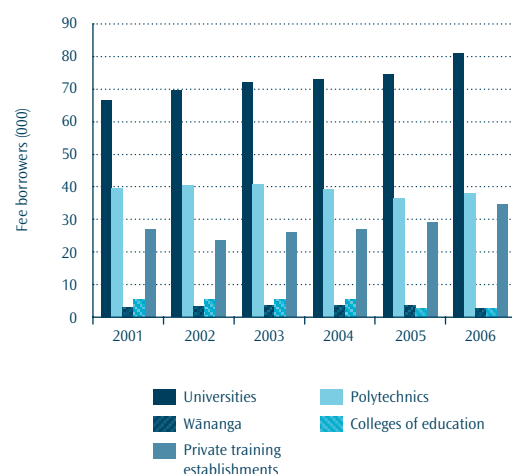
All tertiary education providers	158,940	(up 8.8% on 2005)
Universities	81,035	(up 8.6% on 2005)
Polytechnics	38,077	(up 4.6% on 2005)
Wānanga	2,826	(down 18% on 2005)
Colleges of education	2,517	(down 0.4% on 2005)
Private training establishments	34,485	(up 18% on 2005)

Notes:

- From 2000, loan components other than fees were not recorded by sub-sector.
- A student studying in more than one sub-sector has been counted in each sub-sector.

Source: Ministry of Social Development.

Figure 11.8// Student fee borrowers by sub-sector



MOST BORROWERS AGED UNDER 29 YEARS

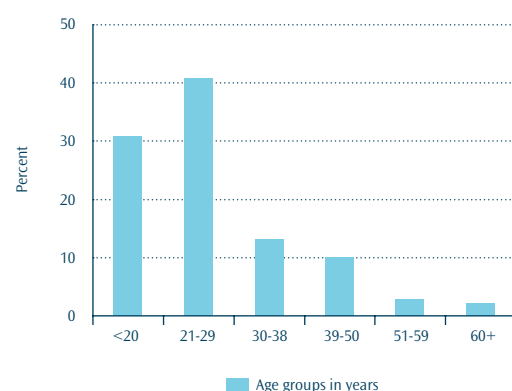
Over a third of borrowers were aged 21 to 29 years in 2006 and just under another third of them were aged under 20 years.

The proportion of borrowers by age group in 2006:

Under 20 years	31%	(30% in 2005)
21 to 29 years	41%	(42% in 2005)
30 to 38 years	13%	(14% in 2005)
39 to 50 years	10%	(10% in 2005)
51 to 59 years	2.8%	(2.6% in 2005)
60 years or over	2.1%	(1.5% in 2005)

Source: Ministry of Social Development.

Figure 11.9// Borrowers by age group



MORE FEMALE THAN MALE BORROWERS

Figure 11.10//Average amount borrowed and the proportion of borrowers by gender

Almost 60 percent of loan scheme borrowers were women in 2006 – consistent with the high proportion of women enrolled in tertiary education. However, in 2006 male students borrowed \$660 more, on average, than female students.

The average amount borrowed by gender in 2006:

Male students	\$7,005	(up 2.5% on 2005)
Female students	\$6,345	(up 3.5% on 2005)

Males accounted for 40.2 percent of student loan borrowers in 2006, compared to 44.2 percent in the year 2000. The proportion for females was 59.8 percent in 2006, down on 55.8 percent in 2000.

Source: Ministry of Social Development.



TOTAL AMOUNT BORROWED INCREASED

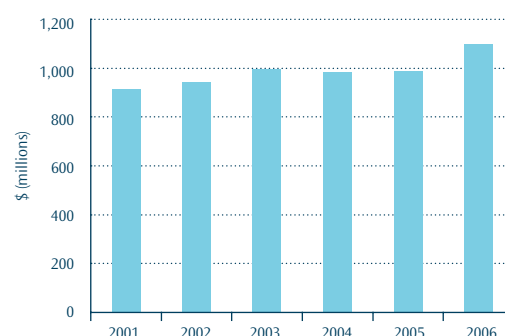
Figure 11.11//Annual amount borrowed

At just over \$1 billion, the amount borrowed under the Student Loan Scheme in 2006 was \$109.7 million higher than in 2005. The latest increase followed three years in which the amount borrowed has remained similar. The 2006 increase is the largest since 2001, when an increase in borrowers' entitlements was followed by a 17 percent increase on the previous year.

The total amount borrowed in 2006:

	\$1,099.8 million	(up 11% on 2005)
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Source: Ministry of Social Development.



MEDIAN AMOUNT BORROWED RISES

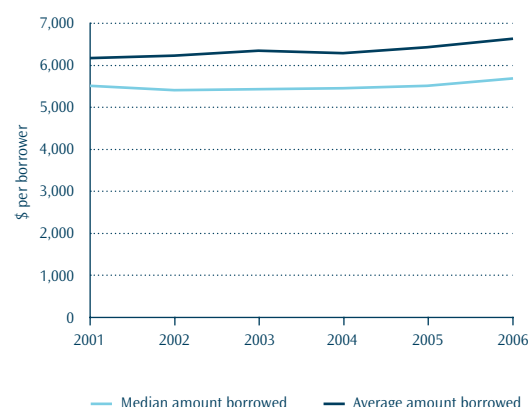
Figure 11.12//Average and median amount borrowed

From 2005 to 2006, the average amount borrowed increased by \$202, while the median amount increased by \$178.

The average and median amounts borrowed in 2006:

Average	\$6,610	(up 3.2% on 2005)
Median	\$5,663	(up 3.2% on 2005)

Source: Ministry of Social Development.



INCREASE IN AMOUNT BORROWED FOR COURSE FEES

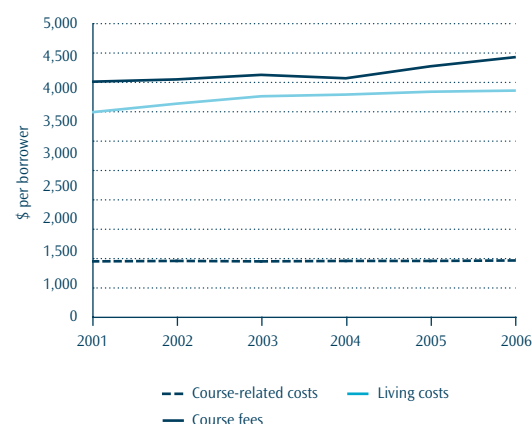
The average amount drawn in 2006 increased for each of the three loan components – course fees, course-related costs and living costs.

The average amount drawn from loan accounts by loan component in 2006:

Course fees	\$4,408	(up 3.7% on 2005)
Course-related costs	\$950	(up 0.4% on 2005)
Living costs	\$3,839	(up 0.7% on 2005)

Source: Ministry of Social Development and Ministry of Education.

Figure 11.13//Average amount borrowed by loan component



MORE PEOPLE WITH LOANS THAN ALLOWANCES

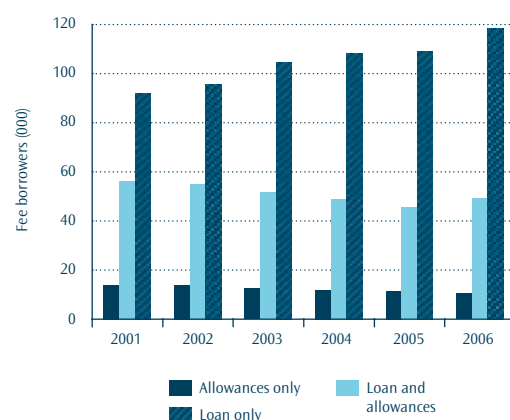
In 2006, there were twice as many student support recipients with only a student loan than there were students with a loan and a student allowance. In 2006, there were 10 times as many students with a student loan than there were students who received a student allowance.

The number of student loan borrowers and student allowances recipients in 2006:

Allowances only	10,340	(down 9.1% on 2005)
Loan and allowances	49,091	(up 8.1% on 2005)
Loan only	118,329	(up 8.6% on 2005)

Source: Ministry of Social Development.

Figure 11.14//Student allowances recipients and student loan borrowers



FULL-TIME STUDENTS WITH LOANS AND ALLOWANCES

In 2006, approximately one-third of student allowances recipients also borrowed for their living costs. Less than one-quarter of students who borrowed the living costs component of the student loan also had a student allowance.

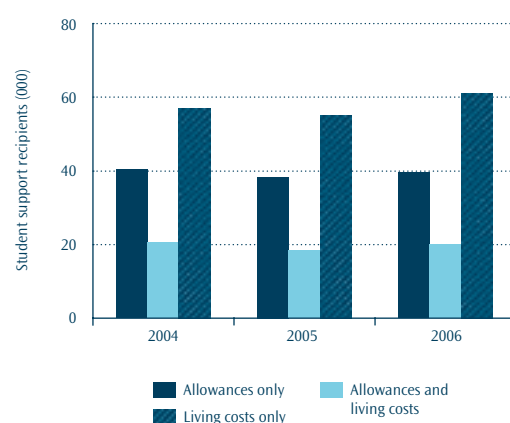
Student allowances recipients and students who borrowed for living costs in 2006:

Student allowances only	39,487	(up 3.0% on 2005)
Student allowances and living costs loans	19,944	(up 8.1% on 2005)
Living costs loans only	60,977	(up 10% on 2005)

Only full-time students are eligible for the living costs entitlement of up to \$150 per week for each week of the course, less any student allowances received.

Source: Ministry of Social Development.

Figure 11.15//Recipients of student allowances and living costs loans



MORE PEOPLE WITH STUDENT LOANS

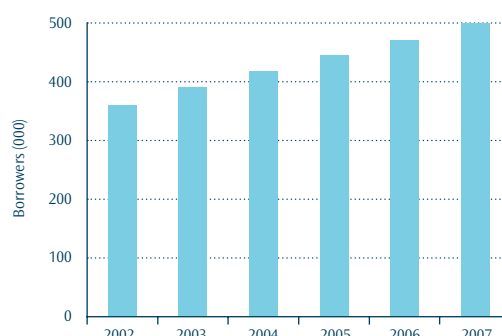
The number of people with a student loan balance with Inland Revenue increased at 30 June 2007 compared with the previous year. This reflects new borrowers entering the scheme in greater numbers than those who completely repaid in the period.

The number of borrowers with Inland Revenue:

2002	361,000	(up 15% on 2001)
2003	390,000	(up 8.2% on 2002)
2004	419,000	(up 7.4% on 2003)
2005	445,000	(up 6.3% on 2004)
2006	470,500	(up 5.7% on 2005)
2007	499,000	(up 6.1% on 2006)

Source: Inland Revenue.

Figure 11.16//Borrowers with Inland Revenue at 30 June



STUDENT LOAN BALANCE CONTINUED TO INCREASE

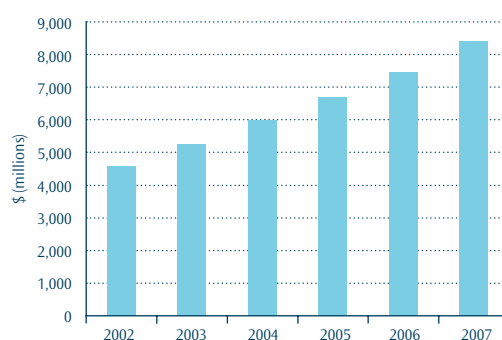
The student loan debt held by Inland Revenue at 30 June 2007 was 13 percent higher than the previous year.

Nominal student loan debt with Inland Revenue at 30 June:

	\$ (millions)	% change from previous year
2002	4,570	16
2003	5,270	15
2004	5,970	13
2005	6,680	12
2006	7,470	12
2007	8,400	13

Source: Inland Revenue.

Figure 11.17//Nominal value of student loans at 30 June



AVERAGE LOAN BALANCE INCREASED

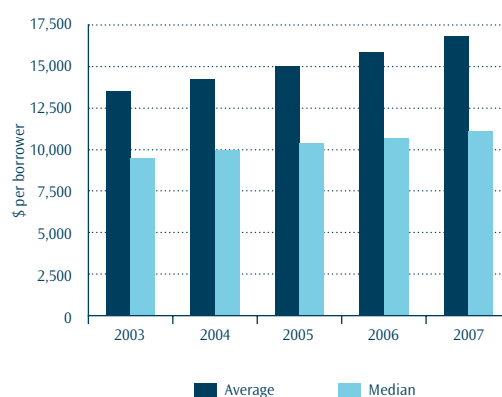
At 30 June 2007, the average and median loan balances held by Inland Revenue were higher than a year earlier.

The average and median loan balances, from 2002 to 2007:

	Average \$	% change from previous year	Median \$	% change from previous year
2002	12,700	1.4	—	—
2003	13,500	6.5	9,500	—
2004	14,200	5.4	9,980	5.4
2005	15,000	5.3	10,400	4.3
2006	15,900	6.0	10,700	2.4
2007	16,800	6.0	11,100	4.1

Source: Inland Revenue.

Figure 11.18//Average and median student loan balances at 30 June



MOST BORROWERS OWE LESS THAN \$15,000

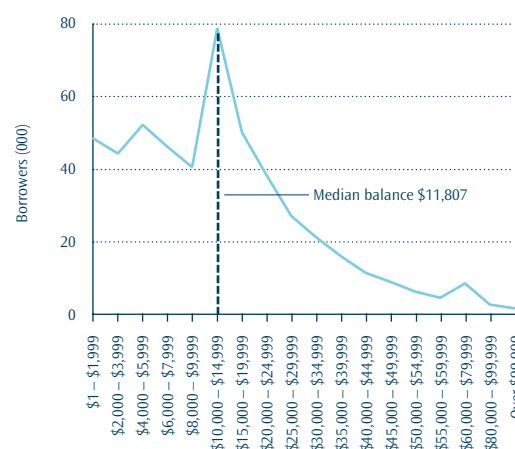
More than 60 percent of borrowers owed less than \$15,000 at 30 June 2007.

The proportion of borrowers by loan balance at 30 June 2007:

Value of loan	Proportion	Value of Loan	Proportion
Under \$10,000	45.9%	\$10,000–\$14,999	15.7%
\$15,000–\$19,999	9.9%	\$20,000–\$24,999	7.6%
\$25,000–\$29,999	5.3%	\$30,000–\$34,999	4.1%
\$35,000–\$39,999	3.1%	\$40,000–\$59,999	6.0%
\$60,000–\$79,999	1.6%	Over \$79,999	0.7%

Source: Inland Revenue.

Figure 11.19//Borrowers at 30 June 2007 by range of loan balance



FEWER LOANS REPAID IN FULL

Inland Revenue has collected \$3.8 billion in loan repayments since the loan scheme began. In 2007, \$486.5 million was collected in repayments, a similar amount to 2006 but less than the \$510.3 million collected in 2005. There has been a shift in the split of repayments collected between those from the PAYE system and those paid directly by borrowers. The proportion collected through the PAYE system rose by 15.8 percent in 2006, compared to 9.7 percent in 2007. The number of loans repaid in full decreased in 2007 for the second year in a row.

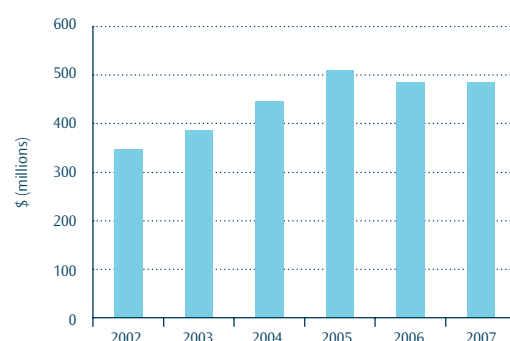
The annual gross value of student loan repayments:

2002	\$346.9 million	(up 21.8% on 2001)
2003	\$386.4 million	(up 11.4% on 2002)
2004	\$447.2 million	(up 15.7% on 2003)
2005	\$510.3 million	(up 14.1% on 2004)
2006	\$486.4 million	(down 4.7% on 2005)
2007	\$486.5 million	(up 0.02% on 2006)

Note: Because a student loan account can be finalised after the end of the fiscal year, the number of loans repaid for a previous year may change.

Source: Inland Revenue.

Figure 11.20//Gross annual student loan repayments at 30 June



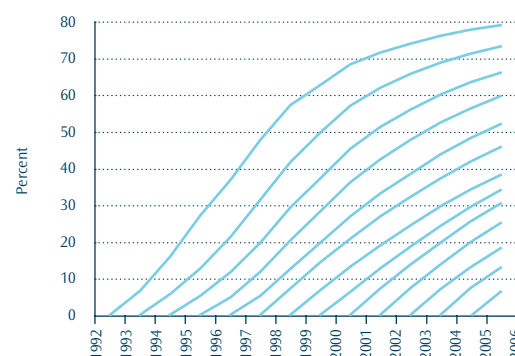
PROPORTION OF BORROWERS REPAID IN FULL

Figure 11.21//Proportion of borrowers who have fully repaid for each cohort leaving-year

Nearly 80 percent of people who took out a student loan in 1992 had fully repaid their loan by 2005.

Using the integrated Student Loan Scheme Borrowers dataset, the progress towards loan repayments is able to be charted. The main determinants of repayment rates of those who have left study are employment and income. As people's incomes rise, their repayment obligations increase. For this reason, repayment rates tend to start slowly and increase as people gain experience in the workforce.

Source: Statistics New Zealand, Student Loan Scheme Borrowers dataset.



LOAN REPAYMENTS AND COMPLETING A QUALIFICATION

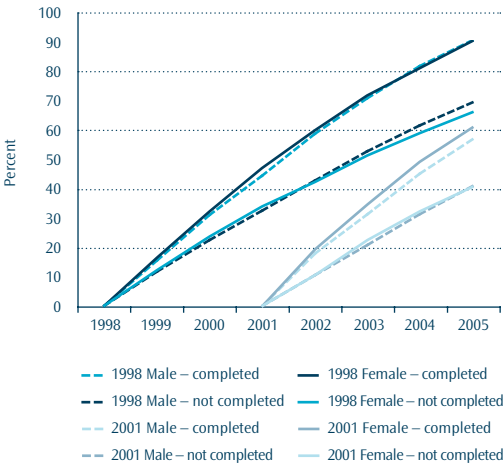
Figure 11.22//Borrowers who repaid their loans by gender and completion status

As time goes on, the number of borrowers repaying in full increases each year, but at a decreasing rate. The probability of a borrower repaying a loan depends on whether or not they have completed a qualification. Figure 11.22 illustrates that those with a qualification paid back more quickly than those who did not complete a qualification.

While women repaid slightly more quickly in the first few years after leaving study, over time gender had little effect on the rates of repayment.

Note: The leaving cohorts graphed here are those who last studied in 1998 and 2001, had borrowed from the loan scheme, and had a student loan balance of \$10 or more at 31 March in the following year. Excluded are 3.4 percent who had repaid their student loan before 31 March in the year after leaving study.

Source: Statistics New Zealand, *Student Loan Scheme Borrowers* dataset.



REPAYMENT FORECASTS

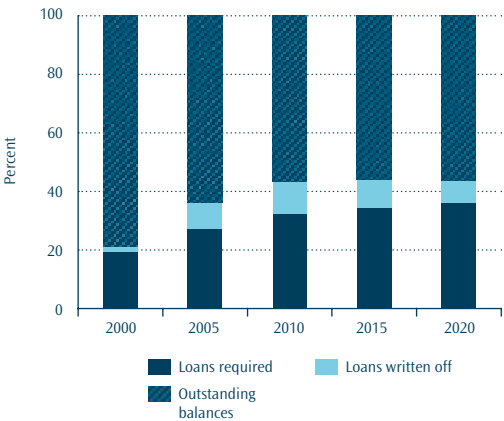
Figure 11.23//Projected proportions of loan repayments made, loans written off and outstanding balances

At the end of 2006, around 28 percent of the total accumulated loan scheme balance had been repaid and about 12 percent written off. This compares to 19 percent repaid and 1.75 percent written off in the year 2000.

The accumulated loan balance outstanding at the end of 2006 was 60 percent; however, as the loan scheme matures this proportion will change:

Accumulated loan balance repaid	Written off	Loan balance outstanding
By 2010 ~32%	11%	57%
By 2015 ~34%	10%	56%
By 2020 ~36%	8%	56%

Source: Ministry of Education and Inland Revenue.



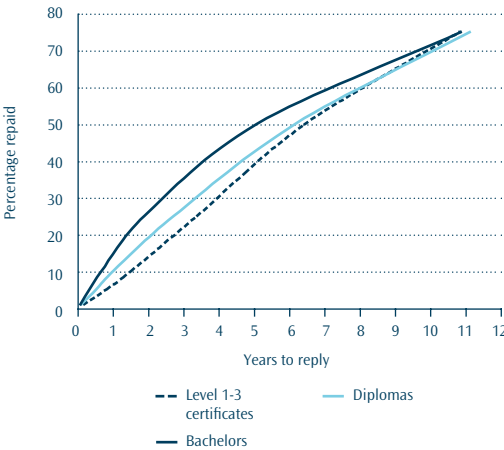
PREDICTED REPAYMENT TIMES

Figure 11.24//Projected full repayment for recent leavers for selected levels of study (NZ based)

The Ministry of Education’s model of the loan scheme calculates the changes in repayment rates that affect individual borrowers. Figure 11.24 looks at repayment times for recent leavers grouped according to the level of their studies. It combines three cohorts of leavers – those who last studied in 2001, 2002 and 2003. It models the distribution of the expected repayment times in years up to the 75th percentile.

The median repayment time for those who studied at bachelors level was about 5 years. Figure 11.24 also shows that three-quarters of borrowers took less than 11 years to repay in full. However, people who studied at the diploma level took a little longer – for them the median repayment time was about 6 years. For those who studied level 1 to 3 certificates the median repayment time was about 6 and a half years.

Source: Statistics New Zealand, *Student Loan Scheme Borrowers* dataset.



VALUE OF THE LOAN SCHEME

Figure 11.25//Student Loan Scheme's nominal value, book value and fair value at 30 June

Over recent years, the valuation of the loan scheme has changed due to new international accounting standards and methodologies, an improved student loans simulation model and the new interest-free student loan policy introduced in 2006.

Student Loan Scheme's nominal value, book value and fair value at 30 June:

	Nominal value	Change	Fair value	Change	Book value	Change
	\$ (millions)	%	\$ (millions)	%	\$ (millions)	%
2004	6,821	—	5,734	—	5,995	—
2005	7,499	9.9	5,994	+4.5	6,465	+7.8
2006	8,370	11.6	5,537	-7.6	5,569	-13.8
2007	9,413	12.5	5,443	-1.7	6,011	+7.9

Source: Student Loan Scheme Financial Statements for the year ended 30 June 2007.



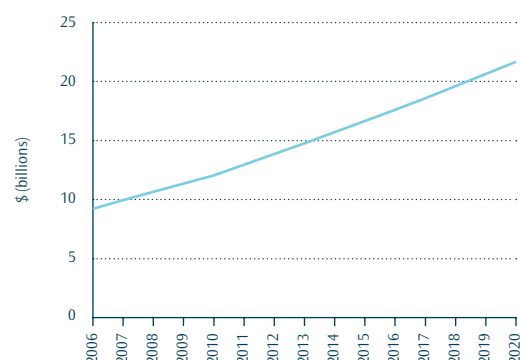
LONG-TERM FORECAST OF NOMINAL LOAN BALANCES

Figure 11.26//Nominal loan balance projections at June 2006

The number of loan borrowers is forecast to increase by 2 percent per annum, on average, for the years from 2007 to 2012. This increase in the forecast rate of growth in the number of borrowers reflects the impact of the recently introduced interest-free policy. The forecast increase also reflects the changes in the size and structure of the New Zealand population, the estimated participation rate in tertiary education and other forecasts relating to economic conditions.

The increase in the total amount borrowed is expected to be 4.2 percent per annum, on average, for the years from 2007 to 2012. Again, this projected increase reflects the recent introduction of the interest-free policy.

Source: Statistics New Zealand, *Student Loan Scheme Borrowers* dataset.





CHAPTER TWELVE

RESEARCH IN THE TERTIARY EDUCATION SECTOR // 148-164

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Measuring the quality of research in New Zealand's tertiary education sector // 160

AN OVERVIEW

The research performance of the tertiary sector improved in several areas in 2006. In the area of research training, enrolments in doctoral degrees increased substantially. This was driven by a significant rise in international enrolments, which occurred in response to a change in government funding policy that funds international doctoral students on the same basis as domestic students. The number of people completing a doctoral degree decreased slightly in 2006, with men and international students especially showing a noticeable decline.

In the area of research output, the universities showed improvement in a number of areas. The external research contract income earned by the universities per academic staff member rose in real terms between 2004 and 2005. Total research output increased at four out of the six universities that reported research outputs in 2006. The academic impact of research by the New Zealand universities relative to the world average increased between 2000-2004 and 2001-2005 in four out of 10 broad subject areas monitored. Two subject areas – health, and medicine and public health – had an academic impact above the world average in 2001-2005.

THE 2007 YEAR

In 2007, the findings of the Performance-Based Research Fund 2006 Quality Evaluation were released by the Tertiary Education Commission. The next quality evaluation is scheduled to take place in 2012.

The Ministry of Education released two reports that used a newly available bibliometric dataset to examine the academic impact of New Zealand's university research. The first report – *(ex)Citing research* – analysed the relative academic impact of university research (measured by citations per publication) in broad and narrow subject fields between 1981 and 2005. The report found that the academic impact of New Zealand's university research was generally above the world average in the specialist research areas of the universities.

The second report – *Quality vs impact* – compared Performance-Based Research Fund quality scores from the 2003 and 2006 Quality Evaluations with the number of citations per full-time equivalent researcher in 10 broad subject areas. The report found that there was a positive relationship between the number of citations per full-time equivalent researcher and the Performance-Based Research Fund average quality scores, but that the strength of the relationship varied among subject areas.

DOCTORAL ENROLMENTS

The number of doctoral enrolments continued to rise in 2006. While women still represented a majority of doctoral students' enrolments by men rose at a faster rate than those by women.

Doctoral enrolments in 2006:

Total	5,467	(up 13% on 2005)
Female	2,778	(up 11% on 2005)
Male	2,689	(up 15% on 2005)

Figure 12.1// Doctoral enrolments by gender



MORE INTERNATIONAL AND PASIFIKA STUDENTS ENROL IN DOCTORAL STUDY

There was significant growth in the number of international students and Pasifika students enrolled in doctorates in 2006. The increase in international students is partly a result of a change to the funding regime for new international doctoral students.

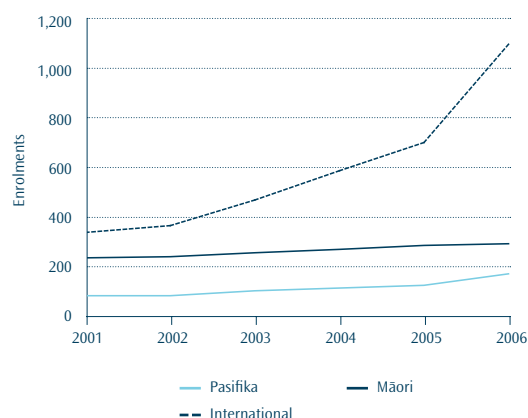
Doctoral enrolments by selected groups in 2006:

Māori	282	(up 1.8% on 2005)
Pasifika	161	(up 36% on 2005)
International	1,084	(up 56% on 2005)

Notes:

1. Each student is shown in each ethnic group he/she identifies with.
2. Pasifika enrolments include domestic and international students.

Figure 12.2// Doctoral enrolments by selected groups



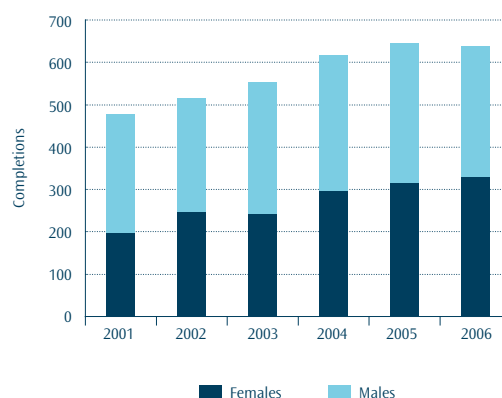
SLIGHTLY FEWER DOCTORAL COMPLETIONS

The number of doctoral completions fell slightly in 2006, mainly as a result of a fall in the number of men completing doctorates. The fall in the number of men completing doctorates reflects a fall in men starting doctorates in 2000 and 2001.

Doctoral completions in 2006:

Total	639	(down 1.1% on 2005)
Female	330	(up 4.1% on 2005)
Male	309	(down 6.1% on 2005)

Figure 12.3// Doctoral completions by gender



MORE MĀORI AND PASIFIKA DOCTORAL COMPLETIONS

The number of doctoral completions by Māori and Pasifika increased in 2006, while the number of completions by international students fell.

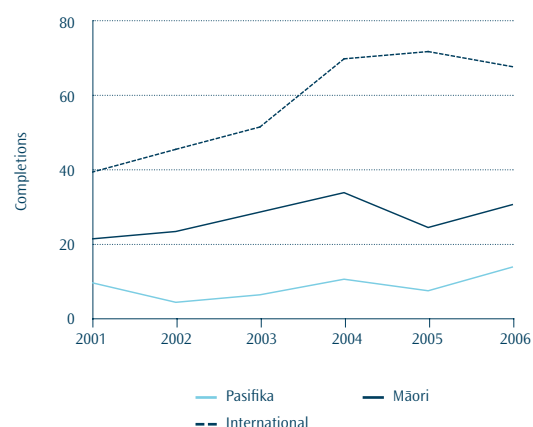
Doctoral completions by selected groups in 2006:

Māori	30	(up 25% on 2005)
Pasifika	13	(up 86% on 2005)
International	67	(down 5.6% on 2005)

Notes:

1. Each student is shown in each ethnic group he/she identifies with.
2. Pasifika enrolments include domestic and international students.

Figure 12.4// Doctoral completions by selected groups



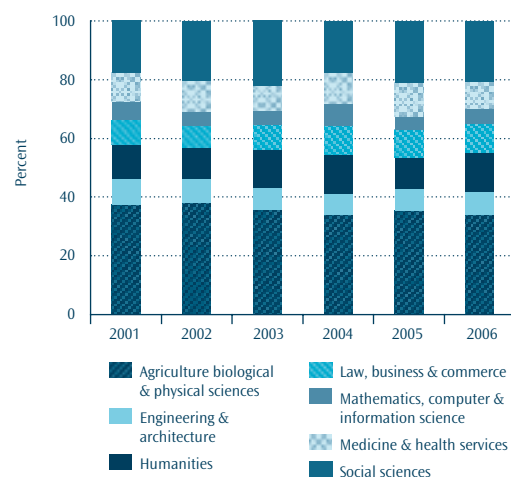
COMPLETIONS BY FIELD OF STUDY

The largest proportion of students completing doctorates in 2006 studied in the areas of the social sciences and biology/biological sciences.

The proportions of doctoral completions by subject area in 2006:

Agriculture, food, forestry and environment	3.9%	(3.8% in 2005)
Biology/biological sciences	21%	(17% in 2005)
Engineering and architecture	7.7%	(7.3% in 2005)
Humanities	13%	(11% in 2005)
Law, business and commerce	10%	(9.6% in 2005)
Mathematics and computer and information science	5.4%	(4.5% in 2005)
Medicine and health sciences	9.0%	(12% in 2005)
Physical sciences	9.6%	(15% in 2005)
Social sciences	21%	(21% in 2005)

Figure 12.5// Doctoral completions by field of study



DOCTORAL STUDENTS PER ACADEMIC STAFF MEMBER

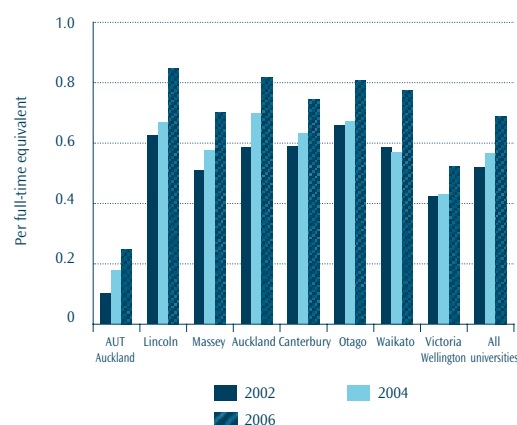
The ratio of doctoral enrolments per academic staff member rose substantially across all universities in 2006. This increase was mainly a result of the rise in international enrolments.

The ratios of doctoral enrolments to academic staff in 2006:

All universities	0.69	(up 15% on 2005)
Auckland University of Technology	0.25	(up 14% on 2005)
Lincoln University	0.85	(up 28% on 2005)
Massey University	0.70	(up 19% on 2005)
University of Auckland	0.82	(up 6.8% on 2005)
University of Canterbury	0.74	(up 19% on 2005)
University of Otago	0.81	(up 14% on 2005)
University of Waikato	0.77	(up 24% on 2005)
Victoria University of Wellington	0.52	(up 27% on 2005)

Note: This data treats the colleges of education as being merged with the universities for the entire time period.

Figure 12.6// Ratio of doctoral enrolments to academic staff



COMPLETIONS PER ACADEMIC STAFF

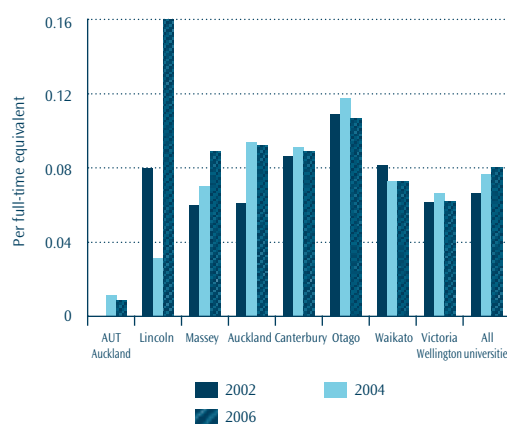
While the ratio of doctoral completions per academic staff member rose slightly overall for the universities in 2006, three universities exhibited a fall in the number of doctoral completions per academic staff member.

The ratio of doctoral completions to academic staff in 2006:

All universities	0.08	(up 0.9% on 2005)
Auckland University of Technology	0.01	(down 32% on 2005)
Lincoln University	0.16	(up 41% on 2005)
Massey University	0.09	(up 2.4% on 2005)
University of Auckland	0.09	(down 14% on 2005)
University of Canterbury	0.09	(down 3.3% on 2005)
University of Otago	0.11	(up 2.8% on 2005)
University of Waikato	0.07	(up 65% on 2005)
Victoria University of Wellington	0.06	(up 8.1% on 2005)

Note: This data treats the colleges of education as being merged with the universities for the entire time period.

Figure 12.7// Ratio of doctoral completions to academic staff



UNIVERSITY RESEARCH OUTPUT

The Universities of Canterbury and Otago, Victoria University of Wellington and the Auckland University of Technology reported an increase in research activity in 2006, with the fastest growth occurring at Victoria University of Wellington.

The number of research outputs reported for 2006:

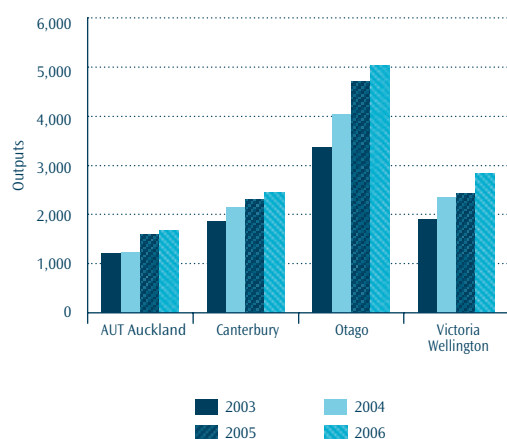
University of Otago	5,034	(up 7.0% on 2005)
University of Canterbury	2,455	(up 6.8% on 2005)
Auckland University of Technology	1,678	(up 5.1% on 2005)
Victoria University of Wellington	2,843	(up 17% on 2005)

Notes:

1. This data treats the colleges of education as being merged with the universities for the entire time period.
2. Care should be used when comparing the research output of the universities due to differences in the way

Source: Annual reports of universities.

Figure 12.8// Reported research outputs of selected universities



UNIVERSITY RESEARCH PRODUCTIVITY

The Universities of Canterbury and Otago, Victoria University of Wellington and the Auckland University of Technology reported an increase in research output per full-time academic staff member, with the fastest growth occurring at Victoria University of Wellington.

Ratio of reported research outputs per academic staff for 2006:

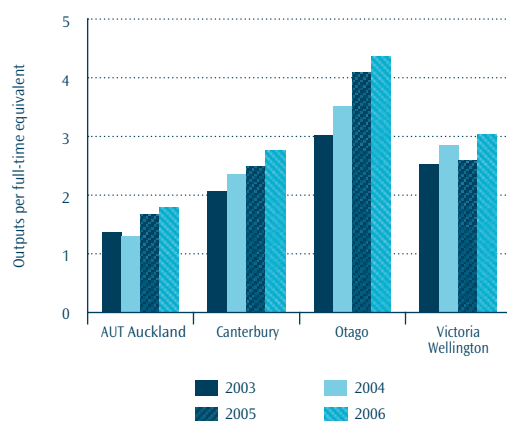
Auckland University of Technology	1.9	(up 6.5% on 2005)
University of Canterbury	2.8	(up 11% on 2005)
University of Otago	4.4	(up 6.5% on 2005)
Victoria University of Wellington	3.0	(up 18% on 2005)

Notes:

1. Victoria University of Wellington changed the way they measure full-time equivalents from 2005. This resulted in a higher count of full-time equivalents compared with previous years.
2. This data treats the colleges of education as being merged with the universities for the entire time period.
3. Care should be used when comparing the research productivity of the universities due to differences in the way they count research outputs.

Source: Annual reports of universities.

Figure 12.9// Reported research outputs of selected universities per academic staff



UNIVERSITY RESEARCH CONTRACT INCOME

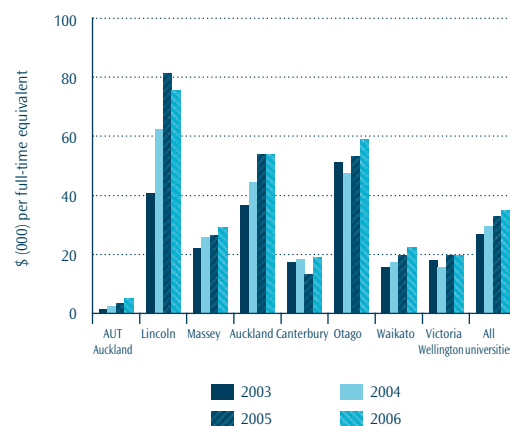
The inflation-adjusted amount of external research contract income per academic staff member continued to rise in the university sector in 2005. The largest increase was at Auckland University of Technology, although this was off a low base, and the largest decrease took place at Lincoln University.

Inflation-adjusted external research contract income for 2005:

	\$ ('000) per academic	
All universities	34.8	(up 6.1% on 2004)
Auckland University of Technology	5.1	(up 54% on 2004)
Lincoln University	75.4	(down 7.2% on 2004)
Massey University	29.0	(up 9.5% on 2004)
University of Auckland	53.8	(down 0.2% on 2004)
University of Canterbury	18.9	(up 43% on 2004)
University of Otago	58.7	(up 10% on 2004)
University of Waikato	22.1	(up 12% on 2004)
Victoria University of Wellington	19.5	(up 0.1% on 2004)

Notes: 1. The Performance-Based Research Fund definition of external research income has been used to calculate this ratio, 2. academic staff are calculated on a full-time equivalent basis, 3. the Consumers Price Index has been used to deflate the external research income data into 2005 dollars, and 4. This data treats the colleges of education as being merged with the universities for the entire time period.

Figure 12.10// Reported research outputs of selected universities per academic staff



Source: Ministry of Education and Tertiary Education Commission.

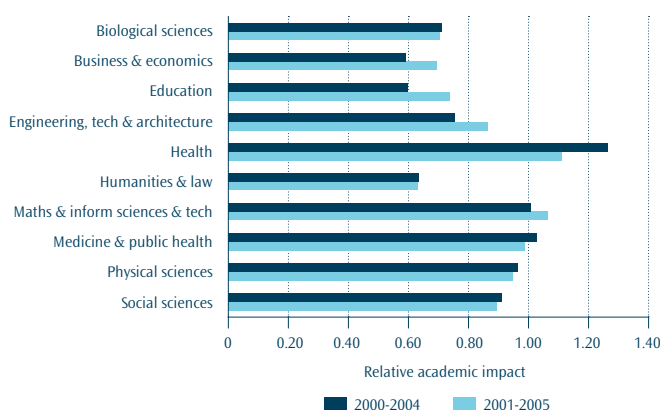
ACADEMIC IMPACT OF UNIVERSITY RESEARCH¹

The relative academic impact of university research increased in 4 out of the 10 broad subject areas for the period 2001 to 2005. Despite a slight decrease in the relative academic impact for publications in the area of health over the period from 2001 to 2005, health research continued to have the greatest relative academic impact.

The relative academic impact of university research for the period 2001-2005:

Biological sciences	0.70	(0.71 in 2000-2004)
Business and economics	0.69	(0.59 in 2000-2004)
Education	0.74	(0.60 in 2000-2004)
Engineering, technology and architecture	0.87	(0.75 in 2000-2004)
Health	1.11	(1.26 in 2000-2004)
Humanities and law	0.63	(0.64 in 2000-2004)
Mathematical and information science and technology	1.07	(1.01 in 2000-2004)
Medicine and public health	0.99	(1.03 in 2000-2004)
Physical sciences	0.95	(0.97 in 2000-2004)
Social science and other cultural/social sciences	0.89	(0.91 in 2000-2004)

Figure 12.11// Academic impact of university research



Source: Thomson Scientific.

1. (a) Measured by the number of New Zealand university citations per publication relative to the number of world citations per publication.

(b) These subject areas are based on Performance-Based Research Fund panels. For a full description of the narrow subject areas within these subject areas see Smart and Weusten (2007) Table 1. Māori knowledge and development and creative arts have been omitted from the analysis.

(c) All publications listed in the Thomson Scientific dataset in each five-year period, along with the citations associated with those publications in the same five-year period, are used to generate the relative impact measure.

(d) A relative impact score of less than one indicates that the academic impact of the publications was below the world average in that subject area. A relative impact score above one indicates that the academic impact of the publications was above the world average.

(e) There are important caveats surrounding the use of bibliometrics. See Smart and Weusten (2007) for a full discussion of the caveats that apply to the use of this dataset.

THE IMPACT OF NEW ZEALAND'S TERTIARY EDUCATION SECTOR'S RESEARCH

In a recent report by the Ministry of Education Smart and Weusten (2007) examined the academic impact of university research, measured by citations per publication, in 10 broad subject areas. This new study complements the recent report by examining the research performance of selected tertiary education institutions. Specifically, this study examines the share of world publications and citations achieved by the eight universities² and one polytechnic (Unitec New Zealand), between 1981 and 2005.³

The increased focus on research that has come from the introduction of the Performance-Based Research Fund is expected to result in a stimulation of research activity and hence output. In addition, if the quality of research has increased, this is likely to result in a higher rate of citation of that research. Therefore, monitoring of indicators such as share of world citations and indexed publications will be useful in helping to analyse the long-term impacts of the Performance-Based Research Fund.

Given the time period of this analysis (1981-2005), it is too early to identify any impacts of the Performance-Based Research Fund, because of the lags associated with the research and publication process. Rather, this analysis establishes baseline data that can be updated over future time periods.

The structure of this commentary is as follows. First, the bibliometric dataset used in this study is described and caveats that apply to the use and interpretation of this data are presented. Then, the measures used in this study are explained. This is followed by a presentation of the results of the analysis for each of the nine institutions in this study. Finally, some conclusions are presented.

Bibliometric data

The source of the indexed publication counts and citations data used in this study is a unified bibliometric database from Thomson Scientific – a United States science and research organisation. This database contains the number of publications and the citations attracted by those publications in around 10,000 journals, which are selected for their quality and impact.

The types of research publications included in the database are articles, notes, reviews and proceedings papers. Other types of

items such as editorials, letters, corrections and abstracts have been omitted. A publication was assigned to an institution if at least one author was from that institution. If there were two authors from the same institution, the citations and papers were counted only once. However, where there are joint authors from different universities the publication is counted in the totals of each university.

The coverage of the bibliometric database across subject disciplines varies, with better coverage of research output in some subject disciplines than others. For example, the coverage of the biological and medical sciences is comprehensive, but the coverage of the humanities and social sciences is not as extensive. Therefore, institutions that have a medical school attached to them, or that have a focus on the sciences, will have a greater proportion of their research output captured by the Thomson Scientific database.

In addition, the journals selected in the Thomson Scientific database are based mainly in North America and Europe, which means that high-impact/quality research that is published in local journals will be less likely to be captured in the database. Also, although some subject disciplines, such as biological sciences, do disseminate most of their original research through journals, other subject disciplines, such as the humanities and social sciences, also publish newly created knowledge via books and book chapters. Therefore, the bibliometric database used in this study is by no means capturing all of the research produced by the tertiary education institutions. For a fuller discussion of the caveats that apply to the use of bibliometrics, refer to Smart and Weusten (2007).

Nevertheless, despite these caveats and limitations, bibliometric analyses of this type are still useful in identifying trends in research behaviour, especially over extended time periods.

Relative measures

The two measures of institutional research performance used in this article are:

- the share of world indexed publications produced in five-year overlapping time periods by the institution, and
- the share of world citations attached to those publications produced in the five-year overlapping time periods by the institution.⁴

2. Note that the dataset used in this study treats the universities as having merged with the colleges of education for the entire 1981-2005 time period. Also, Wellington Polytechnic's publications and citations are treated as part of Massey University's research output.

3. These were the tertiary education institutions with sufficient volume of publications in the Thomson Scientific database to include in the study.

4. The citations measured in this analysis are counted only up to a maximum of five years following the listing of the publication in the Thomson Scientific database. Therefore the citations data will not capture the impact of seminal research that may attract citations for many years after publication.

These two measures are relative in nature, in that they express the number of indexed publications and citations as a percentage of the world total. The reason for using relative measures of performance is that rates of publication and citation have been naturally rising throughout the world over time. Therefore, it is necessary to discount for this inflation in numbers by expressing the measures as a percentage of the world totals.

An institution's share of world citations and indexed publications may increase for a number of reasons. There may be an increase in research productivity by existing staff, compared with the rest of the world. Or there may be an increase in the total number of research staff at an institution, boosting output. Similarly, a rise in the share of world citations may result from an increase in the academic impact of research or from a rise in the number of staff at the institution.

It is important to note that in interpreting these measures, it is **not** valid to compare the share of world indexed publications and citations of the various institutions to one another. Apart from the issue of the institutions being of different sizes, the University of Auckland and the University of Otago feature prominently in these measures as a result of having medical schools attached to them. Therefore, the performance of each institution should only be compared with its own past performance.

Also, the world share of citations at each institution cannot be simply added to arrive at a sector total, as publications that are jointly authored by researchers at different institutions would be counted twice and would inflate the share.

The impact of tertiary education research

Auckland University of Technology

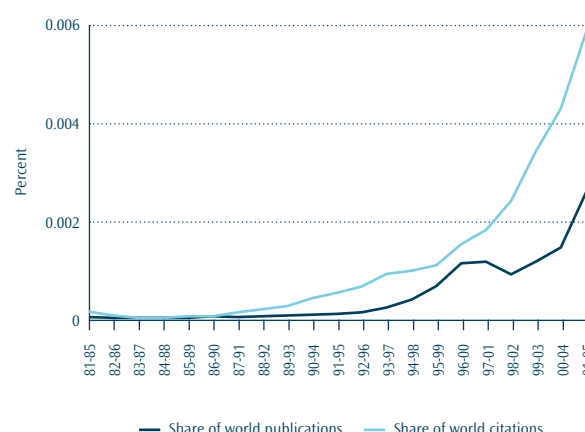
The Auckland University of Technology is New Zealand's newest university, having attained university status at the start of 2000. Previously, as the Auckland Institute of Technology, it was a polytechnic. The Auckland University of Technology began offering degrees in 1989, following the passing of the Education Act 1989, which removed the monopoly that universities had on the teaching of degrees. These two events, the beginning of degree teaching and the change of status to a university, would appear to have had a major impact on the research performance of this institution.

As can be seen in Figure 12.12, the Auckland University of Technology's share of world indexed publications and citations has been rising

from the late 1980s. This period of growth coincides with the commencement of degree teaching at the institution in 1989.

The change of status from a polytechnic to a university in 2000 has coincided with an exponential rise in the share of world citations. The Auckland University of Technology's share of world citations increased from 0.001 percent in 1995-1999 (the last period with publications before becoming a university) to 0.005 percent in 2001-2005. This pattern of exponential growth from a low base of performance is to be expected as the research culture matures and develops.

Figure 12.12 // Share of world indexed publications and citations by the Auckland University of Technology



Source: Thomson Scientific.

Lincoln University

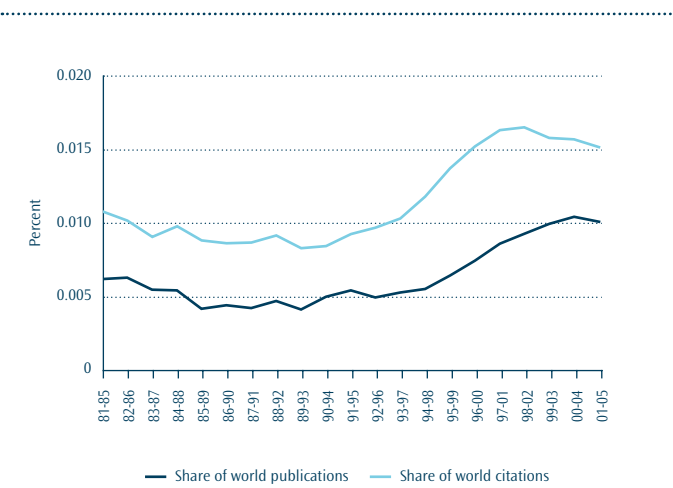
Lincoln University is New Zealand's smallest university and specialises in the land-based sciences. Lincoln began degree teaching in 1896 when it became a college of the University of New Zealand. But between 1961 and 1990 it operated as a college of the University of Canterbury and was known as Lincoln College.

The change in status in 1990 would appear to have had a substantial impact on Lincoln's performance. Before becoming an autonomous university, Lincoln's share of world indexed publications and citations had been declining, albeit slowly. In 1981-1986, the share of world indexed publications and citations was 0.01 percent. By 1989-1993,

the share of world indexed publications had decreased to 0.004 percent and the share of world citations to 0.008 percent.

However, in the years following Lincoln becoming a stand-alone university, its share of world indexed publications and citations has increased substantially. Lincoln University's share of world citations peaked at 0.016 percent in 1998-2002, while the volume of indexed publications peaked a little later at 0.01 percent in 2001-2004. Following these peaks, there has been a slight decline in both of these measures.

Figure 12.13 // Share of world indexed publications and citations by Lincoln University



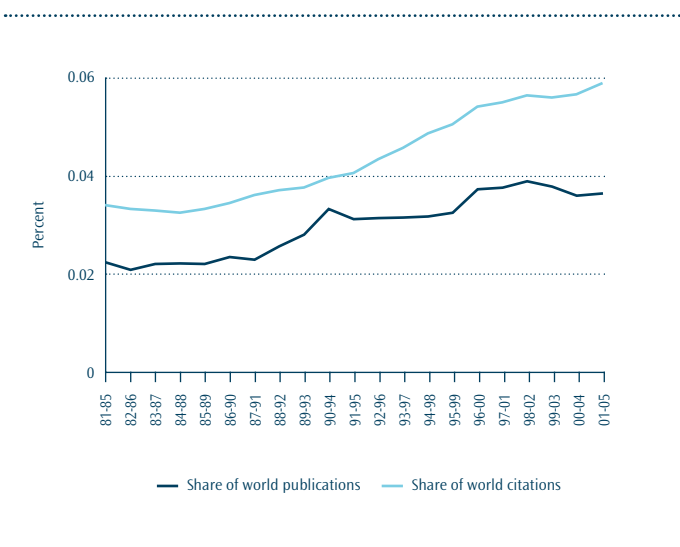
Source: Thomson Scientific.

Massey University

Massey University is one of New Zealand's largest universities. It has two major satellite campuses and Massey is also a major extramural provider. Overall, it has exhibited a general upward trend in its share of world indexed publications and citations. As can be seen in Figure 12.14, there has been a steady rise in Massey University's share of world citations, with an especially strong period of growth between 1985-1989 and 1996-2000. During this period, Massey's share of world citations increased from 0.032 percent to 0.054 percent. More modest growth in Massey's world share of citations between 1996-2000 and 2000-2004 has been followed by a slight upturn in share in the most recent time period, 2001-2005.

Massey University's share of world indexed publications has also exhibited an upwards trend over time, although there is more volatility in this output measure than was the case with citations. Massey's share of world indexed publications peaked at 0.039 percent in 1998-2002 but has since declined slightly to 0.036 percent in 2001-2005.

Figure 12.14 // Share of world indexed publications and citations by Massey University



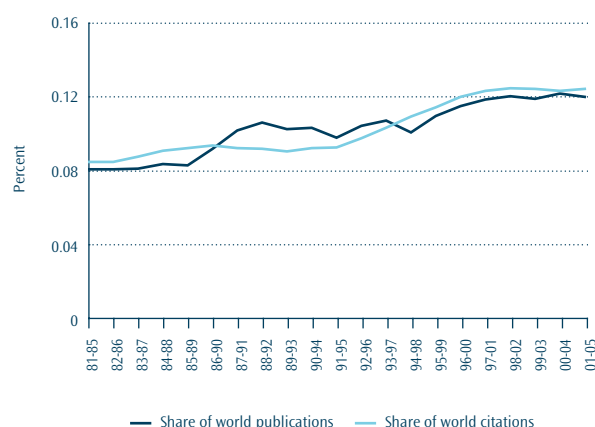
Source: Thomson Scientific.

University of Auckland

The University of Auckland is New Zealand's largest university. It also has a medical school, which boosts the number of research outputs captured in the Thomson Scientific database. As a result, the University of Auckland has one of the largest shares of world indexed publications and citations of the New Zealand institutions in this study.

Overall, the share of world indexed publications and citations has been rising at the University of Auckland over time. In 1981-1985, the University of Auckland's share of world indexed publications was 0.079 percent and the share of world citations was 0.084 percent. By 2001-2005, these had increased to 0.119 and 0.123 percent, respectively. As can be seen in Figure 12.15 the share of world indexed publications and world citations has remained relatively constant since the 1997-2001 period.

Figure 12.15 // Share of world indexed publications and citations by the University of Auckland



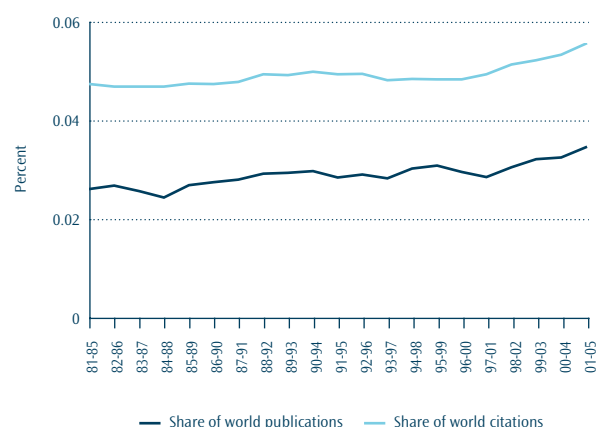
Source: Thomson Scientific.

University of Canterbury

There would appear to be two distinct phases to the performance of the University of Canterbury. Between 1981-1985 and 1997-2001, Canterbury's share of world indexed publications and citations remained within a fairly narrow range of 0.025 to 0.030 percent and 0.046 to 0.050 percent, respectively.

However, since 1997-2001 Canterbury's share of world indexed publications and citations has been growing significantly. By 2001-2005, Canterbury's share of world indexed publications had reached 0.036 percent while the share of world citations had reached 0.056 percent.

Figure 12.16 // Share of world indexed publications and citations by the University of Canterbury



Source: Thomson Scientific.

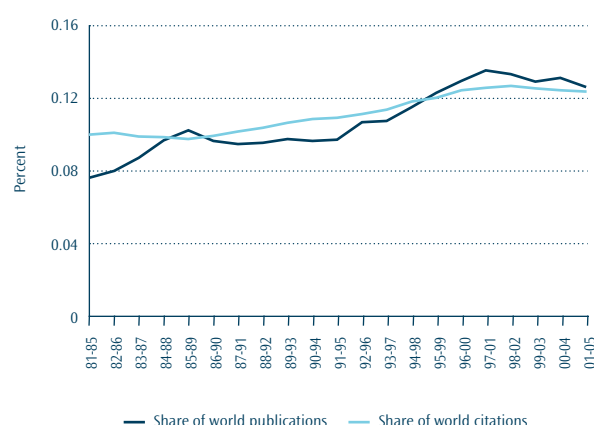
University of Otago

Like the University of Auckland, Otago has a medical school attached to it which boosts the number of publications captured by the Thomson Scientific database. Hence, Otago has one of the highest shares of world indexed publications and citations in this study.

Interestingly, the pattern of performance at Otago displays a similar pattern to that of the University of Auckland, in that, overall, there is an upward trend in the share of world indexed publications and citations. Otago's share of world indexed publications increased from 0.070 percent in 1981-1985 to a peak of 0.134 percent in 1997-2001. Since then, this share has decreased slightly to reach 0.125 percent in 2001-2005.

Otago's share of world citations increased from a low of 0.096 percent in 1985-1989 to a peak of 0.125 percent in 1998-2002. Since then the share of world citations has declined very slightly to 0.122 percent in 2001-2005.

Figure 12.17 // Share of world indexed publications and citations by the University of Otago



Source: Thomson Scientific.

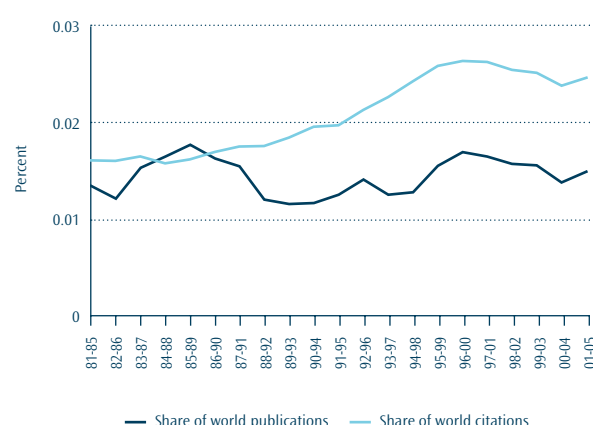
University of Waikato

The University of Waikato displays an unusual pattern compared with the other institutions in this study. Although Waikato's share of world citations has generally been rising between 1981 and 2005, the share of world indexed publications has not exhibited the same overall trend. This would suggest that the research published by the university is having an increased impact over time.

Waikato's share of world citations increased from a low of 0.016 percent in 1984-1988 to a high of 0.026 percent in 1996-2000. Since then, Waikato's share of world citations declined slightly to 0.023 percent, followed by a noticeable increase in the most recent five-year overlapping time period, 2001-2005.

Waikato's share of world indexed publications displays a more cyclical pattern. Waikato's world share peaked quite early at 0.018 percent in 1985-1989. There was another lower peak in share of world indexed publications in 1996-2000, before the share fell to 0.014 percent in 2000-2004. As was the case with Waikato's share of world citations, there has been a noticeable upturn in the share of world indexed publications in the most recent time period, 2001-2005.

Figure 12.18 // Share of world indexed publications and citations by the University of Waikato



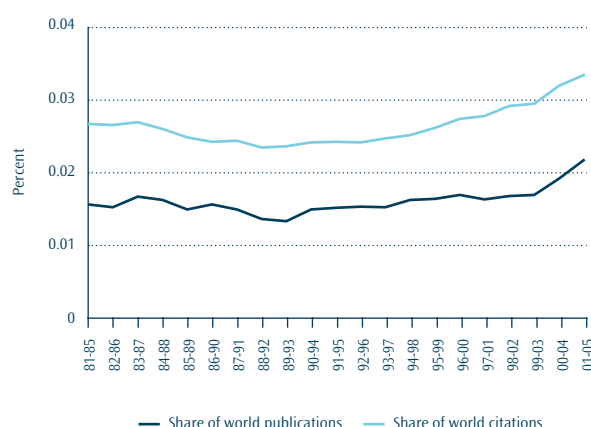
Source: Thomson Scientific.

Victoria University of Wellington

As can be seen in Figure 12.19, Victoria University of Wellington displays two main patterns of behaviour – a slow decline in the share of world indexed publications and citations between 1981-1985 and 1989-1993, followed by a rise in world share that gathers pace from 1999-2003 onwards.

After dropping since 1981-1985, Victoria's share of world citations bottomed out at 0.017 percent in 1987-1991. This was followed by a steady, if unspectacular, rise in Victoria's share of world citations to 0.029 percent in 1999-2003. However, in the last two five-year overlapping time periods, Victoria's share of world citations has increased significantly to 0.033 percent in 2001-2005. The trend in Victoria's share of world publications mirrors that of the share of world citations, with an even greater increase in share evident between 1999-2003 and 2001-2005.

Figure 12.19 // Share of world indexed publications and citations by Victoria University of Wellington



Source: Thomson Scientific.

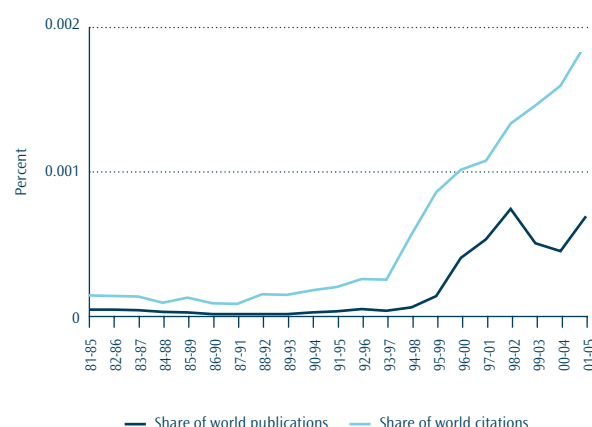
Unitec New Zealand

Unitec New Zealand is the largest polytechnic in New Zealand and has the highest number of degree students in that sub-sector. It is one of only two polytechnics that have participated in both the 2003 and 2006 Performance-Based Research Fund Quality Evaluations.

The key feature of Figure 12.20 is the dramatic increase in world share of both indexed publications and citations, albeit off a very low base, starting in 1994-1998. In 1993-1997, Unitec's share of world citations was 0.0002 percent. By 2001-2005, this had risen to 0.0019 percent.

This pattern of strong growth off a low base mirrors that of the Auckland University of Technology, which also has a relatively recent history of research production.

Figure 12.20 // Share of world indexed publications and citations by Unitec New Zealand



Source: Thomson Scientific.

Share of citations and publications

This analysis has shown that the share of world citations and world indexed publications by nine New Zealand tertiary education institutions has increased, in some cases substantially, over the period between 1981 and 2005. Those institutions that have the shortest research history, the Auckland University of Technology and Unitec, displayed the strongest growth, although this was off a very low base. In the case of Lincoln University, it would appear that its change in status to an autonomous university in 1990 resulted in a significant increase of its share of world indexed publications and citations in the years following this event.

Any evidence of an initial increase in academic impact and research output that may have resulted from the introduction of the Performance-Based Research Fund is sketchy, given the period of analysis in this study. It is likely that only the final two five-year periods, 2000-2004 and 2001-2005, would exhibit any impact of the Performance-Based Research Fund. There are some signs of a response at the University of Waikato and Victoria University of Wellington, but it is too early to tell if these improvements will be sustained and are directly related to the Performance-Based Research Fund. In all likelihood, it will take several years before any definitive conclusions can be drawn.

As the database used in this study can be updated on an annual basis, continued monitoring of performance measures, such as the ones used in this study, will be important to assess the impacts, both positive and negative, of the Performance-Based Research Fund on the research performance of New Zealand tertiary education organisations.

Reference:

- Smart, W. & Weusten, M. (2007) *(ex)Citing research: a bibliometric analysis of New Zealand university research 1981-2005*, Wellington: Tertiary Sector Performance Analysis and Reporting, Ministry of Education.

MEASURING THE QUALITY OF RESEARCH IN NEW ZEALAND'S TERTIARY EDUCATION SECTOR

The quality of the research produced by New Zealand tertiary education organisations was measured explicitly for the first time by the 2003 Performance-Based Research Fund Quality Evaluation. This was followed by a second partial quality evaluation in 2006. Although the measurement of research quality in the quality evaluations is primarily designed to facilitate the distribution of research funding, the results enable us to obtain a picture of the quality of research produced by New Zealand's tertiary education research workforce.

In particular, the data from the quality evaluations can help to identify the subject areas and tertiary education organisations that produce high-quality research. The results from the two quality evaluations have been discussed in detail by the Tertiary Education Commission (2004, 2007), so this article presents an overall summary of some of the main results of the quality evaluations.

This article is structured as follows. Firstly, the process of how quality is measured in the quality evaluations is briefly outlined. Then a summary of some of the key results of the 2006 Quality Evaluation are presented, along with a comparison with the 2003 results. Finally, some overall conclusions are presented.

Peer assessment to measure quality

The Performance-Based Research Fund quality evaluations use a system of peer assessment to measure the quality of research by Performance-Based Research Fund-eligible staff. A quality category is assigned to each eligible staff member by a panel of experts, who assess an evidence portfolio submitted by each staff member that outlines:

- their key research outputs
- the esteem with which they are held by their peers, and
- their contribution to the research environment.

Through a process of holistic assessment, the peer review panels rate the performance of the Performance-Based Research Fund-eligible staff in these three performance dimensions to arrive at a final quality category. In the first quality evaluation, four quality categories were awarded. An 'A' quality category was awarded to staff who were

assessed as producing research that was highly original or innovative and was esteemed by the international academic community. A 'B' quality category was awarded to staff who were assessed as producing research that was original and innovative and recognised beyond the staff member's own institution. A 'C' quality category was awarded to staff that were assessed as producing research that applied existing research methodologies with acknowledgement by their peers of a sound research basis and an 'R' quality category was awarded to staff who did not meet the standard of a 'C' quality category.

These quality categories are translated into numerical quality scores for the purpose of comparing the quality of research across fields of study and providers. The maximum possible quality score for a provider or a subject area is 10. This score would occur if every single Performance-Based Research Fund-eligible staff member in that provider or subject area was awarded an 'A' quality category.

There were a number of differences between the 2003 and 2006 Quality Evaluations. The 2006 Quality Evaluation was a partial round – staff who had participated in the 2003 Quality Evaluation did not have to resubmit an evidence portfolio to the peer review panels. If they chose not to resubmit, their quality category from the 2003 Quality Evaluation was carried over.

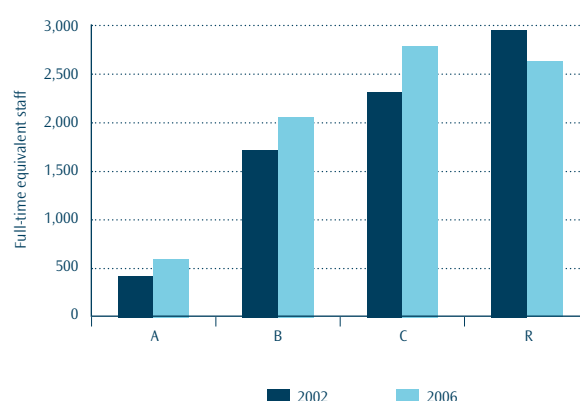
After consultation with the sector following the first quality evaluation, two new quality categories were introduced to measure the performance of new and emerging researchers, 'C(NE)' and 'R(NE)'. This allowed new and emerging staff, who may not have had the chance to produce a track record of research, but have nevertheless produced recent research of high quality, the opportunity to attract funding for their institution.

Higher research quality

The number of staff awarded an 'A', 'B' or 'C' quality category increased between 2003 and 2006, while the number of staff awarded an 'R' quality category fell. On a full-time equivalent basis, 600 staff were awarded an 'A' quality category in the 2006 Quality Evaluation, up by 41 percent on the 424 awarded in 2003. There were also 2,064 staff awarded a 'B' quality category (an increase of 20 percent from 2003), 2,786 staff awarded a 'C' quality category (up by 20 percent from 2003) and 2,629 staff awarded an 'R' quality category (down by 11 percent from 2003). The average quality score increased by 14 percent, from 2.59 in 2003 to 2.96 in 2006.

In 2006, 33 tertiary education organisations participated in the quality evaluation, compared to 22 in 2003. In total there were 8,671 Performance-Based Research Fund-eligible staff in the 2006 Quality Evaluation, compared to 8,018 in the 2003 Quality Evaluation.

Figure 12.21 // Performance-Based Research Fund-eligible staff by quality category

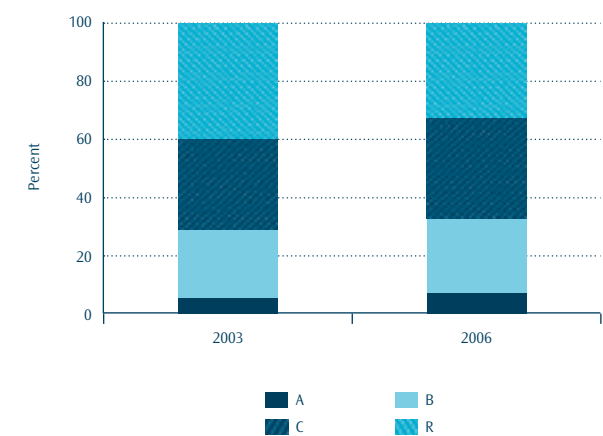


Source: Tertiary Education Commission.

Note: 'C(NE)' researchers are included in the 'C' quality category and 'R(NE)' researchers are included in the 'R' quality category in the 2006 results.

To control for the impact of the increased number of participating tertiary education organisations in the 2006 Quality Evaluation, the number of staff in each quality category is presented as a proportion of total staff in Figure 12.22. The proportion of Performance-Based Research Fund-eligible staff awarded an 'A' quality category increased from 5.7 percent in 2003 to 7.4 percent in 2006. Twenty-six percent of staff were awarded a 'B' quality category in 2006 (23 percent in 2003), 34 percent of staff were awarded a 'C' quality category (31 percent in 2003) and 33 percent an 'R' quality category (40 percent in 2003).

Figure 12.22 // Distribution of Performance-Based Research Fund-eligible staff by quality category

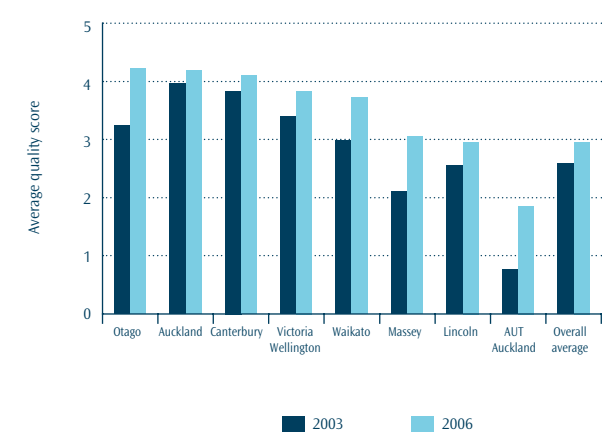


Source: Tertiary Education Commission.
 Note: C(NE) researchers are included in the 'C' quality category and 'R(NE)' researchers are included in the 'R' quality category in the 2006 results.

The universities have the vast majority of staff who were allocated 'A' and 'B' quality categories. In 2006, 98 percent of staff awarded an 'A' or 'B' quality category were from universities, compared to 99 percent in 2003. In addition, the eight universities received the highest average quality scores in the 2006 Quality Evaluation. The average quality scores of the eight universities in the 2006 and 2003 Quality Evaluation are presented in Figure 12.23.

There is very little difference in the average quality score of the top three universities. The University of Otago received the highest average quality score of 4.22 in the 2006 Quality Evaluation, up by 31 percent on the average quality score achieved in 2003. The University of Auckland was second with an average score of 4.19 in 2006 (up by 5.8 percent from 2003) followed by the University of Canterbury with an average quality score of 4.10 (up 7.0 percent from 2003). The greatest increase in the average quality score between 2003 and 2006 was achieved by the Auckland University of Technology. The average quality score increased at this university by 142 percent from 0.77 in 2003 to 1.86 in 2006.

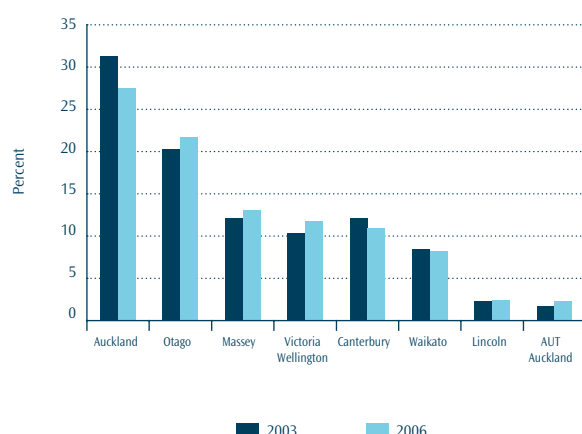
Figure 12.23 // Average Performance-Based Research Fund quality scores by university



Source: Tertiary Education Commission.
 However, determining the degree of improvement in quality between the 2003 and 2006 Quality Evaluations is difficult, given changes that took place between 2003 and 2006. These included changes in the staff eligibility criteria, new quality categories assigned to new and emerging staff, the impact of the partial round, and improvements made by staff to the presentation of their evidence portfolios (Tertiary Education Commission, 2007).

One way of examining the data that avoids this problem is to consider the share of the total 'A' and 'B' staff at each university and see how this changed between 2003 and 2006. Figure 12.24 presents the share of total staff awarded 'A' and 'B' quality categories by the eight universities in the 2003 and 2006 Quality Evaluations.

Figure 12.24 // Share of the total number of 'A' and 'B' Performance-Based Research Fund-eligible staff by university



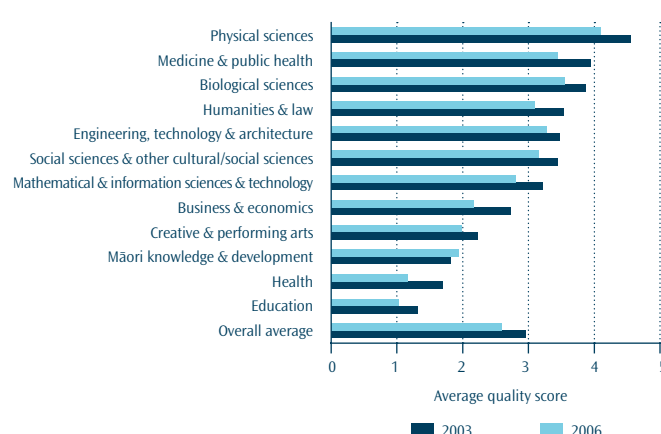
Source: Tertiary Education Commission.

Five of the eight universities increased their share of the total number of 'A' and 'B' researchers. In particular, the University of Otago, Massey University and Victoria University of Wellington showed sizeable increases in their share of the number of 'A' and 'B' staff. The Universities of Auckland and Canterbury exhibited noticeable decreases in their share of 'A' and 'B' staff numbers.

The quality of research by staff can also be examined by subject area. Figure 12.25 presents the average quality scores in 2003 and 2006 by broad subject panel for all Performance-Based Research Fund-eligible staff. The physical sciences panel received the highest average quality score of 4.55 in 2006, followed by the medicine and public health panel with an average quality score of 3.95.

As can be seen in Figure 12.25, the average quality score increased in all subject panels, with the exception of Māori knowledge and development. The largest increase in the average quality score (46 percent) was achieved by the health panel. In the case of the Māori knowledge and development panel, a number of these staff came from tertiary education organisations that were participating for the first time and did not have a well-developed research culture (Tertiary Education Commission, 2007).

Figure 12.25 // Average Performance-Based Research Fund quality scores by subject panel

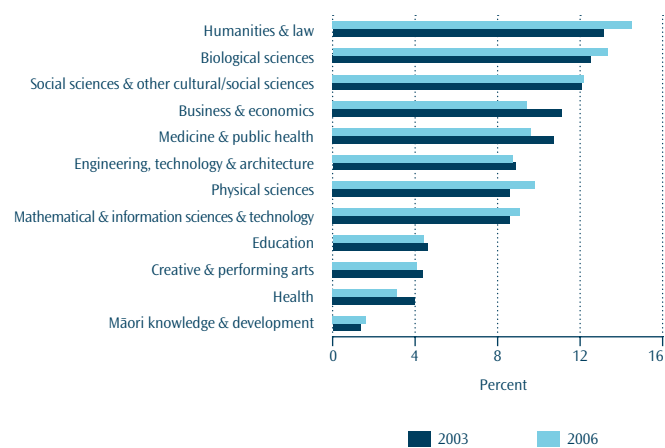


Source: Tertiary Education Commission.

As with the earlier analysis of the average quality score by university, we can also examine the share of total staff assigned 'A' and 'B' quality categories in each subject panel category to determine how these changed between 2003 and 2006.

As can be seen in Figure 12.26, significant rises in the share of 'A' and 'B' researchers were experienced in the business and economics, medicine and public health and health panels. Subject panels that showed a significant decrease in the share of staff allocated 'A' and 'B' quality categories included humanities and law, physical sciences and mathematical and information sciences and technology.

Figure 12.26 // Share of the total number of ‘A’ and ‘B’ Performance-Based Research Fund-eligible staff by subject panel



Source: Tertiary Education Commission.

More research on quality to come

Overall, the results of the 2006 Quality Evaluation indicate that the quality of research at New Zealand tertiary education organisations improved from those reported in the 2003 Quality Evaluation. There was a rise in the average quality score and in the number of ‘A’ and ‘B’ quality categories assigned to researchers.

However, changes to the way the quality evaluation was conducted in 2006 make it difficult to state with certainty the degree to which this data is capturing actual improvements in quality. Further research will be required to attempt to control for these changes and hence get a clearer picture of changes in the quality of research.

Also, given the long-term nature of the research process and the relatively short period of time between the 2003 and 2006 Quality Evaluations, it will perhaps be of more relevance to compare the quality of research in the next quality evaluation (expected to take place in 2012) with that achieved in 2006.

References:

- Tertiary Education Commission (2004) *Performance-Based Research Fund: evaluating research excellence – the 2003 assessment*, Wellington: Tertiary Education Commission.
- Tertiary Education Commission (2007) *Performance-Based Research Fund: evaluating research excellence – the 2006 assessment*, Wellington: Tertiary Education Commission.



CHAPTER THIRTEEN

FUNDING RESEARCH IN TERTIARY EDUCATION // 165-170

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AN OVERVIEW

Government funding of research via Vote Education increased in 2006. The funding distributed through enrolments-based research top-ups fell, as funding for this source continued to be progressively transferred to the Performance-Based Research Fund. Research top-ups will cease to exist in the 2007 year when the phase-in of the Performance-Based Research Fund will be completed.

Research contract income in the universities increased in 2005, both in total and as a percentage of total university revenue. Research contract funding won by the universities from the government contestable research funds, distributed via Vote Research, Science and Technology, increased in 2005. Research contract income won from other sources also increased in 2005.

Estimated university expenditure on research and development increased in 2006, with the largest increases taking place in the knowledge-general and health areas. The largest proportion of research and development expenditure in the universities was estimated to be on basic research.

THE 2007 YEAR

The phase-in of the Performance-Based Research Fund was completed in 2007. The size of the fund in 2007 is estimated at around \$230 million inclusive of goods and services tax.

The results of the 2006 round of centres of research excellence funding were announced in June 2007. Six of the existing centres of research excellence had their funding renewed and an additional new centre of research excellence – The Riddet Centre – will also receive funding. In total, the seven centres of research excellence will receive funding of about \$31.4 million per annum in operating funding and a one-off capital injection of \$20 million.

RESEARCH INCOME VIA VOTE EDUCATION ¹

Figure 13.1//Vote Education research funding in tertiary education institutions

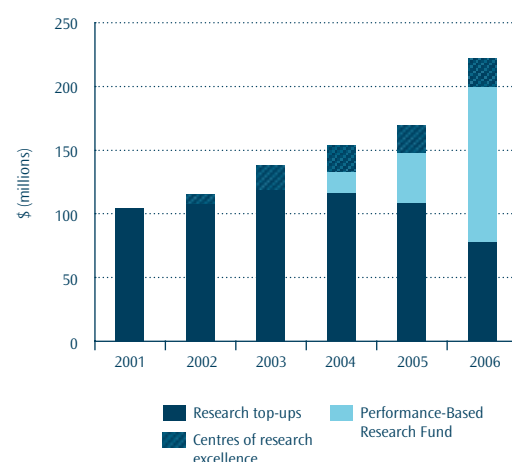
The total research income of tertiary education institutions, via Vote Education, increased in 2006. The Performance-Based Research Fund allocations increased, as the phase-in of the Performance-Based Research Fund continued, while as part of the funding switch-over the research top-ups decreased.

Research income of tertiary education institutions, via Vote Education, in 2006:

	\$ (millions)	
Total	222	(up 31% on 2005)
Research top-ups ²	78	(down 28% on 2005)
Performance-Based Research Fund	122	(up 207% on 2005)
Centres of research excellence	21	(up 0.4% on 2005)

Note: There was also income of approximately \$1.3 million in 2006 for building research capability in the social sciences.

Source: Ministry of Education and Tertiary Education Commission.



DISTRIBUTION OF RESEARCH INCOME

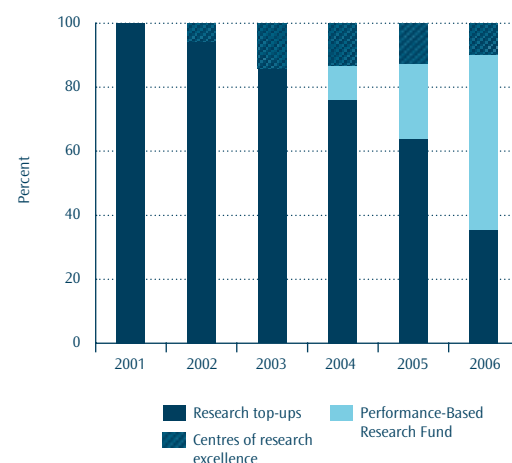
Figure 13.2// Distribution of Vote Education research funding in tertiary education institutions

In 2006, the Performance-Based Research Fund became the largest single source of research income of the tertiary education institutions from Vote Education. With the completion in 2007 of the phase-in of the Performance-Based Research Fund, research top-up funding will cease.

The percentages of research income of tertiary education institutions, via Vote Education, by type in 2006:

Research top-ups	35%	(64% in 2005)
Performance-Based Research Fund	55%	(23% in 2005)
Centres of research excellence	9.6%	(13% in 2005)

Source: Ministry of Education and Tertiary Education Commission.



RESEARCH INCOME IN UNIVERSITIES

Figure 13.3// University research income by source

Research income continued to grow in universities in 2005, with the fastest growth occurring in the size of the Performance-Based Research Fund. However, research contract income continued to be the single largest source of research income for the universities in 2005.

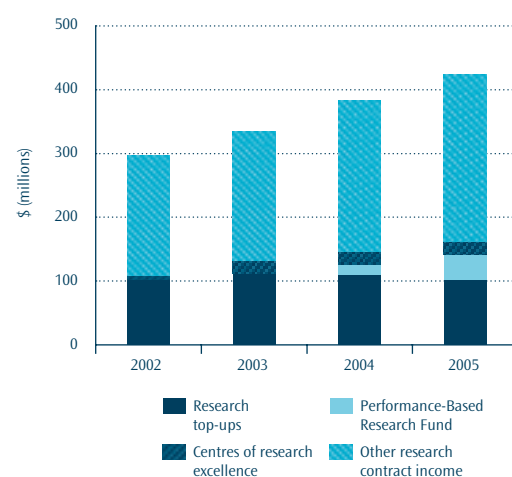
University research income by source in 2005:

	\$ (millions)	
Total	424	(up 11% on 2004)
Research top-ups	102	(down 7.1% on 2004)
Performance-Based Research Fund	39	(up 140% on 2004)
Research contract income ³	283	(up 10% on 2004)
• Centres of research excellence	21	(up 4.3% on 2004)
• Other research contract income	261	(up 11% on 2004)

Notes:

1. Research contract income data for 2006 is not yet available.
2. There was also income of about \$1.3 million in 2005 for building research capability in the social sciences.

Source: Ministry of Education and Tertiary Education Commission.



1. These highlights include colleges of education data with the universities unless otherwise indicated. The revenue and expenditure are exclusive of goods and services tax.
2. In these highlights the tuition subsidies for foreign research-based students are included in the research top-ups figure.

3. These highlights use the Performance-Based Research Fund external research income measure as the value of research contract income.

DISTRIBUTION OF RESEARCH INCOME IN UNIVERSITIES

The largest source of research income for universities was contract income in 2005.

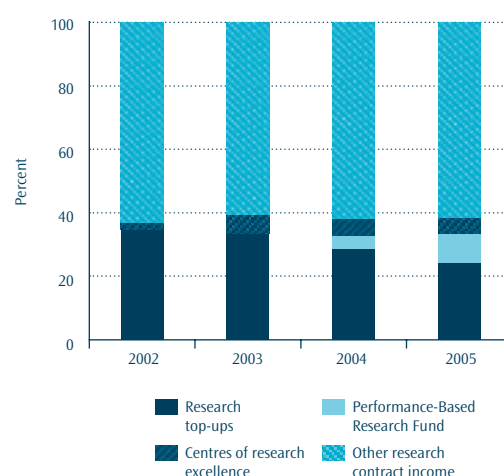
The percentage of university research income by source in 2005:

Research top-ups	24%	(29% in 2004)
Performance-Based Research Fund	9.2%	(4.3% in 2004)
Research contract income	67%	(67% in 2004)
Centres of research excellence	5.0%	(5.3% in 2004)
Other research contract income	62%	(62% in 2004)

Note: Research contract income data for 2006 is not yet available.

Source: Ministry of Education and Tertiary Education Commission.

Figure 13.4// Distribution of university research income by source



UNIVERSITY RESEARCH CONTRACT INCOME

Research contract income continued to increase as a percentage of total university revenue in 2005.

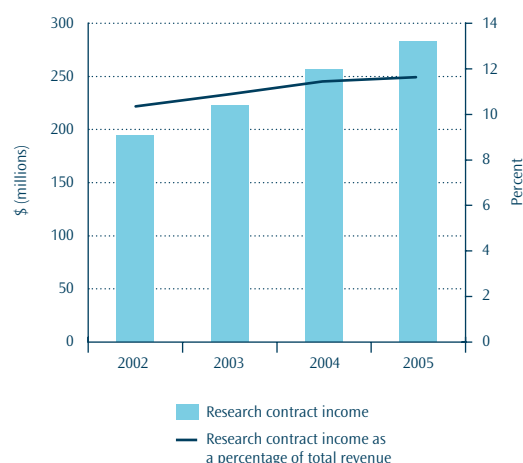
University research contract income in 2005:

Total	\$283m	(up 10% on 2004)
As a % of total university revenue	11.6%	(11.4% in 2004)

Note: Research contract income data for 2006 is not yet available.

Source: Tertiary Education Commission and annual reports of universities.

Figure 13.5// University research contract income



UNIVERSITY RESEARCH CONTRACT INCOME BY SOURCE

All sources of research contract income increased in 2005, with the largest growth occurring in Health Research Council funding.

University research contract income by source in 2005:

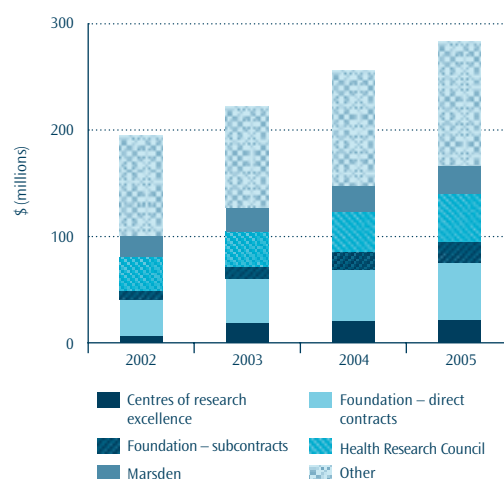
	\$ (millions)	
Centres of research excellence	21	(up 4.3% on 2004)
Foundation for Research, Science and Technology	75	(up 14% on 2004)
Direct contracts	54	(up 11% on 2004)
Subcontracts	20	(up 24% on 2004)
Health Research Council	44	(up 18% on 2004)
Marsden Fund	27	(up 7.8% on 2004)
Other	116	(up 6.5% on 2004)

Notes:

1. Research contract income data for 2006 is not yet available.
2. 'Other' includes funding from private business, government agencies, state-owned enterprises, not-for-profit organisations and overseas sources.

Source: Tertiary Education Commission, Royal Society of New Zealand, Foundation for Research, Science and Technology, and Health Research Council.

Figure 13.6// University research contract income by source



UNIVERSITY RESEARCH INCOME BY SOURCE

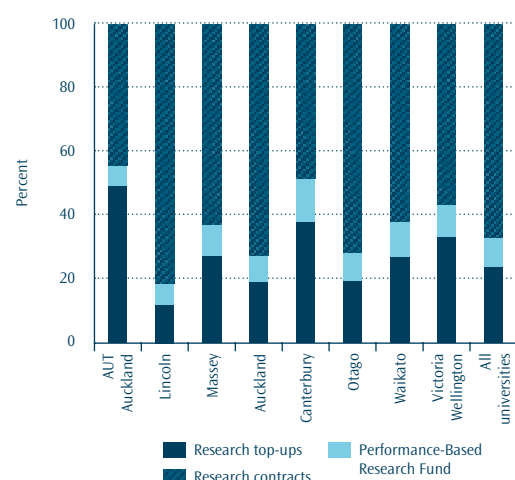
The main source of research income for most universities was contract income in 2005. Lincoln University, the University of Auckland and the University of Otago received more than 70 percent of their research income from this source, while the Auckland University of Technology and the University of Canterbury received less than half of their research income from external contracts.

The proportions of research income by source and university in 2005:

	Research top-ups	Performance-Based Research Fund	Research contracts
Total	24%	9%	67%
Auckland University of Technology	50%	6%	44%
Lincoln University	12%	7%	81%
Massey University	27%	10%	63%
University of Auckland	19%	8%	73%
University of Canterbury	38%	14%	48%
University of Otago	20%	9%	71%
University of Waikato	27%	11%	62%
Victoria University of Wellington	33%	10%	57%

Source: Ministry of Education and Tertiary Education Commission.

Figure 13.7// University research income in 2005 by source



UNIVERSITY RESEARCH EXPENDITURE

The estimated research expenditure* of universities continued to rise in 2006, while as a percentage of gross domestic product it remained unchanged from 2004.

University research and development expenditure in 2006:

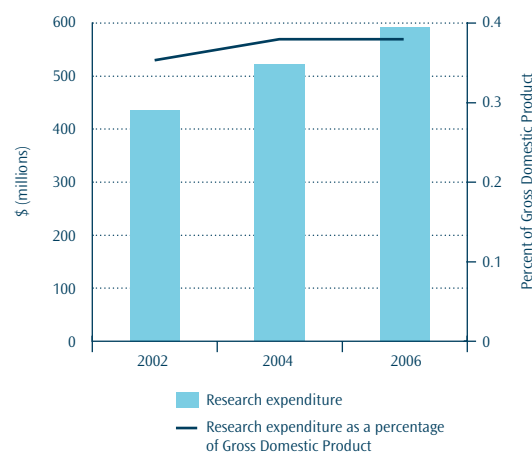
Total	\$593m	(up 14% on 2004)
As a % of gross domestic product	0.38%	(0.38% in 2004)

Note: This excludes colleges of education data where they were not already merged with the universities.

*This data is collected biennially by Statistics New Zealand and the Ministry of Research, Science and Technology.

Source: Ministry of Research, Science and Technology and Statistics New Zealand.

Figure 13.8// University research and development expenditure



UNIVERSITY RESEARCH EXPENDITURE BY TYPE

In 2006, the largest type of expenditure on research and development in universities was on basic research. The universities were responsible for 52 percent of all New Zealand's expenditure on basic research.

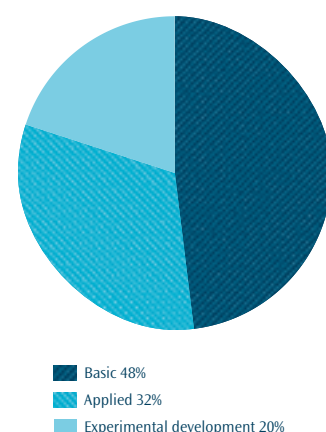
The distribution of university research and development expenditure in 2006:

Basic	48%
Applied	32%
Experimental development	20%

Note: This excludes colleges of education data where they were not already merged with the universities.

Source: Ministry of Research, Science and Technology and Statistics New Zealand.

Figure 13.9// University research and development expenditure by type



UNIVERSITY RESEARCH EXPENDITURE BY PURPOSE

Figure 13.10// University research and development expenditure by purpose

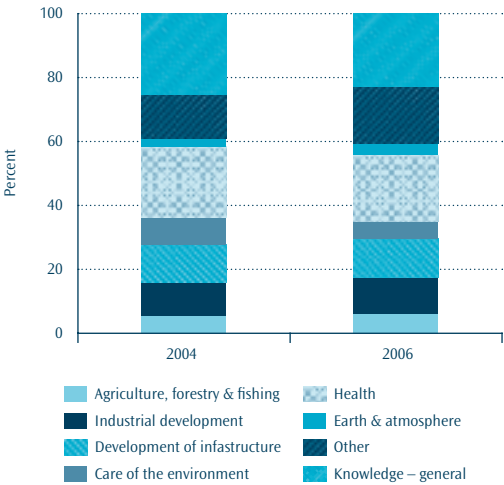
The largest category of university research and development expenditure is knowledge-general, followed by health.

The distribution of university research and development expenditure in 2006:

Agriculture, fishing and forestry	6.2%	(5.5% in 2004)
Industrial development	11%	(10% in 2004)
Development of infrastructure	12%	(12% in 2004)
Care of the environment	5.0%	(8.3% in 2004)
Health	21%	(22% in 2004)
Earth and atmosphere	3.5%	(2.4% in 2004)
Other	18%	(14% in 2004)
Knowledge-general	23%	(25% in 2004)

- Notes:
1. This excludes colleges of education data where they were not already merged with the universities.
 2. 'Other' expenditure includes spending on energy, social development and services, defence and other research purposes.
 3. 'Knowledge-general' includes spending on research that is undertaken by universities that does not relate to a specific area of purpose.

Source: Ministry of Research, Science and Technology and Statistics New Zealand.





CHAPTER FOURTEEN

THE PERFORMANCE OF PUBLIC TERTIARY EDUCATION INSTITUTIONS // 171-177

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AN OVERVIEW

The collective financial performance of the public tertiary education institutions¹ has declined since 2004 as the operating environment has changed. The aggregate operating surplus fell to 1.9 percent of revenue – below the benchmark of 3 percent. At the same time, while the indicators of liquidity and cash flow remained above the benchmark set for prudent operation of a tertiary education institution, both worsened in 2006, for the second year in a row.

In large part, this decline in financial performance reflected factors such as the continued reduction in international student enrolments, increases in the costs faced by institutions and the slowdown in the growth of enrolments in the wānanga. These were all factors that made the operating environment more difficult.

There was considerable variation among the tertiary education institutions, with some recording very strong performance, while 12 of the 33 institutions had an operating deficit in 2006, compared to nine in 2005, six in 2004 and none in 2003.

Overall, the universities performed more strongly than the other sub-sectors. They experienced a relatively smaller decline in international students and their income was more diversified than that of the other sub-sectors. The universities' collective surplus – 3.3 percent of revenue – was above the benchmark.

By contrast, the polytechnics experienced a fall in income as international enrolments dropped, as they experienced the effects of changes made to community education funding in 2005 and 2006 and as they moved to reposition their provision. While income fell, the polytechnics' costs continued to rise, with cost per student increasing by 14 percent as they shifted out of shorter courses and as they experienced the effects of the reduction in international students. Their combined operating surplus in 2006 was less than 1 percent of revenue, compared to 1.6 percent in 2005, 4.4 percent in 2004 and 7.7 percent in 2003. Seven of the 20 polytechnics recorded an operating deficit.

Capital expenditure in the tertiary education institutions exceeded the operating cash surplus generated from operations for the second year running, leading to a reduction of cash reserves.

THE 2007 YEAR

The half-year financial reports of tertiary education institutions give an idea of the likely financial performance of institutions during 2007.

The new investment system for tertiary education – which will be phased in from 2008 – is expected to stabilise the operating environment for tertiary education institutions. However, as institutions prepare themselves to move to this new system, many will continue to struggle financially. Around half of the polytechnics are forecasting either a deficit or to break even in 2007, while two universities expect a deficit. While the wānanga have lifted their performance, this sub-sector still faces challenges.

The weaker financial performance is expected to lead to a further run-down of cash reserves.

ANALYTICAL TABLES: An associated set of tables on financing performance of tertiary education institutions; is available on the Education Counts website, Tables FNP1-4. Detailed technical information on the data presented here can be found in chapter 18.

1. In 2006, there were 33 public tertiary education institutions; however, to allow comparisons to be made over time the data from the colleges of education has been merged with that of the universities in this chapter unless otherwise stated. In January 2007, the last two colleges of education, the Christchurch and Dunedin Colleges of Education, merged with the University of Canterbury and the University of Otago, respectively.

STRATEGIC FINANCIAL POSITION²

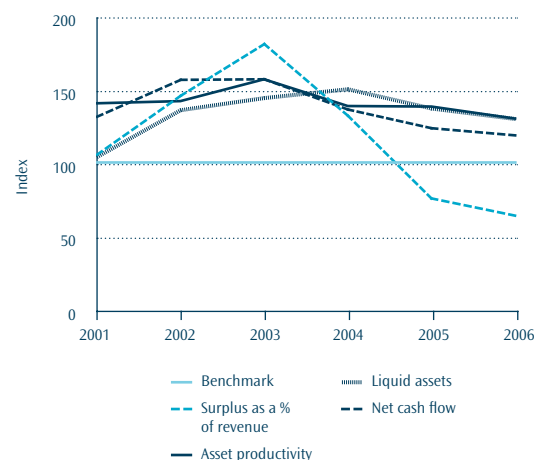
Figure 14.1// Strategic financial position of tertiary education institutions

The financial performance of the public tertiary education institutions improved between 2000 and 2004, but there was a reversal in 2005 and 2006, with performance falling on all four of the key indicators used to monitor performance. In terms of surplus as a percentage of revenue, the performance of the institutions was lower than the Tertiary Education Commission's benchmark for prudent operation.

Strategic financial position of tertiary education institutions, 2000 to 2006:

Tertiary Education Commission benchmark	100	
Liquid assets	130	(137 in 2005)
Asset productivity	130	(138 in 2005)
Net cash flow	118	(123 in 2005)
Surplus as a % of revenue	63	(75 in 2005)

Note: The performance data has been scaled to form an index. The Tertiary Education Commission benchmark for prudent operation has been scaled to 100.



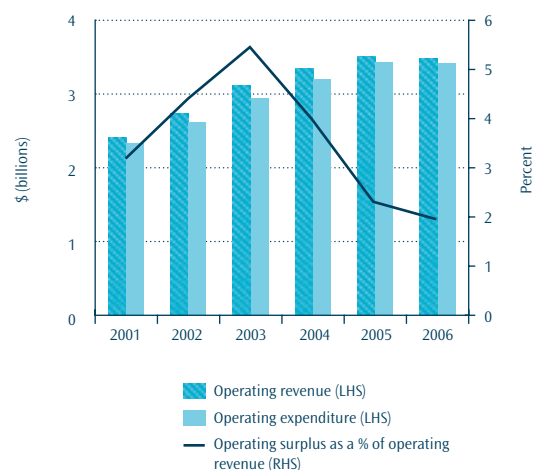
REVENUE AND EXPENDITURE

Figure 14.2// Income, expenditure and operating surplus of tertiary education institutions

While the operating revenue of the tertiary institutions fell by \$0.02 billion in 2006, expenditure decreased by less, meaning that the operating surplus fell.

Operating revenue and expenditure of tertiary education institutions in 2006:

Operating revenue	\$3.5b	(down 0.6% on 2005)
Operating expenditure	\$3.4b	(down 0.2% on 2005)
Operating surplus as a % of operating revenue	1.9%	(2.3% in 2005)



FINANCIAL HEALTH

Figure 14.3// Distribution of tertiary education institutions' operating surplus as a percentage of income

In 2006, 12 institutions had an operating surplus that exceeded the Tertiary Education Commission's benchmark of 3 percent of revenue. This compares to 14 in 2005 and 13 in 2000. Twelve institutions had an operating deficit in 2006, compared to nine in 2005.

Distribution of tertiary education institutions' operating surplus as a percentage of total revenue in 2006:

More than 3%	36%	(42% in 2005)
0 to 3%	27%	(30% in 2005)
Less than 0% (deficit)	36%	(27% in 2005)

Notes:

- Figures may not add to 100 percent due to rounding.
- This measure treats the colleges of education as separate from the universities.



2. All figures quoted in these highlights are exclusive of goods and services tax.

SOURCE OF REVENUE

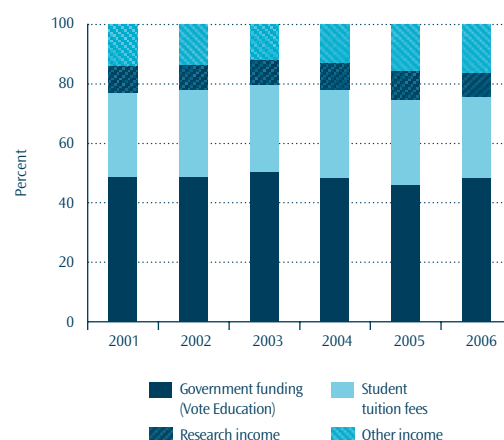
The largest component of the revenue at tertiary education institutions is government funding via Vote Education – at \$1.7 billion this represented 48 percent of all revenue in 2006, compared to 49 percent in 2001.

Distribution of tertiary education institutions' revenue by source in 2006:

Government	48%	(46% in 2005)
Student fees	27%	(29% in 2005)
Research income	8.0%	(10% in 2005)
Other income	16%	(16% in 2005)

Note: Figures may not add to 100% due to rounding.

Figure 14.4// Distribution of tertiary education institutions' income by source



DISTRIBUTION OF REVENUE BY SUB-SECTOR

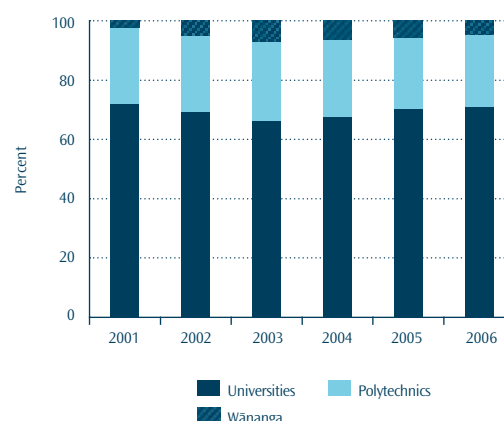
The universities earn the largest share of the \$3.5 billion revenue of the sector – 71 percent in 2006, compared to 66 percent in 2003. The universities' share has grown since 2003 as the growth in polytechnics and wānanga has slowed.

Distribution of tertiary education institutions' revenue by sub-sector in 2006:

Universities	71%	(70% in 2005)
Polytechnics	24%	(24% in 2005)
Wānanga	4.5%	(5.7% in 2005)

Note: Figures may not add to 100% due to rounding.

Figure 14.5// Distribution of tertiary education institutions' income by sub-sector



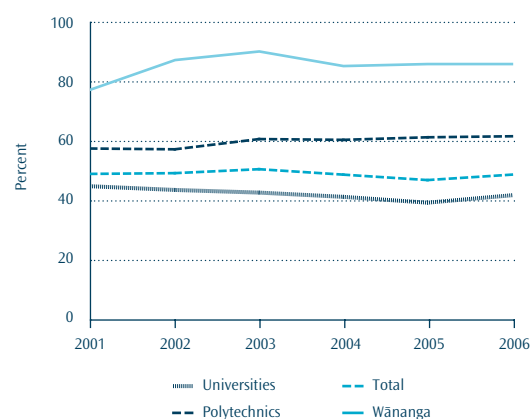
GOVERNMENT FUNDING

Different types of tertiary education institutions have greater or lesser reliance on government funding. In the universities government funding was 41 percent in 2006, compared to 86 percent in the wānanga and 62 percent in the polytechnics. The low dependence of the universities on government funding reflects their capacity to raise revenue from research contracts and from the fact that a larger number of international students are enrolled at universities.

Percentage of tertiary education institutions' revenue sourced from Vote Education by sub-sector in 2006:

Total	48%	(46% in 2005)
Universities	41%	(39% in 2005)
Polytechnics	62%	(61% in 2005)
Wānanga	86%	(86% in 2005)

Figure 14.6// Proportion of income derived from government (Vote Education)



EXPENDITURE BY COMPONENT

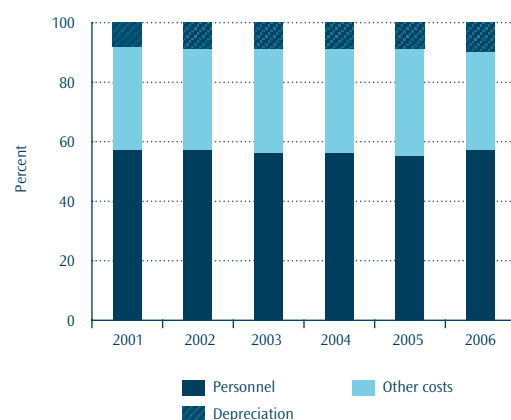
Figure 14.7// Tertiary education institutions' expenditure by component

Tertiary education institutions spent \$3.4 billion in 2006. At 58 percent, personnel costs represent the largest component of the expenditure of tertiary education institutions – reflecting the fact that tertiary education is a service industry. The share has increased slightly since 2000 (when the share was 57 percent).

Distribution of expenditure by tertiary education institutions by component in 2006:

Personnel costs	58%	(55% in 2005)
Other costs	33%	(36% in 2005)
Depreciation	9.6%	(8.8% in 2005)

Note: Figures may not add to 100% due to rounding.



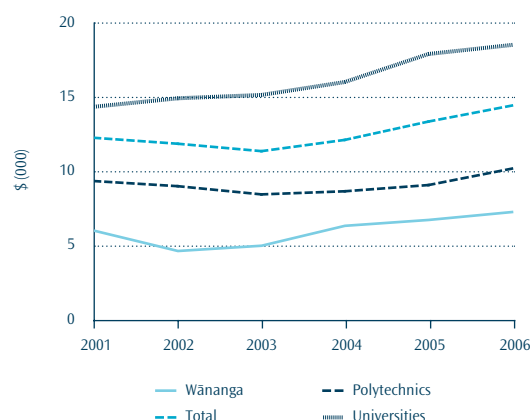
EXPENDITURE PER STUDENT

Figure 14.8// Expenditure per equivalent full-time student by sub-sector

Expenditure per equivalent full-time student has increased in all sub-sectors since 2003, whereas it had fallen between 2000 and 2003. Expenditure per student is greatest in the universities, reflecting the requirement of universities to maintain research capability and also the breadth of the activities of the universities.

Expenditure per equivalent full-time student by sub-sector in 2006:

Total	\$14,470	(up 8.5% on 2005)
Universities	\$18,535	(up 3.5% on 2005)
Polytechnics	\$10,235	(up 14% on 2005)
Wānanga	\$7,308	(up 8.5% on 2005)



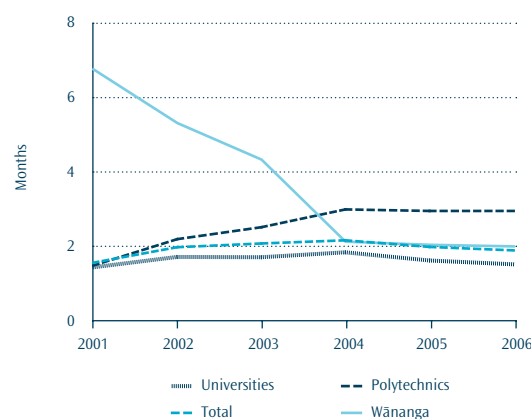
CASH COVER

Figure 14.9// Cash cover by average monthly operating cash disbursements

One important indicator of the financial viability of an institution is cash cover – measured in the number of months of operating cash disbursements held by the organisation. A liquidity level of one month's average operating cash disbursements is seen as the minimum target for prudent operation.

Cash cover (in months) by sub-sector in 2006:

Total	1.9 months	(2.0 in 2005)
Universities	1.5 months	(1.6 in 2005)
Polytechnics	3.0 months	(3.0 in 2005)
Wānanga	1.9 months	(2.0 in 2005)



WORKING CAPITAL RATIO AND CASH COVER

Figure 14.10// Working capital and cash cover of tertiary education institutions

The working capital ratio gives a snapshot of an institution's current assets – maturing within one year – against its short-term obligations maturing within one year. A ratio of less than 100 percent means an institution is relying on cash flow to settle its short-term debts.

Working capital and cash cover in tertiary education institutions in 2006:

Working capital ratio	95%	(99% in 2005)
Cash cover	1.86 months	(2.0 in 2005)



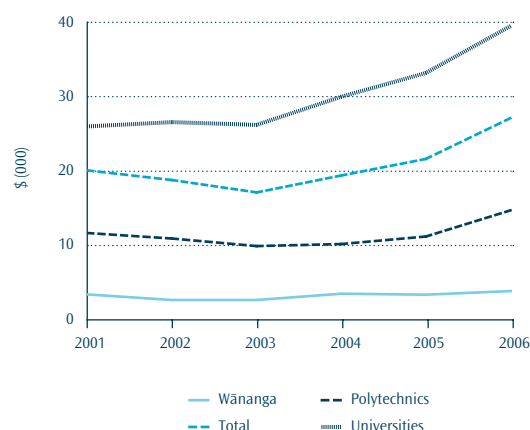
VALUE OF FIXED ASSETS

Figure 14.11// Fixed assets per equivalent full-time student by sub-sector

In nominal terms, assets per equivalent full-time student have risen sharply in the public tertiary education institutions since 2002. The universities have the highest level of assets per student, in part reflecting the cost of the research infrastructure they manage. The assets value of the three wānanga remained lower than that for other types of institutions.

Fixed assets per equivalent full-time student by sub-sector in 2006:

Total	\$27,190	(up 27% on 2005)
Universities	\$39,547	(up 20% on 2005)
Polytechnics	\$14,758	(up 35% on 2005)
Wānanga	\$ 3,891	(up 20% on 2005)



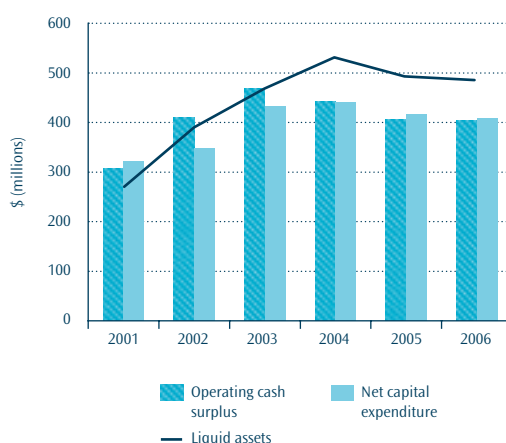
CAPITAL EXPENDITURE

Figure 14.12// Operating cash surplus, net capital expenditure and liquid assets of tertiary education institutions

In 2005 and 2006, capital expenditure in tertiary education institutions exceeded the operating cash surplus generated. When capital expenditure is greater than operating cash surplus, it means that the institutions are financing their capital expenditure by reducing liquidity levels.

Operating cash surplus, net capital expenditure and liquid assets of tertiary education institutions in 2006:

Operating cash surplus	\$403 million	(down 0.7% on 2005)
Net capital expenditure	\$408 million	(down 1.8% on 2005)
Liquid assets	\$485 million	(down 1.5% on 2005)



THE FINANCIAL PERFORMANCE OF PRIVATE TRAINING ESTABLISHMENTS

Figure 14.13// Private training establishment revenue by source

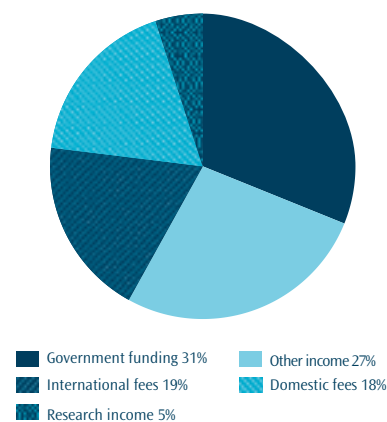
It is useful to consider the performance of public tertiary education institutions alongside data on private training establishments.

Data on the financial performance of 410 private training establishments – representing more than 67,000 enrolments and 47,000 equivalent full-time students – shows that:

- these organisations collectively generated an operating surplus of more than \$33 million or 3.1 percent of revenue
- their liquid assets as a percentage of operating cash outflows was 21 percent
- their asset productivity was 155 percent
- their net cash flow as a percentage of cash applied to operating activities was 8 percent, and
- the ratio of equity to assets is around 35 percent while total debt is around 26 percent of debt plus equity.

Government funding represented 31 percent of these organisations' total income, with fees – from domestic and international students – providing 38 percent.

Source: Tertiary Education Commission.





CHAPTER FIFTEEN

THE TERTIARY EDUCATION WORKFORCE // 178-189
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AN OVERVIEW

After rising for several years, the number of staff employed by tertiary education institutions fell in 2006. In private training establishments staff numbers also decreased.

The decrease in the number of academic staff was greater than that for the non-academic staff in public tertiary education institutions. In private training establishments this situation was reversed with the fall in number of non-academic staff significantly exceeding the fall in the number of teaching staff.

The latest fall in student numbers exceeded the fall in the number of teaching staff, lowering the 2006 student to academic staff ratio in the polytechnics and wānanga. However, the number of students per academic staff member remained higher in 2006 in these sub-sectors than five years earlier. The universities' student to academic staff ratio has remained at a very similar level over the past five years.

The number of university staff eligible for research funding from the Performance-Based Research Fund increased from 2003 to 2006 and the average age of the eligible researchers also increased in 2006.

Total expenditure on personnel in public tertiary education institutions rose in 2006 and personnel costs also increased as a percentage of total expenditure.

Information from the 2006 Population and Dwellings Census confirmed some of the trends facing the tertiary education workforce identified in 2005 by the Strategic Review of the Tertiary Education Workforce. For example, the number of postgraduate qualifications in the academic workforce has increased more rapidly than that in New Zealand's other industries. And, as expected, there were proportionally twice as many postgraduate qualified people in the technical and higher education academic workforce in 2006 than in all other industries. An important finding confirmed by the census data is that New Zealand's academic workforce is ageing. An in-depth analysis of the 2006 census information on the tertiary education workforce is included later in this chapter.

THE 2007 YEAR

Initial indications from the half-year reports of tertiary education institutions imply that the trends in staff numbers observed in 2006 will continue in 2007.

In January 2007, the Christchurch College of Education merged with the University of Canterbury and the Dunedin College of Education merged with the University of Otago. Consequently, the provision of training and research mostly related to early childhood, compulsory and post-compulsory education is now carried out by staff employed at the universities.

The Centre for Higher Education Management and Policy, based at the University of New England, Australia, is undertaking a survey in 2007 of the changing nature of the academic profession. A similar survey was carried out in the early 1990s. The survey is one part of an overall project that is using a six-stage model of change and will include comparisons across approximately 20 countries on the changes in the academic profession. For more information on this project see: www.unen.edu.au/pdal/research/chemp/projects/cap/#item0

TERTIARY EDUCATION WORKFORCE ¹

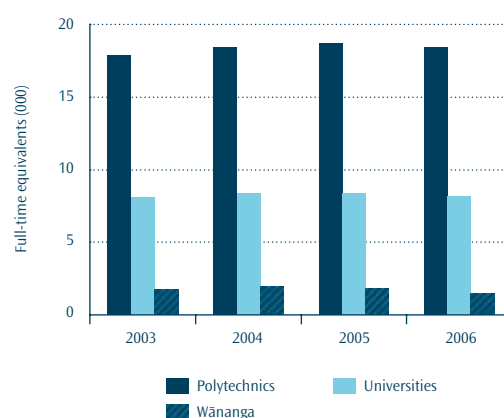
After rising for several years, the number of staff employed by tertiary education institutions fell in 2006.

Staff employed in 2006 (expressed in full-time equivalents):

Tertiary education institutions	28,100	(down 2.5% on 2005)
Private training establishments ²	6,920	(down 2.2% on 2005)
Universities	18,400	(down 1.5% on 2005)
Polytechnics	8,220	(down 1.3% on 2005)
Wānanga	1,450	(down 20% on 2005)

Source: Annual reports of tertiary education institutions.

Figure 15.1// Staff employed in tertiary education institutions



ACADEMIC AND NON-ACADEMIC STAFFING

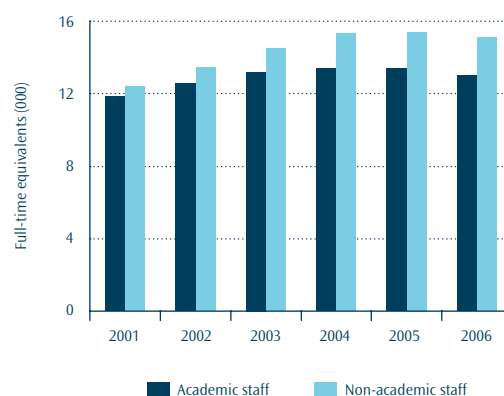
Figure 15.2// Academic and non-academic staff employed in tertiary education institutions

The number of academic staff employed in public tertiary education institutions remained unchanged from 2005 to 2006, while the number of non-academic staff fell slightly.

Staff employed in 2006 (expressed in full-time equivalents):

	Academic		Non-academic	
	2006	% change from 2005	2006	% change from 2005
Tertiary education institutions	13,000	-3.0	15,100	-2.1
Private training establishments ²	3,880	-0.8	3,030	-3.8
Universities	7,960	-2.0	10,400	-1.2
Polytechnics	4,370	-1.5	3,850	-1.0
Wānanga	673	-20.3	779	-17.0

Source: Annual reports of tertiary education institutions.



STUDENTS TO STAFF RATIOS

Figure 15.3// Average number of students per academic staff member

A key indicator of performance in tertiary education is the ratio of students to staff.

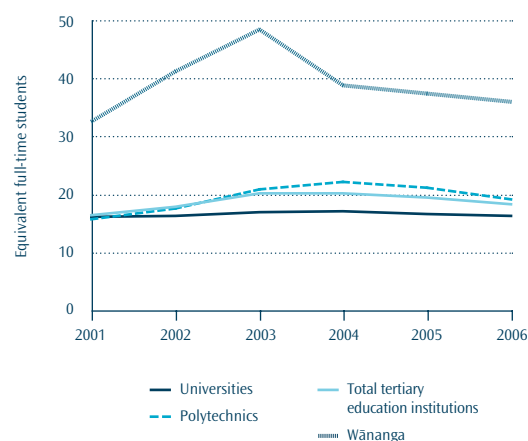
The student to academic staff ratio in 2006:

Tertiary education institutions	18.2	(16.2 in 2001)
Universities	16.2	(16.0 in 2001)
Polytechnics	19.0	(15.7 in 2001)
Wānanga	35.8	(32.4 in 2001)

Notes:

- These ratios have been calculated using the equivalent full-time student measure and the full-time equivalent academic staff count. In interpreting these ratios caution needs to be exercised as the allocation of staff to categories may not be consistently reported in the annual reports from year to year.
- The ratio at the wānanga is significantly higher than at other types of tertiary education institutions because of the delivery of distance programmes.

Source: Annual reports of tertiary education institutions.



1. University data used in these highlights includes the staff from the colleges of education. Information on the colleges of education is available in the web tables.

2. Data for private training establishments is from the statistical collections provided to the Ministry of Education by tertiary education providers. Providers are included if they receive student component funding or are registered with the New Zealand Qualifications Authority.

UNIVERSITY ACADEMIC AND RESEARCH STAFF

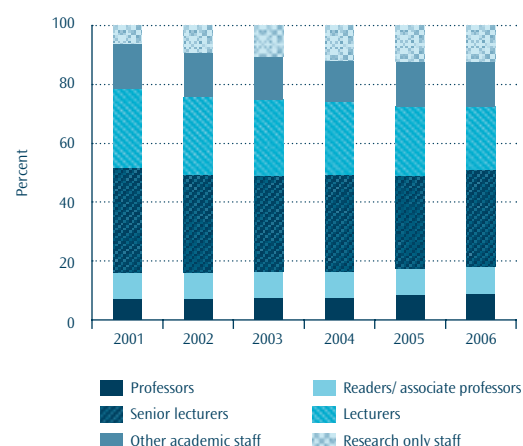
Figure 15.4// Distribution of university academic staff by designation

The number of research only staff employed by universities doubled from 2001 to 2006, while the proportion of lecturers, over the same period, fell by 6 percent.

The proportions of university academic staff by designation in 2006:

Professors	9%	(up from 7% in 2001)
Reader/associate professors	9%	(no change from 2001)
Senior lecturers	33%	(down from 36% in 2001)
Lecturers	21%	(down from 27% in 2001)
Other academic staff	15%	(no change from 2001)
Research only staff	12%	(up from 6% in 2001)

These proportions are based on the full-time equivalent staff counts. There were also 415 research support staff employed in universities in 2006, down by 38 percent from 2001.



NARROWER GENDER DIFFERENCES

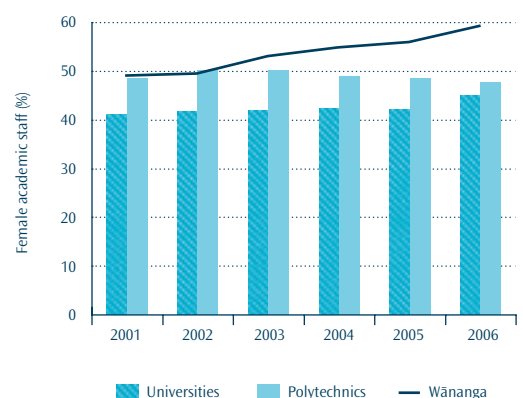
Figure 15.5// Proportion of female academic staff by provider type

In 2006, a higher proportion of women were employed by all types of tertiary education institutions compared with five years earlier, except in polytechnics, where the gender balance in recent years has moved slightly in favour of men.

The proportions of female academic staff by provider type in 2006:

Tertiary education institutions	45%	(44% in 2001)
Universities	45%	(41% in 2001)
Polytechnics	48%	(48% in 2001)
Wānanga	59%	(49% in 2001)

These proportions are based on the full-time equivalent staff counts. Based on a headcount, the gender balance of the total public tertiary education workforce in 2006 was 58 percent in favour of female staff.



GENDER DIFFERENCES IN UNIVERSITIES

Figure 15.6// Selected university academic staff by gender

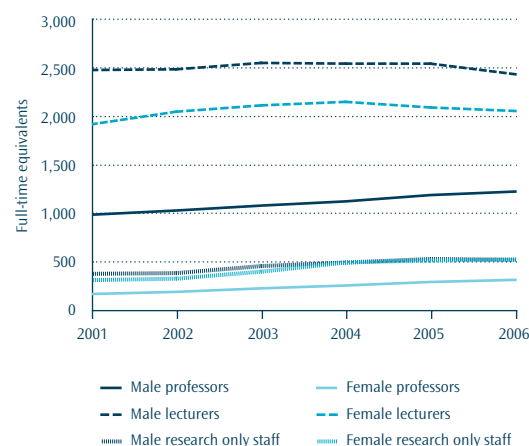
Despite increases in recent years in the proportion of female professors, lecturers and research only staff in universities, the proportion of male professors and lecturers remains considerably higher.

The proportions of university academic staff by gender in 2006:

Male professors	80%	(86% in 2001)
Female professors	20%	(14% in 2001)
Male lecturers	54%	(56% in 2001)
Female lecturers	46%	(44% in 2001)
Male research only staff	50%	(55% in 2001)
Female research only staff	50%	(45% in 2001)

The above figures are based on the full-time equivalent staff counts.

Note: The figures used here for professors include readers and associate professors.



RESEARCH STAFF IN UNIVERSITIES

Between 2003 and 2006, there was an increase in the number of senior staff in universities who were eligible for Performance-Based Research Fund assessment in 2006. But there was a fall in the number of eligible staff employed at the lecturer level.

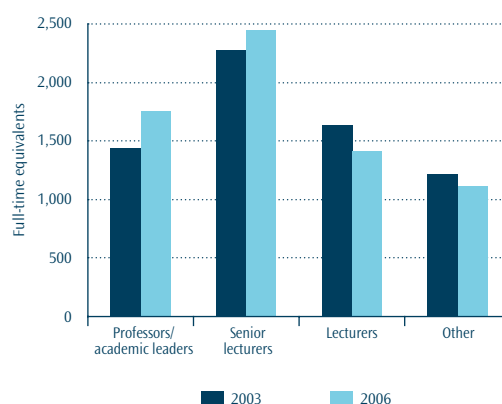
Performance-Based Research Fund-eligible university staff in 2006:

All eligible university staff	6,730	(up 2.6% on 2003)
Professors or academic leaders	1,750	(up 22% on 2003)
Senior lecturers	2,450	(up 7.5% on 2003)
Lecturers	1,410	(down 14% on 2003)
Other	1,120	(down 7.7% on 2003)

As part of the Performance-Based Research Fund, the tertiary education organisation has to identify the staff members who are expected to make a significant contribution to research activity and/or degree teaching. For more information on the fund's staff eligibility criteria see: www/tec/govt/nz/funding/research/pbrf.htm

Source: Tertiary Education Commission.

Figure 15.7// Eligible university research staff by designation



AGEING RESEARCH POPULATION

The average age of the university staff eligible for Performance-Based Research Fund assessment increased from 2003 to 2006, although employment in the younger than average age group of 30 to 34 years rose slightly.

Performance-Based Research Fund-eligible university staff:

Age groups	2003 %	2006 %	Age groups	2003 %	2006 %
20-24	0.2	0.04	50-54	15.9	15.6
25-29	3.1	2.0	55-59	15.2	14.7
30-34	9.1	9.3	60-64	8.9	10.6
35-39	13.1	12.7	65-69	2.0	3.9
40-44	15.9	15.3	70-74	0.1	0.3
45-49	16.4	15.5	75+	0.1	0.05

Figure 15.8// Age distribution of eligible university research staff



PERSONNEL COSTS

Personnel costs for all public tertiary education institutions amounted to \$1.97 billion in 2006. Personnel expenditure was 3.9 percent higher in 2006 than in 2005, when it totalled \$1.89 billion.

Personnel cost per full-time equivalent:

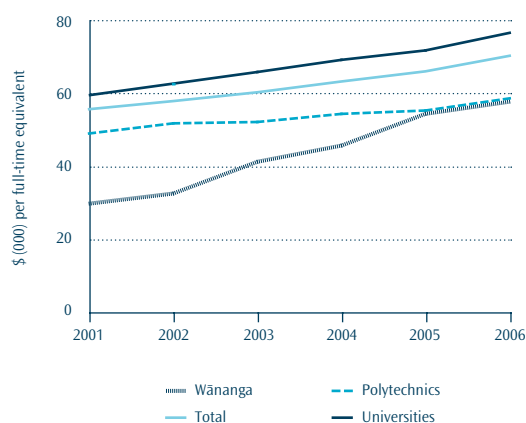
	\$ (000 – nominal)					\$ (inflation-adjusted)	
	2001	2005	2006	% change 01-06	% change 05-06	% change 01-06	% change 05-06
Universities	59.5	71.6	76.2	+28.1	+6.5	12.4	+3.1
Polytechnics	48.8	55.0	58.3	+19.6	+6.0	5.1	+2.5
Wānanga	29.6	54.2	57.5	+94.7	+6.2	71.1	+2.8
Total	55.5	65.7	70.0	+26.3	+6.6	10.9	+3.1

Notes:

1. Due to different cost structures in each sub-sector, caution should be exercised when comparing provider types.
2. The deflator used is the Consumers Price Index (all groups) and the base period is the year 2006.

Source: Annual reports of tertiary education institutions.

Figure 15.9// Personnel expenditure per academic staff member



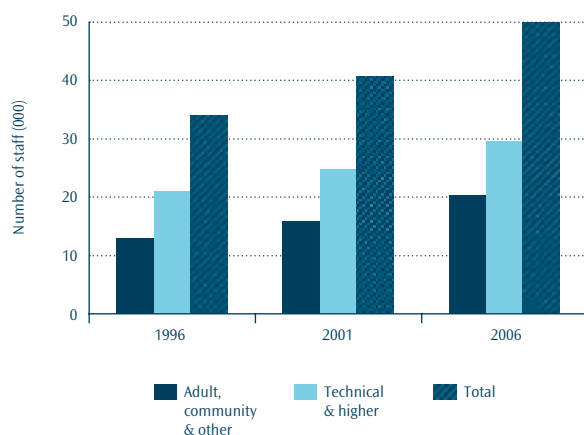
NEW ZEALAND'S TERTIARY EDUCATION WORKFORCE: A CENSUS ANALYSIS

New Zealand's university lecturers, tutors, polytechnic teachers, managers, administrators and other tertiary education support staff make up the tertiary education workforce. As signalled by a recent review of the tertiary education workforce, some of the trends facing the workforce are: rising community expectations for teaching and research quality, an increasingly competitive national and international education labour market, an ageing population, higher labour market participation by women, and new information and communications technologies.

Information on the tertiary education workforce from New Zealand's latest five-yearly census confirms some of these trends. Data from the Population Census 2006 is now available and included in this report are the counts of the size of the tertiary education workforce, the qualification levels held by staff, the ethnic diversity of the sector and academic staff, and the latest age, gender and income profiles.

The tertiary education workforce consists of the staff employed in tertiary education and adult, community and other education. In 2006, they together comprised 35 percent of New Zealand's total staff providing education and training – in 1996 this share was 32 percent. In 2006, school education accounted for 57 percent and pre-school education for 8 percent.

Figure 15.10 // The tertiary education workforce by sector



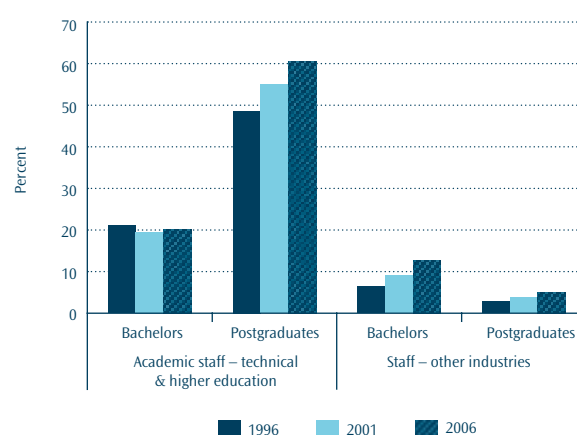
Source: Statistics New Zealand, *Census of Population and Dwellings*.

The information presented here is based on the Australian and New Zealand Standard Industrial Classification 2006. The industries selected for this study are P810100 – technical and vocational education and training; P810200 – higher education; P821100 – sports and physical recreation instruction; P821200 – arts education; P821900 – adult, community and other education not elsewhere classified; and P822000 – educational support services. In this section 'other industries' refers to all other industries in New Zealand.

'Academic staff' refers to university lecturers, university tutors and polytechnic teachers. Occupation groups such as education advisors and art, drama, dance and music teachers, as well as other private tutors and teachers, are included in the non-academic category in this report.³

Tertiary education as classified in the census, comprises two classes. The first is technical and vocational education and training,⁴ which covers a large variety of courses and subjects such as computer and business management training, and higher education, which covers mainly undergraduate and postgraduate teaching. The second is adult, community and other education which has four parts – sports and physical recreation instruction, arts education, educational support services, and adult, community and other education not elsewhere classified (such as driving school operation and tutoring services).

Figure 15.11 // Proportions of academic staff in technical and higher education, and staff in other industries, with a bachelors or higher qualification



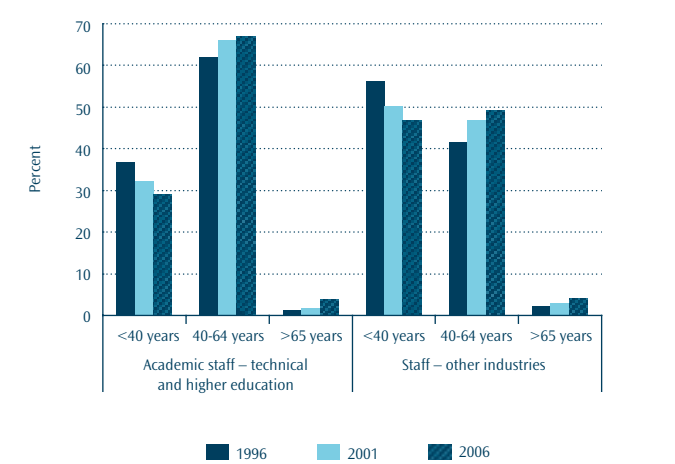
Source: Statistics New Zealand, *Census of Population and Dwellings*.

3. Technical and vocational education and training and adult, community and other education are referred to in this report as technical education and community education, respectively.
4. Excluded are those engaged in the training of animals, for example, horse training.

In March 2006, there were 49,900 staff employed in the tertiary education workforce. Technical and higher education is the larger of the two tertiary sectors, employing 29,500 staff in March 2006. Since the previous census held in 2001, the technical and higher education workforce increased by 19 percent. The community education workforce grew even more strongly at 29 percent over this period to reach 20,000 staff in 2006.

The census results show that more staff in the tertiary education workforce held qualifications compared with employees in all other industries and that more of these qualifications were at a higher level. One in every five employees in the New Zealand workforce held a bachelors degree or higher in 2006, while for technical education and higher education the proportion was 60 percent and, of these, 61 percent of staff held a postgraduate qualification. This finding was further reinforced in the case of academic staff employed in technical education and higher education, with 81 percent holding a bachelors degree or higher qualification and three-quarters of academics being qualified at the postgraduate level in 2006. For all other industries, slightly fewer than one in three people with bachelors or higher qualifications were qualified at the postgraduate level in 2006. With those holding postgraduate qualifications in the academic staff numbering proportionally well over twice as many as in other industries and growing more rapidly (see Figure 15.11), the technical and higher education sector is well qualified to meet the rising community expectation of teaching and research quality.

Figure 15.12 // Academic staff in technical and higher education and staff in other industries by age group

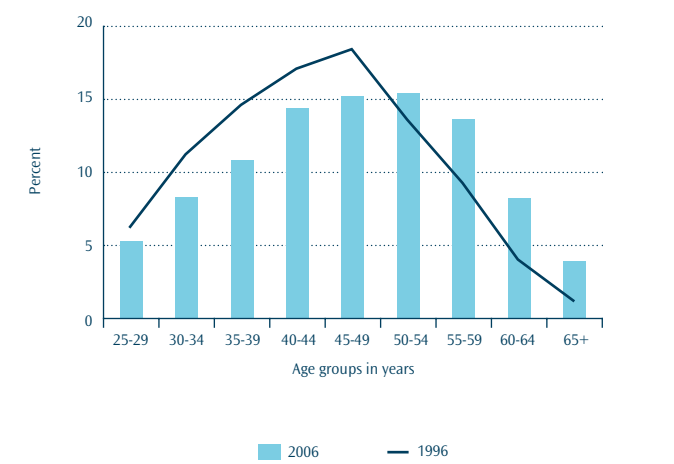


Source: Statistics New Zealand, *Census of Population and Dwellings*.

New Zealand's ageing tertiary education workforce is an area previously signalled as requiring careful management. The 2006 census data confirms that New Zealand's academic workforce has a much larger proportion of employees in the 40 to 64 years age group than is the case for New Zealand's workforce overall. While nearly one in every two employees in the New Zealand workforce was aged between 40 and 64 years in 2006, in the tertiary education workforce 56 percent were in this age group and 58 percent in technical and higher education. And, in the case of academic staff in technical and higher education, two out of three staff were aged 40 to 64 years, with another 3.9 percent of academics aged 65 years and over.

Sixty-seven percent of academics in technical and higher education were aged 40 to 64 years in 2006, up from 62 percent in 1996. Over the same period, the proportion of academics aged 65 years and over increased from 1 percent to 3 percent. Those aged under 40 years decreased from 37 percent in 1996 to 29 percent in 2006. The age pattern from the 2006 census shows that New Zealand's academic staff in technical and higher education were over-represented in the 40 to 54 years age group and under-represented in the 25 to 39 years age group. In five years' time around 12 percent of the current academic workforce will be aged 65 years and over, based on the current age profile. This suggests that some of them may choose to retire or they may wish to reduce the time spent in the academic workforce.

Figure 15.13 // The proportions of academic staff in technical and higher education by age group

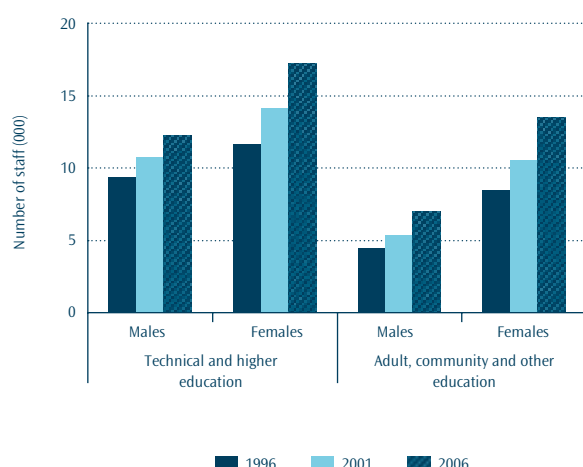


Source: Statistics New Zealand, *Census of Population and Dwellings*.

In 10 years' time approximately one-quarter of the current academic workforce will be aged 65 years and over while the staff in the 25 to 39 years age group, who will move into higher age groups over the next 10 years, represent only 14 percent of the academic workforce based on the current age profile. The 2006 census findings confirm the importance of keeping the ageing of the academic workforce as a high-priority item on New Zealand's public policy agenda. Developing effective recruitment policies in the face of an increasingly competitive national and international education market adds to the challenge of managing New Zealand's ageing academic workforce.

Australia is one of a number of other countries that also face an increasingly ageing academic workforce. In a study based on population censuses and data returns made by Australian universities, Hugo (2005) showed that 70 percent of Australian lecturers and tutors were aged 45 years and over in 2001. While Hugo was able to demonstrate considerable differences in the age structures among selected Australian universities, he concluded that "Australian universities over the next decade will be faced by their largest recruitment task for three decades". Hugo referred to the three Rs of recruitment, retention and return and new blood programmes and early recognition of new talent featured first on his list of innovative human resource strategies.

Figure 15.14 // Tertiary education staff by sector and gender



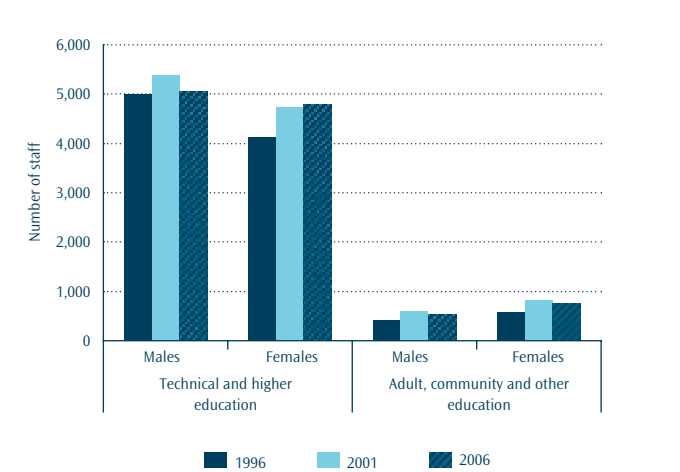
Source: Statistics New Zealand, *Census of Population and Dwellings*.

When recruiting 'returns' he referred, for example, to bringing back women by having family-friendly policies and repatriating former staff and students from around the world by means of various incentives. The adoption of flexible staffing policies was also suggested by Hugo as a way to retain high-quality staff.

The kind of recruitment policies discussed by Hugo to manage the ageing academic workforce may also assist in alleviating some gender imbalances that exist in areas such as academic leadership. A first glance at the 2006 gender balance of the tertiary education sector suggests that it is dominated by women. The 2006 census data shows that 58 percent of the staff in the technical and higher education workforce were women and two in every three staff in community education were women. However, when the 2006 census workforce numbers are disaggregated to separate out academic staff, the gender balance of the academic staff was 51 percent in favour of men in the case of technical and higher education, while in community education women represented 56 percent of the academic staff. Information from the 2006 Ministry of Education data collections indicates that while the gender difference for academic staff in technical and higher education had narrowed since 2001, men still accounted for 54 percent of lecturers and women remained in the minority in the case of professors, at 20 percent. On the other hand, the 2006 census numbers show that in the younger age group of 15 to 40 years women and men were equally represented in the academic staff. However, this was also the case in 1996 and this slow narrowing of the academic leadership gender gap has led to a more deliberate policy by the universities to improve the academic leadership gender balance.

Following a report by the Human Rights Commission in March 2007 highlighting that only slight improvements had been made in increasing women's representation in senior academic positions in New Zealand's eight universities, the university sub-sector, working together with the Human Rights Commission, recently set up a nationwide leadership programme for senior academic women. This was in a bid to improve the number and status of women at the top in the tertiary education workforce. In June 2007, 20 participants from the eight New Zealand universities were chosen by their institutions to take part in the programme, which aimed at assisting more women to position themselves to become professors, deans and vice-chancellors in the future.

Figure 15.15 // Academic staff by sector and gender



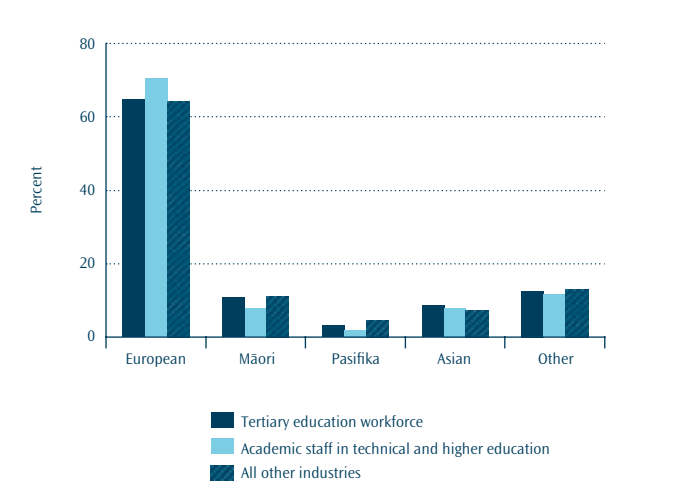
Source: Statistics New Zealand, *Census of Population and Dwellings*.

Gender imbalances relating to the field of study were also evident from the latest census data and efforts to improve the leadership gender balance may be hindered in fields of study that tend to be dominated by one gender only. A recent report by Nair (2007) using the latest census demonstrated that the choice of field of study continues to be strongly influenced by a student’s gender. In 2006, it was more common for men to hold qualifications in fields such as agriculture, architecture, engineering and information technology, while women were more likely to have studied in fields such as health, education, society and culture, food and hospitality, and creative arts.

The census also provides a focus on the growing ethnic diversity of the New Zealand labour force. There has been a large decrease in the proportion of Europeans in the New Zealand workforce and to a large extent this was caused by the rapid growth of the Other ethnic group. The European group totalled 82 percent of the other industries’ workforce in 1996 and this proportion had decreased to 64 percent by 2006. Over the same period, the Other ethnic group increased from less than half a percent to 13 percent. A very similar pattern was evident in the tertiary education workforce, with the proportion of Europeans decreasing by almost 19 percentage points from 83 percent in 1996 to 65 percent in 2006, while the Other ethnic group grew from 1 percent in 1996 to 13 percent in 2006.

In the other industries’ workforce the proportion of Māori remained at around 11 percent over the last 10 years while the Pasifika peoples group increased from 3.9 percent to 4.6 percent. In the case of the tertiary education workforce, the proportion of Māori employed increased from 10 percent in 1996 to 11 percent in 2006 and while the proportion represented by the Pasifika group increased over the same period from 2.2 percent to 3.1 percent, this proportion is considerably smaller than that for the other industries group. In contrast, the Asian group increased its share of the tertiary education workforce over the last 10 years, increasing from 3.9 percent to 8.8 percent. The proportion of Asians in the other industries group was only 7.4 percent in 2006.

Figure 15.16 // Employees in selected industry groups by ethnic group (March 2006)



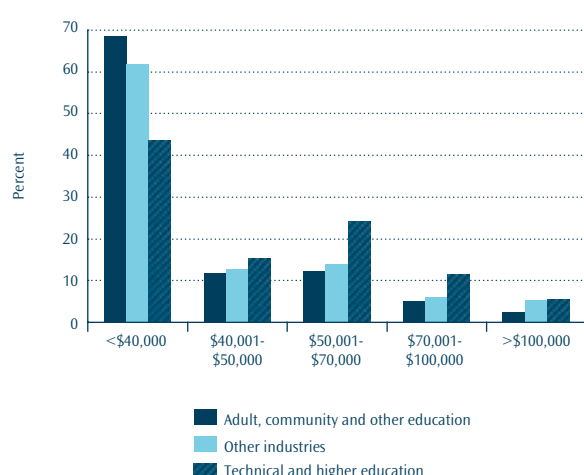
Source: Statistics New Zealand, *Census of Population and Dwellings*.

The academic workforce in technical and higher education has also become more ethnically diverse over the last 10 years, but the change has not been such that the representation of all the main ethnic groups matches that of the other industries workforce. In 2006, 71 percent of the academic workforce were Europeans, down from 86 percent 10 years earlier. The Other ethnic group increased from 1 percent in 1996 to 12 percent in 2006 and the Asian group increased from 4.6 percent to 8.0 percent. Both the Māori and Pasifika groups remained under-represented in the academic workforce, having increased from 1996 to 2006 by just under one percentage point to 7.8 percent and 1.9 percent, respectively.

Academics from abroad have been attracted into New Zealand's technical and higher education sector in recent years as shown by the 2006 ethnic composition of the academic staff. Another important consideration is the competitiveness of the incomes earned by tertiary education staff. In an increasingly competitive national and international education market it is likely that competitive incomes have become more important in attracting and retaining academic staff. The population census collects some information on earnings and in this study we compare the total personal incomes of staff in the tertiary education workforce with staff in other industries as at March 2006.

Figure 15.17 shows the income distributions of staff in technical and higher education, adult, community and other education, and other industries. Proportionately fewer staff in technical and higher education earned less than \$40,000 per annum than was the case in all other industries, while almost 70 percent of staff in adult, community and other education earned less than \$40,000 per annum. Also, there was a bigger proportion of technical and higher education staff in all the higher income groups. Only in the top income band did the gap narrow in relation to the other industries group, which had 5 percent of staff in this income band while the technical and higher education workforce had 6 percent of staff earning in excess of \$100,000 per annum.

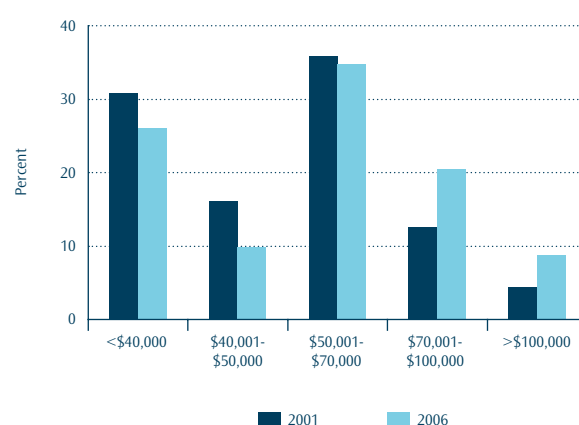
Figure 15.17 // Income distributions of selected industry groups (March 2006)



Source: Statistics New Zealand, *Census of Population and Dwellings*.

The census information is only able to provide a broad insight into the salary movements of the workforce. A comparison of the staff proportions in the five income groups for the 2001 and 2006 census years shows that the proportion of academic staff in technical and higher education nearly doubled in the highest income group (greater than \$100,000 per annum) from 4.4 percent to 8.7 percent, while for the other industries this increased from 3.6 percent to 5.3 percent. In the second-highest income group (\$50,001 to \$70,000 per annum) the proportions rose from 13 percent to 21 percent for academic staff and from 3.9 percent to 6.2 percent for the other industries group. Academic staff earning less than \$40,000 per annum decreased from 31 percent to 26 percent and this compared to a decrease from 73 percent to 62 percent for the other industries. Staff earning \$40,000 to \$50,000 per annum increased in the other industries from 11 percent to 13 percent, while for academic staff this proportion decreased from 16 percent to 10 percent. In the middle income group the proportion of academic staff decreased slightly (down by 1 percent to 35 percent) and for all other industries this group increased from 9.4 percent to 14 percent.

Figure 15.18 // Income distributions of the academic staff in technical and higher education



Source: Statistics New Zealand, *Census of Population and Dwellings*.

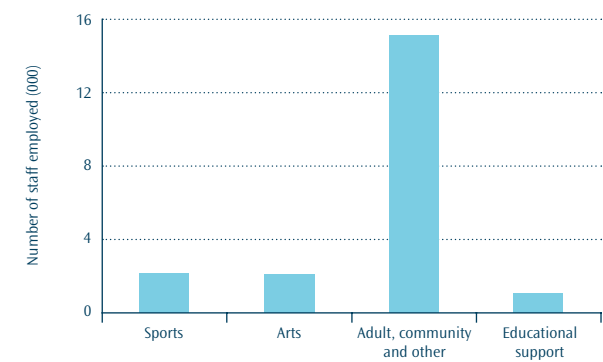
While income levels for New Zealand's academic staff have risen when compared with other industries over the last five years, the total remuneration of the academic workforce vis-à-vis those in comparable employment would need to be analysed to enable a conclusion to be

drawn as to whether academic incomes were nationally competitive in 2006 or not. It is also not possible to conclude from the census data whether or not the incomes of the tertiary education workforce had risen in real terms. While incomes have risen, it is not able to be determined whether the increases exceeded the rise in consumer prices of 17 percent from 2001 to 2006. However, financial data from public tertiary institutions annual reports shows that personal costs per full-time equivalent staff member rose by 26 percent over that period – an increase of nearly 11 percent in inflation-adjusted terms (refer to Figure 15.9). To ensure New Zealand’s universities remain internationally competitive and to help universities maintain the quality of teaching and research, government provided additional funding to the universities of \$26 million in 2006.

The community education sector employed 12 percent of New Zealand’s total academic staff in 2006. Their income distribution resembles that of the other industries in New Zealand more closely. One difference was that 17 percent of academic staff in community education earned between \$50,001 and \$70,000 in March 2006 while in other industries this proportion was only 14 percent. On the other hand, the proportions of the community education academic staff in the two higher income groups were lower in 2006 than those for the other industries at 2.2 and 5.3 percent, respectively.

Staff in community education, like their counterparts in technical and higher education, were more qualified than employees in other industries – two out of five staff held bachelors or higher qualifications, compared to one out of five in other industries.

Figure 15.19 // Staff employed in adult, community and other education by sub-sector



Source: Statistics New Zealand, *Census of Population and Dwellings*.

The ethnic composition of the community education workforce also resembled that of the other industries in 2006. Europeans accounted for 64 percent, Māori for 12 percent, Pasifika peoples for 3.3 percent, Asians for 8.8 percent and the Other ethnic group comprised 12 percent of the total staff in community education.

Community education is also referred to as the non-formal tertiary education sector. Its sub-sectors cover a wide variety of education and training that attracts staff with different profiles from those employed in technical and higher education. For example, the sub-sector called sports and physical recreation instruction has quite a young age structure. Sixty percent of staff in the sports sub-sector are under 40 years of age while in the technical and higher education sector the age profile is the other way round with 61 percent of staff aged 40 years and over.

Table 15.1 // Academic and non-academic staff by selected industries (March 2006)

	Technical education	Higher education	Total tertiary education	Sports and physical recreation	Arts education	Adult, community and other education n.e.c	Educational support services	Total adult, community and other education	Tertiary education workforce
	P8101	P8102	P810	P8211	P8212	P8219	P8220	P821	P810+P821
University lecturer	270	6,573	6,843	30	18	531	6	585	7,428
University tutor	204	1,485	1,689	15	6	426	0	447	2,136
Polytechnic teacher	138	1,170	1,308	9	9	267	0	285	1,593
	612	9,225	9,837	51	33	1,224	9	1,317	11,154
Other occupations	3,537	16,098	19,635	2,085	2,055	13,917	1,053	19,110	38,745
Total all occupations	4,149	25,323	29,472	2,136	2,088	15,144	1,062	20,430	49,902

Notes:

1. Tertiary education falls into Division P – Education and Training – of the Australian and New Zealand Standard Industrial Classification 2006.
2. n.e.c. – not elsewhere classified.

Source: Statistics New Zealand, *Census of Population and Dwellings*.

References:

- Hugo, G. (2005) Demographic trends in Australia's academic workforce, *Journal of Higher Education Policy and Management*, Vol. 27, No. 3, pp. 327-343, Clayton: The Association for Tertiary Education Management Inc.
- Human Rights Commission (2007) *New Zealand census of women's participation 2006*, www.hrc.co.nz/hrc_new/hrc/cms/files/documents/29-Mar-2006_17-46-13_2006_Women_Census_of_Womens_Participation.pdf
- Tertiary Education Commission (2005) *Strategic Review of the tertiary education workforce*, Wellington: Tertiary Education Commission.



CHAPTER SIXTEEN

FUNDING OF TERTIARY EDUCATION // 190-203

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AN OVERVIEW

Government spending on tertiary education increased by 8.5 percent in the year ended June 2007. Total government spending on tertiary education, including operational costs and capital expenditure, was \$4.2 billion in 2007, compared to \$4.1 billion in 2006. As a percentage of gross domestic product, total expenditure increased slightly while operating expenditure remained unchanged in 2007. Total tertiary education expenditure accounted for 2.7 percent of gross domestic product while operating expenditure accounted for 1.9 percent. The main difference between the operating and total expenditure was the amount of Student Loan Scheme lending that was treated as a capital expense.

The number of equivalent full-time student places funded by the government continued to decrease in 2006. Despite the decrease in student numbers, government spending on tuition subsidies continued to increase in 2006, due to an increase in the base funding rates.

In 2006, the average domestic fee per full-time equivalent student at the public tertiary education institutions increased by 10 percent. This increase largely reflects a continued move away from enrolments in low-cost courses or zero fee courses. In the universities, where there has not been widespread fee discounting, average fees rose by 4.6 percent. The number of international students continued to fall in 2006 and as a result total international fees revenue also continued to fall in 2006.

THE 2007 YEAR

Through 2007, the government has been working towards implementing a major reform of funding for tertiary education organisations in 2008. The new funding system is intended to shift the emphasis away from funding all enrolments to an investment system, under which the Tertiary Education Commission will make judgements about the amount and types of provision it is prepared to fund. Under the new investment system, funding will be determined for up to three years, which will lead to greater certainty for tertiary education organisations and for the government. Whereas the old funding system rewarded participation alone, under the new investment system resourcing will be delivered in two main parts – the tertiary education organisation component, designed to provide funding for organisational functions and for organisational capability, and the student achievement component, designed to recognise the costs of teaching and learning.

Each year the government intends to set the amount of funding it is prepared to supply, taking account of demographic factors and cost

pressures. This system will allow for fiscal certainty for government but without jeopardising access to tertiary education.

In August 2007 the government proposed to extend the Fee and Course Costs Maxima policy to 31 December 2008 pending consultation on changes being considered for 2009.

The government also announced a number of initiatives to help tertiary education organisations as they move to the new investment system. These included:¹

- An additional \$129 million over the next four years to the universities to support sector change in areas such as further differentiation and collaboration, increased achievement of under-represented groups, and an ongoing focus on high-quality teaching and research to drive economic growth. In addition, some of this funding is dedicated to increasing the competitiveness of New Zealand universities by helping aid recruitment and retention in an international labour market.
- An additional \$21 million of operating funding and \$55 million of capital funding over the next two years for polytechnics to fund initiatives that will enable them to enhance their capability, for example in areas such as collaboration and distance learning.
- An additional \$35 million of capital funding over the next two years for the Quality Reinvestment Programme. This programme supports polytechnics and wānanga as they change the way they operate and increase their focus on responding to the needs of students, employers and communities. The programme also supports greater sub-sector collaboration.
- An additional \$53 million over the next four years to boost the number of funded places in industry training. A total of \$15.8 million over the next two years to industry training organisations to assist them in identifying current and future required skills and also to help them sit alongside other tertiary education organisations and to assist them in meeting these needs.
- A total of \$7.5 million in operating funding over the next four years and \$2 million in capital funding over the next two years for the development and implementation of a national assessment tool for adult literacy, numeracy and language.
- An increase of \$28.9 million in operating funding for student support over the next four years to increase the parental income threshold for entitlement and to increase the personal income abatement threshold for inflation. In addition, the funding will increase the allocations made to Step Up Scholarships and the Ngarimu Scholarship Fund.

ANALYTICAL TABLES: An associated set of tables on the tertiary education workforce is available on the Education Counts website, Tables FNR1-9. Detailed technical information on the data presented here can be found in chapter 18.

1. These sums are exclusive of goods and services tax.

GOVERNMENT EXPENDITURE ON TERTIARY EDUCATION²

Total government spending on tertiary education continued to rise in 2006/07 in nominal and real terms. Government operating expenditure on tertiary education also increased in 2006/07 in both nominal and real terms and was well above 2001/02 levels.

Government appropriation on tertiary education for the year ending June 2007:

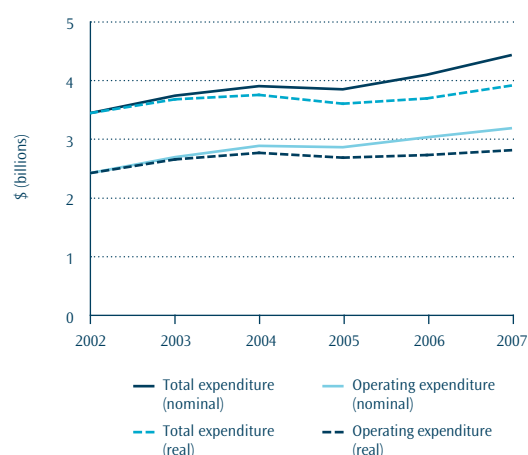
	% change from 2002	
	Nominal	Inflation adjusted
Total expenditure \$4.4 billion	30%	15%
Operating expenditure \$3.2 billion	33%	17%

Notes:

1. This expenditure excludes spending via Vote Research, Science and Technology and operating expenditure on the Student Loan Scheme.
2. The Consumers Price Index has been used to calculate real expenditure.

Source: Ministry of Education, Ministry of Social Development, Inland Revenue and Tertiary Education Commission.

Figure 16.1// Government spending (June years) on tertiary education



EXPENDITURE AS A PERCENTAGE OF GDP

Figure 16.2// Government spending (June years) on tertiary education as a percentage of GDP

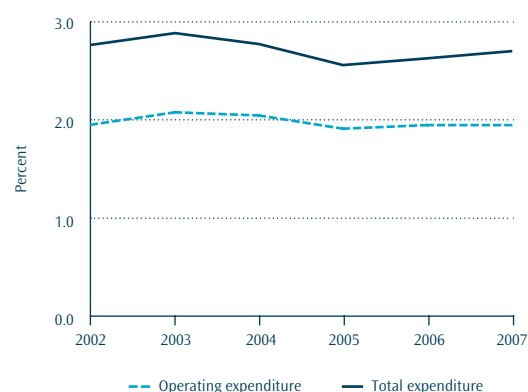
Total government spending on tertiary education increased slightly as a percentage of the size of the economy in 2006/07, while operating expenditure as a percentage of the size of the economy remained unchanged.

Government expenditure on tertiary education as a percentage of gross domestic product for the year ending June 2007:

Total expenditure	2.7%	(2.8% in 2002)
Operating expenditure	1.9%	(1.9% in 2002)

Note: This expenditure excludes spending via Vote Research, Science and Technology and operating expenditure on the Student Loan Scheme.

Source: Ministry of Education, Ministry of Social Development, Inland Revenue and Tertiary Education Commission.



EXPENDITURE BY COMPONENT

Figure 16.3// Government spending (June years) on tertiary education by component

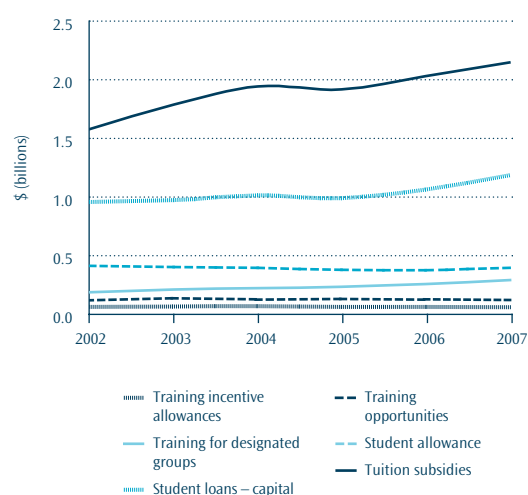
Government spending on tuition subsidies, the largest expenditure on tertiary education, increased again in 2006/07 and was substantially above the 2001/02 level. Spending on student loans increased again in 2006/07, following a period of relative stability between 2001/02 and 2004/05. Spending on student allowances rose in 2006/07, but it remained below the 2001/02 level. Spending on training for designated groups in 2006/07 was significantly higher than the 2001/02 level.

Government expenditure on tertiary education by selected components for the year ending June 2007:

Tuition subsidies	\$2,137 million	(up 38% on 2002)
Student loans (capital)	\$1,176 million	(up 26% on 2002)
Student allowances	\$382 million	(down 4.6% on 2002)
Training incentive allowance	\$29 million	(down 19% on 2002)
Training for designated groups	\$280 million	(up 70% on 2002)
Training opportunities	\$87 million	(down 4.2% on 2002)

Notes: 1. For trend analysis purposes funding allocated to the Performance-Based Research Fund and community education is included in the 'tuition subsidies' category. 2. 'Training for designated groups' includes the Industry Training Fund, Modern Apprenticeships, Skill Enhancement, Youth Training, Gateway, and second-chance education.

Source: Ministry of Education and Ministry of Social Development.



2. All revenue and expenditure in these highlights are inclusive of goods and services tax, where applicable.

GOVERNMENT-FUNDED PLACES

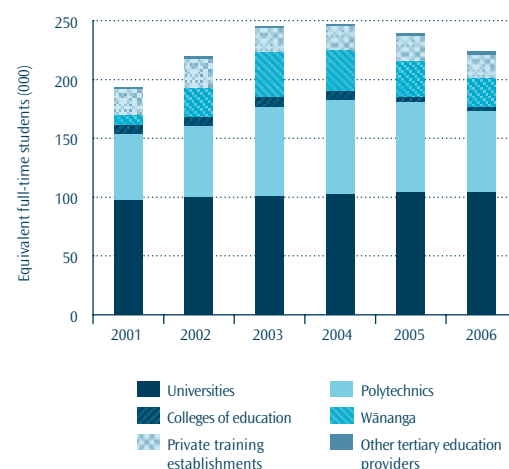
The number of government-funded student places continued to fall in 2006, especially in polytechnics and wānanga.

Government-funded equivalent full-time students by sub-sector in 2006:

Total	223,785	(down 6.7% on 2005)
Universities	104,295	(down 0.1% on 2005)
Polytechnics	69,639	(down 10% on 2005)
Colleges of education	3,604	(down 2.3% on 2005)
Wānanga	23,852	(down 24% on 2005)
Private training establishments	19,700	(down 4.2% on 2005)
Other tertiary education providers	2,696	(up 8.4% on 2005)

Source: Ministry of Education and Tertiary Education Commission.

Figure 16.4// Government-funded student places by sub-sector



TUITION SUBSIDIES

Total tuition subsidies increased slightly in 2006, but these fell for polytechnics, wānanga and private training establishments.

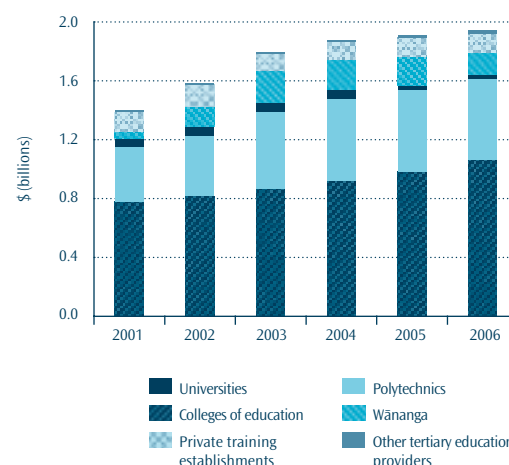
Tuition subsidies by sub-sector in 2006:

Total	\$1,942m	(up 1.7% on 2005)
Universities	\$1,068m	(up 8.7% on 2005)
Polytechnics	\$544m	(down 2.7% on 2005)
Colleges of education	\$30m	(up 0.5% on 2005)
Wānanga	\$149m	(down 22% on 2005)
Private training establishments	\$131m	(down 0.4% on 2005)
Other tertiary education providers	\$20m	(up 15% on 2005)

Note: 'Tuition subsidies' includes funding allocated through the Performance-Based Research Fund.

Source: Ministry of Education and Tertiary Education Commission.

Figure 16.5// Tuition subsidies by sub-sector



AVERAGE TUITION SUBSIDY

The average tuition subsidy continued to rise in 2006, due to increases in the base funding rates and an increased allocation via the Performance-Based Research Fund.

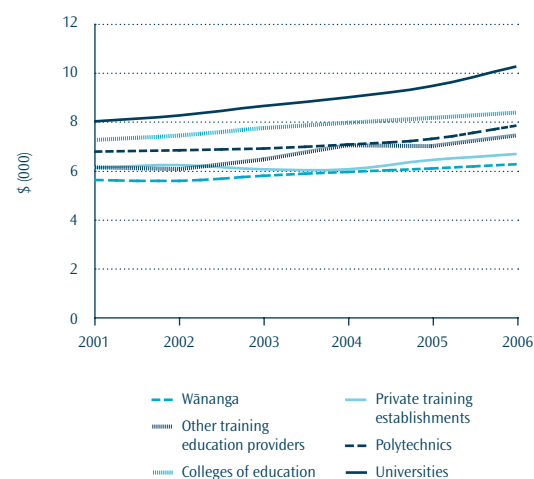
Average tuition subsidies per equivalent full-time student in 2006:

Total	\$8,677	(up 8.9% on 2005)
Universities	\$10,236	(up 8.8% on 2005)
Polytechnics	\$7,818	(up 8.0% on 2005)
Colleges of education	\$8,357	(up 2.8% on 2005)
Wānanga	\$6,233	(up 3.0% on 2005)
Private training establishments	\$6,654	(up 4.1% on 2005)
Other tertiary education providers	\$7,416	(up 6.5% on 2005)

Note: 'Tuition subsidies' includes funding allocated through the Performance-Based Research Fund.

Source: Ministry of Education and Tertiary Education Commission.

Figure 16.6// Average tuition subsidy per equivalent full-time student by sub-sector



GOVERNMENT-FUNDED PLACES BY CATEGORY

Figure 16.7// Government-funded places in tertiary education institutions by category

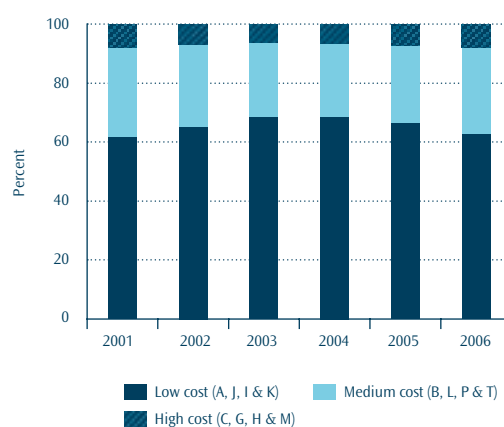
The proportion of government-funded places in low-cost categories in tertiary education institutions continued to fall in 2006.

Proportions of government-funded equivalent full-time students in tertiary education institutions by category in 2006:

Low cost (A, J, I & K)	63%	(67% in 2005)
Medium cost (B, L, P & T)	29%	(26% in 2005)
High cost (C, G, H & M)	7.8%	(7.1% in 2005)

Note: The letters in brackets refer to the actual funding categories.

Source: Ministry of Education and Tertiary Education Commission.



GOVERNMENT-FUNDED PLACES BY LEVEL

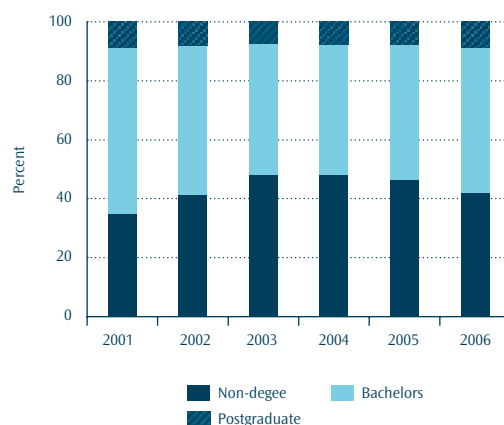
Figure 16.8// Government-funded places in tertiary education institutions by level

The proportion of government-funded places at the non-degree level in tertiary education institutions continued to fall in 2006.

Proportions of government-funded equivalent full-time students in tertiary education institutions by level in 2006:

Non-degree	42%	(46% in 2005)
Bachelors	49%	(46% in 2005)
Postgraduate	8.7%	(7.8% in 2005)

Source: Ministry of Education and Tertiary Education Commission.



AVERAGE DOMESTIC FEES

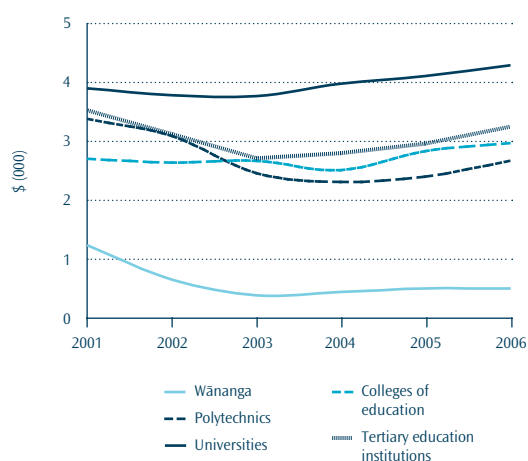
Figure 16.9// Average domestic tuition fees in tertiary education institutions

The overall average domestic tuition fee for tertiary education institutions increased in 2006. The largest rise occurred in polytechnics while in wānanga the average domestic tuition fee fell in 2006. A shift in the proportion of enrolments to higher-cost courses was a major factor in the scale of the increase in the average fee per equivalent full-time student in polytechnics in 2006. The government has in place policies which limit the amount that actual fees can increase from one year to the next.

Average domestic tuition fees per equivalent full-time student in 2006:

Tertiary education institutions	\$3,224	(up 10% on 2005)
Universities	\$4,271	(up 4.6% on 2005)
Polytechnics	\$2,635	(up 12% on 2005)
Colleges of education	\$2,951	(up 5.1% on 2005)
Wānanga	\$464	(down 0.7% on 2005)

Source: Ministry of Education and Tertiary Education Commission.



AFFORDABILITY OF TERTIARY EDUCATION

Figure 16.10// Ratio of the average domestic fee to average weekly income for employed persons

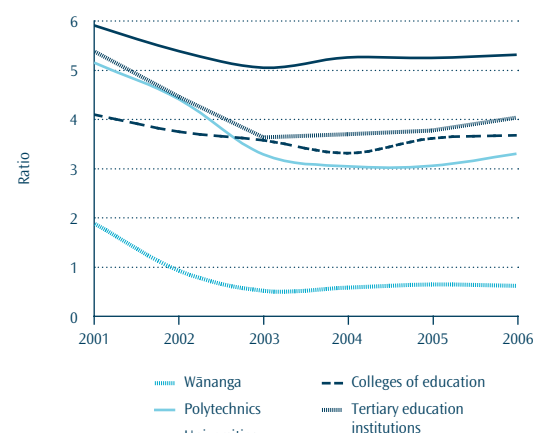
Overall, the affordability of tertiary education deteriorated slightly, with the average domestic fee increasing in tertiary education institutions. The affordability of polytechnic fees deteriorated the most in 2006. An increase in the proportion of enrolments in higher-cost courses in polytechnics was the major reason for this decrease in affordability, rather than an increase in the actual domestic tuition fees.

Average domestic tuition fees as a ratio of the average weekly income in 2006:

Tertiary education institutions	4.0	(up 7.0% on 2005)
Universities	5.3	(up 1.3% on 2005)
Polytechnics	3.3	(up 8.3% on 2005)
Colleges of education	3.6	(up 1.8% on 2005)
Wānanga	0.6	(down 3.8% on 2005)

Note: These ratios have been calculated using the average tuition fee per equivalent full-time student and the average weekly income of employed persons from the *New Zealand Income Survey*.

Source: Ministry of Education, Tertiary Education Commission and Statistics New Zealand.



INTERNATIONAL FEE REVENUE

Figure 16.11// International fees revenue and the average fee in tertiary education institutions

Total international tuition fee revenue continued to fall in 2006 in response to falling student numbers, while the average fee per student increased.

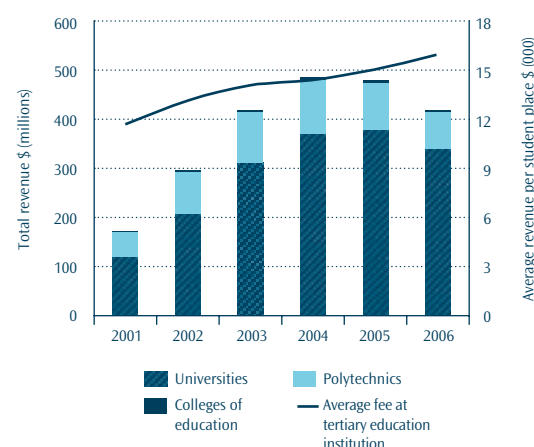
International tuition fee revenues in 2006:

Tertiary education institutions	\$418m	(down 13% on 2005)
Universities	\$339m	(down 10% on 2005)
Polytechnics	\$76m	(down 22% on 2005)
Colleges of education	\$2.4m	(down 37% on 2005)

Average international fee per equivalent full-time student in 2006:

Average fee	\$15,860	(up 6.1% on 2005)
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Source: Ministry of Education and Tertiary Education Commission.



COMBINED TUITION REVENUE

Figure 16.12// Combined tuition revenue in tertiary education institutions

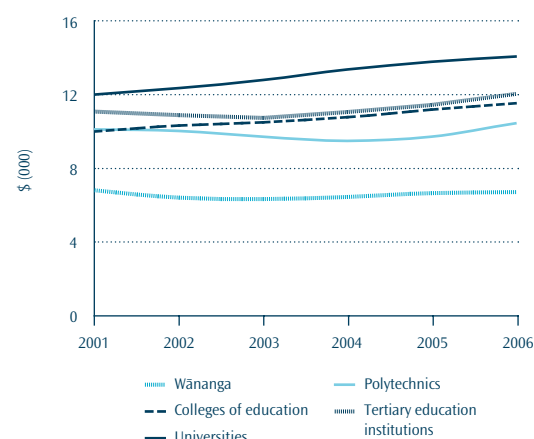
The average tuition funding per student increased for all sub-sectors in 2006, with the largest increase being in the polytechnics.

Average combined tuition funding per equivalent full-time student in 2006:

Tertiary education institutions	\$11,991	(up 5.6% on 2005)
Universities	\$14,017	(up 2.2% on 2005)
Polytechnics	\$10,407	(up 8.4% on 2005)
Colleges of education	\$11,492	(up 3.3% on 2005)
Wānanga	\$6,658	(up 1.1% on 2005)

Note: The combined tuition funding per equivalent full-time student is calculated from the sum of the student component, Performance-Based Research funding, domestic tuition fees and international fees, divided by the numbers of government-funded and international equivalent full-time students.

Source: Ministry of Education and Tertiary Education Commission.

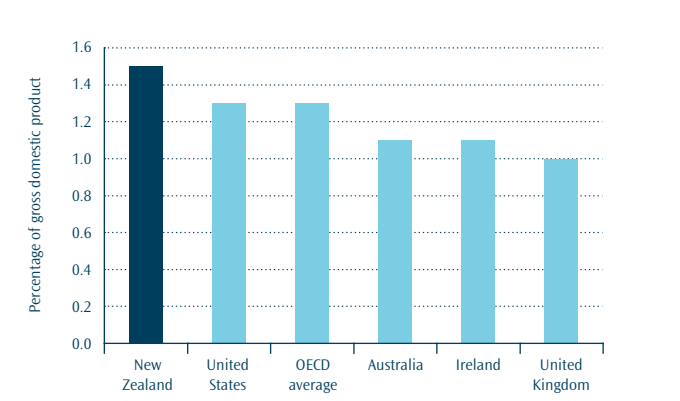


INTERNATIONAL FUNDING COMPARISONS

Fair comparisons of the funding of tertiary education are difficult to make for a number of reasons. For example, countries have different definitions of what tertiary education is, they face different cost structures and there are also complications with the conversions to a common currency.

The New Zealand government spends above the Organisation for Economic Co-operation and Development’s average on higher tertiary education, expressed as a percentage of gross domestic product. New Zealand ranked sixth among the Organisation for Economic Co-operation and Development (OECD) countries, with spending at 1.5 percent of gross domestic product in 2004. This compared with the OECD country average of 1.3 percent. As New Zealand has a high rate of participation in post-secondary, non-tertiary education, it is probable that its ranking would lift further if this was taken into account.

Figure 16.13 // Government spending on tertiary education in 2004 for selected OECD countries



Source: OECD (2007), *Education at a glance: 2007 OECD indicators*, Table B4.1.
 Note: Government spending includes direct public expenditure on tertiary institutions plus public subsidies to households (including those for living costs).

The Organisation for Economic Co-operation and Development provides the most reliable source of standardised international comparisons. It uses purchasing power parities³ to compare the relative levels of tertiary education funding in member countries. The use of purchasing power parities is complex and caution should be exercised when making comparisons. The index used in the OECD’s comparisons is a gross domestic product purchasing power parities index which measures the prices of goods and services produced in each economy. Some sectors such as education may have quite different cost structures; these differences may not be captured by the index.

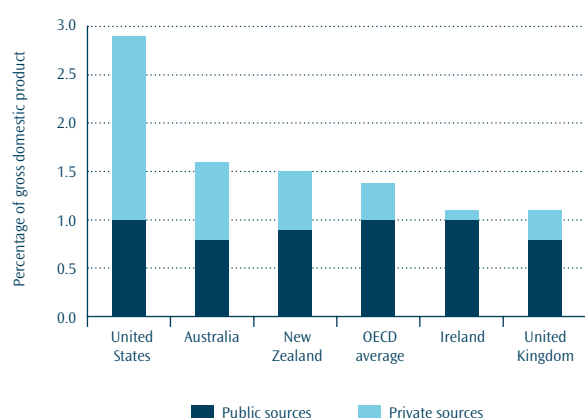
In all OECD international comparisons, tertiary education is defined according to the International Standard Classification of Education level. The levels of tertiary education include levels 5A (bachelors, honours, masters, postgraduate certificates and diplomas), 5B (diplomas and national diplomas) and 6 (doctorates). The classification level 5A is categorised by the OECD as tertiary-type A education. Classification level 5B is categorised as tertiary-type B. In New Zealand, tertiary education has traditionally been measured as formal study, regardless of the classification level.

The tertiary education sector as reported in OECD comparisons excludes enrolments in level 1 to 4 certificates and hence represents only about 50 percent of the students measured in New Zealand education statistics. For this reason, the reports only reflect New Zealand’s investment in the higher tertiary education sector. The remainder of the sector is reported as post-secondary, non-tertiary in OECD comparisons. For this reason, funding figures presented earlier in this chapter may be different from the international comparisons presented here.

3. Purchasing power parities (PPPs) are the currency exchange rates that equalise the purchasing power of different currencies. This means that a given sum of money, when converted into different currencies at the PPP rates, will buy the same basket of goods and services in all countries. In other words, PPPs are the rates of currency conversion that eliminate the differences in price levels among countries. Thus, when expenditure on GDP for different countries is converted into a common currency by means of PPPs, it is, in effect, expressed at the same set of international prices so that comparisons among countries reflect only differences in the volume of goods and services purchased.

The government expenditure on tertiary education providers as a percentage of gross domestic product is below the OECD average. In 2004, New Zealand spent 0.9 percent of gross domestic product on tertiary education providers, compared with the OECD average of 1.0 percent. However, once student fees are added to government funding of tertiary education providers, the total funding for providers as a proportion of gross domestic product is above the OECD average.

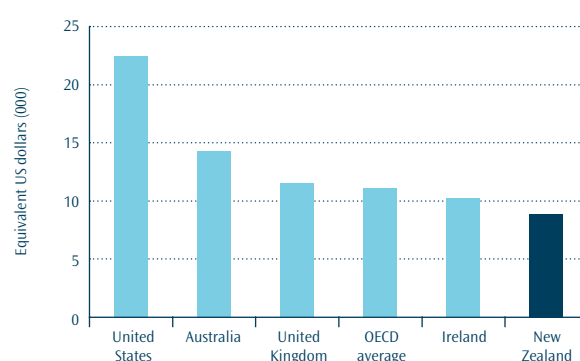
Figure 16.14 // Expenditure on educational institutions in 2004 for selected OECD countries



Source: OECD (2007), *Education at a glance: 2007 OECD indicators*, Table B2.4.

A comparison of annual expenditure per student on tertiary institutions shows that New Zealand ranks 18th out of 27 OECD countries. This puts it below the United States, Australia and the United Kingdom. Annual government and private spending on tertiary institutions in New Zealand was US\$8,866 per student in 2004, on a purchasing power parity basis, compared with the OECD average of US\$11,100 per student. As noted earlier, because of the measure used to convert the expenditure to United States dollars, the gross domestic product purchasing power parities, caution should be exercised in viewing these results as they reflect the cost structure of entire economies rather than the education cost structures of member countries. In addition, lower annual expenditure does not necessarily lead to lower achievement as the efficiencies of the tertiary education system need to be taken into account.

Figure 16.15 // Annual expenditure per student on tertiary education institutions in 2004 for selected OECD countries



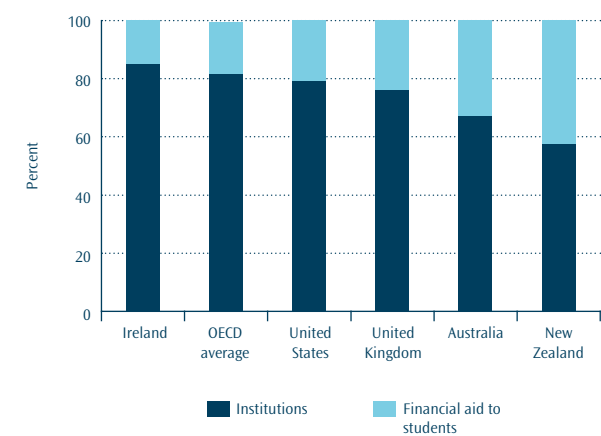
Source: OECD (2007), *Education at a glance: 2007 OECD indicators*, Table B1.1a.

Notes:

1. This figure expresses annual expenditure on tertiary institutions per student in equivalent US dollars converted using purchasing power parities, based on full-time equivalents.
2. Annual expenditure includes government and private spending on tertiary institutions.

In New Zealand, subsidies to students account for 42 percent of government spending on tertiary education, the highest of all OECD countries. OECD countries spend, on average, 18 percent of their public budgets for tertiary education on subsidies to students. This high proportion in New Zealand is intended to maintain the diversity and open access of the New Zealand tertiary education system. Subsidies to students are important in order to provide students with access to tertiary education regardless of their financial situation. It should also be noted that a proportion of the financial aid to students goes directly to institutions, for example, tuition fees paid through student loan borrowing.

Figure 16.16 // Distribution of government spending on tertiary education in 2004 for selected OECD countries

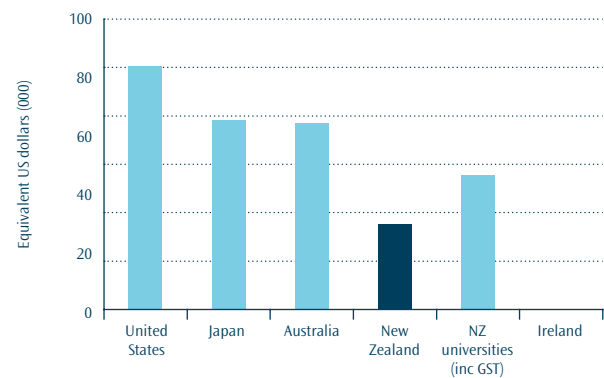


Source: OECD (2007), *Education at a glance: 2007 OECD indicators*, Table B5.2.

Note: Financial aid to students includes the following categories: grants/scholarships; public student loans; family or child allowances contingent on student status; public subsidies in cash or in kind, specifically for housing, transportation, medical expenses, books and supplies, and social, recreational and other purposes; and interest-related subsidies for private loans.

Large differences can be observed among OECD countries in the average tuition fees charged by tertiary-type A institutions. There are no tuition fees charged by public institutions in seven OECD countries. By contrast, a quarter of countries have annual tuition fees for domestic students charged by public institutions that exceed US\$2,000. New Zealand tertiary education institutions charged an average annual fee of US\$1,764. This figure is not directly comparable with other OECD countries as it includes tuition fees for non-degree programmes. However, when including goods and services tax and using university fees, this average fee is in the order of US\$2,800. This is still below average tuition fees of Australia and the United States.

Figure 16.17 // Annual average tuition fees in 2004 for selected OECD countries

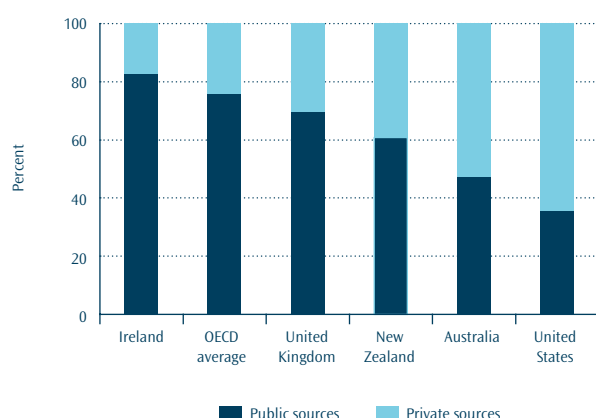


Source: OECD (2007), *Education at a glance: 2007 OECD indicators*, Table B5.1a.

- Notes:
1. This figure expresses annual average tuition fees per student in equivalent US dollars converted using purchasing power parities.
 2. Amounts of tuition fees should be interpreted with caution as they result from the weighted average of the main tertiary-type A programmes and do not cover all institutions.
 3. Fees are for public institutions only.
 4. The New Zealand figure represents the weighted average for the whole of tertiary education.

In New Zealand, private expenditure accounts for 39 percent of total expenditure on tertiary education, the fifth highest proportion of all OECD countries. Private expenditure accounts for, on average, 24 percent of total expenditure on tertiary education in OECD countries.

Figure 16.18 // Proportions of public and private expenditure in 2004 for selected OECD countries



Source: OECD (2007), *Education at a glance: 2007 OECD indicators*, Table B3.2b.

Note: Private spending includes all direct expenditure on educational institutions, whether partially covered by public subsidies or not.

PUBLIC FUNDING MODELS FOR HIGHER EDUCATION

There is a multiplicity of funding models for higher education throughout the world. This article examines the apparent diversity of funding models for higher education, exploring their context and their rationale. The approaches considered in this paper relate to government funding for tuition provided to universities, the sector of tertiary education often referred to as 'higher education' in the international literature.⁴

The relationship between governments and higher education institutions is often complex. The way that institutions are funded reflects this relationship. In some countries, it is clear that institutions such as universities are state-owned and operated. In others, institutions have clear autonomy from government. In recent times, internationally, there has been a move towards the recognition of institutions as autonomous entities. Governments are increasingly seeing the advantages of autonomous institutions as widening the potential for earning income, and they can only be credible as independent academic units if they are free from direct political control.

However, in some countries, the delineation is less clear. Institutions that may have been initially set up by the state may have received public capital funding, or have derived (or still derive) a substantial proportion of their income from the state. Once they become autonomous, it can become unclear as to who 'owns' the institution. In addition, many countries have high numbers of privately owned and operated institutions, which may or may not derive funding from the state, but often have their own sources of funds. They operate as businesses, and sources of funding can be from tuition fees paid by students themselves, state funds for tuition, consultancy and research funding income, as well as donations from alumni and philanthropy.

Funding from the state is often provided on the basis of reimbursing the provider for an agreed level of the cost of providing courses of study. In some countries, governments provide funding to higher education institutions on a historical basis, that is, the quantum of funding is based on the level provided for previous years, and the government provides no further funding except for small adjustments. This can have the advantage of providing certainty to the institutions on the level of funding, but is only appropriate in situations where rising costs are expected to be modest. It will be inappropriate where

4. Due to space considerations and the lack of available information, neither funding for other forms of post-school tertiary education nor student contributions to funding are considered here.

governments have ambitions for greater participation. Institutions in this situation have to meet increasing costs through other means.

The funding system is one of many potential instruments used by governments to bring about their desired outcomes, for any kind of policy; the others are legislation, regulation and taxation. Policy approaches to funding are often manifestations of wider ideological approaches to public policy and there are potential benefits and risks associated with each approach. Governments are often not content with simply reimbursing institutions for tuition, and they use the funding as an instrument of leverage to achieve government aims for education, and some of the funding is often made contingent on these aims being achieved.

There are potentially many governmental objectives driving operational policies for funding of higher education. For example, a major consideration of governments in recent times has been how to ensure that larger proportions of populations are able to gain access to higher education. Governments may be concerned with widening participation for a number of reasons, such as the belief that a highly educated population correlates with economic and other benefits to the wider society. Governments may also wish to create targeted education and training funds to improve the participation of certain sectors or specific groups, tying the funding to explicit participation criteria.

Governments may also be concerned to ensure that publicly funded education is of a good quality. Those governments wanting to ensure they get value for money will create funding systems that provide incentives for public funds to be spent in the most efficient way to achieve the desired outcome. They may be also concerned that public money is spent in a prudent manner. For example, they may wish to ensure that administrative costs are lessened and that all spending can be accounted for. Consequently, there may be general requirements that agencies charged with spending public money do so in transparent ways. They may also perceive there to be shortages of certain skills in certain sectors of the labour market, and see gaps in provision as contributing to this.

Another major concern is ensuring fiscal viability of the institutions and of the funding system as a whole. There is a certain level of financial risk involved in providing publicly funded education. For example, if funding is provided on the basis of student enrolments, then there have to be robust mechanisms in place to forecast where student demand will be, and at what level. There is also an interest

to ensure that institutions do not go out of business halfway through the academic year, as the government is in effect a major purchaser of services from institutions and accordingly has a vested interest in ensuring the viability of its investment. It will often be the government who is forced to provide alternative options or reimburse out-of-pocket students in the case of institutional failure.

Governments like to retain control because there are potential problems associated with shifting the financial risk to the institutions themselves, such as by forcing them to build up reserves and to be totally liable for their own losses. The argument runs that this can encourage institutions to behave more conservatively to mitigate financial risk. Under a policy of risk reduction, institutions may reduce their responsiveness to students and/or the emerging needs of the labour market: there may be an associated predilection to 'play it safe' by offering courses that will guarantee enrolments, and therefore a steady income, rather than experimenting with new things. In these circumstances, institutional goals may not ultimately align with what government wants.

One way to conceptualise operational funding systems is through the extent of their market orientation. There is a continuum of market orientation: sitting at one end are 'pure' market forces-driven systems, whereby funding is assigned mostly based on the number of student enrolments. These funding systems are founded on the concept of consumer sovereignty and competition among institutions. They are characterised by the fact that there are often no, or relatively few, restrictions on the types of courses or the number of students that will be paid for. Students are able to enrol in any course of study they wish, and as long as education providers see that there is a market, they will offer courses based on the areas of study that students want to pursue.

These are sometimes referred to as 'voucher' systems, because they operate as if the government gives vouchers to students that entitle them to pursue any course of study at any institution they choose. The rationale underpinning voucher systems is that it is thought that they can contribute to improving the quality of tertiary education institutions. The logic of this argument runs that students are 'rational actors', that they choose the best course of study available to them, at the institution that they perceive to be the best in its field. If a high proportion of funding from the government is based on the number of enrolments at each institution, it follows that this gives institutions a financial incentive to evolve into a quality provider to attract that enrolment over other institutions, and they will take steps to improve

their academic standing and reputation accordingly. These systems will often operate within capped funds, so that governments can control the overall budget expenditure.

Funding systems that are not demand-led sit at the other end of the continuum. They are often characterised by high levels of government regulation of funding, and low competition. In these situations, students will generally be free to study what they want, but the range of provision, and perhaps the number of students who can study certain subjects, will be dictated by the government, and enforced through the funding arrangements. This can often involve a process of close negotiation between the institutions and government, whereas voucher-like systems may operate using a strict formula/entitlement method. Funding through negotiation enables governments to make funding contingent on their priorities in a more tangible way than with voucher systems. However, it should not be forgotten that voucher systems are still types of funding levers, just of a different kind. They still operate to fulfil government aims, more often than not, of improving quality, efficiency and consumer choice, and reducing administrative costs. They have, however, often been accused of being blunt instruments, and there has been a move towards approaches that allow governments to exercise more control in recognition of this.

Some funding systems sit closer to the middle of the continuum, using market-driven and formula-based elements in combination with negotiation approaches. This is perhaps evidence that funding arrangements are often a product of an element of compromise between competing priorities. Governments generally think they know what learning will best suit society and will therefore often not be satisfied with simply dictating to institutions the number of students they should enrol, despite research showing there is often a complex relationship between courses of learning and economic and social impact. While there is a general conception that remote management is insufficient, there is also, at the same time, general belief in the merit of institutional autonomy.

Recent international debates about modern tertiary education systems have put a strong emphasis on issues of steering and management. This represents an international consensus of compromise between the virtues of market instruments and government regulation. Some governments have moved from tight control of the funding process to defining their role, instead, in terms of setting targets, requiring accountability and monitoring performance. Where this is the case, relationships between governments and institutions are not shaped

by strong input steering mechanisms and procedural controls but by contracts, incentive-based funding and output-based, or performance-based, funding. Providers are expected to develop their own profiles and take responsibility for their own operations if they have gained autonomy.

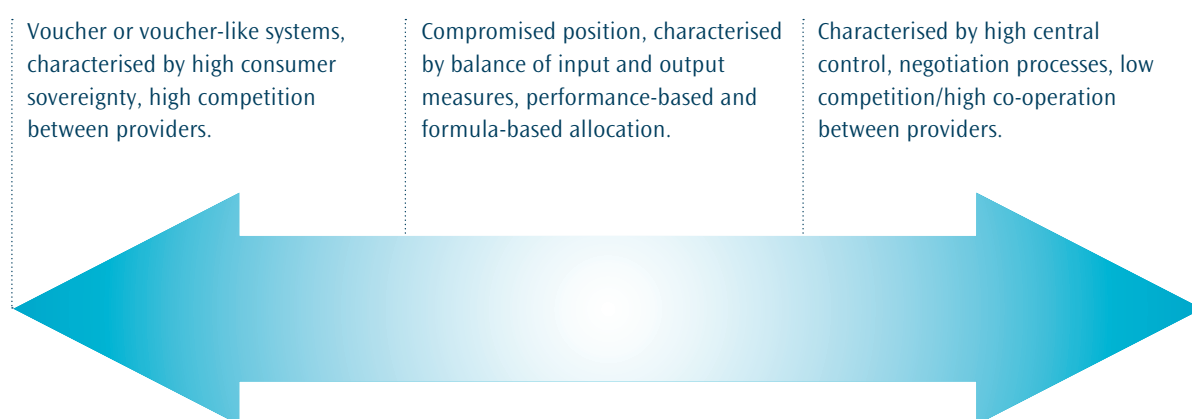
Where this has occurred, performance-based mechanisms to allocate tuition and research funds have emerged. These mechanisms have often been used to 'steer' provision in directions deemed to be of national importance, and sometimes to promote 'quality' provision. Still other countries have integrated incremental performance-based elements into primarily student-led funding systems.

Where the funding reimbursement is differentiated by area of study and courses are funded according to costs, government is more likely to exert control over the overall mix of provision by setting targets or caps for each division. The main rationale for differentiating funding is the recognition that there are cost differentials between different disciplines. It is more expensive to teach dentistry, for example, than it is to teach arts and humanities and law. It is tempting to think that governments fund disciplines differently in order to exert a supply-side influence over the type of courses that institutions provide, but this would not be in institutions' (and often therefore governments') best interests unless there are also corresponding demand-side incentives. A surplus of supply in one type of expensive course that not many students have the ability to study in could end up being a waste of resources.

Below are some examples of how funding is applied in various countries. The sample of countries has been chosen to illustrate that there is a range of funding arrangements, and is not intended to be comprehensive.

In England, the government's agent is the Higher Education Funding Council for England. This council allocates funds to tuition, research and related activities, and is the main source of funding for institutions in England. Other sources include student fees, research and consultancy income and private donations. Funding for teaching is allocated based on the amount paid to the institution in the previous year. There is an adjustment for inflation, and also upwards or downwards for the number of student enrolments. Funds are provided in the form of a bulk grant, meaning that the institution can spend them in any way they wish as long as they are used for tuition.

Figure 16.19 // Funding allocation mechanisms continuum conceptual model



There are four stages to the grant calculation:

1. A 'standard resource' is calculated for each institution. This is based on the number of students in the institution plus subject-related factors, student-related factors and institution-related factors.
2. An 'assumed resource' is calculated for each institution. This is the sum the institution was paid by the Higher Education Funding Council for England in the previous year, adjusted for inflation, assumptions about fee income and similar factors.
3. The standard and assumed resources are compared and the percentage difference between them is calculated.
4. If the percentage difference is less than plus or minus 5 percent, that is, the assumed resource is within a 10 percent tolerance band of the standard resource, the institution's grant is carried forward from one year to the next. If the assumed resource falls outside this tolerance band the Higher Education Funding Council for England will take some action.

In principle, the standard resource calculation takes into account the size of the institution and any factors it faces which have implications for its grant. The assumed resource is largely derived from the income the institution has received in the past and, unless the assumed and standard resources are significantly different from each other, the institution can work on the principle that there is stability in its grant.

Canadian arrangements are quite diverse for a single country, because each province and territory administers its own funding and because there is no central, federal department of education. However, the federal government does provide indirect funding via grants to the provinces and territories, and financial support for students. Each provincial government provides funding to institutions in their own way. Tuition fees at most universities are subsidised, but vary widely according to province, institution, and programme of study. Recently, an increasing number of degree programmes have been entirely funded through student fees. In Alberta, for example, operating grants are based on historical enrolment-based allocations, with annual inflation adjustments where feasible. In Manitoba, funds are allocated via a core operating grant, which is neither linked to student numbers nor adjusted for inflation. In Ontario, a weighted enrolment formula is used, which provides smoothing for minor enrolment changes. Separate special accessibility funds have been used for major enrolment changes since 2001.

Higher education in the United States is resourced from multiple sources. These include the federal government, state and local governments, students, scholarships, research and other contracts and grants, as well as philanthropy. Institutions derive a low proportion of their income from public funding (35 percent in 2004, the second lowest proportion in the OECD) with the rest of their funding derived from private sources. Federal funding to institutions is either through students, in the form of student financial assistance, or through

restricted funding for research and other purposes. State funding and revenue from student tuition and fees tend to be the major unrestricted sources of revenue, unrestricted in that institutions can use this money in any way they wish. Restricted funds often include donations, where there is some conditionality tied to the donation, and research and other contracts and grants, where institutions are reimbursed for services contracted for. There is a trend towards moving away from policies aimed at central coordination of higher education to a new leadership stance in which the policy tools of finance, accountability and regulation are being used to align each state's capacity with public priorities. This change is not occurring consistently across the states, and some are still firmly grounded in the direct control traditions of the 1960s and 1970s.

In Denmark, funds are provided according to the number of passed examinations. Institutions receive an initial payment and the balance on the successful completion of the course of study for each student. If a student fails all his or her course of study, then there is no funding for the student at all. Funding is differentiated according to field of study, at a politically determined rate, with the emphasis on meeting demand, reducing administrative costs, and ensuring cooperation between institutions.

In Germany, funds for teaching and research are negotiated between state governments and the institutions. The funding is based on historical considerations and not so much on factors such as enrolments or performance.

In Australia, the federal and state governments provide funding to each institution under an annually negotiated agreement which determines the number of places that will be paid for in each year and the discipline mix that the government will support. It is negotiated in the context of each provider's 'mission' and place within the sector, and consideration for the needs of the labour market.

References:

- Higher Education Funding Council for England (2005) *Funding higher education in England*, London: Higher Education Funding Council for England.
- Higher Education Authority (2003) *Higher education funding systems: a documentary study for the Irish Higher Education Authority*, Dublin: Higher Education Authority, Republic of Ireland.
- Mahoney, P. (2006) *Higher Education Funding – Overseas Models*, Background Note 2006/05, Wellington: Parliamentary Library.
- Organisation for Economic Co-operation and Development (2004) *Financial management and governance in higher education institutions in the United States*, Paris: Organisation for Economic Co-operation and Development.
- Organisation for Economic Co-operation and Development (2007) *Education at a glance: 2007 OECD indicators*, Paris: Organisation for Economic Co-operation and Development.



CHAPTER SEVENTEEN

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AN OVERVIEW

Following the government's release of New Zealand's second tertiary education strategy in December 2006, tertiary education organisations and government have undertaken a considerable amount of work over 2007 to ensure that the new system is successfully implemented. The Tertiary Education Strategy 2007-12 and the Statement of Tertiary Education Priorities 2008-10 define government's view of the contribution New Zealand's tertiary education system can make to national priorities. During 2007, there has been much work done on significant reforms to systems for the steering and funding of tertiary education and on the approach to quality assurance and monitoring. New funding, steering and monitoring arrangements will be in place from 1 January 2008.

For tertiary education, the key focus of Budget 2007 was to support the new tertiary reforms, through making strategic investments in each sub-sector that will support them in meeting their distinctive contributions within the tertiary system.

Budget 2007 also included investment to increase the participation in industry training and access to student allowances and scholarships. In addition, funding was committed to the development of a national assessment tool to enable more effective teaching of literacy, numeracy and language skills for adults.

In August 2007, the government launched an international education agenda for New Zealand. A number of funding initiatives made in 2007 supported the implementation of the international agenda including: increasing funding for the strategic promotion of New Zealand's international education sector; expansion of education diplomacy activities in the Gulf region; and enhancing international education quality assurance and qualifications recognition.

New information from the 2007 enrolment collections shows that the number of students in formal tertiary study programmes increased between January and August 2007, compared to the same period a year earlier. Converting the enrolments to equivalent full-time student units revealed a lower increase in participation in 2007. The increase was due mainly to higher enrolments at certificate and postgraduate level, while the number studying at bachelors level remained stable. In contrast, there were fewer students studying for diplomas.

TERTIARY SYSTEM CHANGES – DISTINCTIVE CONTRIBUTIONS

The key tertiary education focus of Budget 2007 was to support the successful implementation of the system reforms announced in April 2006. The three key areas for reform identified by the Minister at that time – better definition of the roles and distinctive contributions of tertiary education organisations, government investment in institutions based on plans, and the development of an outcome-focused quality assurance and monitoring system – have been integrated with the Tertiary Education Strategy 2007-12 and the statement of tertiary education priorities for the years 2008 to 2010. In 2007, government committed funding to support different sub-sectors – universities, institutes of technology and polytechnics, wānanga, industry training organisations, private training establishments and other tertiary education providers – to meet their distinctive contributions within the new tertiary education system.

Universities

The government's focus has been to support universities to focus on quality, capability and international competitiveness, and to promote further differentiation and collaboration among universities. Strengthening the international competitiveness of universities is a key contributor to the government's economic transformation agenda and is aimed at enhancing New Zealand's position in the global economy.

An investment of \$89 million over four years to strengthen universities' capability to deliver excellence in tertiary education and research has been provided. This funding will be allocated to all universities to support them in attracting and retaining academic staff and to develop and maintain a world-class research and teaching infrastructure. This builds on the government's 2006 budget commitment of \$117 million over four years.

Government also invested a further \$40 million over four years to support strategic change in universities that aligns them with the directions of the tertiary education strategy and the priority outcomes. This initiative provides additional funding through the university tertiary education organisation component to be allocated on a case-by-case basis in discussion with each university as part of the 'investing in a plan' process.

Further funding was also provided for research and innovation initiatives through the Performance-Based Research Fund and centres of research excellence. This funding is largely allocated to universities, and is discussed later on in this chapter.

Institutes of technology and polytechnics

For the institutes of technology and polytechnics, the focus is on building the capability and sustainability of the current network of providers and to reinforce its distinctive contribution. Government invested \$76 million over two years in 2007 to support four projects that together signal a new collaborative approach to achieving strategic change within the sub-sector. The projects focus on:

- flexible and distance delivery – looking at current arrangements within the institutes of technology and polytechnic sub-sector and the tertiary education sector as a whole
- increasing the number of students moving on to higher qualifications (diploma or above), recognising that people with higher-level skills have a greater contribution to make in the workplace
- reviewing the collaboration that currently takes place in the polytechnic sector, understanding and addressing any barriers, and instigating new collaboration initiatives, and
- benchmarking and success measures – identifying ways of measuring performance at an individual polytechnic level, in the sub-sector and across the whole of the tertiary education system.

The government has also added \$35 million of capital funding over the next two years into the Quality Reinvestment Programme. This funding will support polytechnics and wānanga in managing the transition into their distinctive contributions within the reformed tertiary system.

Wānanga

Government has invested \$6 million over four years to support wānanga in addressing the shift in focus toward higher-level teaching and learning, and building academic research capability, particularly in the areas of wānanga specialisation – mātauranga Māori. This funding will be allocated to all wānanga as part of the ‘investing in a plan’ process.

Wānanga are also eligible to apply for capital funding through the tertiary education organisation component of the new funding system to manage the transition to the new system.

Industry training

Government has invested \$15.8 million over four years to establish a sector leadership component for industry training organisations that

will better support them in performing their sector leadership and national standard-setting roles within the tertiary system. This will enable industry training organisations to better meet their distinctive contribution, by being able to resource activities that align with these roles.

TERTIARY SYSTEM CHANGES – INVESTING IN A PLAN

Another key focus for 2007 was on finalising the new funding and planning system underpinning the new investment system envisaged through the reforms. At the centre of the new system is the ‘investing in a plan’ process that will enable government to invest in plans developed by tertiary education organisations that meet stakeholder needs and that will give effect to the tertiary education strategy and the priority outcomes. The new investment system will enable the Tertiary Education Commission to make informed decisions across the network of tertiary provision. During 2007, universities, polytechnics, wānanga, industry training organisations, large private training establishments and a number of other tertiary education providers were all required to work on their investment plans for their 2008 funding in collaboration with the Tertiary Education Commission. Other parts of the tertiary sector will move to the ‘plan’ system for funding in 2009. The Tertiary Education Commission will ensure that the investment plan requirements are tailored to the needs of each type of organisation.

To support the new investment approach from 2008 onwards, significant changes have now been made to the funding system. The new funding mechanism moves beyond the single, bulk grant triggered by student enrolments, which was the student component funding system, to an environment where funding will support the activities approved for funding in investment plans. It will have two elements:

- a tertiary education organisation component to provide the government contribution to costs that enable providers to focus on their specific and distinctive role in the network, and
- a student achievement component to provide the government contribution to the costs of teaching and learning and other costs driven by student numbers.

The introduction of the tertiary education organisation component from 2008 onwards will allow a proportion of funding to be used to maintain and develop tertiary education organisations’ capability to deliver quality provision, to strengthen the focus on their core roles and to facilitate change and innovation in the tertiary sector.

In order to streamline the administration of the tertiary education system and better support the tertiary education reforms, the Education (Tertiary Reforms) Amendment Bill was presented before the House in May 2007, and it is expected that it will be enacted by the end of the year.

WORKFORCE SKILLS AND LABOUR PRODUCTIVITY

Industry training

Industry training provides employers with access to structured training arrangements, both on-job and off-job, linked to the National Qualifications Framework. Industry training provides a key means of increasing the level of skills in the workforce.

Additional funding of \$53 million over four years was appropriated by government in 2007 to increase participation in industry training. This will provide for an increase in participation to 220,000 by 2011, and makes significant progress toward the government's target of 250,000 trainees participating in structured workplace training.

Upskilling the Workforce

Upskilling the Workforce is a project to lower the proportion of working-age adults in New Zealand who do not have the literacy, language and numeracy skills necessary for sustained employment and active participation in society. During 2007, a number of actions were taken across government to progress the objectives of this project. These actions included: upskilling partnerships led by the Department of Labour; a series of industry training organisation pilots that embed literacy, numeracy and language into existing industry training qualifications and programmes of study; and the development of a medium-term strategic approach to upskilling the workforce. Further government funding was provided to support the development of a national assessment tool that will underpin more effective teaching and learning of literacy, language and numeracy skills for adults.

RESEARCH AND INNOVATION

The Performance-Based Research Fund allocates funding to tertiary education organisations on the basis of its research performance. Its primary focus is on rewarding and encouraging excellence in tertiary education research.

Government completed the second quality evaluation of the Performance-Based Research Fund in 2006 with the results published in June 2007. This evaluation provided evidence of positive shifts that align with tertiary education strategy goals of increasing the quality of research to drive innovation. For example, there were significant increases in the percentage of researchers assessed in the 'A' and 'B' categories.

Funding of \$14 million over four years was provided in 2007, which will increase the current value of the fund to \$234.8 million in 2010. This makes progress on the government's commitment to increase the Performance-Based Research Fund to a total value of \$250 million by that time.

Centres of research excellence – the 2006/07 selection round

Centres of research excellence support leading-edge, international standard innovative research that fosters excellence and contributes both to New Zealand's national goals and to knowledge transfer.

On 2 June 2007, the government announced the results of the third selection round, which included the reselection of six of the seven existing centres and the establishment of a new one – The Riddet Centre – advancing knowledge in foods and biologicals, hosted by Massey University.

In total, the centres will receive \$31.4 million of operating funds per annum over the next six years and a one-off capital funding of \$20 million.

STUDENT SUPPORT CHANGES

Student allowances

The government made two changes to the student allowances scheme as part of the 2007 budget round:

- The parental income threshold will increase by 10 percent from \$40,303.12 per annum to \$44,333.64 from 1 January 2008.
- The personal income abatement threshold will be adjusted by the rate of inflation on an annual basis from 1 April 2008.

Step Up Scholarships

The Step Up Scholarships pilot was introduced in 2004 to assist capable young New Zealanders to enter degree-level study in human and

animal health science and, since 2006, in science and technology qualifications.

The government committed additional funding to expand the volume of new Step Up Scholarship awards by 50 percent from 1 January 2008, which will allow for 180 additional awards each year.

Funding was also provided to support the redesign of the Step Up Scholarships pilot to increase access for students from low-income backgrounds, by retargeting the scholarships to two new streams:

Stream A – all subject areas for first-time tertiary students, with weightings for areas of skill shortage, and

Stream B – targeted science, technology and engineering qualifications for students moving into degree-level study from lower-level tertiary study.

INTERNATIONAL EDUCATION

The Minister for Tertiary Education launched an international education agenda in August 2007. This initiative sets out an integrated, sustainable and forward-thinking approach to international education, which goes well beyond the traditional 'export education' focus. The agenda sets four goals for international education that will contribute to government's overarching goals of economic transformation and national identity. The goals of the agenda are:

Goal 1 – New Zealand students are equipped to thrive in an interconnected world.

Goal 2 – International students are enriched by their education and living experiences in New Zealand.

Goal 3 – Domestic education providers are strengthened academically and financially through international linkages.

Goal 4 – New Zealand receives wider economic and social benefits.

Government committed funding in 2007 to support the implementation of the international education agenda through the following initiatives:

- the development and implementation, over 2007/08 and 2008/09, of the 'New Zealand Educated' brand strategy for the international education sector, and an ongoing increase to the budget for generic international education promotion activities (\$3.96 million over four years)

- the establishment of a new education counsellor position in the Gulf region to support strengthened bilateral education and the growing export education activities of providers in the region (\$2.4 million over four years). This will extend the existing network of education counsellors New Zealand has in Brussels, Washington DC, Santiago, Beijing, New Delhi and Kuala Lumpur, and
- the enhancement of the New Zealand Qualifications Authority's capacity to perform its international education quality assurance and qualifications recognition activities (\$3.4 million over four years).

2007 TERTIARY ENROLMENTS

Between January and August 2007, there were 438,000 students enrolled in formal study programmes at tertiary education providers. Thirty-seven thousand of these were international students. Between January and August 2007, 9,650 more people studied at tertiary education providers, compared to the same period in 2006. In the same period a year earlier enrolments had decreased. Before the decrease in 2006, participation in tertiary education had risen steadily over the past 10 years. Enrolments were 2.4 percent higher between January and August 2007, compared to the same period in 2006, and when this number is converted to equivalent full-time student units, the rise is considerably lower, at 0.4 percent. Between January and August 2006, the equivalent full-time student unit count decreased by 3.5 percent, compared to the same period in 2005. Enrolments of international students fell in 2007 for the third consecutive year, following strong growth from 2000 to 2004. Between January and August 2007, there were just over 3,320 fewer international student enrolments, down by 8.2 percent on the same period in 2006.

The latest available information shows that 220,000 students, or 50 percent, enrolled in government-funded tertiary education providers participated in certificate-level study, compared with 66,800, or 15 percent, in diploma study, 147,000, or 34 percent, in bachelors-level study, and 36,000, or 8.2 percent, in postgraduate study. However, when converted to equivalent full-time student units, then bachelors-level study had the highest participation at 44 percent. The increase in the number of people studying from January to August 2007 was at both certificate and postgraduate level. Study at bachelors level remained stable as a result of the increase in the number of domestic students aged 17 to 20 years enrolling in bachelor degrees, offsetting the decline in enrolments by international students and older students – those aged 25 years and over. The increase in younger students enrolling in bachelors degrees is consistent with the 'baby blip' that has begun to move into tertiary education and which is predicted to peak in 2007 and 2008. Study at diploma level declined over the period from January to August 2007.



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FINDING OUT MORE

This chapter provides additional information on New Zealand's tertiary education sector. It includes the contact details of key agencies in the tertiary education sector, sector representative groups, students' associations, tertiary education institutions, and industry training organisations.

Also included are the report's index, a list of the definitions and acronyms used, a set of notes designed to provide additional technical information about the statistics in this report, the statistical methods applied and the various data sources used. There are numerous sources of additional information on New Zealand's tertiary education sector. They include the:

- New Zealand tertiary education statistics and research website: www.educationcounts.edcentre.govt.nz/
- New Zealand tertiary education portal: www.TEd.govt.nz, which has links to important sites for those interested in tertiary education
- New Zealand education portal edCentre: www.edCentre.govt.nz, which has links to tertiary information for learners, parents and educators
- Ministry of Education's website which contains supporting documents, publications and has links to other education-related sites: www.moe.govt.nz
- Team-Up Programme on the Ministry of Education's website which aims to provide more and better information to parents, caregivers and families so they can support and encourage their children's learning: www.teamup.co.nz
- websites of the Tertiary Education Commission, New Zealand Qualifications Authority, New Zealand Career Services Rapuara and other tertiary education agencies
- websites of many providers which are accessible through links from the above websites or from Career Services' KiwiCareers site, and
- annual reports and other information published by tertiary education organisations.

The government has a number of distinct but interrelated roles in the tertiary education sector in New Zealand, from providing resources for the delivery of education to operating as a regulator by administering educational legislation, and promulgating regulations and guidelines, monitoring compliance, and monitoring the effectiveness and efficiency of educational delivery. Government policy is developed within a framework that aims to create an environment for learning as the basis for New Zealand's future economic and social wellbeing.

KEY TERTIARY EDUCATION AGENCIES

MINISTRY OF EDUCATION

45-47 Pipitea Street
Private Box 1666
Wellington
phone: +64-4-463 8000 fax: +64-4-463 8001

The divisions that contribute to the Ministry of Education's activities in tertiary education are:

- Tertiary Education Policy
- Māori Education Strategy and Policy
- Sector and Business Services
- Tertiary Sector Performance Analysis and Reporting
- Crown Entities Monitoring team
- Data Management and Analysis
- International Education

TERTIARY EDUCATION COMMISSION

Level 10
Vector Building
44 The Terrace
PO Box 27-048
Wellington
phone: +64-4-462 5200 fax: +64-4-462 5400
email: info@tec.govt.nz

NEW ZEALAND QUALIFICATIONS AUTHORITY

Level 13
127 The Terrace
PO Box 160
Wellington
phone: +64-4-463 3000 fax: +64-4-802 3112
email: helpdesk@nzqa.govt.nz

NEW ZEALAND TEACHERS' COUNCIL

Level 7
93 The Terrace
PO Box 5326
Wellington
phone: +64-4-471 0852 fax: +64-4-471 0870
email: inquiries@teacherscouncil.govt.nz

NEW ZEALAND CAREER SERVICES RAPUARA

Level 4
CMC Building
89 Courtenay Place
PO Box 9446
Te Aro
Wellington
phone: +64-4-801 5177 fax: +64-4-801 5161
call free: 0800 222 733
email: careers@careers.govt.nz

CAREER INFORMATION RESOURCES UNIT

CareerPoint: 0800 222 733
phone: +64-4-801 5177 fax: +64-4-801 5745
email: kiwicareers@careers.govt.nz
careerpoint@careers.govt.nz

INLAND REVENUE

National Office
PO Box 2198
Wellington
phone (student loans helpline): 0800 377 778

STUDYLINK – MINISTRY OF SOCIAL DEVELOPMENT

Freepost 113907
Palmerston North 5301
freephone: 0800 88 99 00 freefax: 0800 88 33 88
email: studylink@msd.govt.nz

TERTIARY EDUCATION FUNDING INFORMATION

FUNDING INFORMATION SERVICE INC.

114-118 Lambton Quay
PO Box 1521
Wellington
phone: +64-4-499 4090 fax: +64-4-499 6224
www.fis.org.nz

TERTIARY EDUCATION INSTITUTIONS

Links to New Zealand's universities can be found at www.nzvcc.ac.nz

THE UNIVERSITY OF AUCKLAND

Private Bag 92019
Auckland 1142
NEW ZEALAND
phone: +64-9-373 7999 (operator)
phone: +64-9-373 7599 (auto attendant)
email: postmaster@auckland.ac.nz
www.auckland.ac.nz

AUCKLAND UNIVERSITY OF TECHNOLOGY

Private Bag 92006, Auckland 1020

Akoranga Campus

Main Reception
AG Building, Level 1
freephone: 0800 288 864
phone: +64-9-921 9999 fax: +64-9-921 9985
www.aut.ac.nz

Wellesley Campus

Main Reception
WA Building, Level 2, Wellesley St.
freephone: 0800 288 864
phone: +64-9-921 9999 fax: +64-9-921 9985

THE UNIVERSITY OF WAIKATO

Te Whare Wānanga o Waikato
Private Bag 3105
Hamilton 3240
phone: +64-7-856 2889 automated: +64-7-838 4466
fax: +64-7-838 4300 email: info@waikato.ac.nz
www.waikato.ac.nz

MASSEY UNIVERSITY

Private Bag 11 222
Palmerston North
phone: +64-6-356 9099 fax: +64-6-350 5618
email: contact@massey.ac.nz
www.massey.ac.nz

VICTORIA UNIVERSITY OF WELLINGTON

PO Box 600
Wellington 6140
phone: +64-4-472 1000 (operator)
phone: +64-4-463 5233 (auto attendant)
fax: +64-4-499 4601
www.vuw.ac.nz/home/index.asp

UNIVERSITY OF CANTERBURY

Private Bag 4800
Christchurch 8140
phone: +64-3-366 7001 (operator)
phone: +64-3-364 2987 (auto attendant)
www.canterbury.ac.nz

LINCOLN UNIVERSITY

PO Box 84
Lincoln
Ellesmere Junction Road/Springs Road
Canterbury 7647
phone: +64-3-325 2811 fax: +64-3-325 2944
www.lincoln.ac.nz

UNIVERSITY OF OTAGO

PO Box 56
Dunedin
phone: +64-3-479 1100 fax: +64-3-479 8692
email: university@otago.ac.nz
www.otago.ac.nz

INSTITUTES OF TECHNOLOGY AND POLYTECHNICS

Links to these organisations can be found at: www.itpnz.ac.nz

- Aoraki Polytechnic
- Bay of Plenty Polytechnic
- Christchurch Polytechnic Institute of Technology
- Eastern Institute of Technology Hawke's Bay
- Manukau Institute of Technology
- Nelson Marlborough Institute of Technology
- Northland Polytechnic

- Otago Polytechnic
- Southern Institute of Technology
- Tai Poutini Polytechnic
- Tairāwhiti Polytechnic
- Telford Rural Polytechnic
- The Open Polytechnic of New Zealand
- Universal College of Learning
- Waikato Institute of Technology
- Waikato Institute of Technology
- Wellington Institute of Technology
- Western Institute of Technology at Taranaki
- Whireia Community Polytechnic

WĀNANGA

Links to these organisations can be found at
www.tauihu-wananga.maori.nz

Te Wānanga o Aotearoa
Te Whare Wānanga o Awanuiārangi
Te Wānanga-o-Raukawa

INDUSTRY TRAINING ORGANISATIONS

Links to these organisations can be found at www.itf.org.nz

As at 3 September 2007:

- Agriculture Industry Training Organisation
- Apparel and Textile Industry Training Organisation
- Aviation, Tourism and Travel Industry Training Organisation
- Boating Industry Training Organisation
- Building & Construction Industry Training Organisation
- Building Service Contractors of NZ
- Careerforce (Community Support Services Industry Training Organisation)

- Competenz Industry Training Organisation – engineering, food and manufacturing
- Electricity Supply Industry Training Organisation
- ElectroTechnology Industry Training Organisation
- Equine Industry Training Organisation
- Extractives Industry Training Organisation
- Fire & Rescue Services Industry Training Organisation
- Flooring Industry Training Organisation
- FITEC (Forest Industries Training and Education Council)
- Funeral Services Training Trust of NZ
- Hairdressing Industry Training Organisation
- Horticulture Industry Training Organisation
- Hospitality Standards Institute
- Infratrains NZ
- Joinery Industry Training Organisation
- NZ Journalists' Training Organisation
- Learning State (Public Sector Training Organisation)
- Local Government Industry Training Organisation
- Motor Industry Training Organisation
- NZ Industry Training Organisation
- NZ Sports Turf Industry Training Organisation
- Opportunity Training Organisation
- Painting Industry Training Organisation
- Pharmacy Industry Training Organisation
- Plastics & Materials Processing Industry Training Organisation
- Plumbing, Gasfitting & Drainlaying Industry Training Organisation
- PrintNZ Training
- REINZ Industry Training Organisation

- Retail Industry Training Organisation
- Retail Meat Industry Training Organisation
- Seafood Industry Training Organisation
- Sport, Fitness & Recreation Industry Training Organisation
- Te Kaiāwhina Ahumahi (Social Services Industry Training Organisation)
- Tranzqual (Transport & Logistics Industry Training Organisation)

SECTOR REPRESENTATIVE GROUPS

AOTEAROA MĀORI PROVIDERS OF TRAINING EDUCATION AND EMPLOYMENT

80 Queens Drive
 Lyall Bay
 PO Box 2796
 Wellington
 phone: +64-4-387 5640 fax: +64-4-387 5645
 email: teatahou@xtra.co.nz

ASSOCIATION OF TERTIARY EDUCATION MANAGERS

ATEM New Zealand Branch
 PO Box 13-678
 Christchurch 8013
 phone: +64-3-379 9190 fax: +64-3-379 6607

INDEPENDENT TERTIARY INSTITUTIONS

c/- Apartment 5
 125 Molesworth Street
 PO Box 12-249
 Wellington 6144
 phone: 027 449 9447
 email: neil@ncm.co.nz

INDUSTRY TRAINING FEDERATION

Level 2
 276 Cuba Street (entrance on Karo Drive – inner city bypass)
 PO Box 24-194
 Wellington 6142
 phone: +64-4-499 8155 fax: +64-4-499 8156
 www.itf.org.nz

INSTITUTES OF TECHNOLOGY AND POLYTECHNICS OF NEW ZEALAND

Level 12, St John's House
114 The Terrace
PO Box 10-344
Wellington
phone: +64-4-471 1162 fax: +64-4-473 2350
email: enquiries@itpnz.ac.nz

NEW ZEALAND ASSOCIATION OF PRIVATE EDUCATION PROVIDERS

Level 5, Compudigm House
49 Boulcott St
PO Box 6411
Wellington 6141
phone: +64-4-471 2460 fax: 0800 NZAPEP (692 737)
email: exec@nzapep.co.nz

NEW ZEALAND UNIVERSITIES ACADEMIC AUDIT UNIT

Level 3, West Block
Education House
178 Willis St
PO Box 9747
Wellington 6141
phone: +64-4-801 7924 fax: +64-4-801 7926
email: admin@nzaau.ac.nz

NEW ZEALAND VICE-CHANCELLORS' COMMITTEE

Level 11, Orbit Systems House
94 Dixon Street
PO Box 11-915
Wellington 6142
phone: +64-4-381 8500 fax: +64-4-381 8501
email: jackie@nzvcc.ac.nz

PACIFIC ISLANDS TERTIARY EDUCATION PROVIDERS OF NEW ZEALAND INC

c/- PO Box 15-809
New Lynn
Auckland
phone: +64-9-825 0136 fax: +64-9-825 0141
www.besttraining.ac.nz

TE TAUHU O NGĀ WĀNANGA – THE NATIONAL ASSOCIATION OF WĀNANGA

PO Box 119
Otaki
phone: +64-4-233 9343 fax: +64-4-233 0994
email: info@tauihu-wananga-maori.nz

STUDENTS' ASSOCIATIONS

NEW ZEALAND UNION OF STUDENTS' ASSOCIATIONS

Level 3
354 Lambton Quay
PO Box 10-191
Wellington
phone: +64-4-498 2500 fax: +64-4-473 2391
email: admin@students.org.nz

TE MANA AKONGA – NATIONAL MĀORI UNIVERSITY STUDENTS' ASSOCIATION

Level 3
354 Lambton Quay
PO Box 10-191
Wellington
phone: +64-4-498 2506 fax: +64-4-473 2391
email: tma.kaituhono@xtra.co.nz

DEFINITIONS

ACADEMIC YEAR

The academic year is defined in the Education Act 1989 as a calendar year, 1 January to 31 December.

ADULT AND COMMUNITY EDUCATION

Adult and Community Education (ACE) enables adults to engage in a range of educational activities in a context that is post-school and relevant to the learner. Most ACE provision does not lead to a qualification. There are few barriers to participation. Provision is generally focused on personal development and skill enhancement while there are also social, civic and community benefits. There is a range of providers that deliver ACE, including schools, tertiary education institutions, other tertiary education providers (OTEPs), such as Literacy Aotearoa, and community groups.

CENTRES OF RESEARCH EXCELLENCE

The centres of research excellence (CoREs) support leading edge, international standard innovative research that fosters excellence and contributes both to New Zealand's national goals and to knowledge transfer. The centres are primarily inter-institutional research networks, with the researchers working together on a commonly agreed work programme. Each centre is hosted by a tertiary education institution.

COLLEGE OF EDUCATION

A college of education is a tertiary education institution that provides training and research, mostly related to early childhood, compulsory and post-compulsory education.

In 2007, the Christchurch and Dunedin Colleges of Education, merged with the University of Canterbury and the University of Otago, respectively. The provision of this type of tertiary education is now carried out in the universities.

COURSE

A course is a component of education encompassing teaching, learning, research and assessment. Papers, modules and unit standards are all terms that are sometimes applied to courses. A course or collection of courses forms a programme of study which, if completed successfully, results in the award of a qualification.

DECILE

A school's decile indicates the extent to which a school draws its students from low socio-economic communities. Decile 1 schools are the 10 percent of schools with the highest proportion of students from low socio-economic communities, whereas decile 10 schools are the 10 percent of schools with the lowest proportion of these students. A school's decile does not indicate the overall socio-economic mix of the school.

DISTANCE EDUCATION

Distance education occurs when students and the instructor are separated by geographic distance or time. The student's learning is usually facilitated using correspondence study, audio conferencing, video conferencing, email or the internet.

e-LEARNING

e-Learning is education, both formal and informal, that uses electronic delivery methods such as internet-based learning delivery packages, CD-ROM, video conferencing, websites or email to manage the relationship between teacher and learners.

EQUIVALENT FULL-TIME STUDENT

The equivalent full-time student (EFTS) unit is a measure or 'size' of each student's enrolment. One equivalent full-time student unit represents the load taken by a student enrolled full-time for one year. Each course is given an EFTS factor that represents its proportion of a full-time, full-year programme of study.

For courses included in the National Qualifications Framework, 1 equivalent full-time student unit is defined as 120 credits on the National Qualifications Framework. Part-time study years are expressed as proportions of an equivalent full-time student, for example, 0.75 EFTS. The equivalent full-time student count is the sum of the EFTS units for a year.

FISCAL YEAR

The government's accounting year is based on the fiscal year, which is a 12-month period starting on 1 July and finishing on 30 June.

FULL-TIME / PART-TIME

Full-time and part-time describe a student's study load. The expression part-time may be applied to a qualification as well as a student.

For example, there are qualifications that are specifically designed for part-time study, e.g. the Massey University MBA. And a student may elect to study a full-time qualification on a part-time basis, by enrolling in fewer courses than the normal student full-time workload.

The following definition of full-time is used for the purposes of eligibility for student loans and allowances:

Any programme of study of 32 weeks or more and at least 0.8 EFTS is designated full-time/full-year. A programme of study that has a lower EFTS value on a pro rata basis is called part-time. Any programme of study of at least 12 weeks but less than 32 weeks and at least 0.3 EFTS or the equivalent on a pro rata basis (e.g. 24 weeks and 0.6 EFTS) is designated full-time/part-year.

For full information on the student loans and allowances eligibility criteria refer to www.workandincome.govt.nz/manuals-and-procedures/students/index.htm

GOVERNMENT TRAINING ESTABLISHMENTS

A government training establishment (GTE) is a government department or a Crown entity, other than a tertiary education institution, approved by the Minister of Education and registered by the New Zealand Qualifications Authority as a tertiary education provider. GTEs offer training, subject to the approval and accreditation requirements of the Education Act 1989.

INDUSTRY TRAINING ORGANISATIONS

Industry training organisations (ITOs) facilitate workplace learning for trainees in employment by setting national skill standards for their industry. In addition to providing leadership to industry on skill and training needs, ITOs develop appropriate training arrangements for their industry, arrange appropriate training, monitor training quality and arrange for the assessment of trainees. ITOs also provide information and advice to trainees and their employers.

INSTITUTE OF TECHNOLOGY

The term 'institute of technology' is a synonym for 'polytechnic'.

INTEGRATED FUNDING FRAMEWORK

The Integrated Funding Framework is the tertiary funding system introduced by the government in 2003. The framework, operating in the context of charters, profiles and the assessment of strategic

relevance, was intended to improve the alignment of funding with the tertiary education strategy.

ISCED LEVEL

ISCED refers to the International Standard Classification for Education, developed by UNESCO. It is used by countries and international agencies as a means of compiling internationally comparable statistics on education and identifies the level of that educational provision. For tertiary education, the applicable classifications are:

- post-secondary/non-tertiary (ISCED 4) – while these programmes are included in tertiary education in New Zealand, from an international standpoint they straddle the boundary between upper secondary (ISCED 3) and tertiary education. Examples of such programmes include pre-degree foundation courses and national certificates that lead to higher qualifications
- first stage of tertiary education (ISCED 5) – where programmes are largely theoretically based and are intended to provide qualifications for entry into ISCED 6 or a profession with high skills requirements. Level 5A represents more academically or theoretically based study, while level 5B represents more vocationally oriented study. Typical programmes at level 5A include bachelors degrees, honours degrees, masters degrees, and postgraduate diplomas or certificates. Level 5B programmes include undergraduate diplomas and certificates
- second stage of tertiary education (ISCED 6) – programmes leading to an advanced research qualification. In the New Zealand tertiary education system, only doctorate qualifications fit into this category.

NATIONAL CERTIFICATE OF EDUCATIONAL ACHIEVEMENT

The National Certificate of Educational Achievement (NCEA) is New Zealand's main national qualification for senior school students and part of the National Qualifications Framework. NCEA replaced School Certificate in 2002, Sixth Form Certificate in 2003 and University Bursaries, Entrance and Scholarships in 2004. The NCEA sets national standards. Standards show the separate skills and knowledge the student has to achieve for each subject. Students can gain NCEA credits for all learning in regular school curriculum subjects and in industry-related areas. NCEA provides the bridge between school, the workplace and lifelong learning.

NATIONAL QUALIFICATIONS FRAMEWORK

The National Qualifications Framework (NQF) is the unit standards-based system of national qualifications developed by the New Zealand Qualifications Authority. Unit standards are categorised by field of study, which is further broken down into subfields and domains. Standards and national qualifications are also categorised by level of student achievement. Certificates can be awarded up to level 7. Diploma qualifications can be awarded at levels 5, 6 or 7 on the framework, level 7 being equivalent to the level achieved at the end of a first degree. Level 8–10 is postgraduate study.

NEW ZEALAND STANDARD CLASSIFICATION FOR EDUCATION

The New Zealand Standard Classification for Education (NZSCED) is a subject-based classification system for courses in tertiary education. The classification system consists of three levels – broad, narrow and detailed fields. It is used to improve the quality and consistency of statistics collected by the Ministry of Education and other collection agencies in relation to tertiary study.

OTHER TERTIARY EDUCATION PROVIDERS

Other tertiary education providers (OTEPs) are organisations that deliver programmes of tertiary education or in support of tertiary education of some national significance, and most are recognised by the Minister of Education under section 321 of the Education Act 1989.

PART-TIME / FULL-TIME

See definitions under full-time / part-time.

PASIFIKA PEOPLES

Pasifika peoples comprise a diverse range of peoples from the South Pacific region or people within New Zealand who have strong family and cultural connections to Pacific Island countries. Pasifika peoples include those who have been born in New Zealand or overseas. It is a collective term used to refer to men, women and children of Samoan, Cook Island, Tongan, Niuean, Tokelauan, Fijian and other Pasifika heritages.

PERFORMANCE-BASED RESEARCH FUND

The Performance-Based Research Fund (PBRF) is a means of allocating research funding to tertiary education providers. It seeks to reward

excellence in research in tertiary education organisations and improve the average quality of research in the tertiary sector. The PBRF allocates funding on the basis of an evaluation of the quality of research, a provider's external research income and its postgraduate research degree completions.

POLYTECHNIC

A polytechnic is a public tertiary institution that is characterised by a wide diversity of vocational and professional programmes. Polytechnics are now referred to as Institutes of Technology and Polytechnics (ITPs).

PRIVATE TRAINING ESTABLISHMENTS

A private training establishment (PTE) is defined in the Education Act 1989 as 'an establishment, other than a public tertiary education institution, that provides post-school education or vocational training'. PTEs include not only privately owned providers, but also those operated by iwi, trusts and other organisations.

PROGRAMME OF STUDY

A programme of study is a collection of courses, classes or work in which a student enrolls that contributes to meeting the requirements for the award of a qualification(s).

QUALIFICATION

A qualification is an official award given in recognition of the successful completion of a programme of study which has been quality assured by a recognised quality assurance agency. All recognised qualifications are registered on the Register of Quality Assured Qualifications.

REGISTER OF QUALITY ASSURED QUALIFICATIONS

The New Zealand Register of Quality Assured Qualifications lists all quality-assured qualifications. The aim of the register is to:

- ensure that all qualifications have a purpose and relation to each other that students and the public can understand
- maintain and enhance learners' ability to transfer credit by the establishment of a common system of credit, and
- enhance and build on the international recognition of New Zealand qualifications.

SKILL ENHANCEMENT

Skill Enhancement is vocational training for young Māori and Pasifika peoples. It is designed to meet the skills required for an identified industry, leading to qualifications recognised by the industry and incorporating workplace learning in the industry. Programmes lead to a qualification at level 3 or above on the National Qualifications Framework, or equivalent, and are expected to meet the needs of both learners and the labour market and provide support for the learners. Skill Enhancement is delivered in two strands, Rangatahi Māia for young Māori, and Tupulaga Le Lumana'i for young Pasifika peoples.

STRATEGIC DEVELOPMENT COMPONENT

The Strategic Development Component is part of the Integrated Funding Framework designed to support the strategic development of the system. It is a combination of a number of funds including institutional base grants, grants to support participation and achievement by Māori and Pasifika students, grants to support students with disabilities and e-learning and polytechnic regional economic development funds.

STUDENT ALLOWANCES

Student allowances are grants designed to provide assistance to those students who are unable to support themselves or do not have access to alternative sources of support while undertaking full-time study.

STUDENT COMPONENT

The Student Component Fund is a key government tertiary education funding mechanism. It is part of the Integrated Funding Framework and is used to fund the costs of tuition carried out in public tertiary education institutions. The component has replaced the equivalent full-time student funding system.

The student component uses equivalent full-time student as a measure in the allocation of funding. Government funding of the student component is a subsidy; it is a contribution towards the cost of tertiary education and training that meets part, but not all, of the cost of provision of a course. These subsidies are paid to approved tertiary education providers on behalf of domestic students enrolled in quality-assured courses leading to qualifications.

TERTIARY EDUCATION

Tertiary education comprises all involvement in post-school learning activities. It includes:

- foundation education, such as adult literacy
- certificates and diplomas
- bachelors degrees
- industry training
- adult and community education, and
- postgraduate qualifications.

TERTIARY EDUCATION INSTITUTIONS

Tertiary education institutions (TEIs) are public providers of tertiary education. There are five kinds of institution as defined in section 159 of the Education Act 1989:

- universities
- polytechnics
- colleges of education
- wānanga, and
- 'specialist colleges'.

There were no specialist colleges in New Zealand in 2006.

TERTIARY EDUCATION ORGANISATIONS

Tertiary education organisations (TEOs), as defined in section 159B of the Education Act 1989, are all the institutions and organisations that provide or facilitate tertiary education and training. These include:

- public tertiary education institutions
- private training establishments
- other tertiary education providers
- government training establishments, and
- industry training organisations.

TERTIARY EDUCATION PROVIDERS

Section 159 of the Education Act 1989 defines tertiary education providers as tertiary education institutions, private training establishments and government training establishments. The definition does not include industry training organisations.

TERTIARY-TYPE A

The Organisation for Economic Co-operation and Development (OECD) classifies qualifications at NZSCED Level 5 into tertiary-type A education and tertiary-type B. Tertiary-type A programmes (ISCED 5A) are largely theory-based and are designed to provide sufficient qualifications for entry to advanced research programmes and professions with high skill requirements. They have a minimum cumulative theoretical duration (at tertiary level) of three years or more full-time equivalent study, although they typically last four or more years. In the case of New Zealand, tertiary-type A qualifications include bachelors degrees, graduate certificates and diplomas and all postgraduate-level qualifications, except doctorates. (See also the ISCED Level definition.)

TERTIARY-TYPE B

Tertiary-type B programmes (ISCED 5B) are typically shorter and focus on practical technical or occupational skills for direct entry into the labour force. They have a minimum duration of two years' full-time equivalent study at tertiary level. (See also the ISCED Level definition.)

TRAINING INCENTIVE ALLOWANCE

The Training Incentive Allowance (TIA) is designed to provide financial assistance to people receiving a Domestic Purposes Benefit, an Invalid's Benefit, a Widow's Benefit, or an Emergency Maintenance Allowance to enable them to undertake employment-related training.

TRAINING OPPORTUNITIES

The Training Opportunities programme is targeted towards job seekers, usually aged 18 years or more, long-term unemployed with low qualifications, people with disabilities, certain benefit recipients, refugees, ex-prisoners, or Work and Income priority clients. Training is free for trainees, usually includes work-based learning and is designed to provide trainees with practical pathways to employment or further education.

TUITION FEES

Tuition fees are the fees charged to students by tertiary education providers.

TUITION SUBSIDIES

Tuition subsidies are the money that is appropriated by the government through Vote Education and used to provide subsidies through the student component for valid student enrolments offered by recognised providers. In 2006, the government signalled a move away from funding through subsidies and that it intends to take an investment-based approach from 2008.

UNIVERSITY

A university is a public tertiary education institution that is primarily concerned with advanced learning and knowledge, research and teaching to a postgraduate level.

WĀNANGA

A wānanga is a public tertiary institution that provides programmes with an emphasis on the application of knowledge regarding ahuatanga Māori (Māori traditions) according to tikanga Māori (Māori custom).

YOUTH TRAINING

Youth Training provides a bridge towards employment, further education or training for school leavers with low or no qualifications. It aims to significantly raise the educational and vocational achievement of eligible young people while providing opportunities for them to explore work options. Youth Training is characterised by innovation, providing a diverse range of learning opportunities shaped according to the learning needs and vocational goals of the young person. It develops young people as independent learners preparing for the world of work.

ACRONYMS

ACE	Adult and community education	NCEA	National Certificate of Educational Achievement
ALAF	Adult Literacy Achievement Framework	NQF	National Qualifications Framework
ALL	Adult Literacy and Life-Skills Survey	NSN	National Student Number
ALQM	Adult Literacy Quality Mark	NZAPEP	New Zealand Association of Private Education Providers
AMPTEE	Association of Māori Providers of Tertiary Education and Employment	NZIS	New Zealand Income Survey
APPEL	Association of Private Providers of English Language	NZQA	New Zealand Qualifications Authority
ATEM	Association of Tertiary Education Managers	NZSCED	New Zealand Standard Classification for Education
CLANZ	Community Learning Aotearoa New Zealand	NZUAAU	New Zealand Universities Academic Audit Unit
COP	Code of Practice for the Pastoral Care of International Students	NZVCC	New Zealand Vice-Chancellors' Committee
CoRE	Centre of research excellence	OECD	Organisation for Economic Cooperation and Development
CPI	Consumers Price Index	OTEP	Other tertiary education provider
CRI	Crown Research Institute	PBRF	Performance-Based Research Fund
CUAP	The Committee on University Academic Programmes	PITPONZ	Pacific Islands Training Providers of New Zealand
e-CDF	e-Learning Collaborative Development Fund	PTE	Private training establishment
EFTS	Equivalent full-time student	REAP	Rural Education Activities Programme
ELSI	Economic Living Standard Index	SLS	Student Loan Scheme
ERO	The Education Review Office	SNZ	Statistics New Zealand
ESOL	English for Speakers of Other Languages	SPF	Strategic Priorities Fund
FCCM	Fee and Course Costs Maxima	SSG	Special Supplementary Grant
FRST	Foundation for Research, Science and Technology	STAR	Secondary-Tertiary Alignment Resource
FTE	Full-time equivalent	STEP	Statement of tertiary education priorities
GTE	Government training establishment	STM	Standard Training Measure
HLFS	Household Labour Force Survey	TANZ	Tertiary Accord of New Zealand
HRC	Health Research Council	TCS	The Correspondence School
IALS	International Adult Literacy Survey	TEC	Tertiary Education Commission
IDF	Innovation and Development Fund	TEI	Tertiary education institution
IIQABCG	Inter-Institutional Quality Assurance Bodies Consultative Group	TEO	Tertiary education organisation
ISCED	International Standard Classification for Education	TEP	Tertiary education provider
ITF	Industry Training Federation	TES	Tertiary education strategy
ITI	Independent Tertiary Institutions	TIA	Training Incentive Allowance
ITO	Industry training organisation	TOPNZ	The Open Polytechnic of New Zealand
ITPNZ	Institutes of Technology and Polytechnics of New Zealand	TWoA	Te Wānanga o Aotearoa
ITP Quality	Institutes of Technology and Polytechnics Quality	UBSH	Unemployment Benefit Student Hardship
MoRST	Ministry of Research, Science and Technology	WBSDF	Workbase Basic Skills Development Fund
MSD	Ministry of Social Development	WINHEC	World Indigenous Nations Higher Education Consortium
		WIPCE	World Indigenous Peoples Conference on Education

TECHNICAL NOTES

The information in this report needs to be used in conjunction with these technical notes.

Most of the education statistics provided in Profile & Trends 2006 are derived from the enrolment and completion collections (Single Data Returns) provided by tertiary education providers to the Ministry of Education.

The reference period used in this report is the year ended 31 December 2006, unless otherwise indicated.

Information and statistics have also been provided by the Tertiary Education Commission, the New Zealand Qualifications Authority, the Ministry of Social Development, Inland Revenue, Career Services, Statistics New Zealand and other government agencies, as well as the Industry Training Federation and quality assurance agencies.

On pages 215–219 there are comprehensive definitions of the sector-related concepts used in this report and descriptions of the many tertiary education organisations. A full list of acronyms used is also provided.

ANALYTICAL TABLES

Most of the information that underlies the analysis in Profile & Trends 2006 is also released on the Ministry of Education's website in a set of analytical tables: www.educationcounts.edcentre.govt.nz/publications/tertiary_education This data needs to be used in conjunction with the footnotes provided in the tables and these technical notes.

ATTRITION RATE

The first-year attrition rate is the proportion of students who start a qualification, do not complete it and are not enrolled in the following year.

BLANK CELLS IN TABLES

These relate to data that is missing, not available or not applicable.

COUNTING METHODS

Generally, students are counted in each category they belong to, but only once in the total student count. For example, students who

identify with more than one ethnic group have been counted in each group. This means that the sum of the students in each ethnic group may exceed the total student count.

Where this is not possible due to constraints of data sources, it is noted in the accompanying text.

Category totals shown in this report, and in the analytical tables, include students with unknown or unspecified values, for example, no age given.

Note: Institutions are counted in the group they belong to in that particular year regardless of subsequent regroupings that have occurred. For example, the colleges of education have merged with universities, while the Auckland Institute of Technology was redesignated as the Auckland University of Technology in 2000. In some cases this means that there will be shifts in trend lines that are attributable to changes in the classification of organisations.

CREDITS

The New Zealand Register of Quality Assured Qualifications describes the typical learning effort required to achieve a qualification in terms of credits. A full year of study is 120 credits, which equates to 1,200 notional learning hours (including teaching, classroom activities and study). The minimum number of credits required for a certificate is 40 credits.

DISABILITY

Figures for students with disabilities are based on self-reporting of having a disability by the student at the time of enrolment. The recommended question for providers to include on their enrolment form is "Do you live with the effects of significant injury, long-term illness, or disability?" However, the actual question used may vary among providers. Providers are also required to provide information on how many students access disability support services.

EQUIVALENT FULL-TIME STUDENT

The equivalent full-time student (EFTS) unit is a measure or 'size' of each student's enrolment. One equivalent full-time student unit represents the load taken by a student enrolled full-time for one year. Each course is given an EFTS factor that represents its proportion of a full-time, full-year programme of study.

For courses included in the National Qualifications Framework, 1 equivalent full-time student unit is defined as 120 credits on the National Qualifications Framework. Part-time study years are expressed as proportions of an equivalent full-time student, for example, 0.75 EFTS. The equivalent full-time student count is the sum of the EFTS units for a year.

HIGHEST SCHOOL QUALIFICATION

This information is collected by the enrolling tertiary institution from the student at the time of enrolment. It may or may not be verified by the institution.

PARTICIPATION RATE

The tertiary education participation rate is the total domestic student enrolment count expressed as a percentage of the population aged 15 and over.

The rates have also been adjusted using the 2006 national age distribution estimates to produce age-standardised participation rates. These provide fairer comparisons by estimating what the rate would be if the student ages matched the 2006 national age distribution.

PRIOR ACTIVITY

Prior activity refers to the student's main activity at 1 October in the year prior to the first year of formal enrolment with the student's current provider.

PROGRESSION RATE

The progression rate is the proportion of students who have completed a qualification in any one year and who subsequently enrol in further study.

The direct progression rate is the proportion of completing students who enrol for further study in the year following qualification completion.

The five-year progression rate for 2005 is the proportion of completing students who enrol in further study at some time in the following five years.

Note: Progression rates for groups with fewer than 30 students are not reported.

QUALIFICATIONS

The qualification categories referred to in this report in chapter 4 on the outcomes of tertiary education are defined as follows:

- 'Bachelors or higher qualifications' refers to bachelors degrees, postgraduate degrees and postgraduate diplomas and certificates.
- 'Other tertiary qualifications' refers to university certificates/diplomas, teaching certificates/diplomas, nursing certificates/diplomas, New Zealand certificates/diplomas, technician's certificates, local polytechnic certificates/diplomas, and trade certificates or advanced trade certificates.
- 'School qualifications' refers to year 11, 12 and 13 qualifications and overseas school qualifications.

QUALIFICATION COMPLETION AND COMPLETION RATE

Students are considered to have completed a qualification when they have fulfilled all the requirements for that qualification. This means the qualification does not necessarily have to be conferred.

The qualification completion rate is the proportion of students who have started a registered qualification and have completed this after a defined period (often five years).

Note: Retention and completion rates for groups with fewer than 30 students are not reported.

RELIABILITY OF ESTIMATES

This report includes information from the *Household Labour Force Survey* and the *New Zealand Income Survey* conducted by Statistics New Zealand. Errors from these surveys are divided into two classes. Non-sampling error includes errors arising from biases in the patterns of response and non-response, inaccuracies in reporting by respondents, and errors in the recording and coding of data. Sampling error is a measure of the variability that occurs by chance because a sample, rather than an entire population, was surveyed.

The sample estimates from these surveys for ethnic groups such as Māori and Pasifika tend to be less stable due to a larger sampling error than that achieved for larger population groups. Similarly, smaller age groups, such as those with a tertiary qualification aged 65 and over, tend to have higher sampling errors. Caution should therefore be exercised in interpreting the estimates for these smaller groups.

More technical information about these surveys is available from the Statistics New Zealand website.

STUDENTS/LEARNERS

The main methods of counting tertiary students used in this report are listed below:

1. Student enrolment counts refer to the number of students enrolled at any time during the year with a tertiary education provider in:
 - a recognised qualification listed on the New Zealand Register of Quality Assured Qualifications, and
 - the programme of study being followed is greater than 0.03 EFTS (more than one week's full-time study).
2. Industry training enrolments refer to the number of learners enrolled any time during the year in training funded and approved by an industry training organisation.
3. Separate counts are provided in this report of learners undertaking programmes such as adult and community education and following formal courses of less than or equal to 0.03 EFTS (less than one week's full-time study).

Students can be included in more than one of the above counts. For example, off-job industry training involves formal study with a tertiary education organisation so learners will be counted in student enrolments and industry training. Currently, it is not possible to accurately identify where the counts overlap. In Table 5.1 an estimate has been made of the total number of students engaged in count 1 listed above.

Unless otherwise stated, counts relate to students or learners enrolled at any time during the year.

Excluded from the student enrolment counts prior to 1999 are students enrolled in private training establishments and other tertiary education providers recognised under section 321 of the Education Act 1989.

Also excluded from the student enrolment counts are students enrolled with private training establishments and other tertiary education providers that do not receive tuition subsidies and are not approved for student loans or allowances.

However, information on Training Opportunities and Youth Training includes all contracted providers, including those that neither received tuition subsidies nor were approved for student loans or allowances.

STUDY LOAD

A student's study load is the total equivalent full-time student unit value of all qualifications enrolled in during the current year.

STUDY TYPE

Study type is a measure of a student's full-time/part-time status. This measure is based on a student's formal enrolments with all providers for a single calendar year. Study type has four values:

- | |
|---|
| 1 = 'studying full-time for the full year' |
| 2 = 'studying full-time for part of the year' |
| 3 = 'studying part-time for the full year' |
| 4 = 'studying part-time for part of the year' |

A full year is treated as 32 or more weeks in a calendar year, while full-time and part-time are based on the student loan entry threshold method for determining full-time/part-time.

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USEFUL LINKS

New Zealand Tertiary Education Statistics

www.educationcounts.edcentre.govt.nz

Association of Tertiary Education Managers

www.atem.org.au

Career Services Rapuara

www.careers.govt.nz

Funding Information Service

www.fis.org.nz

Gateway to New Zealand Government

www.govt.nz

Industry Training Federation

www.itf.org.nz

Inland Revenue

www.ird.govt.nz

Institutes of Technology and Polytechnics of New Zealand

www.itpnz.ac.nz

Ministry of Education

www.minedu.govt.nz

www.educationcounts.edcentre.govt.nz

www.steo.govt.nz (Services for Tertiary Education Organisations)

www.minedu.govt.nz/goto/crens (Crown Entities Monitoring Team)

Tertiary Education Commission

www.tec.govt.nz

Ministry of Research, Science and Technology

www.morst.govt.nz

Ministry of Social Development

www.msd.govt.nz

New Zealand Association of Private Education Providers

www.nzapep.co.nz

New Zealand Qualifications Authority

www.nzqa.govt.nz

New Zealand Teachers' Council

www.teacherscouncil.govt.nz

New Zealand Universities Academic Audit Unit

www.nzuaau.ac.nz

New Zealand Union of Students' Associations

www.students.org.nz

New Zealand Vice-Chancellors' Committee

www.nzvcc.ac.nz

Pacific Islands Training Providers of New Zealand

www.pitponz.org.nz

StudyLink

www.studylink.govt.nz

New Zealand Tertiary Education Portal

www.TEd.govt.nz

New Zealand Education Portal

www.edCentre.govt.nz

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