



Learners in tertiary education

Of those domestic students who completed a postgraduate certificate or diploma or a bachelors degree with honours during 2004, 19 percent went on to masters or doctorate study during 2005. Of those domestic students who completed a masters qualification during 2004, 5 percent went on to doctorate study during 2005.

International students

Around 1,880 international students completed 1,900 postgraduate qualifications during 2005. This was a 16 percent increase over 2004 in the number of students who completed postgraduate qualifications and an increase of 230 percent on the number of students completing in 2000. This reflects the large increase in international students starting their postgraduate studies three to four years earlier. International students completing postgraduate qualifications included 80 students who completed a postgraduate certificate, 650 who completed a postgraduate diploma, 130 who completed a bachelors degree with honours, 960 who completed a masters degree and 70 who completed a doctorate degree.

International students complete postgraduate qualifications within five years at a higher rate than domestic students, with the exception of postgraduate certificates. International students are more likely to be studying full-time and intramurally than their domestic counterparts, both of which are factors associated with higher rates of completion.

Table 9.2: First-year attrition and five-year retention and completion rates for international postgraduate students

	First-year attrition	Five-year retention	Five-year completion
Students starting in			
	2004	2001	2001
Qualification	Percentage of students		
Doctorate	6	66	41
Masters	17	58	57
Bachelors degree with honours	26	78	78
Postgraduate diploma	30	63	62
Postgraduate certificate	52	–	–
All students	18	65	62

International students generally have a lower rate of direct progression to postgraduate study after completing a bachelors-level qualification than domestic students. This reflects the fact that most international students have a focus on completing the qualification they originally come to New Zealand to take. Of those international students who completed a bachelors-level qualification during 2004, 11 percent continued studying in New Zealand at postgraduate level. This rate has been variable over the last five years, ranging from 6.9 percent of 2000 completions to 16 percent of 2003 completions.

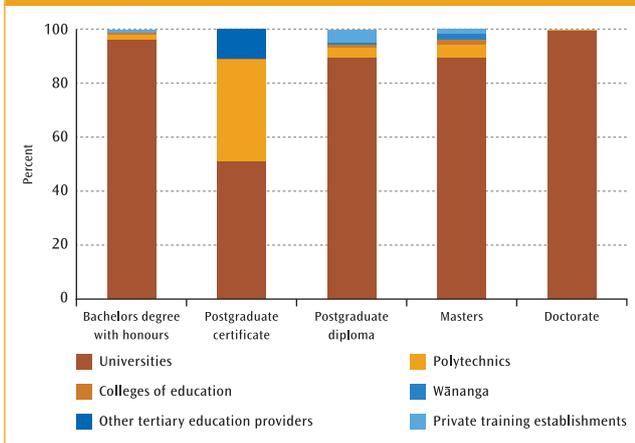
Of those international students who completed a postgraduate certificate or diploma or a bachelors degree with honours during 2004, 30 percent went on to masters or doctorate study during 2005. Of those international students completing a masters degree during 2004, 3 percent went on to doctorate study during 2005.

TYPE OF PROVIDER

Universities continued to be the largest type of tertiary education organisation to enrol domestic students in postgraduate study. In 2005, 87 percent of all domestic postgraduate students were enrolled at a university, compared to 8.2 percent for polytechnics, 2.1 percent for private training establishments, 1.5 percent for other tertiary education providers and 0.8 percent for wānanga. The higher the level of the postgraduate qualification, the more likely it was to be done at a university. During 2005, almost 100 percent of doctorate study was done at universities.

Polytechnics attracted a growing proportion of domestic postgraduate students across all qualifications, with most of this growth in postgraduate certificate study. From 2000 to 2005, domestic students enrolled in postgraduate certificate study at polytechnics increased by 500 percent, and they now make up 37 percent of all domestic postgraduate certificate students. Two-thirds of domestic postgraduate students studying at private training establishments were enrolled in postgraduate diplomas during 2005.

Figure 9.3: Distribution of domestic postgraduate students in 2005 by sub-sector and qualification level



During 2005, 29 percent of domestic students who graduated from a university achieved a postgraduate qualification. By contrast, other parts of the sector were more focused on lower-level qualifications.

Of those domestic students starting a bachelors degree with honours at a polytechnic during 2001, 67 percent had completed within five years, compared with 64 percent of those starting at universities. Across all other postgraduate qualifications, domestic students enrolled in universities were more likely to complete than those enrolled in other providers.

Of those domestic students who started a masters qualification at a university in 2001, 49 percent had completed within five years, compared with 37 percent for private training establishments, 21 percent for polytechnics and 13 percent for wānanga.

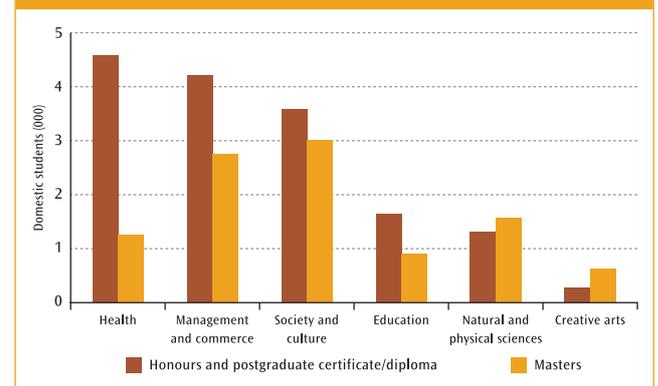
FIELD OF STUDY

As at other levels of study, management and commerce-related, and society and culture-related were the most common broad fields of study at postgraduate level during 2005. The management and commerce broad field had around 6,810 domestic students (or 22 percent of all domestic postgraduate students) during 2005, while the society and culture field of study had around 6,710 domestic postgraduate students (or 22 percent). Study in the broad field of society and culture includes, for example, law, economics, philosophy, sociology, history, language studies, human welfare support and services, and sport and recreation.

The number of domestic postgraduate students enrolled in the health field of study increased by 3,130 (or 118 percent) from 2000 to 2005. This field of study made up 19 percent of all domestic students studying at postgraduate level during 2005. Other broad fields of study were mixed field programmes (13 percent of all domestic postgraduate students during 2005), natural and physical sciences (9.1 percent) and education (8.4 percent).

The most common fields of study at honours or postgraduate certificate/diploma level were health (4,560 domestic students during 2005), management and commerce (4,200 students), society and culture (3,580 students) and education (1,630 students). The most common fields of study at masters level were society and culture (3,000 domestic students during 2005), management and commerce (2,730 students), natural and physical sciences (1,560 students) and health (1,240 students).

Figure 9.4: Top 6 fields of study in 2005 for domestic postgraduate students



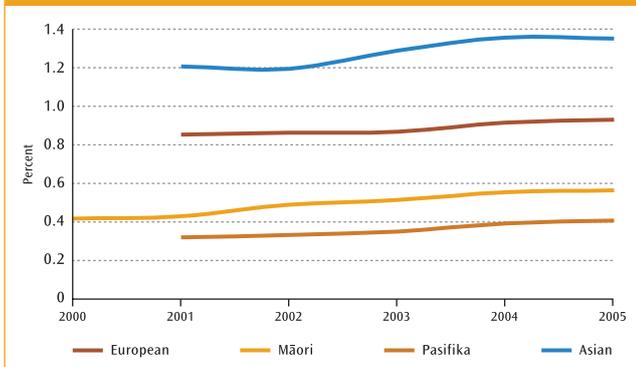
ETHNIC GROUPS

When adjusted for differences in the age profiles of the various ethnic groups, 1.4 percent of Asian New Zealanders aged 15 years and over participated in postgraduate study during 2005, the highest rate of any ethnic group. This compared with 0.9 percent for Europeans, 0.6 percent for Māori and 0.4 percent for Pasifika. From 2001 to 2005, the participation rate of Māori in postgraduate study grew at a faster rate than other ethnic groups.



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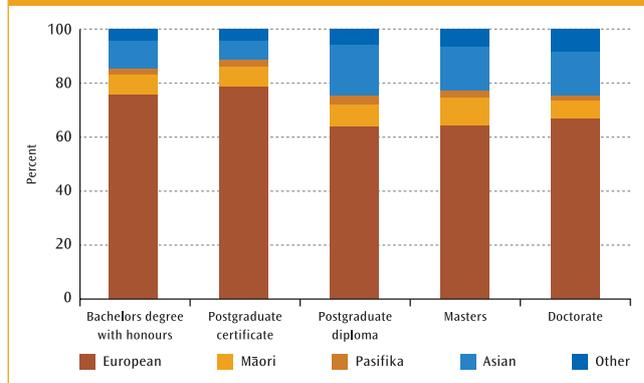
Figure 9.5: Age-standardised participation rates in postgraduate study by ethnic group



Māori and Pasifika remain under-represented across all qualifications in postgraduate study. During 2005, Māori students made up 11 percent of all domestic students enrolled in masters degrees, while this proportion ranged from 6.6 percent to 9 percent across the other postgraduate qualifications. The proportion of domestic Pasifika students enrolled in postgraduate qualifications in 2005 ranged from 2.2 percent to 3.5 percent across all types of postgraduate qualification. While Māori and Pasifika are under-represented at postgraduate level, their share increased between 2000 and 2005. Growth in the number of Māori students has been strongest in postgraduate certificate and masters study, while for Pasifika students it has been strongest in postgraduate certificates, doctorates and bachelors degrees with honours. Across all postgraduate qualifications, growth in the number of Māori and Pasifika students has been stronger than that of European students.

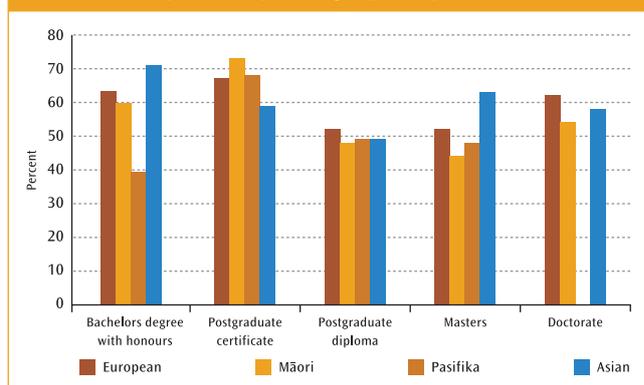
Domestic Asian students are over-represented across all postgraduate qualifications. During 2005, domestic Asian students made up 19 percent of domestic postgraduate diploma students and 17 percent of domestic doctorate and masters students. While domestic Asian students had the strongest growth across most postgraduate qualifications from 2000 to 2005, this growth has stopped in masters, bachelors degree with honours and postgraduate diploma study from 2004 to 2005.

Figure 9.6: Distribution of domestic postgraduate students in 2005 by ethnic group and qualification level



Of those domestic students who started a postgraduate qualification in 2001, Asian students had the highest five-year completion rate for all qualifications except doctorates and postgraduate certificates. Domestic Asian students had a five-year completion rate, of 71 percent, in bachelors degrees with honours, eight percentage points higher than other ethnic groups, and 62 percent in masters degrees, 15 percentage points higher than other ethnic groups. Māori students had a five-year completion rate in postgraduate certificates of 72 percent, the highest of all ethnic groups, while domestic Pasifika students had a completion rate of 68 percent, the second highest. Similar trends are seen in the five-year retention rates of domestic students starting a postgraduate qualification during 2001.

Figure 9.7: Five-year retention rates for domestic postgraduate students who started study in 2001 by ethnic group and qualification level



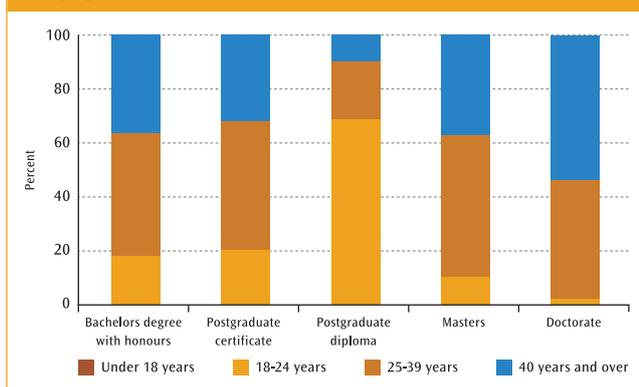
AGE

Domestic postgraduate students, on average, are older than their sub-degree and bachelors-level counterparts. During 2005, the average age of domestic postgraduate students was 34.9 years, up from 33.6 years during 2000. Domestic doctorate students, on average, are the oldest postgraduate students, with an average age of 37 years during 2005.

Of those in the New Zealand population who participated in tertiary education between 2000 and 2005, the group aged 25 to 39 years grew the fastest while the participation of the group aged 18 to 24 years of age declined over this period. In 2005, 1.7 percent of those aged 18 to 24 years participated in postgraduate study, compared to 1.6 percent of those aged 25 to 39 years and 0.6 percent of those aged 40 years and over.

Across all postgraduate qualifications, domestic students aged 40 years and over had the biggest increase in numbers between 2000 and 2005, while those aged 18 to 24 years had the least growth in most qualifications. In 2005, domestic students aged 25 to 39 years made up the largest proportion of postgraduate students. Domestic students aged 18 to 24 years made up 69 percent of those taking a bachelors degree with honours and those aged 40 years and over comprised 50 percent of all students enrolled in a postgraduate certificate.

Figure 9.8: Distribution of domestic postgraduate students in 2005 by age group and qualification level



Domestic students aged 18 to 24 years who started a postgraduate qualification during 2001 had higher five-year completion and retention rates than older students across all postgraduate qualifications. There was a similar trend in sub-degree and bachelors degree study, partly because older students

were more likely to be studying part-time and combining study with work or family commitments.

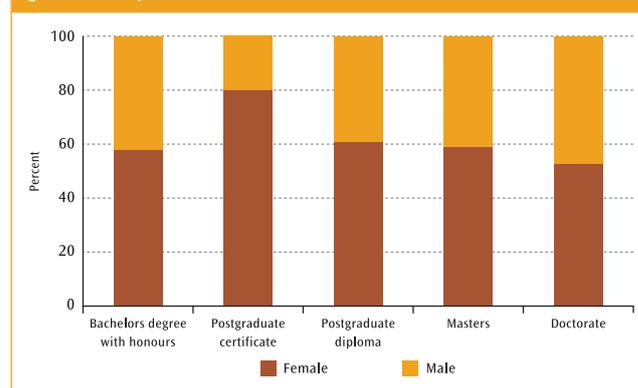
The first-year attrition rate for domestic students who started a postgraduate qualification during 2004 was also lowest for those aged 18 to 24 years across all postgraduate qualifications. First-year attrition for domestic students aged 18 to 24 years ranged from 3 percent for doctorate students to 29 percent for students enrolled in bachelors degrees with honours.

GENDER

Participation rates for females in postgraduate study doubled from 1995 to 2005. Of females aged 15 years and over, 1.2 percent participated at the postgraduate level, compared with 0.7 percent for males in this age group.

The number of females enrolled outnumbered the number of males enrolled across all postgraduate qualifications during 2005. However, the gender difference was less pronounced the higher the level of the postgraduate qualification. While females have outnumbered males at other postgraduate levels for several years, at doctorate level their number surpassed males for the first time in 2004. Females enrolled in postgraduate certificate study during 2005 made up 80 percent of the total domestic postgraduate certificate students, compared with 53 percent for domestic doctorate students.

Figure 9.9: Distribution of domestic postgraduate students in 2005 by gender and qualification level





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Growth in the numbers of females studying at postgraduate level was stronger than in the numbers of males across all postgraduate qualifications. The number of female students grew fastest in postgraduate certificate study. Between 2000 and 2005, the number of females enrolled in postgraduate certificates increased by 178 percent, from 1,210 to 3,360. While the number of males enrolled in postgraduate certificates also grew at a faster rate over this period than for males in other postgraduate qualifications, their rate of increase was lower at 70 percent. The number of females enrolled in masters study has increased by 23 percent from 5,320 to 6,550 between 2000 and 2005. Over the same period, males enrolled in masters study increased by 8.3 percent, from 4,160 to 4,510.

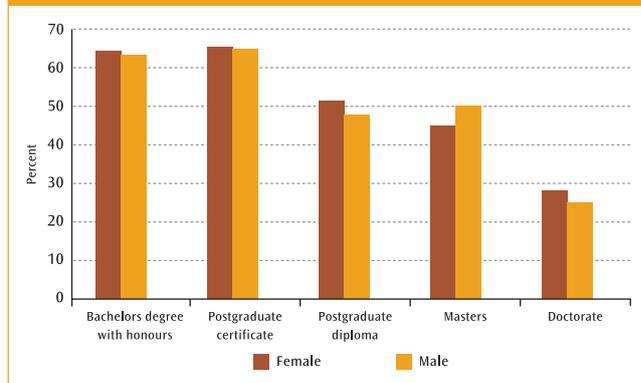
During 2005, Māori females made up 68 percent of all Māori postgraduate students and Pasifika females made up 63 percent of all Pasifika domestic postgraduate students. Asian males made up 45 percent of all Asian domestic students and participated in postgraduate study at a similar rate to Asian females.

In the various age groups, the largest gender difference was for those aged 40 years and over, where there were more than twice as many females in postgraduate study as there were males.

Achievement

Females were more likely than males to complete a postgraduate diploma, a bachelors degree with honours and a doctorate degree within five years. Males are more likely than females to complete a masters degree within five years, while males and females complete postgraduate certificates within five years at a similar rate. The gender difference in five-year completion rates was less pronounced in postgraduate study than it was in either bachelors-level or sub-degree-level study. Five-year retention rates for domestic students starting postgraduate study during 2001 were similar for females and males across all postgraduate qualifications.

Figure 9.10: Five-year completion rates for domestic postgraduate students who started study in 2001 by gender and qualification level



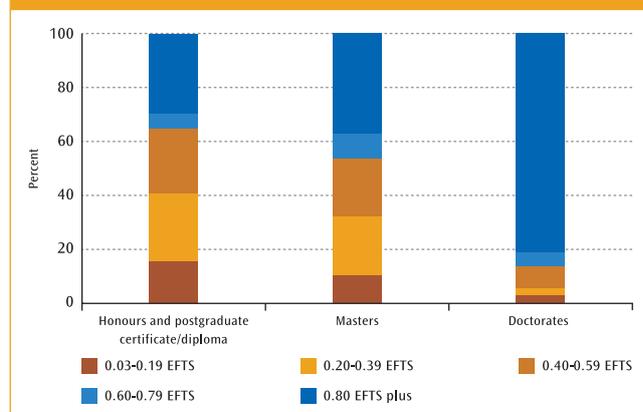
TYPE OF STUDENTS

Study load

There were significant differences in the study load of domestic students at the different levels of postgraduate study. During 2005, 81 percent of domestic doctorate students were enrolled with an equivalent full-time student value of 0.8 or more, compared with 37 percent of domestic masters students and 29 percent of domestic honours and postgraduate certificate/diploma students.

While the distribution of domestic doctoral students by study load remained relatively constant between 2000 and 2005, the number of students enrolled with an equivalent full-time student value of less than 0.4 has increased both at honours and postgraduate certificate/diploma level and at masters level.

Figure 9.11: Distribution of domestic postgraduate students in 2005 by qualification level and study load



Mode of study

Of those enrolled in postgraduate qualifications in 2005, around 15 percent studied extramurally. A similar level of extramural study occurs at bachelors level, while for the lower qualification levels the amount of extramural study increases. Around 20 percent of level 4 certificates and level 5 to 7 certificates and diplomas are studied extramurally. Of those enrolled in level 1 to 3 certificates, around 40 percent studied extramurally.

There was a higher proportion of domestic students studying extramurally at honours and postgraduate certificate/diploma level than at masters or doctorate level. During 2005, 3,530 domestic honours or postgraduate certificate/diploma students (around 22 percent) studied one or more qualifications extramurally. Extramural students made up 10 percent of domestic masters students and 0.4 percent of domestic doctoral students. In the six-year period since 2000, there has been growth in the number of extramural domestic students in all types of postgraduate qualification.

Around 92 percent of domestic students studying for postgraduate certificate/diploma qualifications at private training establishments studied extramurally during 2005. Across all levels of postgraduate study, domestic students studying extramurally are more likely to be aged 40 years and over than any other age group, and more likely to have a study load of between 0.2 and 0.4 EFTS.

Students with disabilities

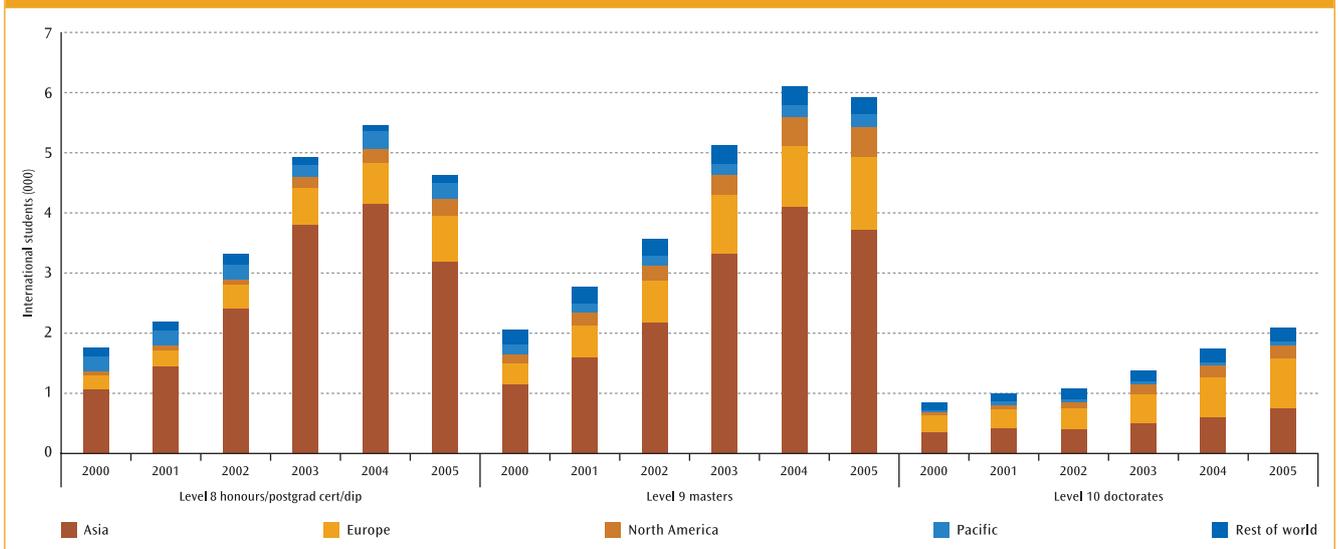
Students with disabilities were less likely to study at the postgraduate level than at other qualification levels. During 2005, the number of domestic students with disabilities represented 3.1 percent of students studying at honours and postgraduate certificate/diploma level, 3.6 percent of domestic students studying at masters level and 2.6 percent studying at doctorate level. These proportions have remained relatively unchanged since information on disability was first collected in 1998.

Across all levels of postgraduate study, students with disabilities were more likely to be aged 40 years and over than any other age group, and more likely to be Māori than any other ethnic group.

INTERNATIONAL STUDENTS

The majority of international students studying at honours and postgraduate certificate/diploma or masters level in New Zealand are from Asia (69 and 65 percent, respectively). The next largest groups are from Europe and North America. Almost 40 percent of international students enrolled in doctorate study during 2005 were from Europe, compared with 36 percent from Asia. From 2004 to 2005, the number of international students from Asia enrolled in honours or postgraduate certificate/diploma study decreased by 22 percent, while the number of Asian students enrolled in masters study decreased by 8.8 percent.

Figure 9.12: International students in postgraduate study by region of origin and qualification level





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The largest number of students studying at honours or postgraduate certificate/diploma level continues to be from China (44 percent of international students during 2005). However, the number of international students from China decreased by 25 percent from 2004 to 2005. The next largest numbers of honours or postgraduate certificate/diploma students come from India, followed by Germany and Canada. The largest number of students studying at masters level are also from China (42 percent of international students during 2005). The next largest number of masters students comes from Germany, followed by India and the United States.

The most common field of study for international students enrolled in honours or postgraduate certificate/diploma study during 2005 was management and commerce, with 45 percent of international students studying in this field. From 2004 to 2005, the number of international students enrolled in management and commerce study at honours or postgraduate certificate/diploma level decreased by 22 percent. Other fields of study were natural and physical sciences (16 percent) and society and culture (9.4 percent). The most common field of study for international masters students during 2005 was also management and commerce, with 47 percent of international students studying in this field.

International postgraduate students, as a group, are younger than their domestic counterparts, with an average age of 28.2 years, compared with 34.9 years for domestic students. During 2005, just 6 percent of international postgraduate students were aged 40 years and over, compared with 34 percent of domestic students. By contrast, 25 percent of international postgraduate students were aged 18 to 24 years and 69 percent were aged 25 to 39 years.

DOCTORAL STUDENTS

There were 4,140 domestic students enrolled in doctorate study during 2005, an increase of 4 percent over 2004. Annual growth in domestic doctoral students from 2001 to 2005 remained relatively constant at 4 percent. During 2005, 13 percent of all domestic postgraduate students were enrolled in doctoral study.

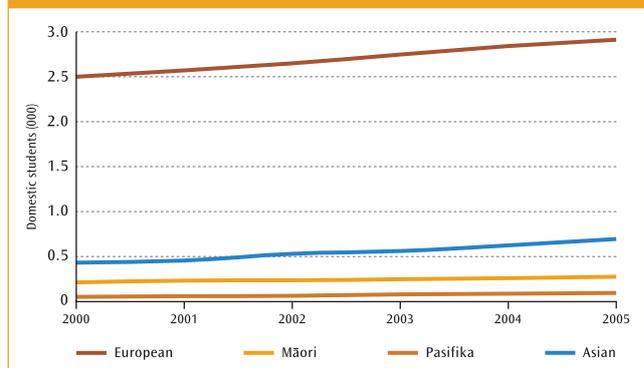
All but 14 domestic students enrolled in doctorate study were enrolled in universities during 2005. Almost a third of these students were enrolled at the University of Auckland, a further 17 percent were enrolled at the University of Otago and 15 percent

at Massey University. The 14 students not enrolled at a university were all enrolled in Unitec New Zealand and largely studying information technology.

Domestic students enrolled in doctorate study during 2005 made up 3,995 equivalent full-time students, up by 569, or 17 percent, on 2004. Domestic students enrolled in doctorate study are more likely to be studying full-time than students enrolled at other qualification levels. During 2005, 81 percent of domestic doctorate students were enrolled with an equivalent full-time student value of 0.8 or more, up on 79 percent during 2000.

While domestic Pasifika students remained under-represented at doctorate level during 2005, their numbers doubled to 95 in the six years since 2000. During 2005, 2.3 percent of domestic doctorate students were Pasifika. Māori were also under-represented at doctorate level with 6.6 percent of the total domestic doctorate students during 2005. European students made up 70 percent of domestic doctorate students, while domestic Asian students made up 17 percent.

Figure 9.13: Number of domestic doctoral students by ethnic group



Domestic doctoral students were more likely to be aged 25 to 39 years than any other age group, with 52 percent of students in this age group during 2005. Students aged 40 years and over made up a growing proportion of domestic doctorate students, with 38 percent of domestic doctorate students aged 40 years and over during 2005, up from 33 percent during 2000. Students aged 18 to 24 years made up the remaining 10 percent of domestic students enrolled in doctorate study.

While females outnumber males in doctorate-level study, the gender difference at doctorate level is the lowest across all qualification levels except for certificate level. Enrolments at the

doctorate level by females exceeded enrolments by males for the first time in 2004. During 2005, 53 percent of domestic students enrolled in doctorate study were female. However, the number of females enrolled in doctorate study grew by 36 percent from 2000 to 2005, while the number of males grew by 10 percent over that period.

A total of 580 domestic students completed doctorate qualifications during 2005. This represented a 4.3 percent increase over 2004, and an increase of 34 percent on the number of students completing in 2000. An estimated 27 percent of domestic students who started a doctorate qualification in 2001 had completed after five years. However, 34 percent of those students who started in 2001 were still studying towards their doctorate five years later, while the remaining 39 percent were not studying toward the doctorate qualification during 2005. Those more likely to complete a doctorate qualification within five years included students aged 18 to 24 years, who were more likely than older students to be studying full-time.

Table 9.3: First-year attrition and five-year retention and completion rates for domestic doctoral students

	First-year attrition	Five-year retention	Five-year completion
Students starting in			
	2004	2001	2001
Domestic doctoral students	Percentage of students		
Female	4	62	28
Male	4	60	25
European	3	62	28
Māori	4	54	13
Pasifika	5	–	–
Asian	4	58	26
18 to 24 years	3	73	37
25 to 39 years	5	60	29
40 years and over	3	56	17
All students	4	61	27

The number of international students enrolled in doctorate study continued to grow. There were 690 international students enrolled in doctorate study during 2005, an increase of 20 percent over 2004 and 146 percent over 2000. All but one of the international students enrolled in doctorate study during 2005 were enrolled at universities. Over a quarter of international students enrolled in doctorate study during 2005 came from Germany. The next largest student numbers came from Malaysia, followed by France, the United States, Thailand and China. A total of 650 international students completed doctorate qualifications during 2005, an increase of 4.2 percent over 2004. International students complete doctorate qualifications within five years at a higher rate than domestic students. However, international students are more likely to be studying full-time and thus able to complete their doctorate qualification in a shorter time-frame. An estimated 41 percent of international students who started a doctorate qualification during 2001 had completed after five years. Around 25 percent of those who started in 2001 were still studying towards their doctorate five years later.

References:

- Organisation for Economic Co-operation and Development (2006), *Education at a glance: OECD indicators 2006*, Paris.
- Scott, D. (2005), *How long do people spend in tertiary education?* Ministry of Education, Wellington.



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AN OVERVIEW

In 2005, the number of student loan borrowers fell for the first time since the Student Loan Scheme was introduced in 1992. But students borrowed more, on average, in 2005 than in 2004.

Higher tuition subsidy rates for the year ended June 2006 led to an increase in government's total financial support for students participating in tertiary education. Both the drop in the equivalent full-time student count and the greater proportion of students enrolling in courses that attract a lower per student funding rate were more than offset by the increase in the tuition subsidy base rates.

Uptake of student allowances in 2005 fell slightly on the previous year, in spite of the new parental income limits introduced in 2005 that were intended to enable larger numbers of students to qualify. This may reflect an increased choice of shorter, or part-time, vocational courses that do not attract student allowances.

LOOKING TO 2006

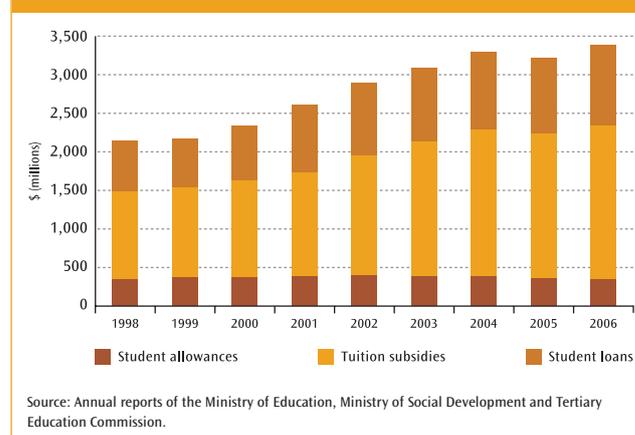
Interest charges on student loans for all students and for borrowers who remain in New Zealand after study have been abolished from 1 April 2006 onwards. Amendments to the Student Loan Scheme Act 1992 were passed by Parliament in December 2005 to give effect to the no-interest loan policy and to allow Inland Revenue to write off student loan late payment penalties for borrowers who were non-resident on 31 March 2006. The amnesty will run from 1 April 2006 to 31 March 2007. For more information on these changes to the Student Loan Scheme see page 141.

Government's efforts in recent years to ease the cost of tertiary study for students has culminated in December 2005 in interest-free student loans after study for those who continue to reside in New Zealand. Containment of the amount students have had to borrow in recent years has come from providing interest write-offs on student loans for full-time students and for low-income, part-time students, restraints on tuition fee increases and increased eligibility for student allowances.

The largest component of all government spending on tertiary education is the tuition subsidies paid to tertiary education providers. Student loans and student allowances represent only 41 percent of the financial assistance provided by government to students participating in tertiary education. This chapter covers information on student loans, allowances and other forms of financial support such as scholarships, while information on tuition subsidies is provided in chapter 15.

Government's financial support for tertiary study for the year ended June 2006 increased by 5.4 percent due to an increase in the tuition subsidy rates and an increase in the average amount borrowed by students.

Figure 10.1: Government support for tertiary study – tuition subsidies, student loans and allowances



Notes:

1. The figures for 2005/06 are provisional.
2. Student allowances amounts are before tax or gross amounts.
3. Tuition subsidies include appropriations to the performance-based research fund.
4. Student loan amounts are capital amounts.



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Over the five years ended June 2006, government's financial support increased by 5.3 percent a year (on average) to \$3.4 billion. Over the same period, tuition subsidies and student loans averaged an increase of 8.1 percent and 3.7 percent per annum, respectively, while student allowances expenditure fell by 2 percent. In the 2005 academic year, the amount borrowed under the Student Loan Scheme reached \$971 million while \$354 million in allowances was paid to tertiary students. The recent decreases in the expenditure on allowances occurred despite an increase in the parental income thresholds for student allowances eligibility. Lower unemployment in 2004 may have lifted the incomes of some parents, resulting in lower or no allowances entitlements for their children.

Government's expenditure on tuition subsidies, student allowances and student loans was 2.2 percent of New Zealand's gross domestic product for the year ended June 2006, up slightly from 2.1 percent for the previous year.

The principles underlying the student support system

The government believes that, to be effective, our student support system must be built upon a set of underpinning principles that reflect New Zealand's needs and circumstances. These are:

- To maintain high levels of participation in, and completion of, tertiary education
- To ensure that New Zealand's tertiary education system makes the best contribution to national development
- To ensure equity and fairness
- To ensure that government investment in student support and tertiary education is financially sustainable
- To ensure that tertiary education is affordable for students, and
- To ensure consistency with the wider social assistance system.

Any improvements to student support must meet all five principles because only then will the changes be equitable, have public acceptance, meet our national goals, and be sustainable over the longer term.

THE STUDENT LOAN SCHEME

The Student Loan Scheme plays an important role in providing support to tertiary students and helping to achieve the government's social and economic goals. Introduced in 1992, the scheme supports the participation of all New Zealanders in tertiary education by providing students with access to finance for tuition fees and other education-related costs.

The Student Loan Scheme reached its 14th year of operation in 2005. Increased participation in tertiary education has taken the annual level of borrowing to \$971 million in 2005. In the scheme's first year of operation students borrowed \$160 million. The level of borrowing has stabilised since 2003. The face value of the aggregate loan balance on 30 June 2006 was \$8,370 million, compared with \$7,499 million a year earlier and \$3,521 million on 30 June 2000. By 2034, it is expected that total repayments of debt each year will exceed drawings. This is a significant change from earlier estimates of when repayments would exceed drawings. In 2005, the forecast was that this would occur in 2016. The change in the estimated date is due to the introduction of interest-free loans from 1 April 2006.

From 1992 to 2003, the amount borrowed per student increased, on average, by 5 percent per academic year. However, in 2004, the average amount borrowed declined by 0.9 percent to \$6,258, compared with \$6,316 in 2003. In 2005, the upward trend resumed and the average amount borrowed increased by 2.4 percent to \$6,408.

Government has taken a number of measures to make tertiary education more affordable. The 'no interest while studying' policy that took effect in 2000 was designed to help reduce the growth of student loan debt and the introduction of 'fee and course costs maxima' was designed to limit fee increases by tertiary education providers. The increases in the parental income thresholds for student allowances eligibility, introduced in 2005, were also designed to reduce borrowing. While the majority of full-time domestic students have loans, the number of students borrowing for study in 2005 fell by 1.7 percent on the previous year to 154,000 borrowers. From 1 April 2006, loans became interest-free for those who remain in New Zealand.

A student loan is made up of four components

The components and their maximum entitlements are as follows:

- Full-time students can access a living costs entitlement of \$150 per week for each week of the course, less any net entitlement to student allowances.
- A course-related costs component of up to \$1,000 per year is available to help cover costs for the course being studied.
- A fees component enables students to have the compulsory fees charged for the study being undertaken transferred from their loan account to their tertiary provider.
- An administration fee of \$50 is charged the first time a new loan account is established in each year of study.

Lending under the Student Loan Scheme is managed by StudyLink, a service of the Ministry of Social Development. Each year on 28 February, borrowing records are transferred to Inland Revenue, which is responsible for collecting student loan repayments through the tax system. For more information see the *Student Loan Scheme Annual Report Incorporating the Financial Statements to 30 June 2006*: www.educationcounts.edcentre.govt.nz/publications/tertiary

Interest on student loans is abolished

Interest-free student loans came into effect on 1 April 2006. Student loan borrowers eligible for interest-free loans (they must be living in New Zealand for 183 or more consecutive days) will have their interest written off automatically after the end of the tax year. They do not have to register for interest-free student loans. The first interest write-off will be in April 2007.

Borrowers who do not satisfy the 'living in New Zealand' criterion may qualify for an exemption to make their loan interest-free. Exemptions apply to circumstances such as overseas postgraduate study and volunteer work.

As part of the interest-free initiative, Inland Revenue is also working on matching data with the New Zealand Customs Service to identify borrowers who don't qualify for interest write-offs. This work will involve historical, transitional and ongoing data matches between the two agencies.

Pre-requisites to borrowing under the Student Loan Scheme

Borrowers must sign a loan contract with the Crown and students who are less than 18 years old need parental consent before they can borrow. Undischarged bankrupts are not eligible to apply for a student loan. To be eligible for a loan a student must:

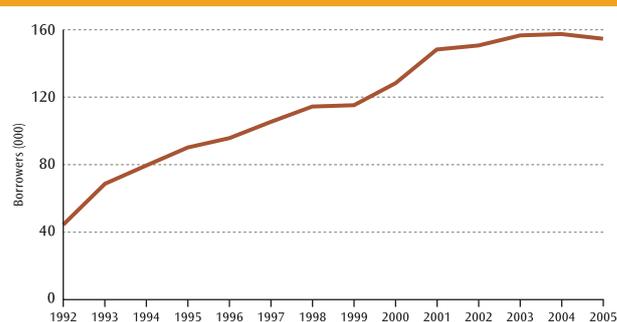
- be a New Zealand citizen or have been granted permanent residence in New Zealand, and
- be enrolled in an approved course of study at a recognised tertiary education organisation, and
- be meeting minimum duration of study and course load requirements.

Profiling student loan borrowers

The number of students who borrowed under the loan scheme in the 2005 academic year was 154,000 (down 1.7 percent on 2004). This was the first time since the introduction of the scheme in 1992 that the number of borrowers fell.

As shown below, the number of borrowers had risen dramatically since the scheme began. Participation in tertiary education increased significantly in the 1990s and, while government funding increased, the tuition subsidy per equivalent full-time student fell during this time, increasing the cost of tertiary study for students.

Figure 10.2: Growth in borrower numbers since the scheme began



Source: Ministry of Education and Ministry of Social Development.



Learners in tertiary education

Changes in borrowing behaviour

There was a reduction in the number of people using the loan scheme in 2005. It is difficult to draw inferences about borrowing behaviour from the uptake rates across the whole loan scheme, because these are strongly influenced by the balance between full-time and part-time enrolments. Part-timers have a lower incidence of borrowing as the costs they face are lower and many part-time students have other sources of finance. So to consider borrower behaviour, it is more helpful to focus on how full-time students use the loan scheme.

The estimated uptake rate among full-time students was 81 percent in 2001 and ranged from 72 percent in 2003 to 76 percent in 2005.

Figure 10.3: Loan uptake rates of full-time students



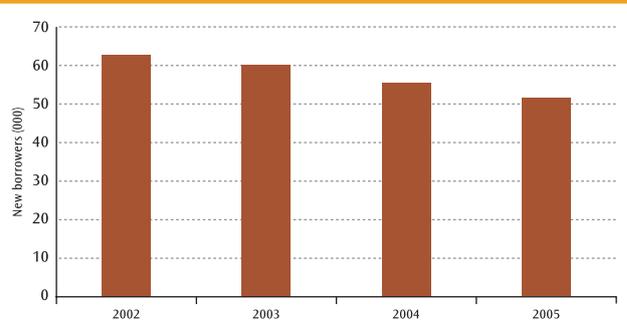
Source: Ministry of Education and Ministry of Social Development.

The increase in uptake rates among full-time students between 1999 and 2001 reflects the introduction in 2000 of the 'no interest while studying' policy. Changes in uptake rates also reflect general economic conditions; as jobs have become easier to get, more students have been able to access part-time work and that, too, has influenced the uptake of loans and the amounts borrowed.

Decline in first-time borrowers

Over the last three consecutive years, the number of students borrowing for the first time since 2000 fell each year. The number of new borrowers has dropped from 62,763 in 2002 to 51,433 students in 2005, despite a rise in the number of people participating in tertiary education for the first time.

Figure 10.4: First-time borrowers

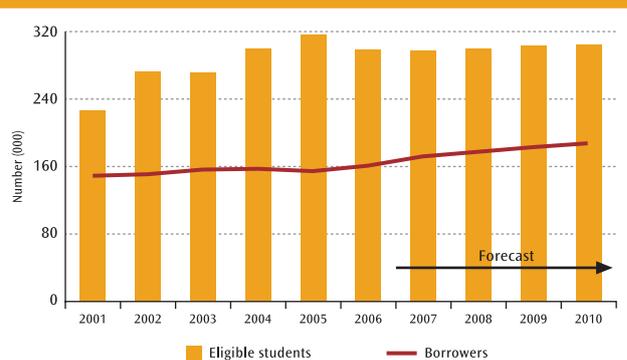


Source: Ministry of Social Development.

Note: This data is provisional.

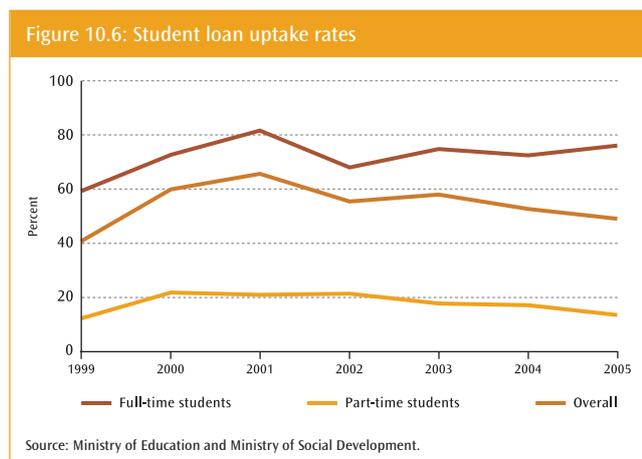
The proportion of eligible students who drew down a student loan in 2005 was 49 percent. Before this, the loan uptake rate had increased from 1999 to 2003 to an estimated 58 percent of those eligible. Then, in 2004, the rate fell to 53 percent, partly due to the scheme's eligibility changes that took effect in that year. Increases in the proportion of part-time students who are eligible for loans but less likely to borrow and students who enter the workforce before studying and so may not need to borrow may account for the decreasing rates of borrowing in both 2004 and 2005.

Figure 10.5: Estimate of students eligible to borrow and actual borrowers



Source: Ministry of Education and Ministry of Social Development.

As explained above, some part-time, part-year students became eligible to use the Student Loan Scheme in 2004. While this increased the number eligible to apply for a loan, part-time students face lower costs and are often able to afford to finance their study themselves. A relatively small proportion of part-timers use the Student Loan Scheme to finance their studies. The uptake rate for part-timers in 2005 was 13 percent, whereas for full-time students it was 76 percent.



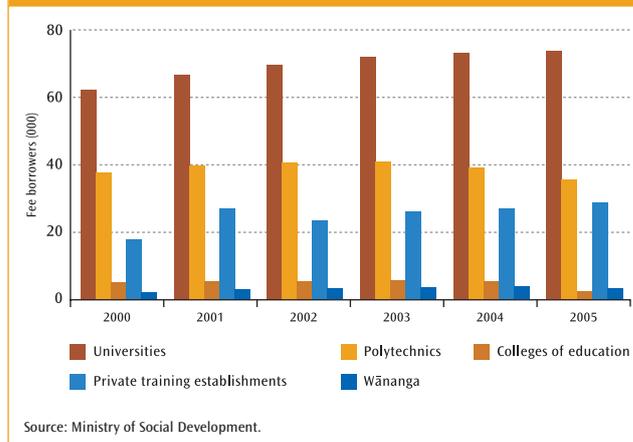
Note: Overall uptake rates depend on the mix of full-time and part-time borrowers. The low uptake of part-time borrowers, compared with the high uptake of full-time borrowers, reduces the overall uptake rate.

The majority of borrowers are university students

In 2005, just over half of all those who borrowed fees were enrolled at universities. This proportion has remained relatively stable since 2000.

The uptake of loans at wānanga is significantly lower than in other providers, reflecting both the availability of zero fee qualifications at the wānanga and a high proportion of part-time students.

Figure 10.7: Student fee borrowers by sub-sector



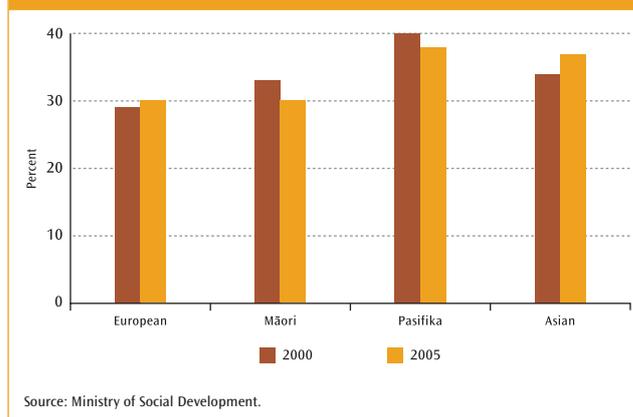
Notes:

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

More Asian and Pasifika borrowers

The number of Asian borrowers doubled from 2004 to 2005, from 30 percent to 60 percent of Asian equivalent full-time students. The number of Pasifika borrowers increased in 2005 to 60 percent of Pasifika equivalent full-time students. Before this, the number of Pasifika borrowers had remained unchanged from 2000 to 2004 at 56 percent of equivalent full-time Pasifika students.

Figure 10.8: Percentage of borrowers in each ethnic group



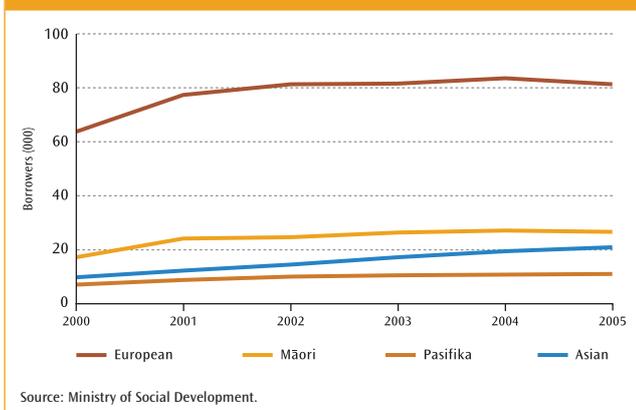
Note: Borrowers who have declared two ethnic groups are counted in each group. Borrowers who have declared three or more ethnic groups are omitted from this graph.



Learners in tertiary education

Borrowers in the European ethnic group increased as a proportion of the total European equivalent full-time student count, from 49 percent in 2000 to 56 percent in 2004. This proportion reduced to 55 percent in 2005. Māori borrowers accounted for 54 percent of total Māori equivalent full-time students in 2000 and 49 percent in 2004. This proportion reduced again in 2005 to 48 percent. Graphed below are borrowers by ethnic group for the years 2000 to 2005. As students can declare multiple ethnicities some overlapping of groups occurs in these graphs.

Figure 10.9: Borrowers by ethnic group

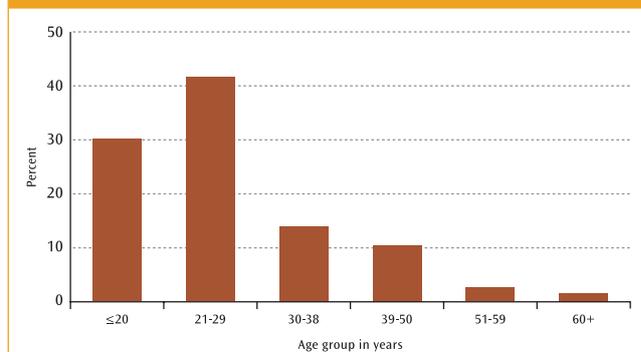


Note: Borrowers who have declared two ethnic groups are counted in each group. Borrowers who have declared three or more ethnic groups are omitted from this graph.

Most borrowers under 30 years of age

In 2005, 71 percent of borrowers were under the age of 30. Twenty-four percent of total borrowings were made by students of 30 to 50 years of age. The growing recognition of the value of lifelong learning has increased the average age of the student population. The graph below shows the comparative numbers of younger and older borrowers in 2005.

Figure 10.10: Borrowers in 2005 by age group



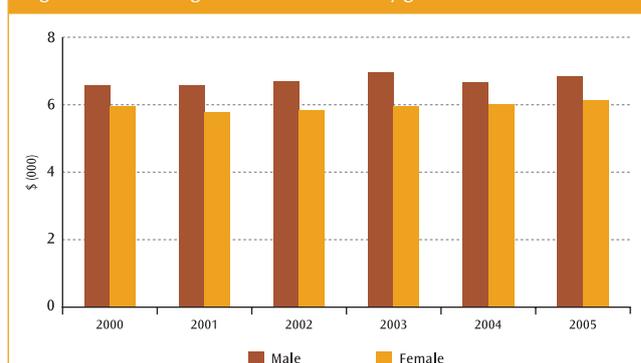
Source: Ministry of Social Development.

Male students borrow more

Compared with their female counterparts, male students borrowed 14 percent more, on average, over the six years from 2000 to 2005. In 2005, the average loan for males was \$6,832 compared with \$6,128 for females. However, total borrowing by female students has been higher because the female participation rate increased during the 1990s and it has remained higher than the male rate.

In 2005, 60.4 percent of borrowers were female while the amount they borrowed was 58 percent of total loans. The proportion of female tertiary students in 2005 was lower, at 55 percent, than the proportion of female students who borrowed.

Figure 10.11: Average amount borrowed by gender



Source: Ministry of Social Development.

Note: This data is provisional.

Amount borrowed increases

In 2005, the average amount borrowed increased by 2.4 percent to \$6,408, compared with \$6,258 in 2004. In 2004, the average amount borrowed had fallen, reversing the upward trend in borrowing since the inception of the loan scheme in 1992. This was attributed to an increase in the proportion of borrowers who were studying part-time. In 2005, the upward trend was resumed.

	Average amount borrowed	Percentage change	Median amount borrowed	Percentage change	Leaving loan balance
	\$	%	\$	%	\$
1992	3,628				3,170
1993	3,979	9.7			4,550
1994	4,309	8.3			5,900
1995	4,432	2.9			6,820
1996	4,649	4.9			7,640
1997	5,494	18.2			9,050
1998	5,714	4.0			9,960
1999	4,917	-13.9			9,260
2000	6,058	23.2	5,377		9,190
2001	6,135	1.3	5,487	2.0	9,220
2002	6,204	1.1	5,383	-1.9	9,480
2003	6,316	1.8	5,403	0.4	10,630
2004	6,258	-0.9	5,424	0.4	11,670
2005	6,408	2.4	5,485	1.1	na

Source: Ministry of Education and Ministry of Social Development.

Since 2004, fees have been regulated by the ‘fee and course costs maxima’ policy. While tertiary education providers are permitted to raise fees under the maxima, these increases were subject to limits. The median amount borrowed has been relatively stable from 2000 to 2004, largely as a consequence of fee stabilisation. In 2005, there was an increase of 1.1 percent in the median amount borrowed, compared to the 2004 level.

Borrowing by component

Most borrowers use the Student Loan Scheme to pay the compulsory fees charged by their tertiary education provider. Ninety-two percent of all borrowers used the scheme to pay fees in 2005, and 61 percent drew money from the scheme to help meet course-related costs. From 2000 to 2005, about 61 percent of all money drawn from the scheme was used to pay

fees. The proportion used to pay fees has been comparatively stable in recent years – mainly due to the introduction of the government’s fee stabilisation policy (introduced in 2000) and also the higher incidence of part-time enrolments. However, there was a small increase in borrowing for fees in 2005.

Figure 10.12: Borrowers in 2005 by loan component

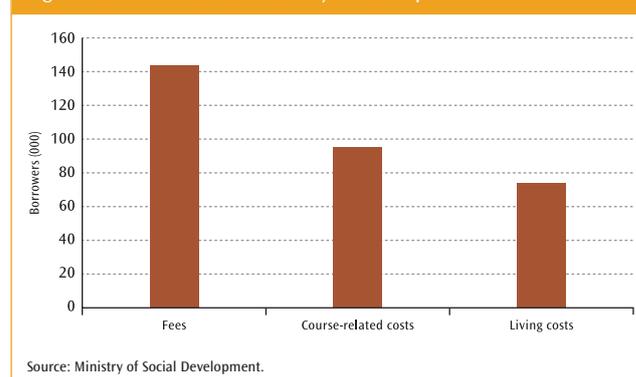
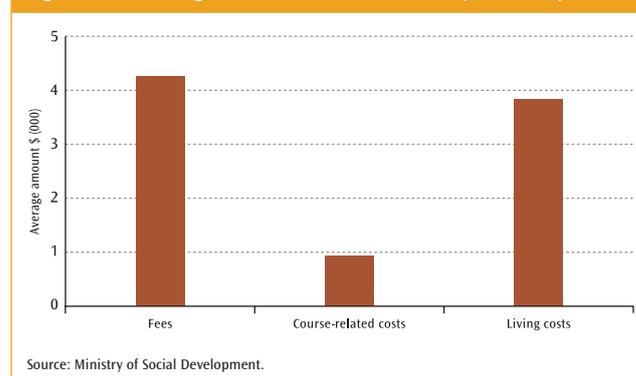


Figure 10.13: Average amount borrowed in 2005 by loan component



In 2005, \$610 million of borrowing was used for course fees, \$89 million for course-related costs, \$283 million for living costs and \$7.7 million for administration fees. The amount drawn for course-related costs has varied from 8.4 percent of total borrowing in 2000 to 9.0 percent in 2005.

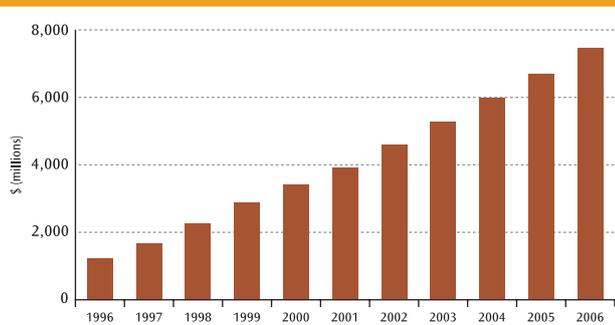
Student loan balances and repayments

In the year following study, loans are transferred by StudyLink to Inland Revenue for collection and combined with any existing loan balance to form the new loan balance. This section relates to loan balances held by Inland Revenue and it discusses loan repayments. Statistics relate to the fiscal year, 1 July to 30 June, unless otherwise stated.



Learners in tertiary education

Figure 10.14: Value of student loan debt at 30 June

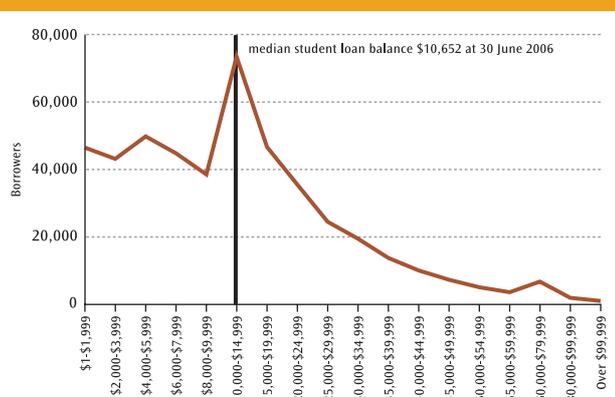


Source: Inland Revenue.

On 30 June 2006, the gross face value of loan balances was \$8,370 million, compared with \$7,499 million at 30 June 2005. This means that the face value rose by 11.6 percent over the year. The net student loan balance at 30 June 2006 was \$5,569 million, down by 13.9 percent from the balance at 30 June 2005 of \$6,465 million. Of this amount, \$4,609 million is held by Inland Revenue and \$960 million is held by the Ministry of Social Development. The fall in the net student loan balance over the year ended 30 June 2006 reflects the shift in accounting standards that accompanied the introduction of interest-free student loans. Loans are now valued according to new International Financial Reporting Standards, the details of which are explained in the latest *Student Loan Scheme Annual Report*.

In total, there were 470,507 borrowers with a student loan balance at 30 June 2006, up from 445,074 in 2005. The loan balances recorded at Inland Revenue at 30 June 2006 are charted below.

Figure 10.15: Borrowers at 30 June 2006 by range of loan balance



Source: Inland Revenue.

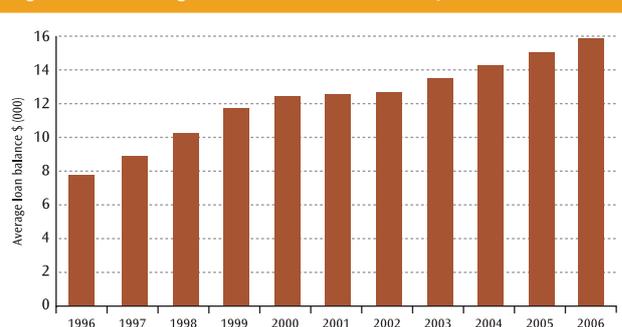
- Thirty percent of all loan balances were under \$6,000 in 2006.
- Almost half were under \$10,000.
- Sixty-three percent of balances were under \$15,000.
- Loan balances of \$40,000 or more made up 7.5 percent of all student loans.
- Balances of \$50,000 or more made up 3.9 percent of all student loan balances.
- Loan balances over \$55,000 represent less than 3 percent of total loans.

Loan balances increase

The average cumulative loan balance per borrower at 30 June 2006 was \$15,883, compared with \$14,997 in 2005 and \$14,242 in 2004. The increase in the average student loan balance from 2005 to 2006 was 5.9 percent. The median student loan balance on 30 June was \$10,652, compared with \$10,404 a year earlier. The relatively large difference between the average and the median occurs because the average is inflated by the presence of a small number of very large balances.

The year-to-year change in the average loan balance depends on the volume of additional borrowings, the number of new borrowers, the volume of repayments made and the number of loans that are repaid or written off. All four factors contribute to the total loan balance on any day. As the influence of each of the factors is different, their combined effect on the average student loan balance can be difficult to predict.

Figure 10.16: Average student loan balance at 30 June

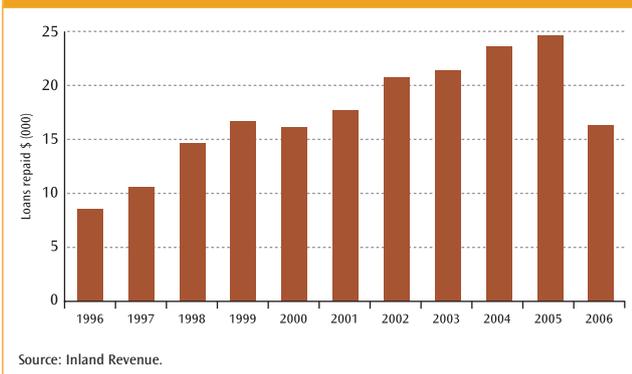


Source: Inland Revenue.

Student loan repayments

Inland Revenue is responsible for collecting student loan repayments through the tax system. As borrowers' repayment obligations are tied to their income level, repayment rates tend to start slowly and increase over time.

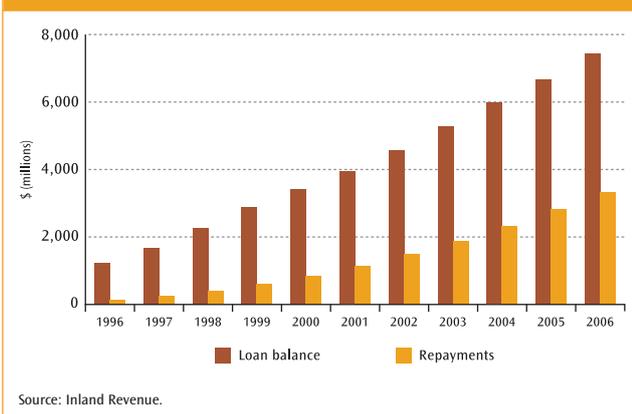
Figure 10.17: Student loans repaid at 30 June



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.

The number of loans fully repaid in the year ended June 2006 was 16,278 compared with 21,079 for the previous year. The number repaid in full since the scheme began is 195,393, more than 29 percent of those who have used the scheme.

Figure 10.18: Student loan repayments and aggregate loan balance at 30 June



The total value of loan repayments collected by Inland Revenue since the scheme began is \$3,313 million. Of that amount, \$1,817 million has been collected via employers through the PAYE system with the balance of \$1,496 million coming directly from the borrowers. Repayments made directly by borrowers include compulsory repayment obligations met by borrowers who are self-employed (or IR3 taxpayers) and by borrowers overseas, as well as voluntary repayments. The majority of repayments were compulsory while the remainder comprise voluntary repayments. It is currently not possible to calculate exactly the amount of voluntary repayments made in any one year.

Factors influencing repayment rates

Research shows that the proportion of borrowers who have fully repaid their loan five years after study has fallen over the 1990s. The fall in the rate of repayment within five years was partly due to the rise in tuition fees during the 1990s. Each year post-study, around 7 percent more people have fully repaid their loans than in the previous year. By 30 June 2006, 195,393 people had completely repaid their loans since the scheme began. Research also shows that those who successfully complete a qualification are more likely to make progress in loan repayments. On the other hand, students who leave study with a high loan balance are more likely to have made no progress than those with lower leaving balances.

There is almost no difference in repayment rates between men and women. The main determinant of repayment rates is income and as people's incomes rise, their repayment obligation increases. For this reason, borrowers' repayment rates tend to start slowly and increase as they gain experience in the workforce. Studies of repayment rates show that:

- women repay more quickly than men in the early years post-study
- five to six years after leaving study, the proportion of men and women who have repaid in full becomes almost equal
- successful completion of a qualification is associated with quicker repayment
- those who study at higher qualification levels tend to repay more quickly despite having higher leaving balances, and
- when other factors are held constant, those with smaller loans tend to repay more quickly.



Learners in tertiary education

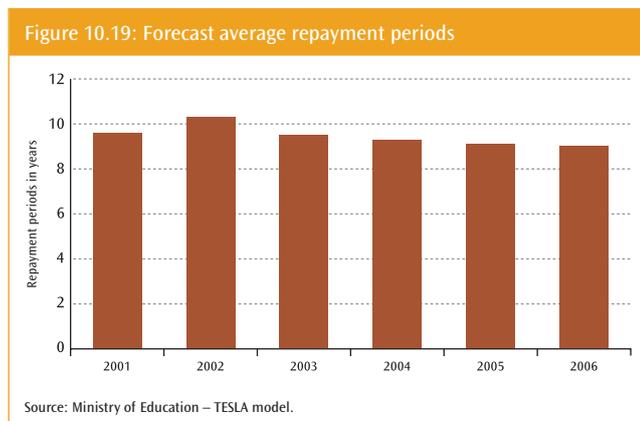
There was an exception to this for debts of over \$25,000, where 34 percent of men had fully repaid their debt compared with 24 percent of women. Of those owing more than \$25,000, 40 percent of women had made no progress compared with about a quarter of men (Smyth and Hyatt 2006).

Predicted repayment periods

The forecast of the average repayment period has fallen to 9 years, down from 9.1 years in 2005 and 9.3 years in 2004. The median loan repayment time is around 6.9 years. A quarter of borrowers repay their loans within three years and eight months while three-quarters of borrowers take less than 10.5 years to repay. In 2005, it was estimated that three-quarters of borrowers take 10.6 years to repay. The main factors contributing to the changes were the revised forecasts of future loan borrowings and the Treasury's long-term interest rates.

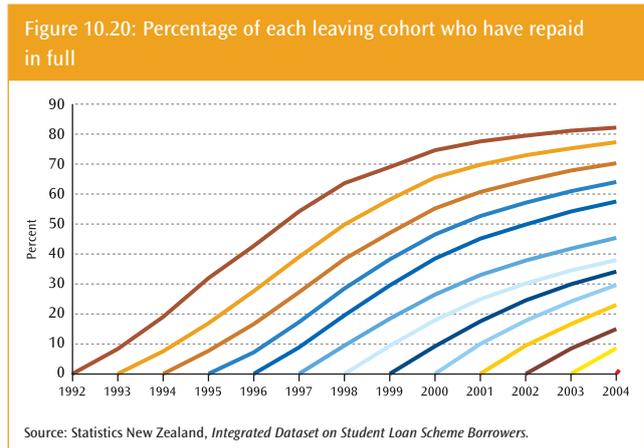
Loan balance estimates

The estimated changes in average repayment times for the years 2001 to 2006 are graphed below.



Changes in repayment behaviour

The following graph shows the percentage of people who have completely repaid their loans according to the year they left study.



By 1996, more than half of those who left study in 1992 had repaid in full. However, this cohort had only one year's borrowing at a time when fees were relatively low. Of those who left study in 1996, half had repaid by the end of 2002 – six years after leaving study. Leavers in 1997 and 1998 repaid their loans more slowly. Those who left study in 2000, and later, appear to be repaying slightly more quickly than the cohorts of the late 1990s. This trend is likely to be a consequence of the fee stabilisation policies that have operated since 2001 and the high employment in the last five or six years.

Repayment times are sensitive to changes in the income assumptions used in the forecasting model. An annual increase in borrowers' real income growth of 0.2 percent results in forecast repayment times being shortened by up to six months.

Student loan interest write-offs

Prior to 1 April 2006, borrowers on low incomes could qualify to have all or part of their interest written off. This will no longer be necessary with the introduction of interest-free student loans for borrowers who remain in New Zealand after study. Borrowers living overseas will still pay interest unless they qualify for an exemption because they are undertaking postgraduate study or volunteer work. Student loans are written off if the borrower becomes bankrupt or dies before paying off their loan.

Valuing and forecasting the Student Loan Scheme

Money owed to the government is recorded financially as an asset. This is similar to the way in which banks record mortgages in their financial statements. The loan scheme is a significant government asset. The portfolio was forecast to grow to \$12,700 million by the year 2014/15. This forecast is higher than the 2005 estimate of \$12,000, reflecting the government's move to interest-free student loans in 2006.

The loan scheme's costs are shared between students and the government. The government covers the cost of changes to implement new policies or improve delivery, while borrowers meet part of the administration costs through a one-off fee of \$50 for each year that they borrow. The government also meets the remaining administration costs and most of the cost of the capital needed to run the loan scheme, while borrowers overseas meet a share of the government's estimated capital costs through interest payments.

The government writes off the following sums, which represent a cost to the Crown:

- from 1 April 2006, all interest for borrowers living in New Zealand
- before 1 April 2006, all or part of the interest accrued by borrowers who meet certain criteria
- student loan balances of deceased or bankrupt borrowers, and
- small balances.

The loan scheme is now valued under a New Zealand equivalent to the International Financial Reporting Standards. The change in the accounting approach is described in the latest *Student Loan Scheme Annual Report*.

The fair value of the loan scheme is the amount for which ownership of the loans portfolio could be exchanged. In the calculation of the fair value, an assessment is made of expected future cash flows. The cash flows are discounted at rates that depend on market estimates of future interest rates. These rates incorporate a risk premium. Since market interest rates are used each year, the valuation is subject to market fluctuations outside of the loan scheme's control.

Table 10.2: Fair value of the Student Loan Scheme at 30 June

	2004	2005	2006
	\$ million		
Face value	6,821	7,499	8,370
Fair value	5,734	5,994	5,538
Ratio	84.1%	79.9%	66.2%

Source: Ministry of Education.

The fair valuation of the loan scheme at 30 June 2006 was approximately \$5,538 million. This is 66.2 percent of the face value of the loan scheme's closing balance (\$8,370 million) on the same date. Last year, the fair value calculated as at 30 June 2005 was \$5,994 million (79.9 percent), while in 2004 the fair value was \$5,734 or 84.1 percent of the face value. The fall in the ratio of fair value to face value in 2006 reflects the introduction in 2006 of interest-free student loans.

Interest rates

The interest rate for 2006/07 is 6.9 percent. Only borrowers living overseas incur interest. All student loan borrowers living in New Zealand are eligible for a full write-off of all interest incurred after 1 April 2006.

The average net interest rate is the total amount of interest charged – net of write-offs – as a percentage of the face value of all student loan balances. In the calendar year 2005, the average net interest rate was 3.2 percent, compared with 2.8 percent in 2002 and 2004.

Had the interest-free student loans policy not been implemented, the average net interest rate for the period 2006 to 2050 was forecast to be around 3.4 percent – representing only around 52 percent of the gross interest. Because interest is now accrued only by loan borrowers residing overseas, the average net interest rate under the new policy for the same period is estimated to be around 1.7 percent.

Estimates of loan balances

Listed below is the long-term projection of loan balances and this shows the estimated aggregate student loan balance at the end of each fiscal year.



Learners in tertiary education

Table 10.3: Forecast gross debt levels

Projected aggregate loan balances \$ (millions)						
2009/10		2014/15		2019/20		
June years	Balance	Change	Balance	Change	Balance	Change
2001	10,200		13,400		16,100	
2002	11,200	1,000	14,400	1,000	17,000	900
2003	10,200	-1,000	12,500	-1,900	14,400	-2,600
2004	10,500	300	13,000	500	15,100	700
2005	9,800	-700	12,000	-1,000	14,100	-1,000
2006	9,900	100	12,700	700	15,300	1,200

Source: Ministry of Education – TESLA model.

STUDENT ALLOWANCES

The Student Allowances Scheme was introduced in 1989 to help students from low-income families meet their living costs while studying full-time. New Zealanders studying towards recognised tertiary qualifications, and some senior secondary school students, may apply for student allowances. The scheme gives every tertiary student a 200-week entitlement to student allowances, subject to eligibility criteria.

In 2005, government expenditure on student allowances was \$318 million plus \$44 million in accommodation benefits paid to student allowances recipients. This was a 7 percent decrease on 2004 student allowances expenditure. The numbers of student allowances recipients reduced by 21 percent in 2005. The smaller reduction in expenditure is due to the annual increase in allowance rates and the adjustments to the parental income thresholds, which provided many recipients of student allowances with higher rates of allowances.

Student allowances are available to New Zealand citizens and permanent residents who have lived in New Zealand for two years. Applicants must be full-time students enrolled in an approved course of study of at least 12 weeks' duration.

There is a range of different allowance types depending on individual circumstances:

- single students under 25, with some exceptions, are subject to a parental income test to determine their entitlement
- all student allowances applicants are subject to a personal income test
- couples are subject to a couple income test, and
- student allowances holders who are not living with their parents may also qualify for an accommodation benefit.

Changes to income limits

Allowances for single students without dependants and under the age of 25 years have been subject to a means test on the applicant's parents' income since 1992. Starting in April 2005, these parental income limits are being adjusted annually to reflect changes in the cost of living. The intention of this feature is to target allowances to students from low-income families. As at 1 April 2005, allowances were abated for joint parental income above \$34,600 per annum and under \$57,981 if the student lived at home, or under \$63,826 if the student was living away from home. As a result of the 1 April 2006 adjustment, the level of family income where abatement of the allowance starts moved to \$35,700 and entitlement runs out at \$59,800 before tax for students living at home and \$65,843 before tax for students living away from home.

From 1 January 2006, there have been a number of changes to the income-related criteria for student allowances. These include an increase to the personal income threshold from \$135 gross per week to \$180 gross per week and an abatement regime for personal income over \$180 gross per week whereby the gross student allowance is reduced by the equivalent amount. The dependent spouse rate combined income limit has been increased. Where previously a student may have moved from the dependent spouse to the earning spouse rate for combined income over \$270, the combined income limit for the dependent spouse rate is now \$360. The joint income cut-off point has also

been increased. Whereas previously the cut-off point was \$610 or \$630, depending on whether the couple had dependent children or not, it is now \$750 regardless of whether or not the couple has dependent children. The earning spouse rate will be abated by an amount equivalent to any income that the student has over the personal income threshold.

Previously, \$2,200 of parents' joint annual taxable income was disregarded for each 'other dependent student' aged between 16 and 24 years who was in full-time study (excluding the student applying for student allowances). This exemption has been increased to \$7,000. An additional exemption of \$3,400 per year will apply to the joint taxable income of parents who live in separate residences. This is on top of any 'other dependent student' income reduction.

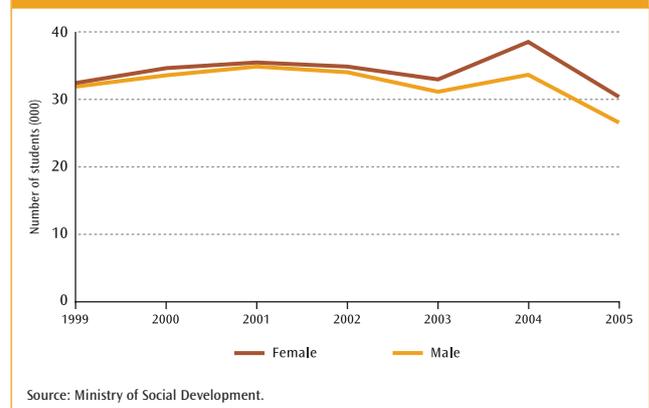
Profiling students who receive allowances

In 2005, 56,800 students received student allowances. This was a significant reduction, as 72,000 students received student allowances in 2004.

As shown below, the number of student allowances recipients increased each year from 1999 to 2001, decreased in 2002 and 2003, rose again in 2004 and fell again in 2005. One significant reason for the fall in 2005 was that the government changed the criteria for eligibility for student allowances. Previously, people who had been in work for 96 weeks had qualified for an allowance without their parents' income being tested, while some untargeted allowances were available for people under 25 years of age on account of their previous marital status. While the numbers receiving targeted allowances rose, this increase was more than offset by the fall in the numbers of work-related and marital status-related allowances. In order to improve targeting of allowances and to remove discriminatory elements of the scheme, the government removed those grounds for eligibility and increased the parental income targeting thresholds.

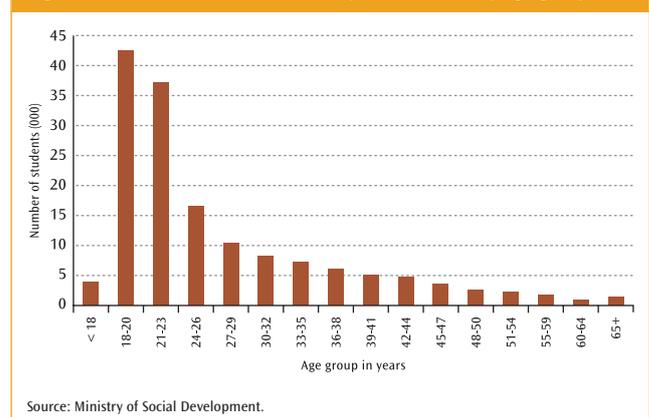
Other contributing factors to account for this fluctuation include the comparative ease of applications for student loans, while student allowances applicants under 25 must provide evidence of their parents' income; higher incomes due to low unemployment rates; increases in the parental income thresholds for student allowances; and more people taking short or part-time courses that cost less and do not attract allowances.

Figure 10.21: Student allowances recipients by gender



There are more women than men undertaking tertiary education and 14 percent more women receive student allowances.

Figure 10.22: Student allowances recipients in 2005 by age group

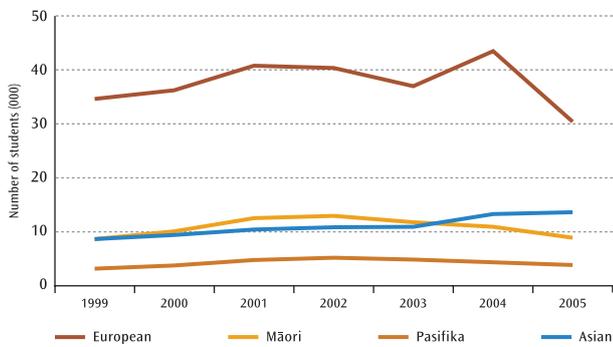


The majority of student allowances recipients are in the 18 to 26 age group. Women predominate in all age groups. In 2005, there have been decreases in the number of student allowances recipients in every ethnic group except Asian.



Learners in tertiary education

Figure 10.23: Student allowances recipients by ethnic group

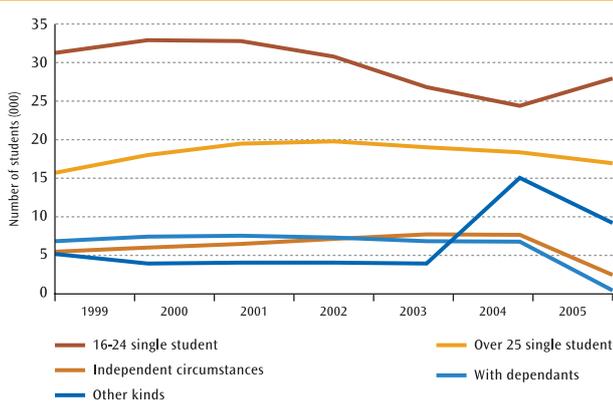


Source: Ministry of Social Development.

Note: Students identifying with two ethnic groups have been counted in each ethnic group they identified with. Students who declared three or more ethnic groups are omitted from this graph.

Nearly half of student allowances recipients received the parental-income-tested 16 to 24 year old single student rate of allowance in 2005. There were 14.5 percent more students receiving this type of allowance in 2004 and this was mainly due to increases in the parental income thresholds. Thirty percent of recipients received the over 25 single student rate of allowance. The graph below shows the increase in targeted allowances and the downturn in allowances which are not determined by parental income.

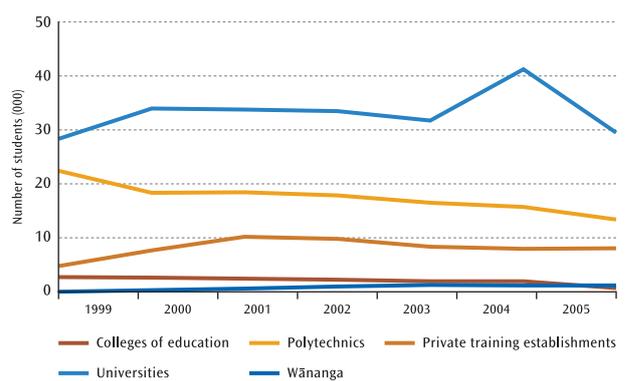
Figure 10.24: Student allowances recipients by type of allowance



Source: Ministry of Social Development.

More than half of student allowances recipients were studying at university and nearly a third studied at an institute of technology or polytechnic. Mergers between colleges of education and universities have reduced the numbers of student allowances recipients who are recorded as studying at a college of education.

Figure 10.25: Student allowances recipients by sub-sector



Source: Ministry of Social Development.

The numbers of male and female allowances recipients studying at polytechnics or institutes of technology are similar. In all other sub-sectors, there were more female than male allowances holders.

Table 10.4: Student allowances recipients in 2005 by sub-sector and gender

	Female	Male	Total
Colleges of education	802	326	1,128
Polytechnics	6,880	6,891	13,771
Private training establishments	4,505	3,909	8,414
Universities	16,038	13,621	29,659
Wānanga	902	729	1,631
Multiple sub-sectors	1,161	1,042	2,203
Total	30,288	26,518	56,806

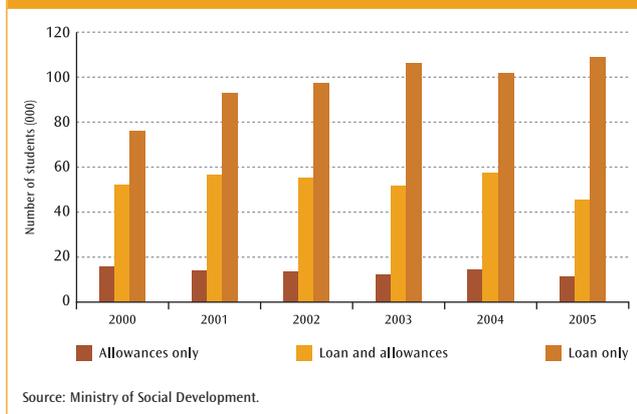
Source: Ministry of Social Development.

Note: Students enrolled in more than one sub-sector are counted under 'multiple sub-sectors'.

How much are the allowances?

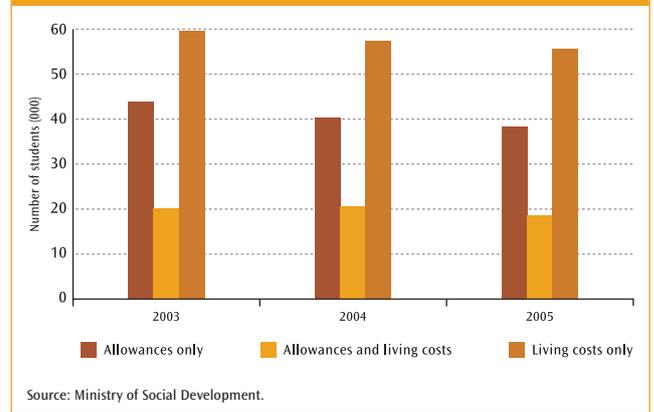
In 2005, the average student allowance was \$5,597, which is \$11 less than in 2004, and the average accommodation benefit paid to student allowances recipients was \$1,007, which is \$119 more than in 2004. Of the 56,800 student allowances recipients in 2005, 45,400 students (80 percent) also borrowed from the Student Loan Scheme. This was 29 percent of all (154,400) 2005 borrowers.

Figure 10.26: Comparison of student allowances and loan recipients



Student loan borrowers who are studying full-time are entitled to borrow up to \$150 per week towards meeting their living costs, less any net student allowances entitlement they have. In 2005, 18,456 students (32 percent of student allowances recipients) received both student allowances and a living costs loan entitlement. Only 48 percent of 2005 student loan borrowers received the living costs component of the loan. Of those borrowers, 25 percent also received student allowances.

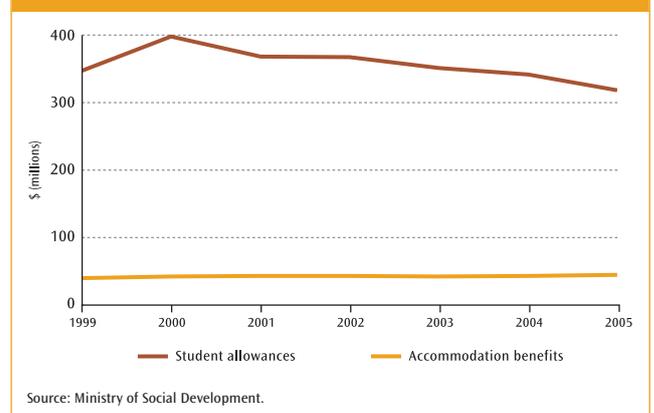
Figure 10.27: Comparison of student allowances and living costs loan recipients



Student allowances expenditure

Total expenditure on student allowances in 2005 was \$318 million plus \$4 million in accommodation benefits paid to student allowances recipients. This was a 7 percent increase on 2004 expenditure.

Figure 10.28: Expenditure on student allowances and accommodation benefits





Learners in tertiary education

OTHER GOVERNMENT FINANCIAL SUPPORT FOR STUDENTS

Other financial support offered by government falls into two main categories. Firstly, there is support provided by way of allowances aimed at removing barriers to employment for sole parents and those with disabilities. Secondly, there are financial awards aimed at increasing educational excellence and those that target specific study areas or groups, for example, to increase the numbers of Māori involved in postgraduate research.

Training Incentive Allowance

This scheme was introduced in 1983 and aims to remove barriers to employment faced by sole parents with low educational qualifications who are on the Domestic Purposes Benefit, the Emergency Maintenance Allowance or Widows Benefit. In 1985, the scheme was extended to include those on an Invalids Benefit. The allowances are for employment-related training or education.

Training Incentive Allowances paid in 2005 totalled \$35 million. This was a decrease from the 2004 expenditure, which was nearly \$40 million.

In 2005, 18,964 people received the Training Incentive Allowance, compared to 21,411 in 2004. The average allowance paid to students in 2005 was around \$1,900. This compares to \$1,850 in 2004 and \$1,800 in 2003. Over the last four years, approximately 85 percent of recipients were domestic purposes beneficiaries.

Eighty-two percent of those who received the Training Incentive Allowance in 2005 studied at tertiary level, while 4 percent enrolled in secondary schools and 4 percent with The Correspondence School. Institutes of technology and polytechnics are the largest group of providers of education to allowance recipients (41 percent in 2005). The polytechnics' share of trainees has fallen from 51 percent in 1997, while private training establishments have increased their share. Private training establishments trained 29 percent of people with an allowance in 2005, up from 17 percent in 1997. The proportion of recipients attending universities in 2005 was 18 percent.

In recent years, those receiving the allowance have been predominantly women. The age and ethnic composition of recipients has also remained fairly similar over this period.

In 2005, 36 percent were Māori, 6 percent Pasifika and 46 percent European. Approximately one-third of the recipients were aged 20 to 29 years and another third were aged 30 to 39 years. About one in five of the allowance recipients was aged 40 to 49 years. Forty-four percent of people who received the Training Incentive Allowance also accessed the Student Loan Scheme in 2005 (45 percent in 2004). Further information is available at: www.workandincome.govt.nz/get-assistance/extra-help/training-incentive-allowance.html

Scholarships and fellowships

These awards include:

- Top Achiever Doctoral Scholarships
- Enterprise Scholarships
- New Zealand Science and Technology Postdoctoral Fellowships
- New Zealand Scholarships – for more information see www.nzqa.govt.nz/scholarship/awards.html
- Step Up Scholarships
- Bonded Merit Scholarships
- TeachNZ Scholarships
- Te Tipu Pūtaiao Māori Fellowships
- Technology for Industry Fellowships, and
- the Prime Minister's Athlete Scholarship.

There are many other awards administered by trusts, industry groups or providers. Information about these awards is available free of charge from the Funding Information Service's Breakout database in some libraries or by subscription at: www.fis.org.nz/BreakOut/

Government scholarships and fellowships provide support to:

- doctoral research students
- top scholars from schools to undertake tertiary study
- research students who conduct their research while working in a business (to promote linkages between business and tertiary education institutions)
- tertiary students to encourage them to undertake study in science, technology, animal health and human health subjects
- ensure an adequate supply of qualified teachers
- successful sportspeople to gain qualifications that will enable them to obtain employment when their sporting career ends, and
- high achievers undertaking degree-level study.

New scholarship – Bonded Merit

The Bonded Merit Scholarships is a new scholarship scheme available from 1 January 2006. The scholarship is awarded to second-year, full-time tertiary students enrolled in bachelors-degree study and recognises top academic achievement. To be eligible a student must have, and maintain, a 'B' grade average or higher. The aim is to provide an incentive for these students to remain in New Zealand once they have completed study. The scholarship will pay \$3,000 each year towards course fees for a maximum of four years. Students who receive a Bonded Merit Scholarship will be required to remain in New Zealand for a period of time after they complete their degree. Students who don't remain in New Zealand for the applicable period are required to repay a portion of the scholarship they received. More information is available on: www.studylink.govt.nz/financial-assistance/bonded-merit-scholarship/bonded-merit-scholarship.html

Step Up Scholarships

The Step Up Scholarship Scheme was piloted by StudyLink in 2004, and is aimed at students from low-income backgrounds who are studying approved, full-time tertiary degree courses in the area of human or animal health. The scholarship helps to pay the compulsory fees for these courses providing all the terms and conditions of the scheme are met for the length of

the qualification. For 2005, some modifications were made to the scheme; this included widening the age criteria to include students up to the age of 24, and a reduction of the student contribution towards their tuition fees from \$2,000 to \$1,000. From 2006, the range of fields of study open to Step Up scholars will be widened to include study in the areas of science and technology. There is a bonding requirement for Step Up recipients to stay in New Zealand after graduation.

StudyLink approved 232 new applications for Step Up Scholarships in 2005, with the total amount paid to these students under the scholarship being \$1,316,095. There were also 174 returning students approved, with a total of \$937,769 paid. More information is available on: www.studylink.govt.nz/financial-assistance/step-up-scholarship/step-up-scholarship.html

Bright Future Scholarship Scheme

Top Achiever Doctoral Scholarships

The intention of this scheme is to award scholarships to New Zealand's top 10 percent of doctoral candidates. It also aims to give scholars the choice of studying in New Zealand or at overseas universities.

In 2005, there were 81 Top Achiever Doctoral Scholarships awarded valued at \$8.59 million. Nine scholarships were awarded to New Zealanders studying at overseas universities. The scholars who study overseas are required to return to New Zealand for a period equal to the term of their scholarship.

The total number of scholarships awarded since the establishment of the scheme in 1999 is 621 and, of these scholarships, 56 percent were awarded to women and 44 percent to men.

Over a third of scholars have already completed their doctoral studies under this scheme since it commenced, with many still part way through their studies. Only 0.03 percent have terminated or withdrawn. More information is available at: <http://www.tec.govt.nz/funding/scholarships/index.htm>

Enterprise Scholarships

This scheme supports New Zealanders, in partnership with private companies, to undertake study involving a significant research component at a tertiary education institute. Half of the funding for a student is provided by the company, which can benefit by having access to talent, technology, knowledge and training, by working with students and research teams from



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any discipline area to develop improved processes and business solutions, to train existing staff and identify potential future staff.

In 2005, 89 Enterprise Scholarships were awarded and \$827,000 was spent on the scheme by the government. The total number of scholarships awarded since 1999 is 525 and, of these, 46 percent were awarded to women and 54 percent to men. More information is available at: <http://www.tec.govt.nz/funding/scholarships/index.htm>

New Zealand Science and Technology Postdoctoral Fellowships

The New Zealand Science and Technology Postdoctoral Fellowship Scheme is intended to foster the development of New Zealand's emerging scientists and future science leaders. It complements other government initiatives to develop a knowledge society that will assist New Zealand to compete successfully as a knowledge economy. Funding is available for postdoctoral fellowships and to provide 'bridge to employment' support. More information is available at: <http://www.frst.govt.nz/Fellowships/PostDocs.cfm>

Te Tipu Pūtaiao Fellowships

The objective of the Te Tipu Pūtaiao Fellowships is to unlock the innovation potential of Māori knowledge, people and resources for the benefit of New Zealand. To achieve this, the scheme aims to support students to develop their science and Māori knowledge research capability. The scheme is open to all applicants completing a masters or PhD in science, technology or engineering. Approximately 15 fellowships are available each year to students completing a masters, PhD, or postdoctoral work in a science, technology or engineering discipline, but excluding people undertaking a masters or PhD in health. In addition, there are up to two Bridge to Employment awards available. More information is available on: <http://www.frst.govt.nz/Fellowships/TeTipu.cfm>

Technology for Industry Fellowships

This award programme enables students and experienced researchers to complete research and development projects in companies. The scheme aims to:

- enhance scientific and technical skills and competencies in New Zealand businesses
- increase linkages between companies and tertiary education institutions

- encourage and enable realisation of the commercial benefits from research and technology development projects, and
- develop students' skills and knowledge within commercial research and development environments that are relevant to the students' expertise.

More information is available at: <http://www.frst.govt.nz/Fellowships/Tif.cfm>

Ngārimu VC and 28th Māori Battalion Memorial Fund Scholarships

These scholarships were initially provided from a fund set up in 1948 to commemorate the bravery of Lieutenant Te Moananui-a-Kiwa Ngārimu, who had been awarded the Victoria Cross. Ngārimu Scholarships are administered by the Ngārimu Board with yearly reports given to the House of Representatives. The fund provides the granting of assistance by way of scholarship, subsidy, special grant, or bursary for the education of any Māori or for the purpose of promoting the study and encouraging the maintenance of the Māori language and of Māori history, tradition and culture.

Currently the Crown contributes \$54,000 to the scholarship fund each year with the Ngārimu Board disbursing the following amounts annually:

- one postgraduate scholarship of \$5,000
- nine undergraduate scholarships of \$5,000 each, and
- essay competition prizes totalling \$4,000.

These awards are currently administered by the Ministry of Education.

TeachNZ Scholarship

TeachNZ Scholarships are targeted at areas of priority for teacher supply to meet increasing demand for teachers in certain areas over the next 10 years. Currently these areas are early childhood and Māori Medium teachers, secondary teachers of specific subjects, and primary or secondary rural teachers.

- TeachNZ Early Childhood Education Scholarships aim to support Early Childhood Education Services by increasing the number of teachers with specific skills and qualifications.
- Māori Medium Scholarships – these aim to increase the supply of teachers in both total immersion and bilingual settings in either primary or secondary schools.

- The TeachNZ Secondary Subject Scholarships aim to encourage more people into studying to become a secondary teacher in these target subjects: mathematics, chemistry, physics, technology and te reo Māori.
- Rural Scholarships – these aim to encourage people from rural areas into teaching in primary or secondary rural schools.
- Secondary Subject Trainee Allowances – the value of this TeachNZ allowance is \$10,000 per student. These allowances are available to all graduates and near-graduates committing to become secondary teachers in targeted subjects. From 1 January 2007 target subjects are biology, chemistry, English, maths, physics, technology and te reo Māori. Further information is available at: www.teachnz.govt.nz/scholarships

Table 10.5: TeachNZ Scholarships awarded in 2005	
Early Childhood Education	869
Māori Medium	45
Secondary Subject Scholarships	112
Rural	46
Total	1,072

Table 10.6: Expenditure on TeachNZ Scholarships		
Expenditure	2004/05 \$ (000)	2005/06 \$ (000)
Early Childhood Education	1,792	5,464
Māori Medium	222	421
Secondary Subject Scholarships	488	1,123
Rural	290	310
Total	2,792	7,318

Notes:

1. There were no allowance payments made for the new ECE, Māori Medium or Secondary Subject scholarships in the 2004/05 financial year. The 2005/06 expenditure includes fees and allowances.
2. Rural scholarship expenditure does not include fees and is for allowance payments only.

New Zealand Scholarships

This scholarship is designed to extend our best secondary students and enable top scholars to be identified and acknowledged. It involves an external examination for the best secondary students aimed at assessing their ability to synthesise and integrate concepts, to apply high-level, critical and abstract thinking based on in-school and independent learning and demonstrate the application of knowledge and ideas to complex situations. It is highly demanding and only for the most able students at secondary level. The scholarship awards are the following:

- The Single Subject Scholarship Awards consist of one or two scholarships and are a ‘one-off’ award of \$500.
- The Top Subject Scholar Award is for candidates who are top in one of the 27 scholarship subjects. The award provides \$2,000 each year for three years as long as recipients maintain a ‘B’ grade average in tertiary study. In 2005, 34 awards were made.
- The Scholarship Award is for candidates who pass three or more Scholarship subjects and provides \$2,000 each year for three years as long as recipients maintain a ‘B’ grade average in tertiary study.
- The Outstanding Scholar Award is for the top 40 to 60 candidates who get a minimum of three subject Scholarships with at least two at ‘Outstanding’ level or more than three Scholarships with at least one at Outstanding level. Scholars receive \$5,000 each year for three years as long as they maintain a ‘B’ grade average in tertiary studies.
- The Premier Award is for the very top five to ten candidates who attain at least three Scholarships at Outstanding level. The award pays \$10,000 each year for three years as long as holders maintain at least a ‘B’ grade average in tertiary studies. In 2005, 13 scholarships were awarded.

Further information is available at: www.nzqa.govt.nz/scholarship/index.html



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The Prime Minister's Athlete Scholarship

This scholarship is a government-funded initiative managed by Sport & Recreation New Zealand. The programme's aim is to assist talented and elite athletes to achieve tertiary and vocational qualifications while pursuing excellence in sport.

In 2005, more than 580 athletes in 51 different sports were awarded a scholarship. The scholarships allow athletes to have their fees paid to a maximum of \$10,000 per annum and athletes may also be eligible to receive a living allowance of up to \$6,000 per annum.

The scholarships are administered through the New Zealand Academy of Sport Regional Operations. Full details about the programme can be found at: www.sparc.org.nz/elite-sport/prime-ministers-athlete-scholarships

Financial support helps to make New Zealanders and New Zealand better equipped through tertiary education

To encourage New Zealanders to acquire the skills needed for the nation's future wellbeing and to enable them to undertake tertiary education, the government has found ways of making tertiary study more affordable for prospective students. The tuition subsidies, student loans, student allowances and other awards all contribute to the support of tertiary education.

The benefits of a well-educated population are many, for example:

- a well-qualified workforce
- intellectual capital
- people choosing to retrain for new careers
- people with research skills fostering creativity and innovation, and
- people seeking knowledge for its own sake.

New Zealand as a nation is better equipped to hold its own and compete internationally if its citizens have the competencies, knowledge and skills to contribute to the economic and social development of the country. For the individual, tertiary education provides increased employment opportunities, higher income and greater opportunities for personal development – all leading to a better quality of life.

Reference

- Smyth, R. and Hyatt, J. (2006), *Who doesn't pay back? The characteristics of borrowers who make no progress in reducing their student loans*, Ministry of Education, Wellington.

A CHANGING POPULATION AND THE NEW ZEALAND TERTIARY EDUCATION SECTOR

The size of the tertiary student population is an indicator of both the accessibility of tertiary education and the perceived value of undertaking tertiary study. Forecasts of the size of the student population are important in determining the levels of human capital that will be available to the New Zealand labour force in the foreseeable future.

This case study uses Statistics New Zealand's population projections in order to consider some implications that demographic trends may have on both the profile of the tertiary student population and the network of public tertiary education provision. Information about future change in the student population can assist providers in planning for future changes in the provision of various types of education.

This study firstly discusses the results of a simulation which applied a number of characteristics of the tertiary student population of 2005 to national population projections. It then discusses some possible implications of sub-national population projections on student numbers at the local level. Refer to McClelland (2006) for details on methodology and data sources.

CASE STUDY SCENARIO

An important assumption of this study is that changes in the foreseeable future in the size of the student population will come about from population change rather than from other changes in the level of participation in tertiary education. This premise of no change in participation rates or in any of the factors that influence demand, such as those of an economic, social, cultural and political nature, may appear initially to be an oversimplification. This is particularly so because over recent years participation trends in tertiary education in New Zealand have been driven by increases in participation rather than by changes in the size of New Zealand's population. Between 2000 and 2005, 85 percent of all growth in student enrolments has resulted from increased participation in tertiary study rather than from population growth. For example, enrolments in sub-degree qualifications accounted for nearly 90 percent of all student growth in the sector over this period. These

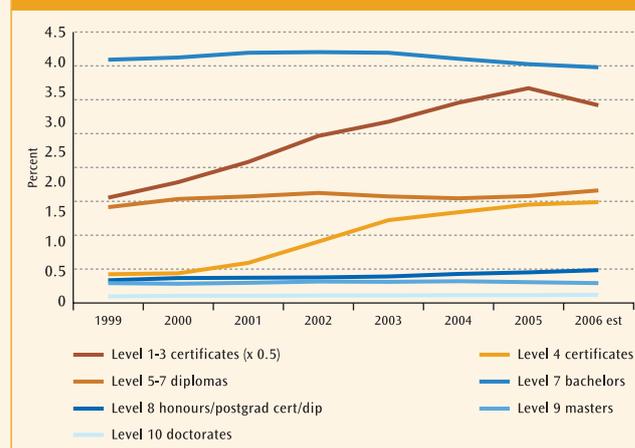
qualifications have been very successful at attracting first-time tertiary students who have low or no school qualifications.

Nevertheless, recent evidence and future policy changes provide good reasons for modelling the effect of demographic change on the tertiary student population in the medium term. Firstly, it is expected that controls put in place by the government over the last two years will, for the most part, result in the immediate stabilisation of the rates of participation in tertiary education in the high-growth areas. Figure 1 below shows the stabilisation of participation in sub-degree certificates.

Secondly, recent announcements made by the government on the next stage of the tertiary reforms signal that from 2008 the sector will operate in a more defined and managed way that may result in less volatility in tertiary education participation rates than that experienced in recent years. Thirdly, the funding levels set by government will, in fact, take into account demographic change.

Implementation of the above proposals will mean that, in the future, population change is likely to become the single most important driver of the size of the New Zealand tertiary student population.

Figure 1: Proportion of learners aged 15 years or over enrolled in level 1-4 sub-degree certificates by ethnic group



Notes:

1. For the purposes of presentation, the data for level 1-3 certificate has been decreased by 50 percent.
2. The data for 2006 is an estimate based on student growth over the period of 31 August 2005 to 31 August 2006.



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A TERTIARY STUDENT POPULATION FORECAST

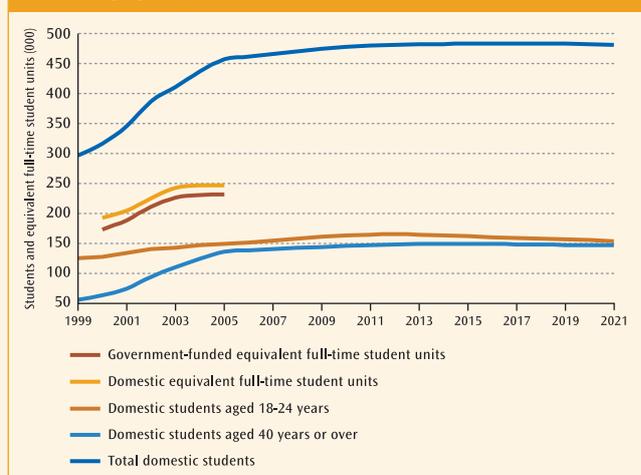
Based on the assumption of demographic change alone, and without allowing for any possible change in participation rates, it can be shown that over the period 2005 to 2021:

- the total number of domestic students is expected to peak in 2016 at 483,000 students – 26,000 (6 percent) more students than in 2005
- the number of domestic students in the traditional core student age group of 18 to 24 years is estimated to peak in 2012 at 165,000 students – 17,000 (11 percent) more students than in 2005. From 2013 onwards the number of students in this age group will then decline by 11,000 students (7 percent) to 153,000 students in 2021
- the number of students aged 40 years or over is expected to contribute 52 percent of all growth in students between 2005 and 2014
- demand for tertiary education at the sub-degree levels is projected to continue to dominate growth in student numbers, with 72 percent of all growth occurring at this level. The numbers of students in sub-degree qualifications is expected to peak in 2019 at 333,000 students – 17,000 (5 percent) more students than in 2005. Nearly all growth (93 percent) in students aged over 40 years is expected to occur in sub-degree qualifications
- the number of students studying at bachelors-degree level is estimated to peak in 2012 at an historic high of 137,000 students – 9,000 (7 percent) more students than in 2005. Based on this growth, the numbers of postgraduate students would peak in 2018 at an historic high of 33,000 students – 2,100 (7 percent) more students than in 2005
- the number of students of European ethnicity would decrease by 19,000 (6 percent) from 2005 to 2021, while the numbers of the other main ethnic groups would all increase over this period – Asian by 23,000 (41 percent), Māori by 20,000 (22 percent) and Pasifika by 14,000 (48 percent)
- the share of the student population of European ethnicity would decrease from 65 percent in 2005 to 57 percent in 2021, while the student shares of the other main ethnic groups would all increase over this period – Māori (from 20 to 23 percent), Asian (from 12 to 16 percent) and Pasifika (from 6 to 9 percent)

- growth in demand for tertiary education by Māori and Pasifika peoples would continue to be mostly at the sub-degree level – 85 percent and 75 percent of their respective growth in student numbers from 2005 to 2021
- the numbers of Māori students studying at bachelors-degree level and postgraduate level would increase by 3,300 (22 percent) and 640 (24 percent), respectively from 2005 to 2021, and
- for Pasifika peoples, the numbers studying at bachelors-degree level and postgraduate level would increase by 3,500 (51 percent) and 400 (45 percent), respectively over this period.

Figure 2 shows that the forecast of total student numbers reflects the recent slowdown in participation in tertiary education in terms of equivalent full-time student units. Figure 3 shows that the tertiary student population would become more ethnically diverse in the medium term.

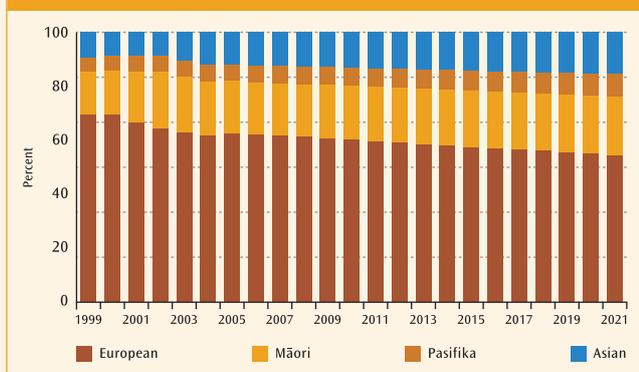
Figure 2: Projections of domestic tertiary student numbers by selected age group



Notes:

1. Student numbers from 1999 to 2005 are actuals.
2. For comparative purposes, the equivalent full-time student units exclude non-formal students such as those in adult and community education.

Figure 3: Projected distributions of domestic tertiary students by selected ethnic group



Note: Student numbers from 1999 to 2005 are actuals.

The skewed participation patterns in tertiary education for Māori and Pasifika peoples indicate among other factors that, on average, the highest level of qualification attained by Māori and Pasifika learners in secondary school education is lower than that of other groups. In 2004, 12 percent of Māori and Pasifika peoples attained a university entrance qualification (compared with 39 percent for all other ethnic groups) and 23 percent of them left with no qualifications (compared with 9 percent for all other ethnic groups).

Again, if these school leaver attainment levels persist, and all other factors remain constant, then the projected population change alone is expected to result in no improvement in the levels of leaving qualifications but rather a slight decline in school leavers with a university entrance qualification and a slight increase in those with no qualifications (refer Figure 4). This could see a diminishing proportion of school leavers able to enter directly into bachelors-degree level study over the longer term.

Figure 4: Projected school leaver attainment for 2026 by highest qualification



Note: School leaver attainment figures for 2004 are actual.

REGIONAL POPULATION CHANGE AND THE TERTIARY SECTOR

Population change could have implications for the number of students at the campuses of some tertiary education institutions in the future. It is expected that just over half of New Zealand's 74 territorial authorities will have fewer residents in 2026 than in 2006. It is expected that in 20 years' time only 16 territorial authorities will have experienced population growth in the 15 to 39 years age group, while 29 territorial authorities will have experienced population growth in the 40 to 64 years age group and nearly all territorial authorities will have experienced population growth in the 65 years or over age group.

Many tertiary education institutions have multiple campuses. In 2005, leaving aside extramural provision, the network of public tertiary education provision comprised 33 tertiary education institutions (made up of eight universities, 20 institutes of technology and polytechnics, two colleges of education and three wānanga) delivering tertiary education via a network comprising 117 campuses with at least 50 equivalent full-time students. This network is spread throughout 45 territorial authorities.

Of these 117 campuses, 19 belong to universities, 56 to polytechnics, seven to colleges of education and 35 to wānanga. The main centres have the most tertiary education institutions, particularly Auckland City and Christchurch City, where eight different tertiary education institutions are present in each. Over



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half of the polytechnics have three or more campuses. Waiariki Institute of Technology alone has seven campuses and Northland Polytechnic has five. Most of the universities have one or two campuses while, of the two remaining colleges, Christchurch College of Education has five campuses. Te Wānanga o Aotearoa has the largest number of campuses with 25, followed by Te Whare Wānanga o Awanuiarangi with nine. Along with Te Wānanga o Raukawa (one campus) the growth in the network of wānanga provision in recent years has been a key driver in lifting the participation rate of Māori in tertiary education to the highest level of all ethnic groups.

Regional population change would have the greatest implications for providers with a strong regional focus. The institutes of technology and polytechnics, in particular, are increasingly expected to have a focus on the skill and education needs of their region. Of the 56 polytechnic campuses, 37 are in areas¹ where population decline is expected over the next 20 years for people aged 15 to 39 years, and 26 are in areas where population decline is expected for people aged 40 to 64 years over the same period.²

Perhaps as a response to declining populations, five of the 18 polytechnics based outside of the greater Auckland region have campuses in Auckland City, which is expected to have the largest population of people aged 15 to 64 years in 20 years' time.

The implications of population decline on student numbers may be further compounded in areas where there are multiple tertiary education providers present. For example, the area comprising

New Plymouth District and its adjacent territorial authorities of Waitomo District, Stratford District, South Taranaki District and Ruapehu District contains six institutions providing tertiary education from seven campuses. This area is expected to experience a 19 percent decline in population aged 15 to 64 years by 2026. Currently in this area there is one tertiary education institution campus for every 11,600 people in this age group but by 2026 this ratio is expected to become one campus for every 9,400 students. Similar scenarios are predicted for the multiple tertiary education institutions located in other areas that include Gisborne District, Masterton District and Invercargill City.

Population decline may be less likely to impact on student numbers at campuses with the greatest student to campus ratios. While overall there is one tertiary education institution campus per 23,400 New Zealanders aged 15 to 64 years, the campus to student ratio varies from 1:10,700 for Rotorua District to 1:46,300 for North Shore City.

Change in regional populations is less likely to impact on university student populations. Statistics New Zealand internal migration data shows a relationship between population decline in areas that do not contain a university and population increase in areas that do contain a university. Such non-university areas generally experience net outflows in the age groups of 15 to 19 years and 20 to 24 years, while university cities are expected to experience net migration inflows in these age groups. Figure 5 shows the net migration flows from 1997 to 2001 for a territorial authority with a university, and one without a university.

Figure 5: New Plymouth District and Wellington City net migration flows (1997 to 2001) by age group



Source: Statistics New Zealand.

1 Here an 'area' is defined as the combination of the areas of the territorial authority in which a campus is located and all of its adjacent territorial authorities and is used as a proxy for a local catchment area of students.
 2 Derived from Statistics New Zealand sub-national resident population projections (medium series, 2001 base) and Ministry of Education campus data.

While not considered in the above analysis, it is likely that future population change will also impact upon the network of approximately 800 registered private training establishments spread throughout the country offering niche tertiary education.

Reference

- McClelland, J. (2006), *A changing population and the New Zealand tertiary education sector*, Ministry of Education, Wellington.



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AN OVERVIEW

The research performance of the tertiary sector improved in several areas in 2005. In the area of research training, enrolments in doctoral degrees continued their rising trend in 2005. The number of people completing a doctor of philosophy also rose in 2005, but at a slower rate than in previous years. The research contract income earned by the universities per academic staff member rose in real terms between 2004 and 2005. In addition, the share of the funding won by the universities from contestable funds in Vote Research, Science and Technology increased between 2002 and 2004.

A study by the Ministry of Research, Science and Technology of indexed research publications by university authors, between 1997 and 2003, showed that total research publications increased over the period, resulting in a greater share of New Zealand-authored papers originating from universities. Despite the rise in total research publications, a faster rise in the number of academic staff resulted in a decline in research productivity – measured by publications per full-time equivalent academic staff member – between 1999 and 2003.

LOOKING TO 2006

A partial Performance-Based Research Fund quality evaluation was carried out during 2006. The evaluation measured the research quality of staff in the participating tertiary education organisations over the period from 2000 to 2005. The number of participating organisations in the quality evaluation increased significantly, with 32 organisations submitting evidence portfolios in 2006, compared with 23 in 2003. In particular, the number of participating institutes of technology and polytechnics increased from two in 2003 to 10 in 2006.

In the 2006 quality evaluation, staff that were assessed in 2003 could choose to submit a new evidence portfolio. Eligible staff at newly participating tertiary education organisations, along with newly eligible staff at the organisations that participated in 2003, also submitted evidence portfolios. In total, 4,542 evidence portfolios were submitted to the Tertiary Education Commission for assessment in 2006. The results of the 2006 quality evaluation are expected in the first half of 2007.

Two additional quality categories were introduced in the 2006 quality evaluation. These categories are for new and emerging

researchers, who were disadvantaged by not having a research record in the 2003 quality evaluation.

FOREWORD

This chapter focuses on the contribution of the tertiary education sector to the national innovation system and, in particular, it considers the research performance of the universities, which are the most significant producers of research in the sector. It explores the sector's role in knowledge creation and innovation, looking firstly at the training of potential researchers. Then, performance indicators of research output are examined, in terms of both quality and quantity. In addition, the impact of research in the tertiary sector on the wider economy is analysed through measures such as citations and patents. A profile of the research performance of each university, across a variety of performance measures, is presented at the end of the chapter.

Research in universities

Section 162 of the Education Act 1989 characterises universities as institutions whose '... research and teaching are closely interdependent and most of their teaching is done by people who are active in advancing knowledge [and meeting] ... international standards of research and teaching ...' The Act also states that universities are '... characterised by a wide variety of teaching and research ...'.

The tertiary sector has the responsibility for training most of the researchers for the innovation system – producing graduates from research degrees with skills, knowledge and attributes that enable them to contribute to a knowledge-based society. As a result, the sustainability of the country's research and innovation sector depends on a strong and improving research culture in the universities.

The tertiary sector also undertakes significant research focused on adapting, transferring and exploiting domestic and international knowledge and technology. It does this alongside, and sometimes in partnership with, other research organisations, industry and business, community organisations and government.

The Education Act 1989, which sets out the statutory framework for all tertiary education in New Zealand, describes degrees as 'primarily taught by those active in research' [refer to

ANALYTICAL TABLES: An associated set of tables on research in the tertiary education sector is available on the Education Counts website, Tables RSP1-11. Detailed technical information on the data presented here can be found in chapter 17.



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section 254(3)(a)]. In section 162(4), the Act also states, in its characterisation of universities, that ‘...their research and teaching are closely interdependent and most of their teaching is done by people who are active in advancing knowledge ... and meeting international standards of research ...’. Thus, the legislation states that teaching at degree level and above is to be shaped and informed by research and that the universities are to have a major role as providers of research across a wide range of disciplines.

The government has developed two major new means of promoting and funding research excellence in the tertiary sector – centres of research excellence and the Performance-Based Research Fund.

The centres of research excellence were established during 2002 and 2003 and have been designed to support world-class research that will contribute to New Zealand’s development as a knowledge society. They are inter-institutional research networks focused on areas of acknowledged research strength and in areas important for New Zealand’s growth. The centres of research excellence provide funding to encourage researchers from several institutions to work together on a commonly agreed research plan.

The Performance-Based Research Fund is being phased in over the period 2004 to 2007 and over that period the basis of research funding is shifting from a system based on student enrolments to one where funding will be allocated on the basis of research performance. Detailed information on the operation of the fund can be found in Ministry of Education (2003), pages 108-110, and in Tertiary Education Commission (2004), pages 15-23.

THE RESEARCH PERFORMANCE OF THE TERTIARY SECTOR

The research performance of the New Zealand tertiary education sector can be measured across several dimensions. These range from the contribution the sector makes to the training of the research workforce to measures of research quality and quantity. The research performance of the tertiary education sector in these and other areas is examined in the following sections, with a particular focus on the universities, where the vast majority of research and research training are undertaken.

RESEARCH TRAINING

Formal training in research is mainly carried out through postgraduate research degrees. Growth in the number of doctoral enrolments at universities from 2004 to 2005 was 5.2 percent. Over the five years ending in 2005, university doctoral enrolments increased by 29 percent, from 3,620 to 4,660.

Figure 11.1: Doctoral enrolments by gender

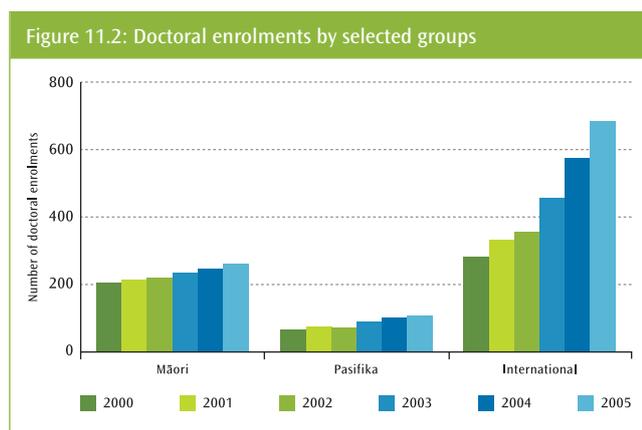


Enrolments in doctoral degrees by women continued to grow at a faster rate than for men. Between 2000 and 2005, doctoral enrolments by women increased by 41 percent. This compared with a rise in doctoral enrolments of 18 percent for men. The faster growth in enrolments by women resulted in their share of total doctoral enrolments rising from 47 percent in 2000 to 51 percent in 2005. This is, however, still below the overall share of enrolments in tertiary education by women of 58 percent.

In 2005, Māori made up 6.5 percent of all doctor of philosophy enrolments by domestic students, a slight increase from 6.1 percent in 2000. However, Māori remain under-represented at the doctoral level, as they constituted more than 22 percent of all domestic enrolments in tertiary education. In addition, the rate of participation of Māori in doctoral study in 2005 was about half that of the sector as a whole – nearly 0.07 percent of the Māori population over the age of 15, compared with 0.13 percent for the population as a whole.

The trend is similar for Pasifika peoples. Pasifika students constituted only 2.2 percent of domestic doctoral enrolments in 2005 but 7.3 percent of all domestic tertiary enrolments. While at the doctoral level domestic enrolments for Pasifika rose by 76 percent (from 49 to 86) over the period 2000 to 2005, their participation rate remained low at 0.05 percent of the Pasifika population aged 15 or over.

Enrolments by international students in doctoral programmes grew by 19 percent in 2005 (following growth of 26 percent from 2003 to 2004). From 2000 to 2005, these enrolments increased by 144 percent, which is over four times the rate for the population as a whole. International students now constitute 15 percent of all doctoral students in universities, compared to 13 percent in 2004 and 7.8 percent in 2000.



Notes:

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

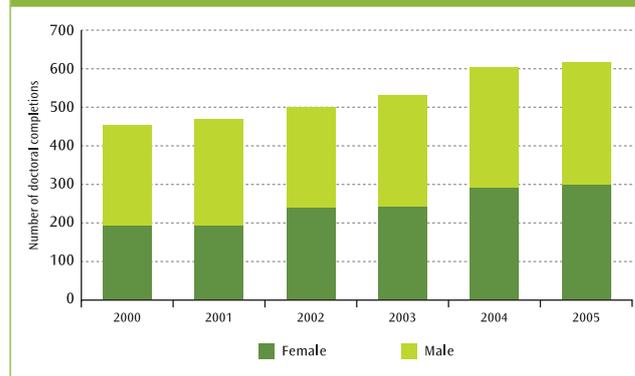
The universities have a wide variation in their ratio of doctoral enrolments to academic staff. In 2005, the University of Canterbury exhibited the highest ratio of doctoral enrolments per full-time equivalent staff at 0.85. The lowest ratio of 0.22 was at the Auckland University of Technology. The number of doctoral enrolments per academic staff member is expected to rise over time. Between 2000 and 2005, the number of doctoral enrolments per full-time equivalent academic staff increased by 7.1 percent, from 0.56 to 0.60.

Figure 11.3: Ratio of doctoral enrolments to academic staff



In 2005, 617 doctorates were awarded by New Zealand tertiary education institutions. This was an increase of 2.3 percent on those awarded in 2004. The number of awards has risen by 36 percent since 2000.

Figure 11.4: Doctoral completions by gender



The number of women awarded doctoral degrees as a proportion of all those earning doctoral qualifications was 49 percent in 2005, compared with 48 percent in 2004 and 43 percent in 2000. The gradually increasing representation of women among those awarded doctoral qualifications is a reflection of the rising enrolments by women in this qualification. The proportion of women awarded doctorates in New Zealand is not out of line with other countries. Organisation for Economic Co-operation and Development (OECD) data¹ shows that the proportion of women among advanced research degree graduates in 2004 in New Zealand was 49 percent. This was more than in Australia (46 percent) and in the United Kingdom (43 percent), and roughly the same as in the United States (48 percent). The mean for all OECD countries was 41 percent.

1 Education at a glance: OECD indicators 2006, Table A3.4.



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The number of Māori students awarded a doctorate decreased in 2005, following five years of successive increases. In 2005, 23 Māori students were awarded a doctorate, a decrease from 31 in 2004, but an increase from 17 in 2000. The share of domestic students earning doctoral qualifications who were Māori was 4.2 percent in 2005, 5.9 percent in 2004 and 4.1 percent in 2000. The proportion of Māori students being awarded doctorates remains low in comparison to the proportion of Māori being awarded tertiary qualifications overall. Of the 119,500 domestic students awarded a tertiary qualification in 2005, 19 percent were Māori. The number of domestic Pasifika students awarded doctoral degrees is also low – four in 2005, six in 2004 and three in 2000.

Figure 11.5: Doctoral completions by selected groups



Notes:

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

The most common broad areas of study for doctoral degrees completed over the period 2000 to 2005 were the social sciences (19 percent), the biological sciences (18 percent), the physical sciences (14 percent) and the humanities (12 percent). These four areas collectively represented almost two-thirds of all doctoral completions from New Zealand tertiary education institutions over those six years. Medicine and health-related sciences constituted 10 percent of the doctoral completions, while engineering and architecture represented 8 percent of the total. Other fields with significant shares of the total were business and commerce (8 percent), mathematics and information/computer science (6 percent) and law and agriculture, horticulture, forestry and environment (4 percent).

Figure 11.6: Distribution of doctoral completions from 2000-2005 by field of study

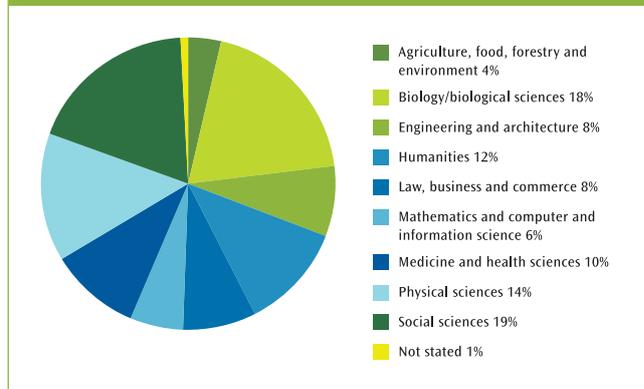
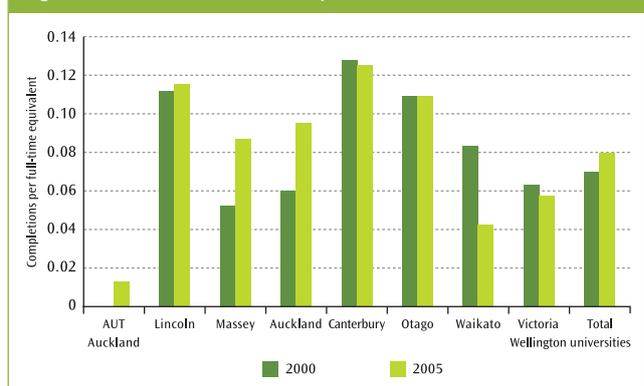


Figure 11.7 gives an idea of the work of the universities in producing doctoral graduates by comparing the number of doctoral graduates with the number of academic staff in each university. The University of Canterbury achieved the highest number of doctoral completions per academic staff member in 2005, with 0.13. This result is not surprising, given the high number of doctoral enrolments at this university shown in Figure 11.3.

Overall, the ratio of doctoral completions to academic staff increased by 14 percent in the universities from 0.07 to 0.08. The increase in this ratio was not uniform across the universities, with the University of Auckland and Massey University experiencing significant rises, while the University of Waikato recorded a significant drop.

Figure 11.7: Ratio of doctoral completions to academic staff



An examination of the rate of completion of doctoral students shows that, of domestic students who started a doctorate in 1998, 43 percent had completed successfully by 2005. The long-term completion rate for doctoral students was estimated at between 54 and 57 percent in a report by Scott (2004). That rate is similar to estimates made in a report by Yew, Maclachlan and Karmel (2001) of long-term completion rates for doctoral degrees in Australia.

In 2004, New Zealand ranked 16th out of 28 OECD countries for the graduation rates of advanced research degrees.² The OECD reports that in New Zealand the proportion of the population at the expected age of graduation that hold advanced research degrees is 1.1 percent, compared with 1.7 percent in Australia, 1.3 percent in the United States, 1.9 percent in the United Kingdom and 3.1 percent in Sweden. The mean of OECD countries on this indicator was 1.3 percent. The corresponding ranking for New Zealand in 1999 was 14th out of 23 countries.

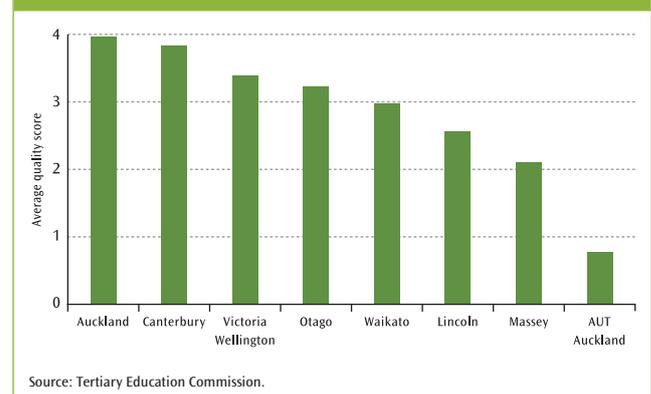
THE QUALITY OF RESEARCH

The quality of research in the tertiary sector was measured explicitly for the first time in the 2003 Performance-Based Research Fund quality evaluation. In the evaluation, quality categories were assigned to each eligible staff member by a panel of experts that assessed a portfolio submitted by the staff member. In the 2003 quality evaluation an A quality category represented the highest quality standard. Where a researcher did not meet a threshold for the A, B or C quality categories, an R category was assigned. In the 2003 quality evaluation 5.7 percent of Performance-Based Research Fund-eligible staff were assigned an A, 23 percent a B, 31 percent a C and 41 percent an R.

These categories were translated into numerical quality scores for the purpose of comparing research quality 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 were awarded an A quality category. The universities generally received the highest average quality scores in the 2003 quality evaluation. The University of Auckland had the highest average quality score of 3.96, followed by the University of Canterbury (3.83) and Victoria University of Wellington (3.39). In other results, Unitec New Zealand received an average quality score of 0.77, Auckland College of Education 0.39 and Carey Baptist College 1.16. A full list of the average

quality scores of all participating organisations can be found in Tertiary Education Commission (2004), page 97.

Figure 11.8: Performance-Based Research Fund 2003 university quality scores



A partial quality evaluation is taking place in 2006 followed by a full quality evaluation in 2012. This six-year gap between evaluations means that the Performance-Based Research Fund quality score cannot be used to show annual changes in the quality of research in tertiary education organisations. The measurement of annual changes in research quality requires the use of a proxy measure. Research contract income is a good proxy measure of quality as it is usually won through competitive bidding and is often subjected to rigorous peer review. It needs to be noted that some research funding is, however, commissioned by industry or by public sector agencies and hence is not won in competitive tender. However, the capacity of providers to maintain income from these sources over time depends on their reputation for delivery of research of high quality. It should also be noted that the main public research funds are oriented towards certain types of disciplines or outcomes. This limits the extent to which external research earnings can be used as a measure of research quality. In addition, increased research funding may also simply reflect an improvement in the quality of the applications themselves, rather than an improvement in the quality of the underlying research.

The largest part of research contract income is provided by firms and not-for-profit organisations that contract universities to conduct specific pieces of research on their behalf, in order to meet their business needs – that is, they ‘purchase’ the research

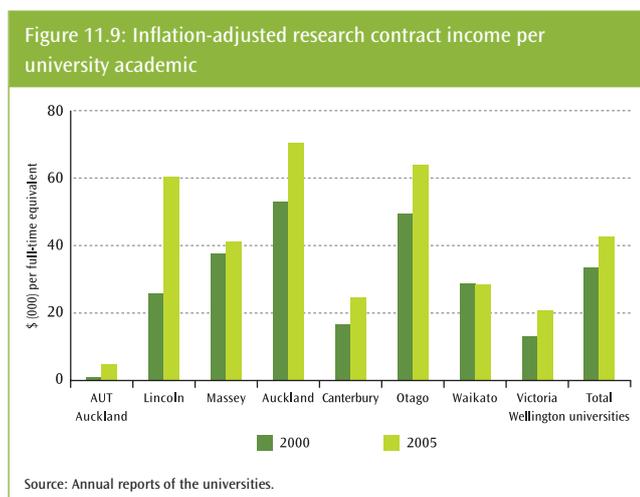
² Education at a glance: OECD indicators 2006, Table A3.1 page 58.



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outputs. Trends in this form of external research income provide a good proxy measure for the extent to which the research performed by the universities meets a test of relevance.

Figure 11.9 shows the research contract income per full-time equivalent academic staff member at each university in 2000 and 2005, adjusted for inflation. All universities, with the exception of the University of Waikato, showed an increase in inflation-adjusted research contract income per full-time equivalent academic between 2000 and 2005.

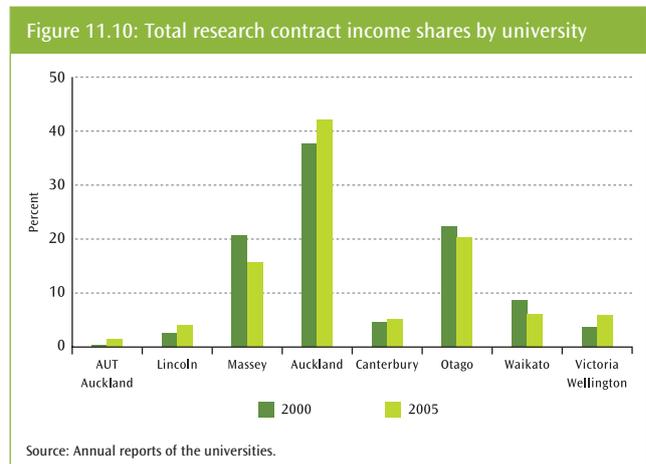


Note: Research contract income is expressed in 2005 dollars.

The strong relative performance of the University of Auckland and the University of Otago needs to be placed in context. These two universities dominate the funding distributed by the Health Research Council through their medical schools, which partly explains their strong performance.

However, using real research contract income per full-time equivalent academic staff as a proxy for changes in research quality is problematic as the total funding pool distributed by the research funding agencies may rise over time. Therefore, the increase in research contract income displayed in Figure 11.9 may not represent an increase in the ability to attract funding. One approach to avoid this complication is to examine the relative performance of the universities in attracting research contract income over time. If the quality of research at a university improves they should capture a larger share of total available university research contract income.

Figure 11.10 shows each university's share of total research contract income attracted by universities in 2000 and 2005.

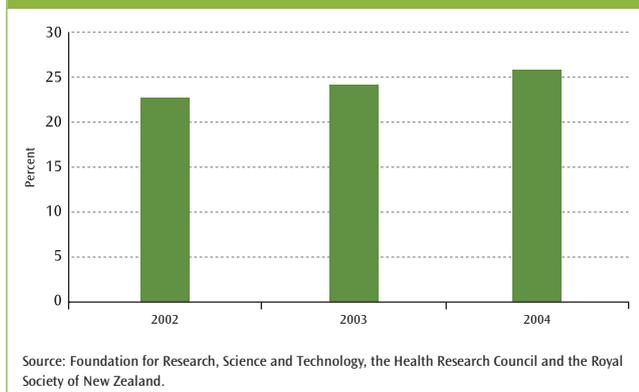


The universities that increased their share of total university research contract income between 2000 and 2005 were the Auckland University of Technology, Lincoln University, the University of Auckland, the University of Canterbury and Victoria University of Wellington. The University of Otago, University of Waikato and Massey University all experienced significant falls in their share of total research contract income.

To gauge the level of university performance against the rest of the research sector in New Zealand we can examine the share of Vote Research, Science and Technology funding won by the universities through a contestable bidding process. The research funding from Vote Research, Science and Technology is distributed through three funding agents – the Health Research Council, the Royal Society and the Foundation for Research, Science and Technology – on a contestable basis. An increase in the share of Vote Research, Science and Technology won by the universities may indicate that the quality of university research has improved, relative to that of other research organisations in New Zealand.

The share of Vote Research, Science and Technology funding won by the universities increased from 23 percent in 2002 to 26 percent in 2004, indicating a possible improvement in the quality of university research relative to other research organisations in New Zealand (or in the quality of the applications).

Figure 11.11: Universities' share of Vote Research, Science and Technology contestable funding



THE QUANTITY OF RESEARCH

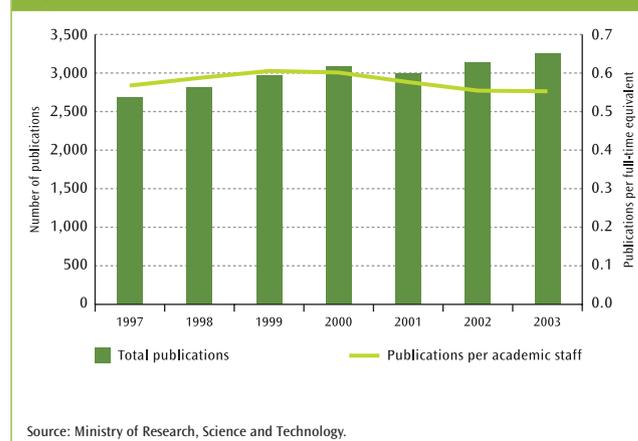
Measuring the research output of the universities over time is difficult, given the different reporting conventions used by some universities. One way of measuring the research output of universities in a consistent manner, though with some important reservations, is the use of bibliometrics. Bibliometrics involves the indexing of research outputs, normally journal articles, into searchable databases. The drawback of using these databases is that they favour disciplines such as the natural sciences and medical sciences, where there is much better coverage of journals. Also, bibliometric databases do not record research produced in outputs such as books and chapters of books, and therefore they cannot fully capture the research output of areas such as the social sciences and humanities. In addition, the journals that the databases use are generally North American or European, meaning that research that appears in local journals may not be captured by the databases. In some countries there is a list of approved journals that include high-quality local publications, so the measure can be made less dependent on international trends and priorities. These important caveats notwithstanding, research output counts drawn from bibliometric databases are still useful in identifying trends in research output.

A recent bibliometric study published by the Ministry of Research, Science and Technology in 2006³ examined the number of publications produced by the universities between 1997 and 2003 and indexed by the Institute of Scientific Information. The study showed that indexed research publications (journal articles

and reviews) by New Zealand university authors increased by 21 percent from 2,685 in 1997 to 3,252 in 2003.⁴ This compared to an increase of 13 percent in New Zealand-authored publications as a whole. As a result, the share of New Zealand publications by university authors has increased from 64 percent in 1997 to 69 percent in 2003.

The Ministry of Research, Science and Technology report also showed that the research productivity of university staff declined between 1999 and 2003. Although total research publications increased between 1999 and 2003, the number of academic staff increased at a faster rate. As a result, the number of university research publications per full-time equivalent academic declined by 8.8 percent from a peak of 0.61 in 1999 to 0.55 in 2003. However, there are signs that this decrease in productivity stabilised in 2003, with publications per academic staff of a similar level to that in 2002.

Figure 11.12: Indexed research publications by university authors



Comparing the research productivity of universities using bibliometrics is difficult. As discussed earlier, the coverage of the Institute of Scientific Information databases means that there is a bias towards publications in the natural sciences and medical sciences in these types of measurements. Universities with a proportionately large science faculty and/or a medical school will have higher research outputs than a university of a similar size that concentrates on the social sciences. As an example, the University of Otago has the highest number of indexed publications per academic staff member. In 2003, 1.1 publications per full-time equivalent academic were produced by the University of Otago, a figure significantly higher than

3 See Ministry of Research, Science and Technology (2006b).

4 The Auckland University of Technology is treated as a university for all of the period.

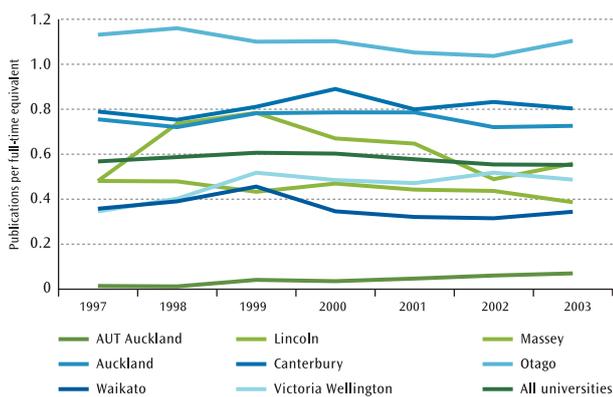


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the next best performer, the University of Canterbury, with 0.8 publications per full-time equivalent academic. However, part of the reason for the high relative productivity of the University of Otago is the presence of its four medical schools, which boosts the number of indexed research outputs.

Of more relevance is to examine the changes in the research productivity of universities over time. The Ministry of Research, Science and Technology analysis showed that only the Auckland University of Technology increased its research productivity between 1997 and 2003. However, the growth in productivity of 387 percent was coming off a very low base. Six of the remaining universities recorded a fall in research productivity between 1999 and 2003. The largest decline took place at Lincoln University, where research productivity fell by 29 percent.

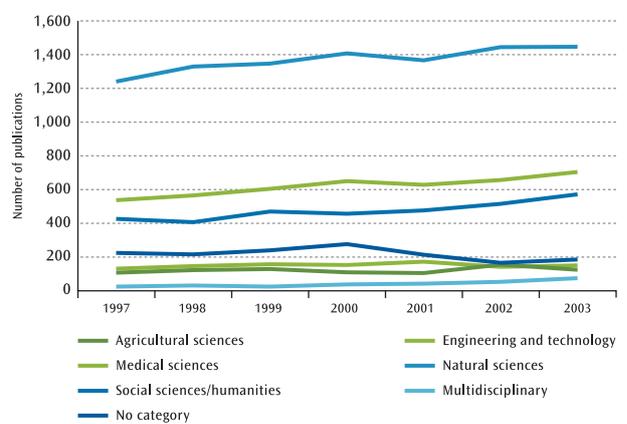
Figure 11.13: Indexed publications per university academic



Source: Ministry of Research, Science and Technology.

The Ministry of Research, Science and Technology study also analysed university research publications by subject area. The largest number of indexed publications are in the natural sciences, followed by the medical sciences. However, this is partly due to the nature of the coverage of the journals in the Institute of Scientific Information indices, which favour these subject areas. Between 1997 and 2003, the fastest growth in publications, at 34 percent, was in the area of the social sciences and humanities. This was followed by the medical sciences with an increase of 31 percent. The smallest increase in publications, at 15 percent, was in the area of the natural sciences.

Figure 11.14: Indexed publications by research area



Source: Ministry of Research, Science and Technology.

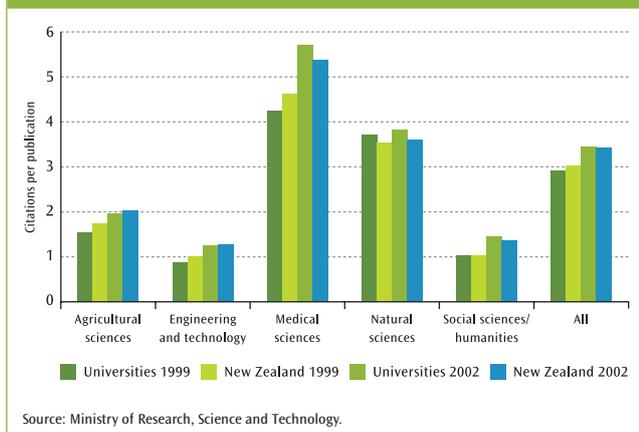
RESEARCH IMPACT

One common means of analysing the impact of research is through measuring citation rates – that is, the number of times a research paper has been cited or referred to in subsequent research publications. The Ministry of Research, Science and Technology conducts periodic studies of citation rates using information from Thomson Scientific's publications *National Citation Report and National Science Indicators*.⁵ However, the calculation of citation rates is never absolutely precise. Further, the number of citations is, at best, only a proxy measure for the impact of research. Trends in citation rates, however, are a well-accepted indicator of the extent to which a research community is building its research impact and thus its research quality. The probability of a paper being cited is dependent on a number of factors, particularly on the journal or other publication in which the paper appears and on the field of research.

The Ministry of Research, Science and Technology data shows that the average number of citations over a two-year period for research publications that were published in 1999 and 2002 increased in all of the broad research areas analysed in the study. In 1999, there were 2.9 citations on average per university publication. In 2002, this figure had increased to 3.5.

⁵ Refer also to Ministry of Research, Science and Technology (2001), which contains data on the 1996 bibliometric analysis, and Ministry of Research, Science and Technology (2004), for earlier analyses.

Figure 11.15: Average citations of publications by research area



The impact of university papers improved in relation to all New Zealand-authored publications. In 1999, the average citations for all New Zealand-authored papers was 3.8 percent higher than for publications by university authors. In 2002, this outcome was reversed, with the average citations of university-authored papers being 0.9 percent higher than for all New Zealand-authored publications.

The Ministry of Research, Science and Technology study also examined the impact of papers at the individual university level and the broad research areas. The analysis showed that, in 2002, publications by authors from Lincoln University had the greatest impact in the agricultural sciences. In the area of engineering and technology, publications by the University of Canterbury had the greatest impact and publications by University of Otago authors had the greatest impact in the remaining research areas of medical sciences, natural sciences and the social sciences.

A Statistics New Zealand survey of business practices in 2003 found that 14 percent of New Zealand businesses that were classified as innovators considered universities an important, or very important, source of information for innovation. This compared with 72 percent who found their suppliers an important, or very important, source of innovation information, 53 percent for other New Zealand businesses in the same industry, 60 percent for books, journals, conferences and shows, and 28 percent for research institutes.

The Statistics New Zealand survey also asked innovative businesses about the types of organisation they had collaborative or co-operative arrangements with. Around 20 percent reported that they had collaborative arrangements with a university or

polytechnic. This was about the same as reported collaborations with a Crown research institute or other public research provider. Nearly 70 percent of respondents claimed to have collaborations with suppliers of equipment, components or software.

Ministry of Research, Science and Technology data shows that the amount of patenting by New Zealand universities is increasing, although their share of domestic patenting has been stable since 1992 at around 2 percent to 3 percent per annum. Between 1993 and 1997, Auckland Uniservices Ltd (a subsidiary of the University of Auckland that manages the university's research contracts) ranked second in the list of New Zealand's top patenting organisations. Most university patents are in biotechnology and scientific instruments.⁶

RESEARCH PROFILES OF THE UNIVERSITIES

This section draws together the performance of each of the universities across several of the dimensions discussed in this chapter in order to create an overall research profile for each institution. A clearer overall picture of the research strengths of each university can be ascertained by viewing these profiles. The profiles display the performance of a university across five measures, relative to the average for all universities.

The five performance measures used in each university profile are:

- Research quality = average quality score in the 2003 quality evaluation
- Research contract income = research contract income per full-time equivalent academic in 2005
- Research output = indexed research publications per full-time equivalent academic in 2003
- PhD enrolments = PhD enrolments per full-time equivalent academic in 2005, and
- PhD completions = PhD completions per full-time equivalent academic in 2005.

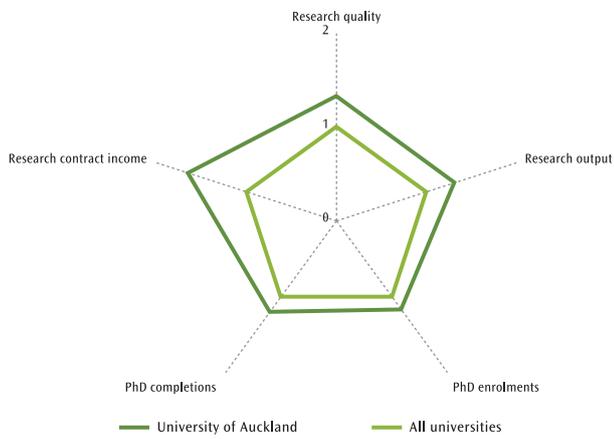
For each performance measure the score for each university is expressed as a multiple of the score for the universities as a whole – so that the university sector average on each indicator is 1.0. The data for each profile was sourced from the Tertiary Education Commission, the Ministry of Research, Science and Technology, the Ministry of Education and the annual reports of the universities.

⁶ Source: Ministry of Research, Science and Technology (2000), page 11.



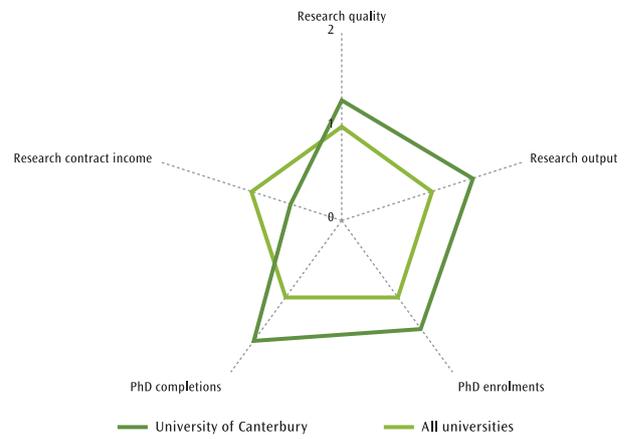
Research and knowledge creation

Figure 11.16: Research profile of the University of Auckland



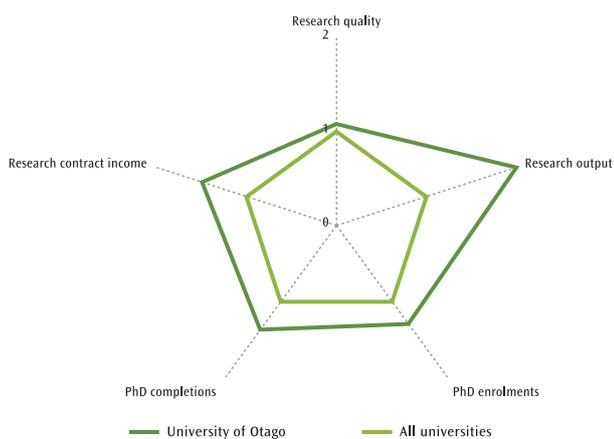
The University of Auckland performed above the all universities average in all areas. In particular, research contract income is well above the university average, due in part to the access to Health Research Council funding.

Figure 11.18: Research profile of the University of Canterbury



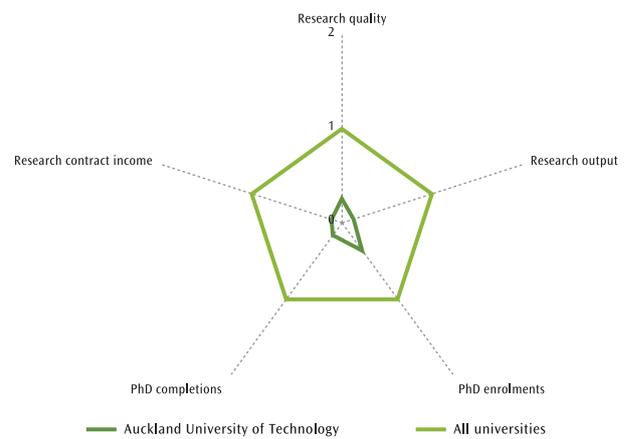
The University of Canterbury performed above the all universities average in four of the five measures. In particular there was a high number of doctoral completions per full-time equivalent academic.

Figure 11.17: Research profile of the University of Otago



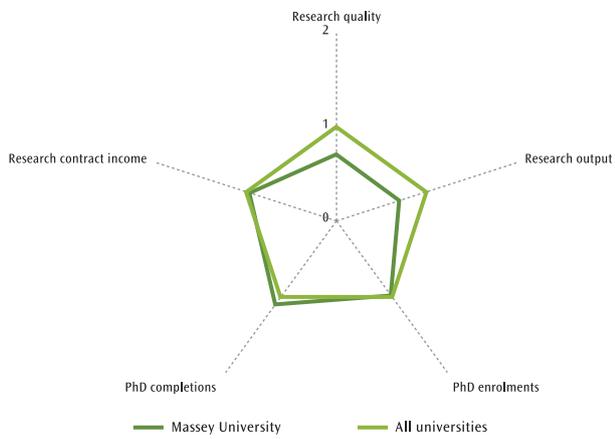
The University of Otago performed above the all universities average in all areas. The particularly strong performance in research output is due partly to the large number of indexed research publications attached to the four medical schools at the university.

Figure 11.19: Research profile of the Auckland University of Technology



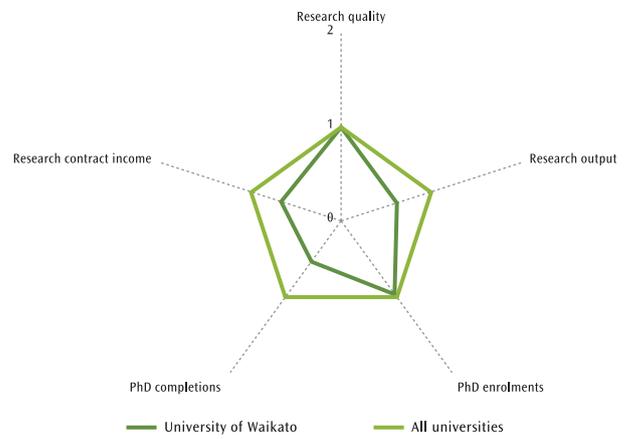
The Auckland University of Technology performed below the all universities average in all areas. This result is a reflection of the relatively short time since the Auckland University of Technology was granted university status in 2000.

Figure 11.20: Research profile of Massey University



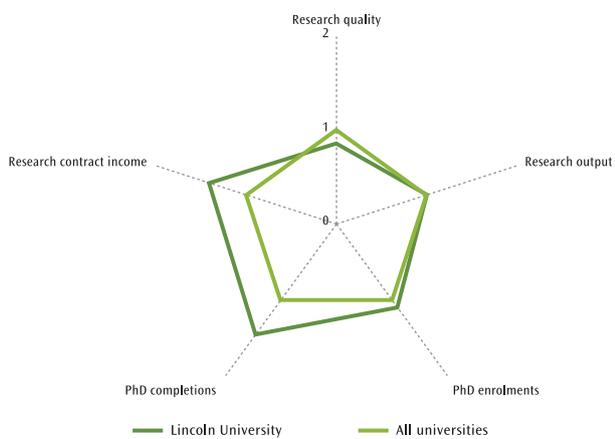
Massey University performed at a level similar to the all universities average in the areas of research contract income, doctoral completions and enrolments. Massey's performance was below the university average in the areas of research output and research quality.

Figure 11.22: Research profile of the University of Waikato



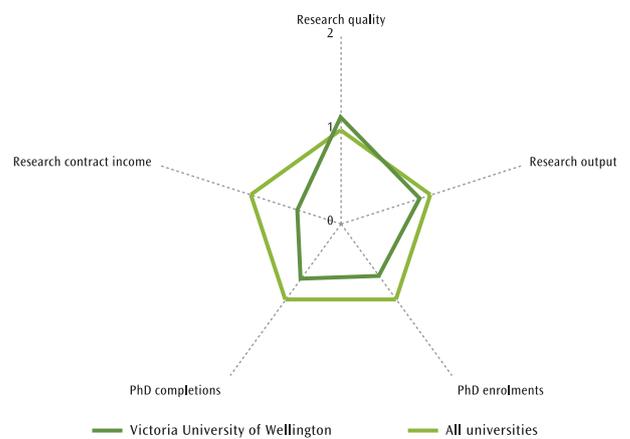
The University of Waikato performed at the all universities average in research quality and doctoral enrolments. The quantity of research output was below the university average, along with research contract income and doctoral completions.

Figure 11.21: Research profile of Lincoln University



Lincoln University had strong performance in the areas of doctoral completions and research contract income. Research output was at the university average and research quality was slightly below the university average.

Figure 11.23: Research profile of Victoria University of Wellington



Research quality at Victoria University of Wellington was slightly above the all universities average. Research contract income was well below the average and doctoral enrolments and completions were also below the all universities average.



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COMPARING THE QUALITY, QUANTITY AND IMPACT OF UNIVERSITY RESEARCH

In the first part of this section, information on the quality of research from the 2003 quality evaluation is combined with bibliometric measures of quantity and impact from Ministry of Research, Science and Technology (2006) to compare the performance of the universities across these three dimensions. As the subject discipline mix is different across universities, this analysis is limited to three broad subject areas – the agricultural sciences, engineering and technology, and medical sciences – where a reasonable match in the data can be achieved. However, as there is not a perfect match in these subject areas, caution should be used in assessing the results of this analysis. In addition, it should be noted that only those universities with a significant number of academic staff in the particular subject area have been included in the analysis.

The three measures examined in this analysis are:

- *Quality – Performance-Based Research Fund score.* This is the average quality score assigned to the subject area in the 2003 quality evaluation.
- *Quantity – Publications per full-time equivalent academic.* These are the indexed publications, per full-time equivalent Performance-Based Research Fund-eligible staff, that were published between 1997 and 2002. This is the time period that was used to assess research quality in the Performance-Based Research Fund 2003 quality evaluation.
- *Impact – Citations/publication.* This is the average number of citations over a two-year period for papers published in 1999 and 2002.

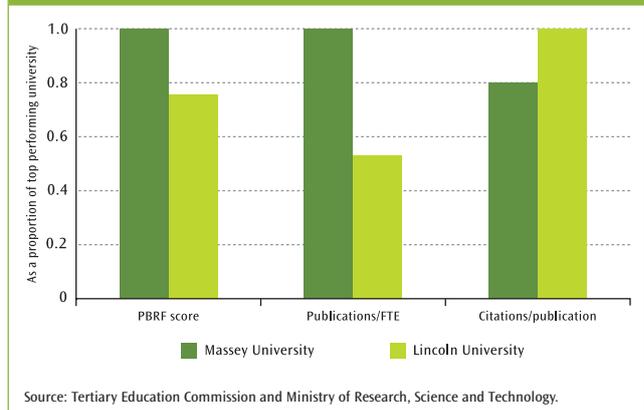
To allow comparisons to be made, the individual university score for each performance measure is expressed as a proportion of the score for the top performing university. Therefore a value of 1 for a university indicates it was the top performing university for that particular measure.

In the second part of this section, the results of an analysis by Macri and Sinha (2006) that ranked the quantity and quality of journal articles produced by staff in New Zealand university economics departments is compared with the average quality score these departments achieved in the 2003 quality evaluation.

AGRICULTURAL SCIENCES

The two main university producers of research in the area of agricultural sciences are Massey University and Lincoln University. As can be seen in Figure 11.24, Massey University received a higher quality score than Lincoln University in the 2003 quality evaluation. The data on research quantity shows that Massey University produced a significantly higher number of publications per full-time equivalent staff than Lincoln University, but that the publications produced by Lincoln in 1999 and 2002 achieved greater impact with a higher number of average citations.

Figure 11.24: Quality, quantity and impact of research in the agricultural sciences



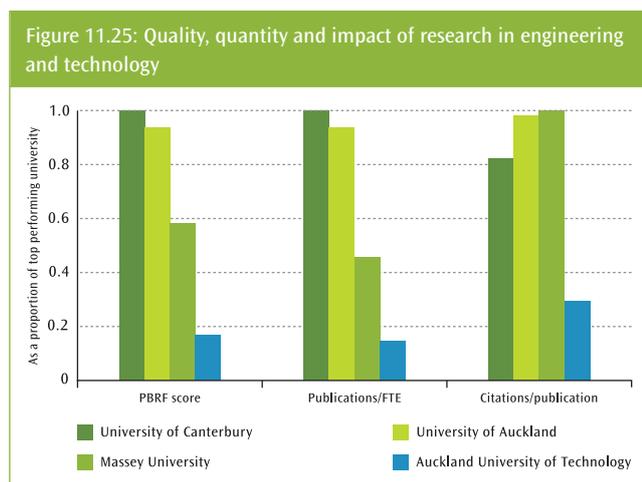
Notes:

1. The Ministry of Research, Science and Technology data uses the OECD field of science definition of 'agricultural sciences'.
2. For a detailed breakdown of the subject areas within this field see Ministry of Research, Science and Technology (2006a).
3. The Performance-Based Research Fund score uses data from the subject category of 'agriculture and other applied biological sciences' in the 2003 quality evaluation.

ENGINEERING AND TECHNOLOGY

This analysis focuses on the universities with the four largest research workforces in the area of engineering and technology. In the 2003 quality evaluation, the University of Canterbury had the highest research quality. They were followed by the University of Auckland, Massey University and the Auckland University of Technology. As can be seen in Figure 11.25, the performance of the universities in terms of the quantity of publications per full-time equivalent staff follows the same order

as the Performance-Based Research Fund quality score. However, the citations/publication measure shows that research by Massey University had the greatest impact, followed by research at the University of Auckland.

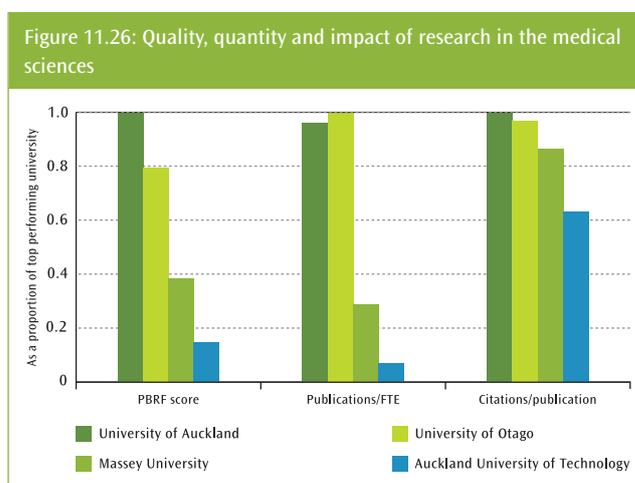


Notes:

1. The Ministry of Science, Research and Technology data uses the OECD field of science definition of 'engineering and technology'.
2. For a detailed breakdown of the subject areas within this field see Ministry of Research, Science and Technology (2006a).
3. The Performance-Based Research Fund score uses data from the subject category of 'engineering and technology' in the 2003 quality evaluation.

MEDICAL SCIENCES

This analysis of university research in the medical sciences is limited to those four universities with the largest staff in the 2003 quality evaluation. In the 2003 quality evaluation, the University of Auckland achieved the highest Performance-Based Research Fund quality score. Research at the University of Otago was assessed as having the next highest quality, followed by Massey University, and the Auckland University of Technology. As shown in Figure 11.26, this aligns with the rankings of the universities when measuring citations per publication, although the relative performance of the University of Otago was closer to the University of Auckland than in the Performance-Based Research Fund score. In terms of research quantity, the University of Otago produced a slightly higher number of publications per full-time equivalent staff than the University of Auckland.



Notes:

1. The Ministry of Research, Science and Technology data uses the OECD field of science definition of 'medical sciences'.
2. For a detailed breakdown of the subject areas within this field see Ministry of Research, Science and Technology (2006a).
3. The Performance-Based Research Fund score uses data from the subject categories of 'clinical medicine', 'public health', 'nursing', 'dentistry', 'biomedical' and 'other health studies' in the 2003 quality evaluation.

ECONOMICS

A recent study by Macri and Sinha (2006) analysed the research performance of economics departments at Australian and New Zealand universities, over the period 1988 to 2002. The analysis examined the performance of the departments by calculating the number of published journal articles per staff member. The study also calculated the number of pages that were published in journals, weighted by measures of the quality of each publication per staff member. The study calculated rankings for each department based on these measures for the period 1996 to 2002 – a time-frame similar to that used in the 2003 Performance-Based Research Fund quality evaluation. Table 11.1 below compares the relative ranking of New Zealand university economics departments in the 2003 quality evaluation with their rankings in the Macri and Sinha study.

The Macri and Sinha study ranked the economics department at the University of Otago as the largest producer of journal articles per staff member, followed by the University of Waikato. The University of Auckland, which achieved the highest ranking in the 2003 quality evaluation, was ranked sixth in terms of the journal articles produced per staff member in the Macri and Sinha study. Over the three measures that weighted the



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number of pages in journal articles by the quality of the journal, the University of Canterbury achieved the highest ranking on average. They were followed by the University of Auckland and the University of Waikato.

The differences in the rankings of the economics departments in the Performance-Based Research Fund quality evaluation and those in the Macri and Sinha study are not surprising. The Macri and Sinha study is formulaic in approach and although it uses weightings for quality in some measures, it is still based essentially on a quantitative measure. In contrast, the Performance-Based

Research Fund quality evaluation used peer-review to assess the level of quality of research. Also, the quality evaluation assessed the quality of a restricted number of research outputs, while the Macri and Sinha study assessed all the journal articles published by faculty staff in the ECONLIT database. Another reason for the difference in rankings is that the peer review panels in the 2003 Performance-Based Research Fund quality evaluation could examine a much wider range of research outputs including journal articles, books and book chapters.

Table 11.1: Quality and quantity of research in university economics departments

	2003 Performance-Based Research Fund quality evaluation	Macri and Sinha	
		Journal articles per staff member	Pages in journals weighted for journal quality per staff member
Ranking			
University of Auckland	1	6	2
University of Otago	2	1	4
University of Waikato	3	2	3
University of Canterbury	4	3	1
Lincoln University	5	5	7
Victoria University of Wellington	6	7	5
Massey University	7	4	6

Source: Tertiary Education Commission (2004) and Macri and Sinha (2006).

Notes:

1. The Macri and Sinha study assessed publications over the period 1996 to 2002. The PBRF quality evaluation assessed the quality of research over the period 1997 to 2002.
2. Auckland University of Technology was not included in the Macri and Sinha study.
3. The 'pages in journals' ranking uses the average ranking of the three measures that applied weightings for the quality of the journals to rank the economics departments. Two measures used citations to weight the journals for quality, while the third measure used the perceived quality of the journals, based on a survey of academics.

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AN OVERVIEW

Total research income in public tertiary education institutions rose in 2005. The largest source of research income for tertiary education institutions was research contracts, followed by enrolments-based research top-ups, the Performance-Based Research Fund and funding for centres of research excellence.

Government funding for research via Vote Education rose in 2005. The funding distributed through enrolments-based research top-ups fell, as funding for this source was progressively transferred to the Performance-Based Research Fund.

Research contract income in the universities increased in 2005, although it fell slightly as a percentage of total university revenue. Information on the two components that comprise contract income is not available for 2005. However, research contract funding won by the universities from government contestable research funds distributed via Vote Research, Science and Technology increased in 2004. Research contract income earned from 'other' sources also increased in 2004. The universities also increased their share of the funding from Vote Research, Science and Technology in 2004, for the second consecutive year.

LOOKING TO 2006

The three-year phase-in period of the Performance-Based Research Fund continued in 2006 with 50 percent of research top-ups funding transferred to the fund, up from 10 percent in 2004 and 20 percent in 2005. The estimated size of the fund in 2006 is \$112.1 million, up from \$38.7 million in 2005 and \$16.1 million in 2004. These figures exclude goods and services tax.

In 2006, the government announced that additional funding will be placed into the Performance-Based Research Fund contestable pool and this will take the total size of the fund to an estimated \$226 million in 2009/10. The government also announced additional funding for the centres of research excellence. There will be extra operational funding of \$10 million from 2007/08 along with a one-off capital funding injection of \$20 million. This funding is targeted at the existing centres but will also allow for the establishment of up to two new centres of research excellence. In addition, the government approved \$40 million of capital funding, over five years, for the partnerships for excellence initiatives.

SOURCES OF RESEARCH REVENUE

Tertiary education organisations in New Zealand fund their research activities from a variety of sources. Part of this funding is provided by the government and recognises the costs of research activities. In addition, many tertiary education organisations are active in seeking external funding for their research work, through winning research contracts and grants. Part of that research contract and grant funding is provided by the government through its funding for the national research, science and technology effort.

This chapter looks at the revenue generated by tertiary education organisations – and especially the universities – from all these sources. It includes an analysis of research financing of all the public tertiary education institutions. One section concentrates on the eight universities, as they are responsible for the great majority of the research in the tertiary education sector and win nearly all the research funding. The other focus is on research funding in the period between 2000 and 2005. All the income and expenditure presented in this chapter is exclusive of goods and services tax.

RESEARCH TOP-UPS FUNDING TO CEASE

By the end of 2007, the current research top-ups funding will cease and the Performance-Based Research Fund will be the main mechanism for distributing 'non-specific' government funding for research – funding allocated through a bulk grant and not tied to any specific research output – in tertiary education organisations. However, between 2000 and 2003, the main government funding for research in tertiary education was distributed by way of research top-ups – supplements to the tuition subsidy rates for domestic degree-level, postgraduate enrolments, and funding for international students engaged in postgraduate research. For more detailed information about how this funding has been estimated refer to the technical notes in chapter 17.

The rationale for basing the research funding allocation on enrolments was that degrees are required under the Education Act to be taught predominantly by staff active in research. This funding recognised that the research effort of the tertiary education organisations teaching at that level would need resourcing. However, distributing research funding on the basis of enrolments means that funding for one activity is dependent on performance in a different activity. This is distortionary.

ANALYTICAL TABLES: An associated set of tables on financing research in tertiary education is available on the Education Counts website, Tables RSF1-9. Detailed technical information on the data presented here can be found in chapter 17.



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The level of top-up income depended on the number of enrolments at degree level and higher, with the rate of top-up funding dependent on:

- the course classification and hence the funding category for enrolments in the field of study, and
- the level of study, with lower top-up rates being paid for undergraduate degree enrolments and higher rates for enrolments in taught postgraduate courses and for research degree enrolments.

The funding for international students engaged in postgraduate research was set at a much lower rate than for domestic students and varies by course classification and funding category. From 2006, new international students studying towards a doctorate degree will receive the same base level of funding as domestic doctorate students.

PERFORMANCE-BASED RESEARCH FUND

In 2004, the phase-in of the Performance-Based Research Fund began. From 2004 to 2006, the top-ups have been reducing as funding is transferred to the fund. In 2007, the phase-in will be complete. The Performance-Based Research Fund funding allocation formula uses an assessment of research quality and indicators of research performance.¹

CENTRES OF RESEARCH EXCELLENCE

Over 2001 and 2002, the government also established seven centres of research excellence – networks of researchers working in nationally important areas of research in which there is established capability. Each of the seven centres is hosted by a university. Funding for the centres is another source of research revenue.

VOTE RESEARCH, SCIENCE AND TECHNOLOGY AND 'OTHER' RESEARCH CONTRACT INCOME

Researchers also bid for research contract funding from organisations that commission research. There are two components to research contract income:

- research funding provided through the government's contestable research funds, and

- income provided by private sponsors of research who commission tertiary education organisations to conduct research projects.

The government is a major funder of research through Vote Research, Science and Technology, which provides funding for research contracts on a contestable basis.

The research top-ups, the Performance-Based Research Fund, centres of research excellence funding and Vote Research, Science and Technology together constitute the 'government research funding'.

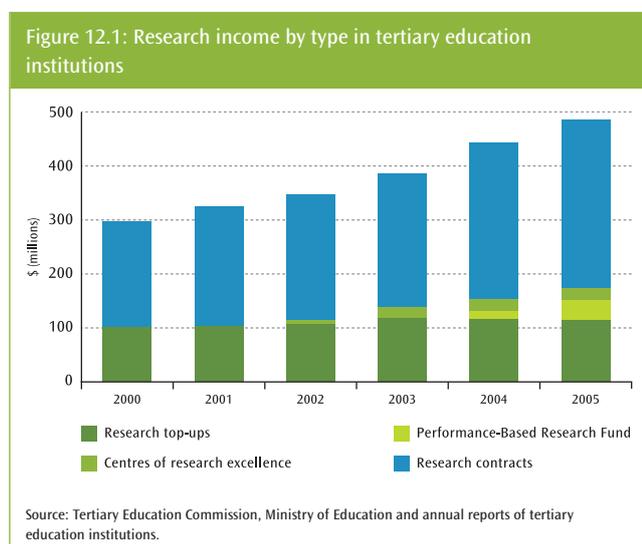
In addition to Vote Research, Science and Technology, tertiary education organisations win funding from private sponsors of research – firms and not-for-profit organisations that contract them to conduct specific pieces of research on their behalf, in order to meet their business needs. In this case the research outputs are being 'purchased' from the tertiary education organisation.

Government agencies also commission research as part of their ongoing business. Some of the research contracts will be let to tertiary education organisations. These contracts are not classified as government research funding for the purposes of this chapter, but are included as part of external research contract income.

¹ For more detail in how the funding is allocated see Tertiary Education Commission (2004).

RESEARCH FINANCING IN PUBLIC TERTIARY EDUCATION ORGANISATIONS

This section analyses the main types of research income in tertiary education organisations and the performance of the universities as well as other tertiary education organisations that conduct research. Figure 12.1 shows the research income of the public tertiary education institutions between 2000 and 2005 by type. For analysis purposes, the government funding for international students engaged in postgraduate research has been included in the top-ups allocation.



In 2005, tertiary education institutions received a total of \$485.8 million in research income, up from \$442.4 million in 2004 (an increase of 10 percent). In 2000, tertiary education institutions received \$297 million in research income. The universities earned 97 percent of the total research income of tertiary education institutions in 2000, rising to 98 percent in 2005, while institutes of technology and polytechnics earned 1.4 percent in 2000 and 1.7 percent in 2005. Research income in polytechnics rose by 91 percent over the same period, from \$4.3 million to \$8.2 million, compared with 65 percent for the universities.

In 2000, enrolments-based research funding accounted for 34 percent of the total research income and research contracts for 66 percent. In 2005, enrolments-based research funding made

up 23 percent of the research income, the Performance-Based Research Fund 8.0 percent, the centres of research excellence 4.4 percent, and research contracts 64 percent.

NON-SPECIFIC GOVERNMENT FUNDING OF RESEARCH

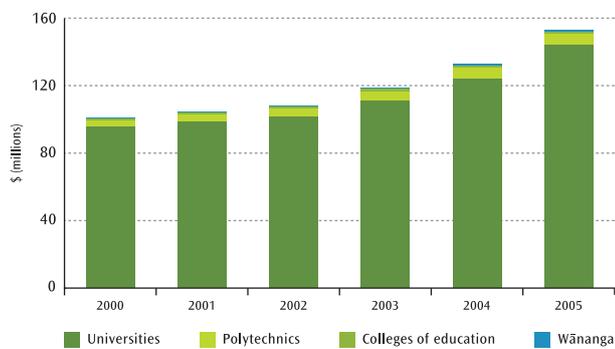
The non-specific government funding of research for tertiary education institutions was provided through enrolments-based funding between 2000 and 2003. Starting in 2004, part of that funding was shifted to the Performance-Based Research Fund. Most of the funding available for allocation under the Performance-Based Research Fund comes from a progressive transfer of the enrolments-based research top-ups funding. In 2004, 10 percent of the research top-ups funding was assigned to the fund and this increased to 20 percent in 2005. In 2006, 50 percent of top-ups funding will be directed to the Performance-Based Research Fund and in 2007 all money will have been transferred so there will be no top-ups funding. In addition to the money transferred from the top-ups, the government has agreed to inject new funding into the Performance-Based Research Fund. It is expected that in 2008 there will be around \$200 million in the Performance-Based Research Fund, some \$52 million above the amount in research top-ups.

The total amount provided to tertiary education institutions through enrolments-based funding and the Performance-Based Research Fund combined reached \$153 million in 2005, up by 15 percent on the figures in 2004, and up by 51 percent on the figures in 2000. The universities have won the largest share of that funding; their share was around 94 percent in each of these years, while the polytechnics earned about 5 percent. In 2005, the colleges of education won about 0.4 percent and wānanga 0.5 percent. Private training establishments also receive top-ups funding and Performance-Based Research Fund allocations. In 2005, their top-ups funding was less than \$1 million and the Performance-Based Research Fund allocations were around \$50,000.



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Figure 12.2: Top-ups and Performance-Based Research Fund allocations by sector



Source: Tertiary Education Commission and Ministry of Education.

The allocations through the Performance-Based Research Fund to all tertiary education organisations were \$16.1 million in 2004 and \$38.7 million in 2005. The forecast for 2006 is \$112.1 million. The fund's allocation formula has three components:

- the *research quality* scores obtained by the tertiary education organisation in the fund's most recent quality evaluation – a peer assessment of the research portfolios of each eligible staff member in the tertiary education organisation (60 percent of the weighting)
- the number of *research degree completions* recorded by the tertiary education organisation over the three most recent years (25 percent), and
- the amount earned by each tertiary education organisation as *external research income* over the three most recent years (15 percent).

The 2004 allocation was based on the 2003 quality evaluation and the performance of the two other measures in 2002. In 2005 and 2006, the fund's allocation was based on the 2003 quality evaluation scores, but the research degree completions and the external research income measures were updated to include 2003 and 2004 data, respectively. This means that the relative performance of the tertiary education organisations participating in the fund changed between 2004 and 2006.

Table 12.1 lists the share allocated to 13 tertiary education organisations – including all of the universities – for the year 2004, together with indicative allocations for 2005 and 2006. The fund allocations to the Auckland and Wellington colleges of

education have been included in the University of Auckland and Victoria University of Wellington allocations, respectively.

Table 12.1: Share allocations of the Performance-Based Research Fund

Tertiary education organisation	2004	2005	2006
	Actual	Indicative allocation	
	Percentage		
University of Auckland	28.9	28.9	29.9
University of Otago	22.5	21.7	21.1
Massey University	14.1	14.6	14.5
University of Canterbury	11.8	12.1	12.1
Victoria University of Wellington	8.7	8.6	8.6
University of Waikato	7.4	7.5	7.3
Lincoln University	3.4	3.4	3.3
Auckland University of Technology	1.8	1.8	1.7
Unitec New Zealand	0.9	0.9	1.0
Waikato Institute of Technology	0.2	0.2	0.2
Christchurch College of Education	0.1	0.1	0.1
Dunedin College of Education	0.1	0.1	0.1
Whitecliffe College of Arts and Design	0.1	0.1	0.1

Source: Tertiary Education Commission.

There were small changes in the share of the fund won by the participating tertiary education organisations between 2004 and 2006. The Universities of Auckland and Canterbury, and Massey University experienced small increases in shares. The remaining universities experienced small drops in share.

FUNDING BY PERFORMANCE-BASED RESEARCH FUND COMPONENT

The tertiary education organisations that won the largest share under the research degree completions measure in 2006 were the Universities of Auckland (\$6.6 million) and Otago (\$5.2 million) followed by Massey University (\$5.0 million). Combined, these three universities earned 59 percent of the total research degree completions allocation.

The funding allocations can also be weighted by the organisation's full-time equivalent count of its Performance-Based Research Fund-eligible staff to adjust for size. The highest allocation, based on full-time equivalent weighted research degree completions, was made to the University of Canterbury, followed by the University of Waikato and the University of Otago.

As was the case in the research degree completions measure, Auckland, Otago and Massey dominated the 2006 external research income allocations. These three universities attracted 75 percent of this allocation. On a per full-time equivalent basis, however, Lincoln University earned the largest allocation, followed by the Universities of Auckland and Otago.

FINANCING RESEARCH IN THE UNIVERSITIES

The characteristics of a university set out in the Education Act 1989 require that 'their research and teaching are closely interdependent and most of the teaching is done by people who are active in advancing knowledge...[and] they meet international standards of research...'.

In addition, universities are together responsible for nearly all of the research conducted in the tertiary education sector. It was noted above that, in 2005, they won 97 percent of all of the research funding and 94 percent of the core government research funding to tertiary education institutions.

This section looks in more detail at the financing of the research activities of the universities. It focuses especially on the sources of the financing of research in universities, separating from the research contract income the revenue of the centres of research excellence and also the income won by universities from the contestable research funds provided by the government under Vote Research, Science and Technology.

Total research income in the universities in 2005 was \$475.8 million. This represents 19.9 percent of all university income, compared with 20.3 percent in 2004, and 19.1 percent in 2000. Between 2000 and 2005, total research income in the universities grew by 65 percent.

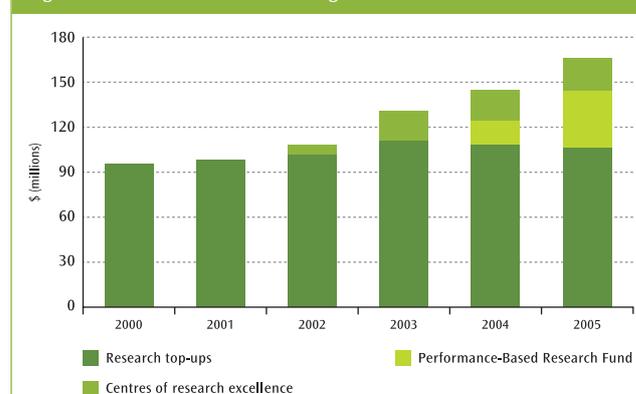
GOVERNMENT FUNDING FOR RESEARCH FROM VOTE EDUCATION

The non-specific government funding for research in the universities – enrolments-based research funding and the Performance-Based Research Fund – grew by 51 percent between 2000 and 2005, reaching \$144.6 million in 2005. This represented 30 percent of the research income in universities in 2005, compared with 29 percent in 2004 and 33 percent in 2000. The fall between 2000 and 2005 in non-specific government funding for research was due to the growth in external research contracts. In 2005, the combined funding from enrolments and the Performance-Based Research Fund represented 6.0 percent of total university income from all sources. This compares with 6.3 percent in 2000.

From 2002, the government has provided funding for the seven centres of research excellence. The seven centres are hosted by four universities, though each centre has formal partnerships with other universities, wānanga, and other research organisations. The host universities are the University of Auckland, Massey University, Victoria University of Wellington and Lincoln University. The University of Auckland holds four of the seven centres. The funding for centres of research excellence was phased in over 2002 to 2003. Funding in 2002 was \$6.5 million and this increased to \$19.4 million in 2003, \$20.4 million in 2004 and \$21.3 million in 2005.

The funding from the centres of research excellence, the Performance-Based Research Fund and the enrolments top-ups collectively represent the government's education funding for research via Vote Education.

Figure 12.3: Vote Education funding of research in universities



Source: Tertiary Education Commission and Ministry of Education.



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GOVERNMENT FUNDING FOR RESEARCH FROM VOTE RESEARCH, SCIENCE AND TECHNOLOGY

In addition to funding university research through Vote Education, the government supplies significant amounts of contestable research funding through Vote Research, Science and Technology. There are three organisations (called single purchase agents) who allocate this funding to research providers within broad parameters set by the government:

- the Health Research Council – allocates funding for the purchase and co-ordination of health research
- the Foundation for Research, Science and Technology – allocates funding for strategically important and priority areas of applied research, science and technology, and
- the Royal Society – allocates the Marsden Fund, intended to provide for pure basic research.

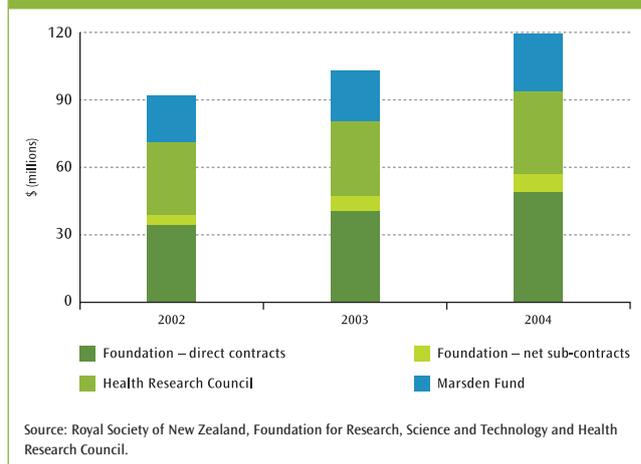
All three purchase agents use a contestable process, with research providers, including universities, putting proposals that set out the merit and costs of planned projects, describe how the projects align to the purchase agents' priorities and detail the bidder's track record in completing research.

To that extent, the Vote Research, Science and Technology funding to tertiary education organisations includes a strategic dimension (since it requires alignment with government priorities for research, which, in turn, reflect national economic and social goals) and an element of quality assessment.

Universities may win research contracts directly from the Foundation for Research, Science and Technology with the university as the lead provider in the research contract. In addition, because many of the foundation's contracts are very large and require wide ranges of expertise, the lead provider often lets out sub-contracts to other research organisations. Universities may be awarded a sub-contract by other research organisations. Also, when a university is the lead provider, it may sub-contract out work to other research organisations. In their annual accounts, the universities will record the direct contracts they have won plus any sub-contracts as income, without taking account of money that may have flowed to other types of research organisations. This has the effect of double counting the funding allocated from some of the foundation's contracts to the universities. To avoid this problem Figure 12.4 presents the funding allocated from the Foundation for Research, Science and

Technology as direct contracts and net sub-contracts – that is, the value of sub-contracts won less the value of sub-contracts let.

Figure 12.4: Vote Research, Science and Technology funding of research in universities



The research funding won by the universities from the research purchase agents in 2004 was \$119.1 million, up by 30 percent on 2002. However, the increase in funding of 30 percent between 2002 and 2004 needs to be placed in context as the total funding available for dispersion through the contestable funding also rose. Between 2002 and 2004, the contestable funding in Vote Research, Science and Technology increased by 16 percent. Consequently, the universities won an increased share of the allocation over that period.

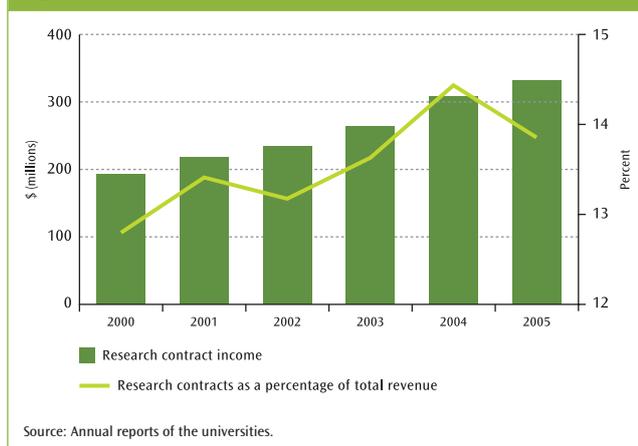
RESEARCH CONTRACT INCOME

In their annual accounts, the universities record as research contract income all of the revenue they earn from bidding for contestable funds – such as the three Vote Research, Science and Technology funds – from centres of research excellence, from sub-contracts to Crown research institutes and other organisations, and research income from other sources such as private funders or 'purchasers' of research. Typically, purchasers of research are firms that commission universities to undertake research that will assist the firm in its business. The government can also be a purchaser of research services and these will be categorised by universities as research contract income. An example of this would be a ministry that contracts researchers from universities to analyse and research policy issues.

In the analysis in this section, we consider gross research contract income in the universities. This means we count all research income and do not adjust for the fact that some of the income may be passed on to other research providers as sub-contracts. This approach to counting research income aligns with the universities' annual accounts.

The total research contract income reported by the universities in their financial statements in 2005 was \$331.2 million, up by 7.2 percent on 2004. Research contract income represented 13.9 percent of all university revenue in 2005, compared with 14.4 percent in 2004 and 12.8 percent in 2000. The mergers of the Auckland and Wellington colleges of education in 2004 and 2005 with the respective universities is likely to have been a factor in the fall in research contract income as a proportion of the university sector's total revenue, as colleges typically have won only modest amounts of research contract income.

Figure 12.5: University research contract income



In Figure 12.6 university research contract income has been graphed per full-time equivalent academic staff.² In interpreting this graph, it is important to note that universities have different opportunities to earn research contract income. For instance, those universities involved with the centres of research excellence will obviously earn higher levels of income, while the two universities with medical schools – the Universities of Auckland and Otago – will tend to dominate the funding available through the Health Research Council. Likewise, there are some fields that tend to attract higher levels of research contract income; engineering is an example. Also, the mergers with colleges of education for the University of Auckland (in

2004) and Victoria University of Wellington (in 2005) would have reduced research contract income per full-time equivalent academic staff member.

Figure 12.6: University research contract income per academic staff member

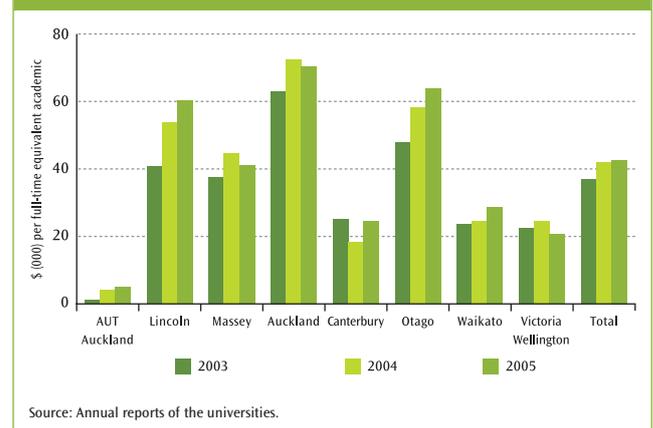
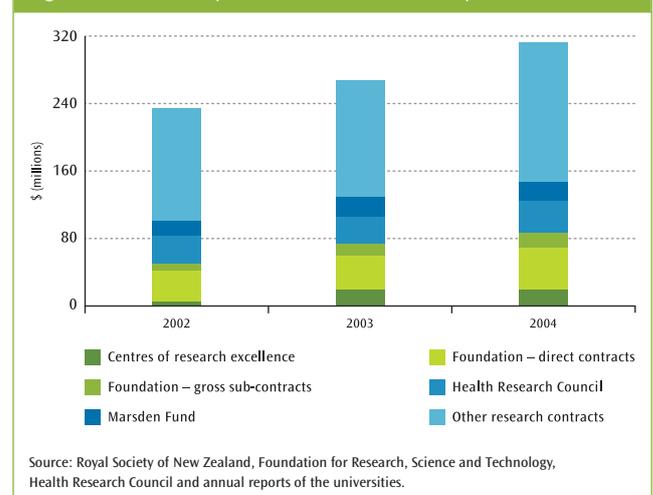


Figure 12.7 shows the split of the research contract income reported by universities in their financial statements in the years 2002 to 2004 by source of income. The funding allocations for the Foundation for Research, Science and Technology, referred to in this section and graphed below, are based on gross sub-contracting. This means that income received from sub-contracting is counted in university income but no adjustment is made for sub-contracting out by the universities.

Figure 12.7: University research contract income by source



2 The measure of research contract income used in Figure 12.6 is broader than that used by the Tertiary Education Commission for calculating external research income. In addition, Figure 12.6 uses full-time equivalent academic staff as the denominator, whereas the external research income measure discussed earlier uses full-time equivalent Performance-Based Research Fund-eligible staff as the denominator. Therefore, the results in Figure 12.6 may vary from those presented in earlier sections.



Research and knowledge creation

Research contract income from 'other' sources represented \$161.1 million in 2004, a rise of 21 percent between 2002 and 2004. In 2004, this form of income made up 38 percent of all university research income. This compares with 40 percent in 2002.

The scale of the ongoing growth in total research income can be attributed largely to increases experienced by most universities in their research income from other sources.

The total growth in university research income between 2002 and 2004 was \$97.4 million. The percentage share of this increase among the four main income sources is: 14 percent in centres of research excellence, 24 percent in funding from top-ups and the Performance-Based Research Fund, 33 percent in Vote Research, Science and Technology funding and 29 percent in 'other' research contract income.

The growth in the research income from 'other' sources is particularly important as it gives the best indicator of the extent to which the research of the universities is meeting the needs of businesses and communities. Any organisation prepared to fund research would do so because it considers that the findings are likely to be of value for that organisation. If that organisation has commercial objectives, it would be prepared to fund research if it has assessed that the long-term return – financial and non-financial – from the research produced by the project funded is greater than the expense of the funding. In addition, firms and community organisations will fund research only if they consider that research is of good quality. Therefore, the ability of a tertiary education organisation to earn significant research contract income over an extended time period indicates that the tertiary education organisation is perceived by funders as offering research outputs of good quality. Thus, if universities have increasing income from research contracts, that is an indicator of both the *quality* and also the *relevance* of the research the system produces.

The following two graphs separately show the changes in the percentage of research income derived from different sources for the eight universities for the years 2000 and 2004. Note that in these graphs there has been no adjustment made for the effect of sub-contracting. Therefore the share of funding allocated by the Foundation for Research, Science and Technology is likely to be understated and the share of funding from 'other' research income overstated.

Figure 12.8: Percentage of university research income for 2000 by type

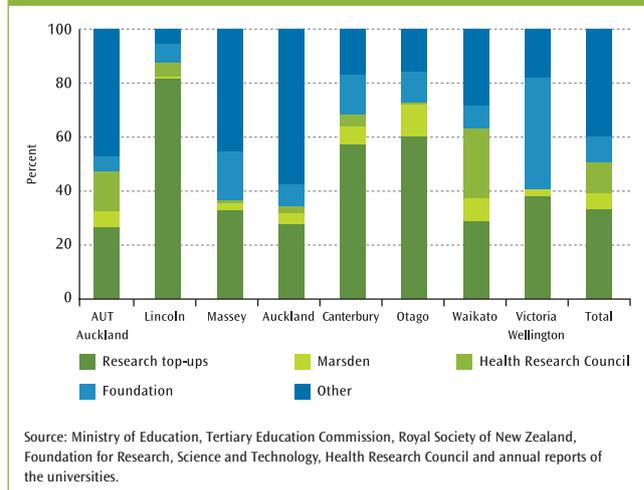
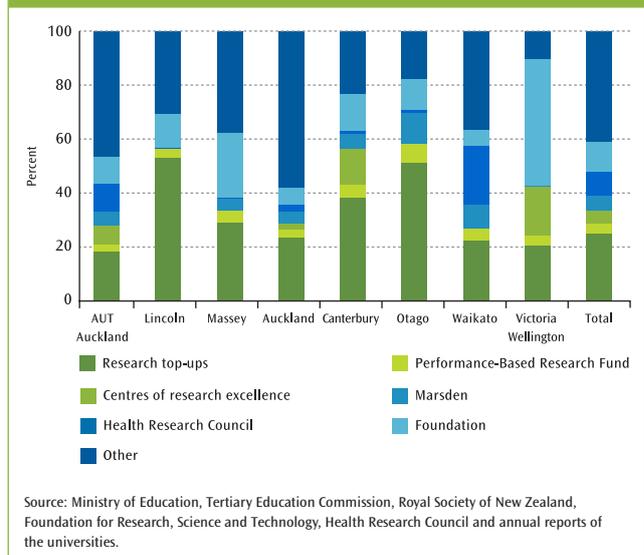


Figure 12.9: Percentage of university research income for 2004 by type



The share of research income sourced from enrolments-based top-ups has fallen at all universities between 2000 and 2004. This reflects the start of the transfer of top-ups funding to the Performance-Based Research Fund in 2004 and increased research income from other sources. However, the share of research income sourced from Vote Education by the universities has remained constant at 33 percent in 2000 and 2004.

RESEARCH EXPENDITURE

A recent report by the Ministry of Research, Science and Technology estimated the annual expenditure by universities on research and development. In 2004, total expenditure by the universities on research and development was \$455 million. This was an increase of 25 percent on spending of \$363 million in 2000, while in real terms this represents an increase of 15 percent.

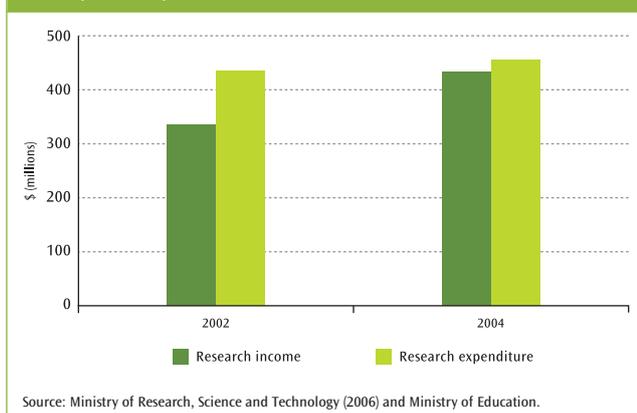
Of the research and development expenditure in universities in 2004, 52 percent was spent on wages and salaries, 33 percent on other current items and 12 percent on capital items. As a percentage of gross domestic product, research and development expenditure by New Zealand universities was 0.33 percent in 2004. This compares with 0.45 percent in Australia and an OECD mean of 0.39 percent.

The estimated expenditure on research and development is compared with the research income of universities in Figure 12.10 below. It shows that although expenditure on research and development is higher than research income, the gap is closing. In 2002, research income was 77 percent that of research and development expenditure, compared with 95 percent in 2004.

References

- Ministry of Research, Science and Technology (2006), *Research and development in New Zealand, a decade in review*, Wellington.
- Tertiary Education Commission (2006), *Performance-Based Research Fund, 2005 annual report*, Wellington.

Figure 12.10: University research income and estimated research and development expenditure



Tertiary education sector capability

Profile & Trends

2005

NEW ZEALAND'S TERTIARY EDUCATION SECTOR



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AN OVERVIEW

The collective financial performance of the 33 tertiary education institutions was moderately strong over 2005. Liquidity and cash flow were both above the benchmark set for prudent operation of a tertiary education institution.

However, when compared with the performance between 2002 and 2004, performance in 2005 fell as the operating environment changed. The aggregate operating surplus fell to 2.3 percent of revenue – below the benchmark of 3 percent for the first time since 2000. At the same time, the indicators of liquidity and cash flow both worsened.

In large part, this decline in financial performance reflected real factors such as the reduction in international student enrolments, increases in the costs faced by institutions, changes to the funding of community education, and the slowdown in the growth of enrolments in the wānanga.

While aggregate financial performance was moderately strong, there was considerable variation between the tertiary education institutions, with some recording very strong performance, while nine institutions had an operating deficit in 2005, compared with six in 2004 and none in 2003.

Overall, the universities performed more strongly than the other sub-sectors. They experienced only a relatively small decline in international students, their income was more diversified than that of the other sub-sectors and they have had only relatively small community programmes, so their performance was not especially affected by the changes in funding of these programmes. The universities' collective surplus – 3.2 percent of revenue – was above the benchmark.

By contrast, the polytechnics experienced a fall in income as international enrolments dropped and as they experienced the effects of community education funding changes. While income fell, the polytechnics' costs continued to rise. Their combined operating surplus was 1.6 percent of revenue, compared with 4.4 percent in 2004 and 7.7 percent in 2003. Five of the 20 polytechnics recorded an operating deficit.

LOOKING TO 2006

The half-year financial reports of tertiary education institutions give an idea of the likely financial performance of institutions during 2006.

The operating environment for tertiary education institutions has become more difficult as the downturn in international enrolments has persisted and as the effects of the government's policy changes in areas such as community education take effect. While most of the universities were forecasting a surplus for 2006, in some cases the surplus was smaller than in previous years. All three wānanga and nearly half the polytechnics were forecasting a deficit.

FOREWORD

This chapter provides an outline of the financial performance of New Zealand's public tertiary education institutions in 2005 in the context of past trends and results. The financial data presented in this chapter excludes goods and services tax, unless otherwise stated. Note also that the Auckland College of Education merged with the University of Auckland on 1 September 2004. Data on the University of Auckland for 2004 incorporates data for the former college, even though the merger took place during the year.

CURRENT FINANCIAL SITUATION

The financial performance of tertiary education institutions improved significantly between 2000 and 2004. In 2005, there was some reversal in the trend. However, on most measures, the results in 2005 were still ahead of those in 2000. The improvement in the overall financial situation can be seen in the following graph, which tracks performance between 2000 and 2005. The graph summarises the performance of the tertiary education institutions against benchmarks for four key dimensions of financial performance: cash liquidity, surplus as a percentage of revenue, asset productivity and net operating cash flow. The actual results are compared with the minimum thresholds expected by the Tertiary Advisory Monitoring Unit, the government unit that monitors tertiary education institution performance. In order to compare indicators on different scales, the figures have been scaled to make an index, where 100

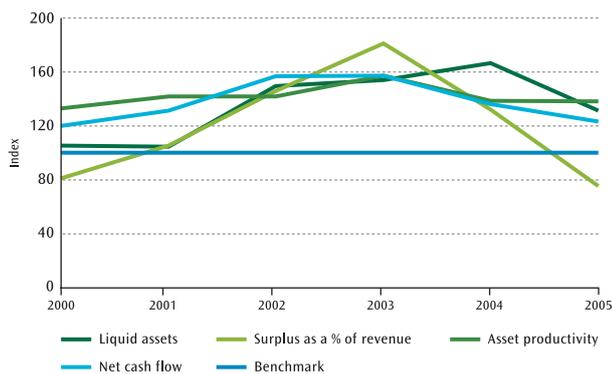
ANALYTICAL TABLES: An associated set of tables on financial performance of tertiary education institutions is available on the Education Counts website, Tables FNP1-5. Detailed technical information on the data presented here can be found in chapter 17.



Tertiary education sector capability

represents the benchmark in each case. Unless there is a reason in a particular case, the benchmark is seen as the minimum required for the prudent operation of the organisation.

Figure 13.1: Strategic financial position of tertiary education institutions



Source: Annual reports of tertiary education institutions.

Note: Surplus (before abnormal items) has been used in this graph.

Table 13.1: Financial performance of tertiary education institutions

	Benchmark	Performance in		
		2000	2004	2005
Percent				
Liquid assets	12.0	12.7	20.0	15.7
Surplus (before abnormal items) as a % of revenue	3.0	2.4	4.0	2.3
Asset productivity	40.0	53.1	55.4	55.2
Net cash flow	11.0	13.2	15.0	13.5

One significant development over this period has been the strengthening of liquidity. Liquidity is an important measure because it is an important source of finance for the intellectual and physical developments that underpin the sustainability of an institution. Liquidity also provides a safety margin that gives the institution cash to deal with adverse changes in its operating environment.

A reasonable operating surplus is needed to provide funds for reinvestment – and therefore to enable a tertiary education institution to maintain or enhance its educational capability.

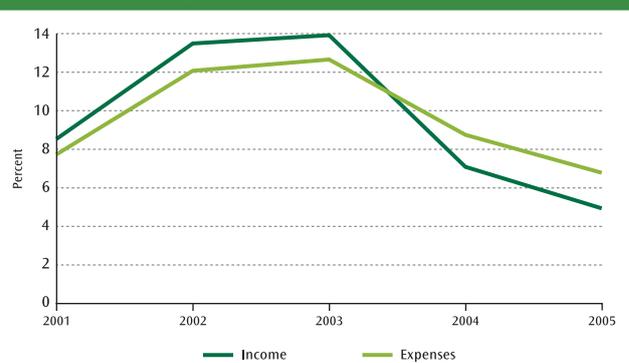
After having risen strongly between 2000 and 2003, the operating surplus as a percentage of tertiary education institution revenue fell in 2004 and 2005, falling below the 3 percent benchmark in 2005. One of the important reasons for this trend has been the fall-off in international student numbers. In addition, in the polytechnics, changes to limit the amount of community education funded through the student component of the funding system have also had the effect of reducing surpluses.

Tertiary education institutions have relatively low levels of debt. Total debt is less than 6 percent of equity plus debt while the overall ratio of equity to assets is over 80 percent.

THE INCOME OF TERTIARY EDUCATION INSTITUTIONS

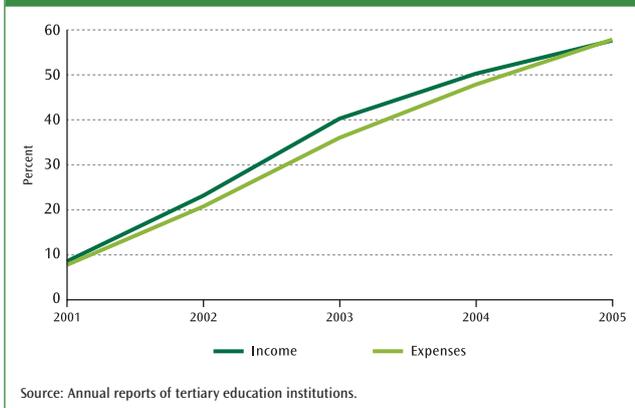
The income of tertiary education institutions continued to grow in 2005 but at a lower level than for the previous four years; it was in fact the lowest rate of increase since 2000. Costs followed a similar trend. What is significant is that, in 2004 and 2005, costs grew more sharply than revenue – meaning that the operating surplus was reducing. The total surplus of the tertiary education institutions (before abnormal items) fell by 42 percent between 2004 and 2005 – from \$135 million to \$79 million.

Figure 13.2: Annual growth in expenses and income



Source: Annual reports of tertiary education institutions.

Figure 13.3: Cumulative growth in expenses and income



Income across the tertiary education institution sector was reasonably diversified. The largest single component of tertiary education institution revenue was provided by the government through tuition subsidies. This amounted to \$1.52 billion in 2005, an increase of 55 percent since 1996. Other government revenue (including Performance-Based Research Fund allocations but excluding government-funded research contracts) contributed some \$117 million in 2005. Overall government funding in 2005 was at a similar level to 2003 and 2004 in dollar terms, following two years of significant growth. Government education revenue represented 47 percent of the total income of the tertiary education institutions in 2005, compared with 49 percent in 2004 and 51 percent in 2003. This represented the lowest proportion since 1996.

Tertiary education institutions also earn some revenue from other government votes. For instance, some tertiary education institutions earn funding through the government’s research, science and technology funds and some conduct research for government agencies. Thus, the figures quoted here understate the full extent of government funding provided to the tertiary education institutions.

Figure 13.4: Sector income by source

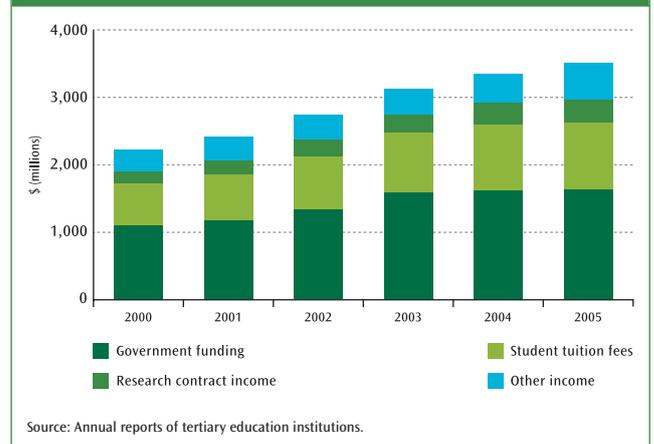
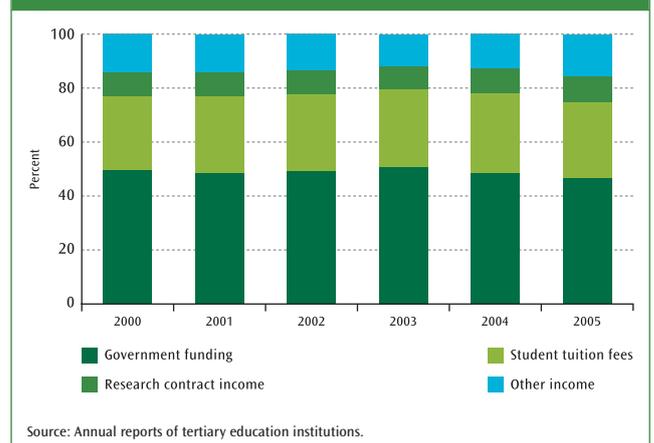


Figure 13.5: Distribution of sector income by source



Total student tuition fees accounted for approximately 28 percent of income in 2005, compared with 29 percent in 2004. Domestic student fees contributed \$563 million in 2005, up from \$549 million in 2004 and \$529 million in 2001. This represented 16 percent of total tertiary education institution income, similar to 2004 but down from a high of 23 percent in 2000. In part, this fall reflects the government’s fee stabilisation policies. Another factor influencing fee income in the polytechnics and wānanga is the extent of discounting of fees – offering courses with low or zero fees. In nominal terms, total domestic student tuition fee income has remained relatively static over the past three years, while declining as a proportion of total income.



Tertiary education sector capability

With the downturn in enrolments by international students, revenue from international student fees fell slightly in 2005, after five years of strong growth. In 2005, total revenue from this source was \$426 million, 1.3 percent down on the \$432 million earned in 2004. This compares with \$262 million in 2002 and \$153 million in 2001. There has been a four-fold increase since 2000. International fee revenue represented 12 percent of total income in 2005, compared with 13 percent in 2004, 10 percent in 2002 and 6 percent in 2001. The universities have been slightly less affected by the drop in international students than other sub-sectors. Some 79 percent of the total international student tuition fee income in 2005 was generated by the university sub-sector, compared with 76 percent in 2004.

Other activities, including contract research, generated some 25 percent of income. Revenue generated from external research contracts undertaken by the tertiary education institutions amounted to \$333 million or 9.5 percent of income. This represented a 7.9 percent rise on 2004. Research contracts brought in \$196 million in 2000, so the increase between 2000 and 2005 was 66 percent. The university sub-sector accounted for more than 99 percent of this research contract income.

Income by sub-sector

Figure 13.6 shows the proportion of total income derived from government for the sector as a whole and for the sub-sectors, while Figure 13.7 shows the split of total income by sub-sector.

While 47 percent of the total revenue of the tertiary education institutions was derived from the government in 2005, there were marked differences in the sub-sectors in the proportion of their revenue that came from that source. The universities had the lowest proportion – 38 percent – while the wānanga derived 86 percent from the government. The low proportion in the universities results from the ability of that sub-sector to recruit international students, to raise research contract revenue and to engage in consulting activities. The wānanga, by contrast, have almost no international students, charge their students relatively low fees and have a research culture that is just getting going. So the heavy dependence of the wānanga on government revenue is entirely predictable.

Figure 13.6: Proportion of income derived from government revenue

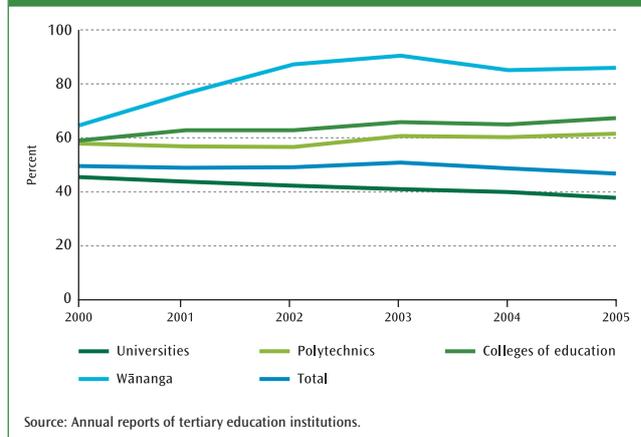
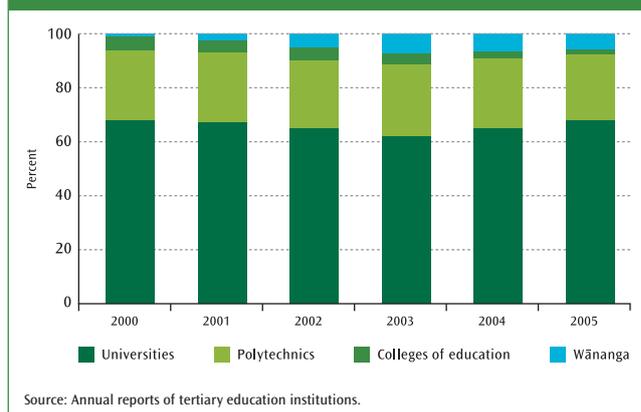


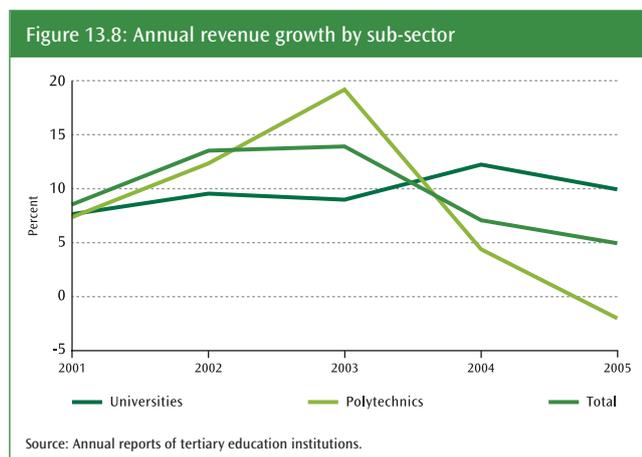
Figure 13.7: Share of total income by sub-sector



The university sub-sector earned the highest proportion of total tertiary education institution income in 2004 at 68 percent, the same share as in 2000. Between 2000 and 2003, the university share had fallen as the polytechnics and the wānanga had grown. With the absorption of colleges of education into the university sub-sector during 2004 and 2005, and with the flattening of growth in the wānanga and the reduction in the polytechnics, the universities have restored their share of the total revenue.

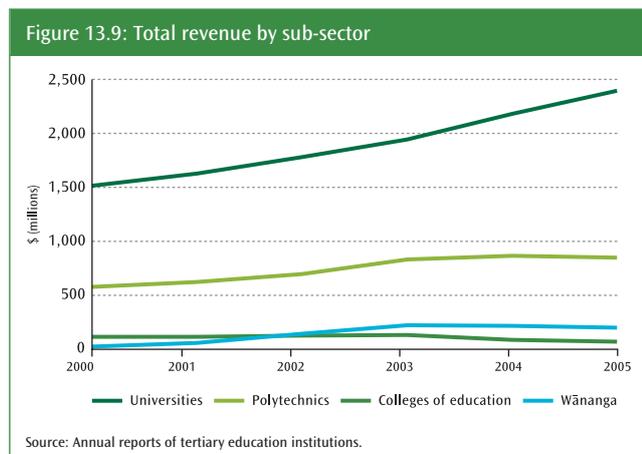
In the last five years, the most significant increase in share of income has been in the wānanga, whose share rose from 1 percent of total income in 2000 to 7 percent in 2003 and 6 percent in 2004 and 2005. The polytechnics' share of total income fell to 24 percent in 2005, from a high of 27 percent in 2003, largely as a result of a fall of 2 percent in the total revenue between 2004 and 2005.

Figure 13.8 illustrates the trend in the rate of income growth of the universities and polytechnics and of tertiary education institutions as a whole.



After a period of strong growth in income, the polytechnics have experienced a falling rate of growth from 2003 to 2004. From 2004 to 2005 income fell. The wānanga had extremely strong income growth, more than 100 percent per annum, between 2000 and 2002. Since 2003, their income has reduced each year. The universities' income has grown steadily, ranging from 7.6 percent to 12 percent a year throughout the period under consideration. In part, the recent growth reflects the absorption into the universities of the Auckland College of Education and the Wellington College of Education.

Total income by sub-sector over the period is shown in Figure 13.9 below.



The university sub-sector

The total revenue of the universities in 2005 was \$2.39 billion, a 10 percent (or \$215 million) increase over 2004. This followed 12 percent income growth between 2003 and 2004. Of the total income of the universities, tuition subsidies from the government and fees from students were \$1.57 billion in 2005, up by \$34 million or 2.2 percent from 2004. That increase was, however, of lower magnitude than in the past few years. For instance, revenue from these sources in the universities rose by \$138 million or nearly 11 percent between 2002 and 2003. The major factor in this change in the rate of growth in education revenue is the decline in international student numbers and, consequently, in international fee revenue. Whereas in 2004 there was a 19 percent, or \$52 million, rise in international student fees, between 2004 and 2005 international fees rose by only \$7.5 million or 2.3 percent. Total domestic student fee revenue grew by \$14.6 million, or 4.0 percent, following a rise of \$27 million or 8.1 percent between 2003 and 2004. Government tuition revenue grew by 1.5 percent, or \$12 million, the smallest percentage rise in this form of revenue since 2000.

In 2005, other revenue (trading and miscellaneous) grew by 44 percent, or \$136 million, to \$444 million. This category accounts for about 19 percent of the total revenue of the university sub-sector. This growth continued past trends.

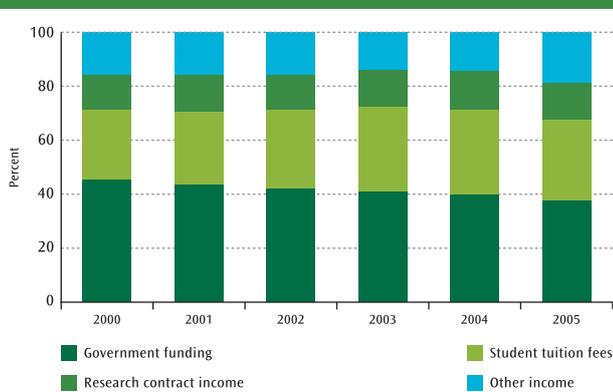
Since 2000, the huge rise in international student fees, the constant rise of research revenue, and government domestic fee policies have changed the character of university sub-sector revenue. Over this period, government revenue grew by \$177 million, or 26 percent, in part because of rising funding rates. By comparison, international student revenue increased by \$262 million, or more than 300 percent, and external research contract revenue grew by 71 percent. Over the period 2000 to 2004, domestic student tuition fee revenue increased by 18 percent, influenced by government policy on maintaining the affordability of tertiary education. As a percentage of total revenue, domestic student tuition fee revenue has declined from 21 percent in 2000 to 16 percent in 2005.



Tertiary education sector capability

The shift in the sources of university income since 2000 is marked and is shown in Figure 13.10. The three major changes have been a decrease in government funding as a proportion of total revenue by almost eight percentage points – from 45 percent to 38 percent – offset by increases of one percentage point in external research contract income, four percentage points in tuition fee income and three percentage points in other income. The increase in fee income particularly reflects the international student contribution.

Figure 13.10: University income by source



Source: Annual reports of tertiary education institutions.

In 2005, the reliance on government education subsidies was broadly similar in each of the eight universities, with the marked exception of Lincoln University. The university sector average in 2005 was 38 percent of total income from government funding. The Auckland University of Technology had the highest reliance on tuition subsidy revenue at 44 percent of its total income, whereas Lincoln University received less than 20 percent of its income from tuition subsidies.

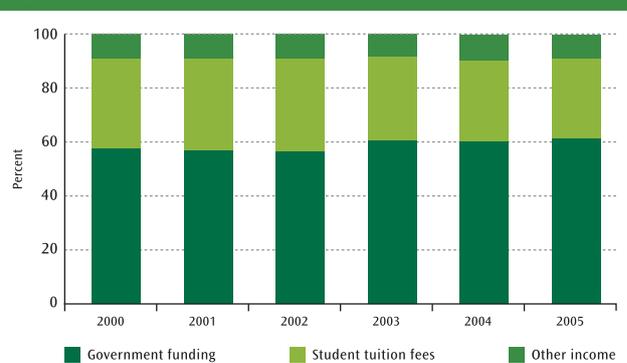
The polytechnic sub-sector

In the institutes of technology and polytechnics, revenue increased by almost 50 percent over the period between 2000 and 2004. The level of the increases in revenue in 2002 (15 percent) and 2003 (nearly 20 percent) were especially significant. This trend mirrors the increase recorded in enrolments in non-formal courses over that time. In 2004, revenue growth fell sharply, to 4.4 percent. In 2005, the total revenue of the polytechnics fell by 2.1 percent. This was the first time the polytechnics, as a group, had experienced a drop in revenue, so the financial and cultural effects of this change were very serious.

Fees contributed about 30 percent of the institutes of technology and polytechnics' total revenue in 2004 and 2005, compared with 34 percent in 2001 and 2002 and slightly more than the average for the universities. There is significant variation among polytechnics in the reliance on fees. Among the polytechnics with significant numbers of international students (such as Unitec New Zealand and Whitireia Polytechnic) over 40 percent of total revenue is sourced from student fees. However, the decline in international student enrolments has affected the polytechnics. Between 2004 and 2005, the number of international students at Unitec New Zealand and Whitireia Polytechnic fell by 18 percent (when measured in equivalent full-time student units) and the share of their revenue derived from international fees fell from over 26 percent to 22 percent. In the polytechnics as a whole, international fee revenue fell by 12 percent between 2004 and 2005.

Polytechnics with a relatively low reliance on international students – such as Aoraki Polytechnic and Telford Rural Polytechnic – earn a relatively low proportion of their income from fees. In Aoraki's case, fees represent around 10 percent of income, while Telford earns less than 5 percent of revenue from fees.

Figure 13.11: Institute of technology and polytechnic income by source



Source: Annual reports of tertiary education institutions.

Note: Research contract income was reported as nil for the years 2000 to 2005.

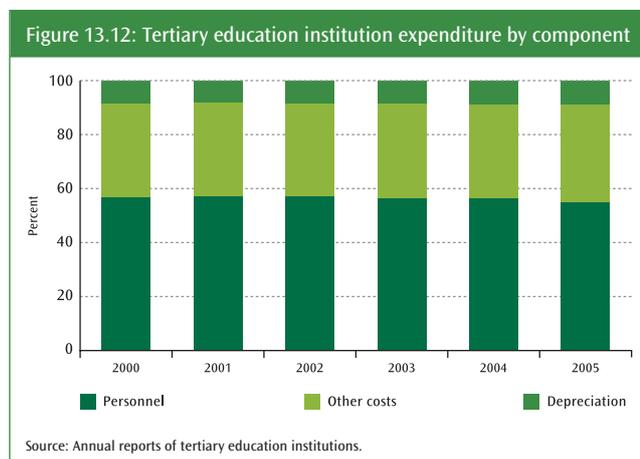
There is still a heavy reliance on government student component tuition subsidy funding in the sub-sector. Nearly 61 percent of revenue is from this source (compared with 38 percent for the universities). Four polytechnics – Aoraki, Northland, Tai Poutini and Telford – receive over 75 percent of their income from government funding. Other income sources are relatively limited and only account for 10 percent of total revenue.

2004 and 2005 saw sharp decreases in non-formal education in the polytechnics in response to changes in the approach to funding this form of tertiary education. In 2003, this category of enrolments accounted for approximately 25 percent of domestic equivalent full-time students in polytechnics. In 2004, this fell to 17 percent. In 2005, the proportion was 9 percent.

THE EXPENDITURE OF TERTIARY EDUCATION INSTITUTIONS

The total expenditure of tertiary education institutions has increased in nominal terms each year. The total expenditure of tertiary education institutions in 2000 was \$2.17 billion and rose to \$3.43 billion in 2005. This represents a 58 percent increase over that period, while enrolments – measured by equivalent full-time students – increased by 44 percent over the same time. While the increase in volume is a major driver of cost increases, other causes include inflation, wage growth and new technology.

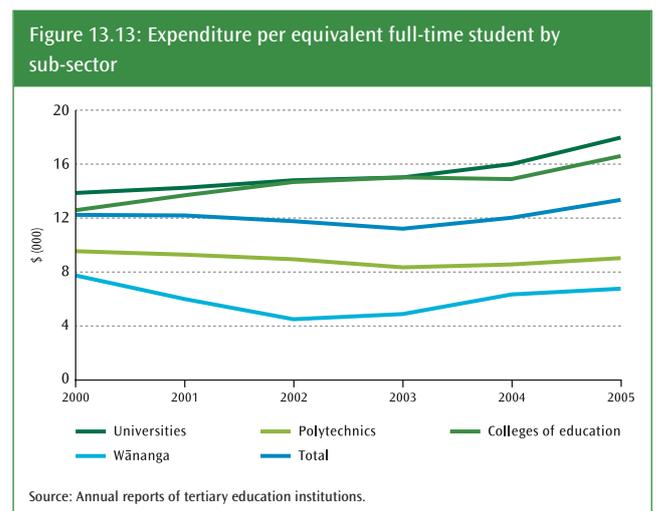
Figure 13.12 illustrates the major cost components of tertiary education institutions. At 55 percent of the total, personnel costs are the dominant component of expenditure in the sector. This is not surprising, given the service nature of tertiary education. This proportion has reduced, but only very slowly, since 2001.



Note: Personnel costs include ACC, long service and recruitment.

There are variations in the proportion of spending devoted to personnel by sub-sector, ranging from 56 percent in the university sub-sector and 55 percent in the polytechnics to 46 percent in the wānanga. The wānanga sub-sector's proportion is lower than that of the other sub-sectors but it increased significantly in 2004 and 2005, driven by the decisions to lift staffing to support enrolment growth in earlier years. The wānanga have a high number of courses delivered through distance learning, which allows greater student to teacher ratios, but involves greater costs in terms of learning materials and learning technologies. This contributes to the lower proportion of spending devoted to personnel in the wānanga.

Figure 13.13 looks at the trend in average total expenditure of the tertiary education institutions per equivalent full-time student unit.



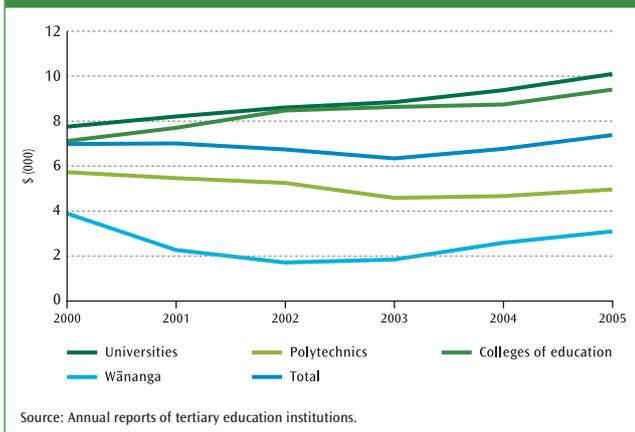
Expenditure per equivalent full-time student varies across the sector with the difference being attributable to a variety of factors. For instance, different types of courses require differing resourcing. The level of such activities as trading or commercial research also contributes to the differences. As student numbers have risen and as different types of courses have been developed, the cost per equivalent full-time student in the sector as a whole has fluctuated. The average total expenditure per equivalent full-time student increased in 2004 and 2005 after two years of decline. The results show that the universities spend more per student than other types of institutions. Between 2000 and 2002, the spending per equivalent full-time student in the wānanga fell as enrolments grew sharply in that sub-sector.



Tertiary education sector capability

Since then, as the rate of enrolment growth in the wānanga has fallen, the trend has reversed. In the polytechnics, spending per equivalent full-time student fell as community education enrolments grew but has risen as enrolments in that kind of course fell.

Figure 13.14: Personnel costs per equivalent full-time student by sub-sector

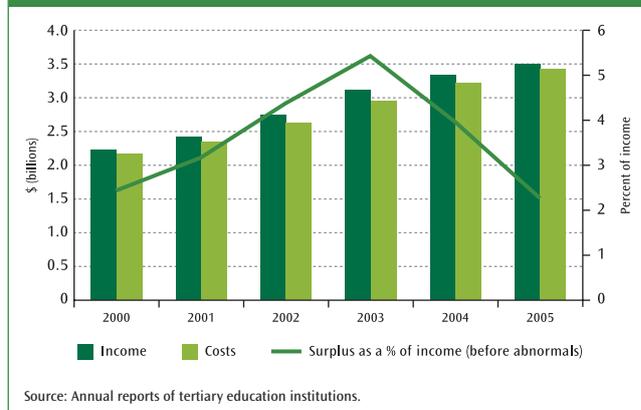


One way of understanding the differences in cost structure between different sub-sectors and different types of tertiary education is to look at the average personnel expenditure per equivalent full-time student. In 2003, the ratio for the tertiary education institutions as a whole fell, largely as a result of the rapid growth in enrolments in the wānanga and the rise in non-formal community education in the polytechnics. However, with wānanga growth having slowed and restrictions being placed on community education in tertiary education institutions, average personnel costs increased in all sub-sectors in 2004 and 2005. Costs vary significantly across the sectors, with the universities having the highest level of expenditure. That higher cost per equivalent full-time student reflects the universities' higher level of research intensity. The Universities of Auckland and Otago and Lincoln University have the highest personnel cost per equivalent full-time student among the universities. The Auckland University of Technology has the lowest personnel cost per equivalent full-time student, which reflects the stage of development of the institution in terms of its current faculties and research profile.

THE OPERATING SURPLUS OF TERTIARY EDUCATION INSTITUTIONS

The total income of tertiary education institutions was \$3.50 billion in 2005, up 4.9 percent on 2004 and 58 percent on 2000. Expenditure in 2005 was \$3.43 billion, leaving an operating surplus of \$79 million. Figure 13.15 shows that the growth in both income and expenditure was particularly strong between 2000 and 2003. Since then, however, the surplus has fallen as a percentage of income.

Figure 13.15: Income, expenditure and operating surplus



The tertiary education institutions' operating surplus fell by 40 percent between 2004 and 2005, from \$132 million to \$79 million, before non-recurring and unusual expenses. The operating surplus fell as a percentage of income from 4.0 percent in 2004 to 2.3 percent in 2005. This figure is a good guide to the financial health of the sector's core operations. With the inclusion of non-recurring and unusual items, however, the operating surplus for the total sector in 2005 was \$120 million, compared with \$220 million in 2004 and \$56 million in 2003.

Nine of the 33 tertiary education institutions recorded net operating deficits before abnormal items in 2005, compared with six of the 34 in 2004 and none of the 35 in the previous year. In 2005, 14 institutions reached the recommended threshold of 3 percent for surplus as a percentage of income, compared with 20 in 2004, 24 in 2003 and 13 in 2000.

Table 13.2: Number of tertiary education institutions reporting losses and surpluses

	2000	2001	2002	2003	2004	2005
Number of tertiary education institutions						
More than 3 percent	13	17	20	24	20	14
0-3 percent	13	8	10	11	8	10
Deficit	12	11	5	0	6	9

Note: Surplus as a percentage of revenue (before abnormals).

Table 13.3 below gives the net return on revenue before abnormal or non-recurring items.

Table 13.3: Net return on income

	2000	2001	2002	2003	2004	2005
Percent						
Universities	2.9	3.6	3.0	3.5	4.4	3.2
Polytechnics	0.4	1.7	4.5	7.7	4.4	1.6
Colleges of education	6.0	2.9	2.9	1.6	0.6	-0.3
Wānanga	4.0	8.2	22.6	15.7	-1.0	-5.7
Total	2.4	3.2	4.4	5.4	4.0	2.3

The increase in the operating surpluses in the polytechnics between 2001 and 2003 can be explained by the significant increase in international students and enrolments in non-formal courses. The latter are now reducing as a result of changed funding policies, while the polytechnics have had significant falls in international students. The surplus of the polytechnics was \$13 million in 2005, compared with \$38 million in 2004, \$64 million in 2003 and \$2.3 million in 2000.

The universities have maintained their combined surplus at above the benchmark of 3 percent of income since 2001. The surplus of the universities was \$78 million in 2005, compared with \$96 million in 2004 and \$44 million in 2000.

The wānanga sub-sector experienced an operating deficit, before abnormal items, of \$11 million in 2005, compared with a deficit of \$2.2 million in 2004. In 2003, however, the surplus was \$35 million.

CASH FLOWS

Net operating cash flows in the sector decreased slightly between 2004 and 2005, from \$442 million to \$406 million. The fall reflected decreases in the polytechnics, where net operating cash flows declined from \$133 million to \$68 million, and a decrease in the wānanga from \$13 million to a negative cash flow of \$5.5 million. By contrast, net operating cash flow in the universities rose by 16.5 percent, from \$291 million to \$339 million. Net investing cash flows (capital expenditure and purchase of investments)¹ in the sector decreased by \$421 million in 2005, compared with decreases of \$442 million in 2004 and \$430 million in 2003. In the university sector, the result in 2005 was a decrease of \$326 million, compared to decreases of \$309 million in 2004 and \$291 million in 2003. The trend shows continued increases in investment by the tertiary education institutions in capital infrastructure.

The sector's net financing cash flow was \$18 million, compared with \$43 million in 2004 and \$39 million in 2003. For the universities, the result was a negative cash flow of \$9.4 million, compared with \$39 million in 2004 and \$12 million in 2003. While 2004 had seen the highest level of debt financing secured in one year, there was reduced net debt financing in 2005.

SECTOR LIQUIDITY

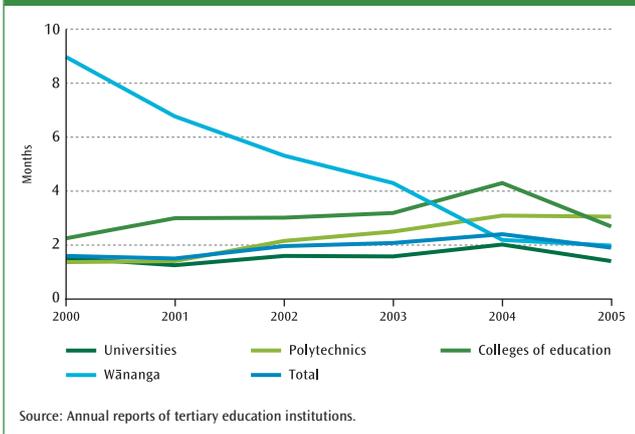
The levels of cash, bank deposits and readily liquifiable assets (liquidity) held by institutions constitute an important indicator of financial health and viability. These factors provide a buffer against variability in performance. The liquidity holding also represents the capacity for an institution to invest when significant strategic repositioning is required. The operating cash surpluses of tertiary education institutions are generally significantly lower than those of purely commercial organisations. As a result, financing through borrowing may not be a viable option for tertiary education institutions.

¹ Net capital expenditure is cash expenditure for fixed asset purchases less cash receipts from fixed asset sales.



Tertiary education sector capability

Figure 13.16: Cash cover by average monthly operating cash disbursements

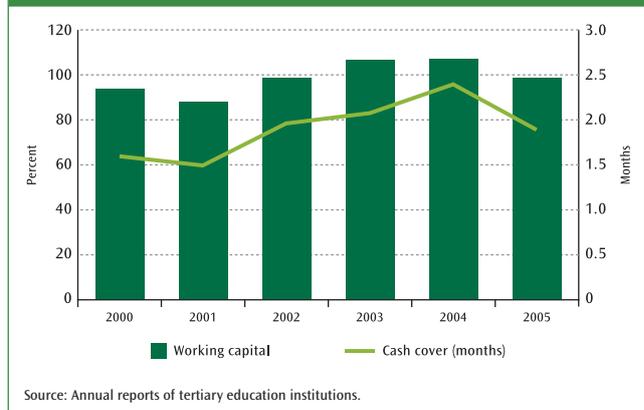


The cash holdings of tertiary education institutions are represented as a percentage of the year's operating cash disbursements. Figure 13.16 shows this as operating months' cover, i.e. the number of average months' operating cash disbursements held by the organisation in cash. Liquidity levels at the end of 2005 were not particularly varied across the sub-sectors. A liquidity level of one month's average operating cash disbursements is seen as the minimum target for prudent operation. The major change was the very high wānanga liquidity at the beginning of the period reflecting the start of the Treaty of Waitangi capital settlement process as well as the beginning of a major surge in enrolments. In 2004, that level returned to something closer to the rest of the sector.

Cash holdings at the end of 2004 were \$492 million, which represented 16 percent of the year's operating cash disbursements, or 8.5 average weeks' operating cash disbursements. Cash at the end of 2005 was \$40 million less than at the end of 2004, which reduced tertiary education institutions' cover by about one week. On average, institutions have a reasonable capacity to cope with unexpected increases in expenditure or reductions in income, and some capacity for strategic investment.

In 2005, the university sub-sector's cash cover was 1.5 months, compared with 1.8 months in 2004 and 1.6 months in 2003. The cash cover in 2005 for the institutes of technology and polytechnics' sub-sector was 3.0 months. This compares with cash cover of 3 months in 2004 and 2.5 months in 2003. A total of 12 tertiary education institutions, including four universities, had less than 1.5 months cover in 2005.

Figure 13.17: Working capital and cash cover



The working capital ratio for tertiary education institutions at the end of 2005 was 99 percent, compared with 107 percent in 2003 and 2004. Working capital is defined as current assets divided by current liabilities. The working capital ratio gives a snapshot of a tertiary education 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 from operations and external sources to settle its short-term debts.

The universities had a ratio of 80 percent against 89 percent in 2004. The polytechnics had a ratio of 129 percent, similar to 2003 and 2004. The working capital ratio in the wānanga was 242 percent, compared with 183 percent in 2004 but down from some 400 percent in 2004.

The main working capital liabilities drivers have been:

- increased employee liabilities
- use of cash reserves to fund capital developments
- accounts payable exceeding receivables, and
- a substantial sum in fees received in advance of teaching being delivered.

One of the benefits of an institution's international student programme is the effects on cash flow. Because international students pay their fees in advance, international students create a liability (because the institution has an obligation to those students) but also increase year-end cash holdings. For example, the Auckland University of Technology's fees in advance recorded in 2005 (for 2006) were 11.4 percent of 2005 revenue for 2006, while the corresponding ratio for Unitec New Zealand was 14.5 percent and Wellington Institute of Technology 10.4 percent.

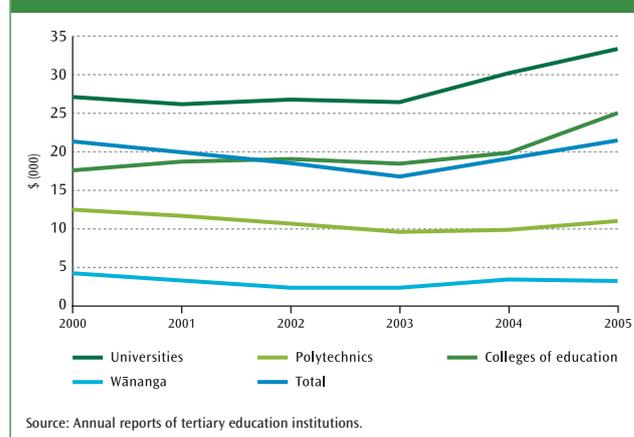
CAPITAL EXPENDITURE AND ASSET LEVELS

In 2005, the fixed assets of the tertiary education institutions increased in value by some 7.8 percent on 2004 to reach \$5.51 billion. The value of fixed assets grew by 48 percent between 2000 and 2005. Total equity in the sector was \$5.23 billion, up 5.3 percent from 2004. The capital development programmes of a tertiary education institution are largely constrained by cash reserves and, for those with sufficiently strong performance, the ability to borrow. Increased capital requirements occur as a result of factors such as increased student numbers, replacement of obsolete teaching technology, and the need to modernise systems, plant and buildings. Significant variations from year to year can be expected in capital expenditure. The monetary value of capital assets also increases through inflationary factors, which are reflected in rising prices of capital inputs and revaluation of existing assets. Since 1996, capital expenditure for each of the years ranged between 1.5 and 2 times the depreciation expense in that year. In 2005, this was lower at 1.4 times depreciation expenses, compared with 1.6 times in 2004.

Total capital expenditure by the tertiary education institution sector in 2005 was \$432 million, down by 2.5 percent on 2004, but at a similar level to 2003 and considerably higher than in the previous two years. The level of capital expenditure on a per student basis varied widely across the sector, with the highest being \$3,565 per equivalent full-time student at the University of Auckland and the lowest \$108 per equivalent full-time student at the Western Institute of Technology in Taranaki.

The level of fixed assets on a per equivalent full-time student basis is very different among the sub-sectors, as illustrated in Figure 13.18. There are many factors that influence the variation in fixed asset levels among institutions, such as the age of the institution, the availability of cash surpluses to invest in capital, the level of research activity undertaken by the institution and the actual capital requirements of the programmes delivered.

Figure 13.18: Fixed assets per equivalent full-time student by sub-sector



The universities remain the most asset-intensive and are increasing the margin over other sectors. In the polytechnics and wānanga, several years of considerable enrolment growth meant that assets per equivalent full-time student fell. This trend has now stabilised.

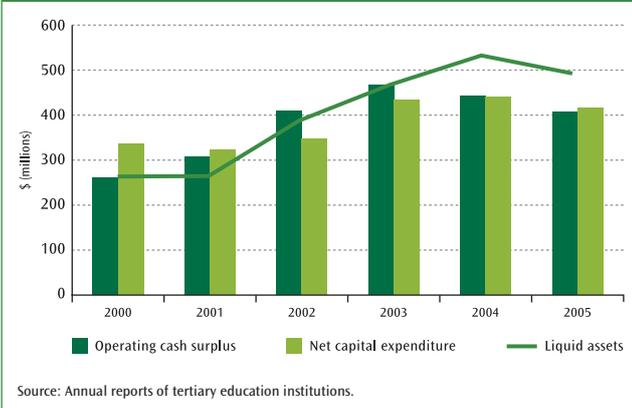
The relationship between cash surpluses and capital expenditure is illustrated in Figure 13.19. The operating cash surplus represents the cash available for capital expenditure generated during the year, and the net capital expenditure represents the cash used for capital. Operating cash surpluses not used for capital expenditure result in increased liquidity levels for the following year, while capital expenditure greater than operating cash surpluses reduces liquidity levels.

In 2005, liquidity fell by 7.5 percent, following three years of strengthening liquidity. Net cash from operating was slightly less – about 2 percent – than that required for capital development.



Tertiary education sector capability

Figure 13.19: Operating cash surplus, net capital expenditure and liquid assets



BORROWING BY TERTIARY EDUCATION INSTITUTIONS

The sector overall has borrowed only lightly. Total debt is less than 6 percent of equity plus debt – though this ratio has increased since 2002. The overall ratio of equity to assets is over 80 percent, although it is dropping slowly.

Table 13.4: Tertiary education institutions gearing ratios

	2000	2001	2002	2003	2004	2005
Gross interest cover (EBITDA/interest)	22.2	39.0	61.8	56.9	35.8	29.1
Percent						
Gross debt to gross debt plus equity	4.0	4.1	3.6	3.7	5.0	5.6
Total equity to total assets	85.6	84.2	83.3	82.9	82.3	82.4

Note: Gross interest cover is defined as EBITDA, where EBITDA means 'earnings before interest, taxation, depreciation and abnormal items'. This is a measure of the underlying operational earnings of an entity.

AN OVERVIEW

The size of the workforce in public tertiary education institutions remained stable in 2005 compared to 2004.

A fall in academic staffing at universities in 2005 was offset by an increase in non-academic staff. While the number of students at universities also fell in terms of full-time equivalent students, the student per academic staff ratio increased slightly in 2005.

Wellington College of Education merged with Victoria University of Wellington causing a decrease in staffing at colleges of education, with an offsetting increase in university staffing numbers.

Staffing and student numbers fell at wānanga in 2005 with a small decrease in the student per academic staff ratio.

At institutes of technology and polytechnics, staffing levels remained stable in 2005 while the student per academic staff ratio fell due to a decline in equivalent full-time students.

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 for public tertiary education institutions increased in 2005, while personnel costs declined slightly as a percentage of total expenditure.

LOOKING TO 2006

In February 2006, the Tertiary Education Commission published six scoping reports as part of the strategic review of the tertiary education workforce. The areas covered by the reports are recruitment and retention; workforce diversity; changing work roles and career pathways; casual, part-time and contracted staff; improving workforce productivity; and improving workforce statistics.

In August 2006, the government provided funding of \$26 million to help universities maintain the quality of teaching and research and ensure our universities remain internationally competitive. Leading up to this, in July 2005, the then Minister of Education (the Hon. Trevor Mallard), the New Zealand Vice-Chancellors' Committee and the combined unions met and established the Universities' Tripartite Forum to address salaries, staffing and other resourcing issues. The quality and performance of New Zealand universities was identified as being

at risk, with strong international competition for academic staff being a factor.

Tertiary educators

To meet the diversity of learner needs and motivate students to keep learning, a high-quality tertiary education workforce is required. Tertiary educators have a major impact on the sector's ability to achieve the goals of the tertiary education strategy.

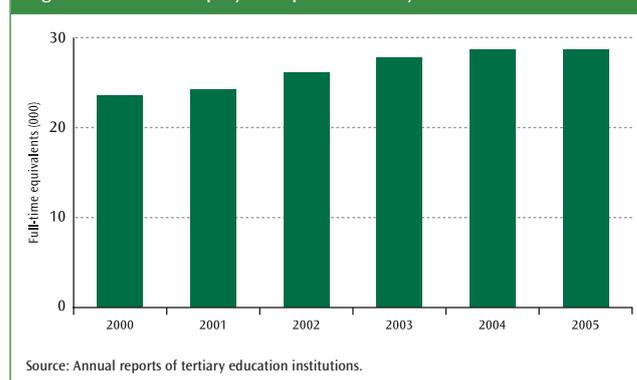
In 2005, a strategic review of the tertiary education workforce was conducted and the vital role played by the sector's workforce was noted in the report of the sector working group undertaking the review. The main points covered in the review are listed on page 208 of this report.

STAFF LEVEL REMAINED STABLE

There were 28,700 full-time equivalent staff employed in public tertiary education institutions in 2005. Compared to 2004, the staffing level remained unchanged. Five years earlier, the number employed was 23,600.

From 2000 to 2005, the tertiary education workforce increased, on average, by 4 percent per year. The number of equivalent full-time students, over the same period, increased by almost three times this rate, raising the student to academic staff ratio.

Figure 14.1: Staff employed in public tertiary education institutions



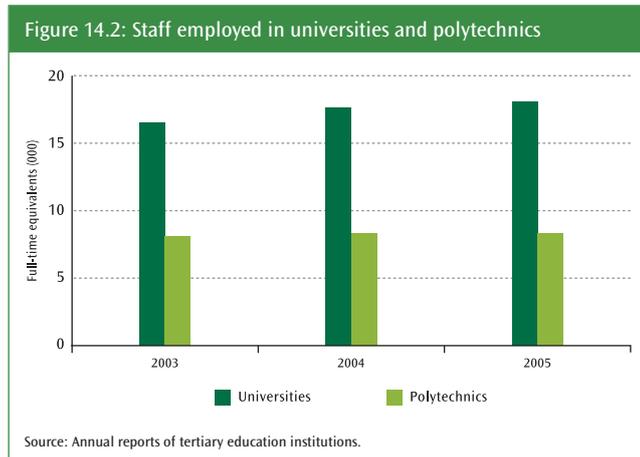
Staff employed in universities in 2005 totalled 18,100 full-time equivalents, up 2.6 percent on 2004. This rise was mainly due to the merger (in January 2005) of Wellington College of Education with Victoria University of Wellington.

ANALYTICAL TABLES: An associated set of tables on the tertiary education workforce is available on the Education Counts website, Tables HRN1-15. Detailed technical information on the data presented here can be found in chapter 17.



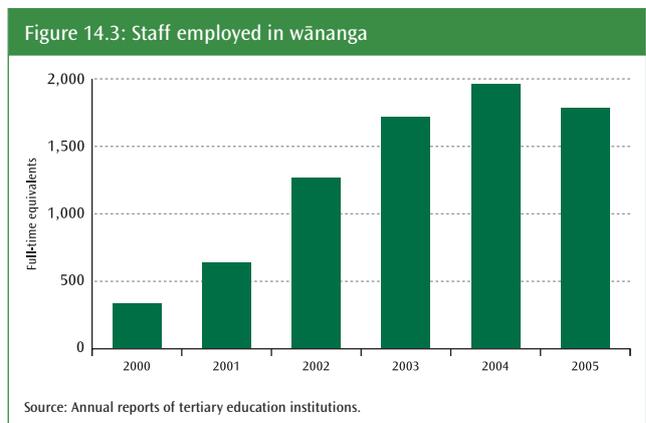
Tertiary education sector capability

Institutes of technology and polytechnics employed 8,320 full-time equivalent staff in 2005. Compared to the 2004 year, the staff level remained unchanged.



The staff level at colleges of education fell from 807 full-time equivalent staff in 2004 to 494 full-time equivalents in 2005. This decrease was mainly due to the merger of Wellington College of Education with Victoria University of Wellington. College of education staff numbers also fell significantly in 2004 when Auckland College of Education merged with the University of Auckland. The Auckland merger took place in September 2004 and, for comparison purposes, the college staff have been included with universities data for 2004.

From 2004 to 2005, employment at wānanga decreased by 9 percent to 1,780 full-time equivalent staff. This fall occurred at the same time as a tapering off in demand for courses covering employment skills, migrant settlement and adult learning skills. Before the latest fall, wānanga staff levels had been increasing rapidly (refer to Figure 14.3).

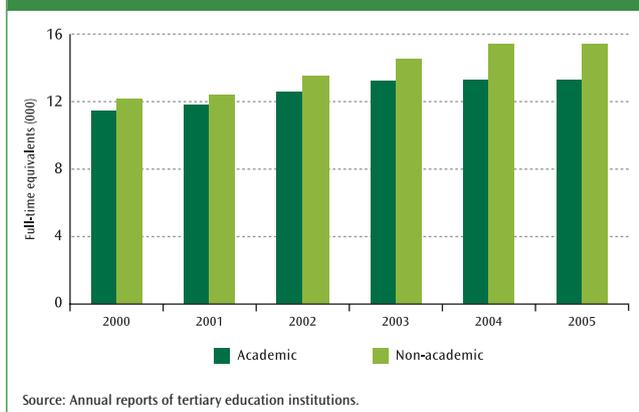


GROWTH IN NON-ACADEMIC STAFFING STABILISES

Non-academic staff in tertiary education institutions includes all staff other than those engaged in the teaching process and excludes research only staff and technicians. In 2005, non-academic staff employed in public tertiary education institutions numbered 15,400 full-time equivalents. Compared to the 2004 year, the non-academic staff level remained unchanged. However, as a proportion of total staff, employment of non-academic staff increased over the four years from 52 percent in 2000 to 54 percent in 2005. Over these years, employment of non-academic full-time equivalent staff rose by 4.8 percent, on average, per year.

Academic staff refers to those staff who are teachers engaged in delivery of education and training. Academic staff includes tutorial staff and, while it includes teachers who participate in research, it excludes people who are engaged solely as researchers or technicians.

Figure 14.4: Academic and non-academic staff employed in tertiary education institutions



The academic and tutorial staff employed in public tertiary education institutions averaged an increase from 2000 to 2005 of 3.1 percent per year. In 2005, the academic and tutorial staff level remained unchanged, compared to the previous year, at 13,300 full-time equivalents.

In universities, the non-academic staff increased in 2005 by 2.5 percent on the previous year to 10,300 full-time equivalent staff, while academic staff numbers rose by 2.9 percent to 7,780 full-time equivalents. These increases were due mainly due to the merger of Wellington College of Education with Victoria University of Wellington. In 2004 and 2003, academic staffing increased by 5.2 percent and 3.5 percent, respectively. The proportion of non-academic to academic staff in universities increased slightly in favour of non-academics over the last five years. In 2000, academics at universities comprised 44 percent of the total staff and in 2005 this was 43 percent.

The proportion of non-academic staff in institutes of technology and polytechnics has increased in recent years, while it remained unchanged from 2004 to 2005 at 53 percent. The total academic and non-academic staff level in polytechnics remained virtually unchanged from 2004 to 2005 at 4,430 and 3,890 full-time equivalents, respectively. In 2004, the total staff level in polytechnics fell (down 0.8 percent) while in 2003 it increased on the previous year by 4.6 percent.

In 2005, both the academic and non-academic staff at wānanga decreased. The academic staff fell by 5.9 percent to 844 full-time equivalents and the non-academic staff fell by 11.9 percent to 939 staff. As a proportion of total wānanga staff, academics

accounted for 47 percent in 2005. Over the years 2002 to 2004, academics accounted for 46 percent of total wānanga staff, while in 2000 the academic staff at wānanga comprised 52 percent of the total staff.

AVERAGE CLASS SIZE SMALLER IN 2005

The student to academic staff ratio in public tertiary education institutions was estimated at 19.3 students per academic in 2005, compared to 20.1 students in 2004 and 15.6 students in 2000. The slightly smaller average class size in 2005 was due to the number of academic staff remaining virtually unchanged while the equivalent full-time student count decreased by 4 percent.

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 staff groups may not be consistently drawn in the annual reports from year to year. For more information on these measures see the data definitions and technical notes in chapter 17.

Class size – a broad indicator

The student to academic staff ratio provides an indication of average class size. It is only a broad indicator of efficiency and does not take into account differences in learning support needs, qualifications or delivery methods. Comparisons between the ratios at individual institutions or between provider types must be made with caution. Variations will occur naturally because of the size of the institutions – enabling various economies of scale and variety in the types of programmes offered, the types of students taught, delivery methods used and the duration of the programmes offered.

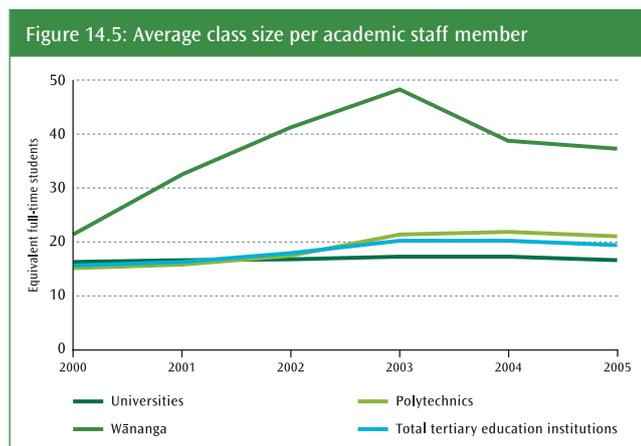
The ratio does, however, provide a useful insight into the changes that have occurred over time within a provider or sector.

In universities, the student to academic staff ratio fell in 2005. There were an estimated 16.6 equivalent full-time students per academic staff member in 2005, down from 17.2 students per academic in 2004. From 2000 to 2004, the ratio increased from 16.2 to 17.2 students per academic staff member.



Tertiary education sector capability

The average class size in institutes of technology and polytechnics also fell in 2005. There were 21 students per academic staff member in 2005, compared to 22 students in 2004. However, before the latest fall in class size, the student to academic staff ratio had risen significantly in recent years. In 2000, there were an estimated 15 students per academic staff member in polytechnics.



Class size at wānanga went down by 1.5 students per academic staff member in 2005 to 37 students. From 2000 to 2003, the average class size increased from 21 students to 48 students. The ratio at the wānanga is significantly higher than at other types of tertiary education institutions because of the delivery of distance programmes.

TERTIARY STAFF LIKELY TO BE FULL-TIME¹

Staff employed by tertiary education providers are more likely to be full-time than part-time. Sixty-three percent of staff in 2005 were full-time. Converting the head count to equivalent full-time staff showed that full-timers as a proportion of total staff increased significantly to 84 percent. This pattern of full-time, part-time was similar for all types of tertiary education staff with the exception of executive staff. The proportion of part-timers was considerably smaller for this group, with only 9 percent being part-time. This group includes the chief executive, directors, managers and administrators. Converting the executive staff head count to full-time equivalent staff further reduced the proportion of part-timers in this group to 5 percent.

A FAST-GROWING FEMALE WORKFORCE¹

The gender balance of the public tertiary education workforce favoured female staff in 2005. Fifty-eight percent of staff were female and when this was converted to full-time equivalent staff, the proportion of females reduced slightly to 56 percent of total staff.

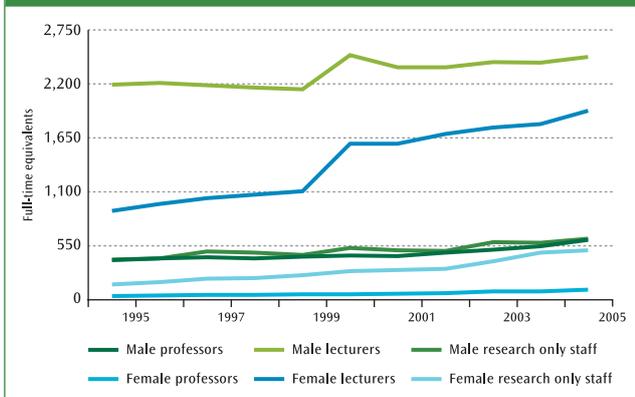
In recent years, the trend at public tertiary education institutions has been for female staff numbers to increase at a faster rate than men. From 2000 to 2005, the number of women employed at universities increased, on average, by 5.5 percent per year compared to 3.3 percent for men. Over the same period, the number of women employed at polytechnics increased by an average of 2.5 percent per year, while the number of men employed increased by 1.7 percent per year. At wānanga, the female staff increased by 47 percent per year from 2000 to 2005, and this exceeded the average increase in the number of men employed, over the same period, by 11 percent per year. These high levels of increase at wānanga are due to the fact that they were established only relatively recently and reflect the very rapid growth of enrolments in that provider type between 1999 and 2003.

Of the academic staff in public tertiary education institutions, just over half were male in 2005. Converting the head count to full-time equivalents increased the proportion of male academic staff to 55 percent of total staff. There were, however, slightly more female executive staff (52 percent) in 2005. Three out of four teacher support and advisory staff were female in 2005.

While in universities women remain under-represented in senior academic positions such as professor, associate professor and senior lecturer, the graph below shows that the number of women employed as lecturers more than doubled over the last 10 years. Lecturers and senior lecturers have been combined in Figure 14.5 and this shows that female lecturers more than doubled in number from 1995 to 2005, from 900 to 1,900 full-time equivalents.

¹ This section uses data from the statistical collections provided to the Ministry of Education by tertiary education providers that include information on staff employed. Providers are included if they receive student component funding or are registered with the New Zealand Qualifications Authority.

Figure 14.6: Selected university academic staff by gender



Note: The discontinuities in this series are caused by the formation of Auckland University of Technology in 2002, and the mergers of Auckland and Wellington colleges of education in 2004 and 2005, respectively, with Auckland University and Victoria University of Wellington.

The number of women employed by universities in the position of professor trebled over the last 10 years to just over 100 female professors in 2005. There are now four times as many female associate professors as in 1995 and three times as many senior lecturers. Female research only staff, excluding research support staff, at universities trebled from 154 full-time equivalents in 1995 to 504 full-time equivalents in 2005. In advisory and teacher support positions more female staff have been employed than males in the past and in recent years there has also been more growth in the employment of women in these positions.

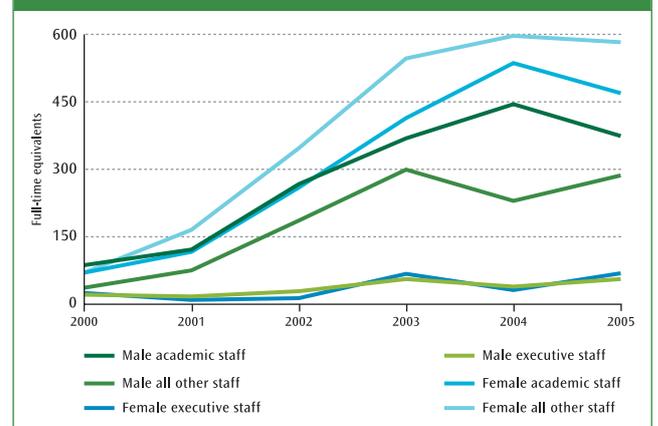
While the gender split has improved in favour of women over the last decade, a paper called *Women in the Academic Work Force* published in March 2006 in the *Canadian Academic University Teacher Review*, made the point that “the academic workforce today still remains largely dominated by men”. The paper cites the results of a 2003 survey that shows that in terms of representation, appointment status and salary level, female academics remain significantly under-represented in Canada, Australia, New Zealand and the United Kingdom.

At institutes of technology and polytechnics, the workforce gender split is more closely balanced across the designations, except for advisory and support staff, where the employment of women is strongly favoured. In 2005, there were more men in the position of dean and head of school as well as head of department, while women outnumbered men in the role of principal or senior lecturer. In 2005, the total academic staff at polytechnics comprised 2,240 males and 2,120 females.

However, from 2000 to 2005, the senior academic staff increased by 6.7 percent for women and by 5.2 percent for men. Over the five years to 2005, the female executive staff in polytechnics increased by 3.6 percent per year, on average, while the increase in employment of male executive staff was 0.9 percent per year.

In wānanga, men and women have been equally represented, in recent years, in the academic position of Head of Department. In the case of tutors, there have been more women employed than men since 2002.

Figure 14.7: Wānanga staff by gender



NATIONAL AGREEMENT

In August 2005, university staff unions and vice-chancellors made a national umbrella agreement for resolving industrial matters and working together to address funding and salary issues. Prior to reaching this agreement university unions took strike action. In September 2005, the combined university unions and the vice-chancellors met to discuss a joint paper on salaries and resourcing. In August 2006, agreements were made that led to the ratification of new employment contracts at universities that help reduce disparities between the level of remuneration of New Zealand university staff and those overseas.



Tertiary education sector capability

Strategic Review of the Tertiary Education Workforce

The trends affecting the tertiary education workforce, its key characteristics and the issues and goals facing the workforce were the main points covered in the first phase of the strategic review (completed in September 2005). Advice on how the next phase of the review might be conducted was also covered in Phase 1.

The following key environmental trends facing the workforce were identified:

- rising community expectations for teaching and research quality
- high social and economic rewards for tertiary education qualifications
- global demand for skilled staff
- skill shortages
- changing ethnic mix in New Zealand
- continued immigration to New Zealand of skilled people, balanced by skilled New Zealanders heading off-shore
- higher labour market participation by women
- an ageing population
- an increase in the core student age group of 18 to 24 years up to 2011 and a decline thereafter
- new information and communications technologies, and
- lower communication barriers.

Key requirements if the workforce is to be effective in achieving national goals, were identified as follows:

- the capability to adapt to and lead change
- the ability, through appropriate working environments and conditions, to attract and retain skilled and qualified people we need
- the capability, through effective management and policy settings, to build and make the most of people's skills and experience, and
- a diversity that reflects New Zealand society, to ensure that we make the most of the talent available.

The objectives for Phase 2 of the review are to:

- undertake a stock-take of the tertiary education workforce and current issues
- advise on major supply and demand trends of the tertiary education workforce, and
- advise on a framework for describing and understanding future workforce requirements.

For more information on the review refer to the Tertiary Education Commission website: www.tec.govt.nz/funding/et-reviews/s-reviews/workforce/workforce.htm

PROFILING UNIVERSITY RESEARCH STAFF

The following analysis covers university staff who are eligible for assessment in the quality evaluation of the Performance-Based Research Fund. Demographic and employment information on the eligible staff was collected in 2003 and 2006 during the fund's two quality evaluations conducted to date. As the 2006 evaluation is still in progress the information collected in the staffing return is provisional at this time. As research takes place predominantly in universities, the following analysis excludes polytechnics, wānanga and private training establishments.

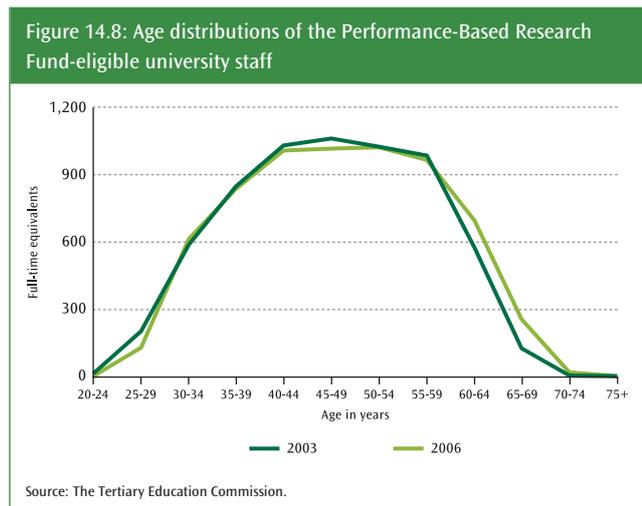
To be eligible for funding, the participating tertiary education organisation has to identify the staff members who are expected to make a significant contribution to research activity and/or degree teaching. For more information on the Performance-Based Research Fund staff eligibility criteria see www.tec.govt.nz/funding/research/pbrf/pbrf.htm

Not all university staff provided information in 2006 about their age or ethnicity. About 3 percent of staff members did not provide their age and 23 percent did not indicate their ethnic group.

Ageing research population

In 2006, 15 percent of eligible staff were aged 60 years and over while in 2003 this was 11 percent. The average age of the eligible university staff in 2006 had increased slightly to 46.7 years from 46 years in 2003. The age of staff ranged from 21 to 78 in 2006. Those aged 40 to 59 years accounted for 61 percent of the total university eligible research population. In 2003, this proportion was 64 percent. Twenty-four percent of all the researchers were

39 years or younger in 2006, compared to 25.6 percent in 2003. In Figure 14.8, the 2003 and 2006 age distributions show the ageing of the university Performance-Based Research Fund-eligible staff. The graph below also indicates that there has been a substitution of some older staff by younger staff.



Fewer female research staff

The number of female staff in universities eligible for participation in the Performance-Based Research Fund quality evaluation fell by 0.9 percent from 2003 to 2006 to 2,530 full-time equivalents. There were 4,200 eligible full-time equivalent male staff in 2006. Compared to 2003, there were 4.8 percent more male staff in 2006.

Ethnicity of research staff

The number of staff who did not state their ethnicity increased from 19 percent of the responses in 2003 to 23 percent in 2006. Over the same period, those whose ethnicity fell in the 'other' category increased from 8 percent to 9 percent of the total. The decline in the response rate makes the comparisons between 2003 and 2006 less useful. However, the 2006 data in Table 14.1 indicates that the eligible European staff remain in the majority at 76 percent of those with a declared ethnicity. In 2006, Māori accounted for 4 percent, Pasifika for 1 percent and Asian for 6 percent of total full-time equivalent staff eligible to participate in the fund's quality evaluation.

Table 14.1: Staff eligible for research funding from the Performance-Based Research Fund by ethnic group

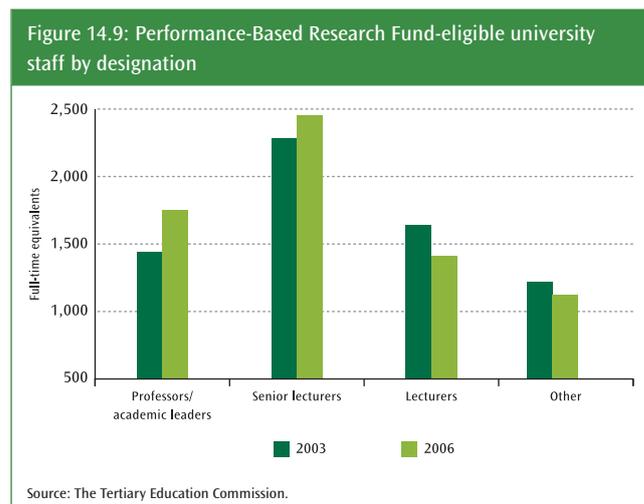
	European	Māori	Pasifika	Asian	Other	Not stated
Full-time equivalent staff						
2003	4,031	299	64	371	558	1,243
2006	3,887	244	55	418	610	1,520
Percentage of staff with known identity						
2003	75.7	5.6	1.2	7.0	10.5	
2006	74.6	4.7	1.0	8.0	11.7	

Source: The Tertiary Education Commission.

Note: Ethnic grouping is based on the single prioritised method of reporting.

More senior academic staff researchers

Of the eligible university staff, those in positions such as academic leader, professor or associate professor increased by 22 percent from 2003 to 2006. There were 1,750 of these positions in 2006 and this group is now the second largest after senior lecturers (see Figure 14.9). The number of eligible senior lecturers increased by 8 percent, over the same period, to 2,450 full-time equivalent staff. The third largest group in 2006 was that of lecturer. The number of eligible lecturers declined by 14 percent from 2003 to 2006 to 1,410 full-time equivalents. Other eligible staff such as tutors, visiting academics, research fellows and technicians also reduced in number by 8 percent from 2003 to 2006. In 2006 there were 1,120 other eligible university staff.

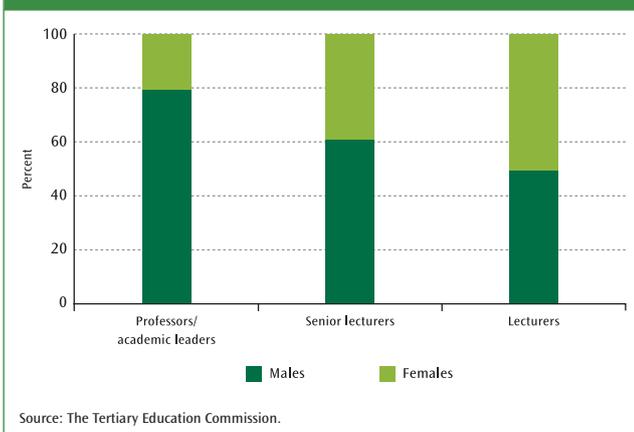




Tertiary education sector capability

Figure 14.10 shows that significantly more men in senior academic positions were identified by universities as eligible to participate in the fund's quality evaluation. In 2006, 80 percent of the eligible academic leaders, professors or associate professors were men. Of the eligible senior lecturers, 61 percent were men. Women marginally exceeded men in the position of lecturer in 2006, with women comprising 51 percent of the Performance-Based Research Fund-eligible staff at the lecturer level.

Figure 14.10: Performance-Based Research Fund-eligible university staff in 2006 by designation and gender



Note: Graph based on full-time equivalent staff.

New and emerging researchers

In 2006, the universities identified 1,300 full-time equivalent staff as new and emerging researchers. There were 4 percent more males than females in this group and the average age was 38 years. Almost two-thirds of these researchers were qualified at doctorate level and another 21 percent held a masters degree. With respect to their ethnic group, 44 percent recorded this as European, 5 percent as Māori, 1 percent as Pasifika and 8 percent as Asian. A third of the researchers did not state their ethnicity and 9 percent indicated 'other' as their ethnic group. Eighteen percent of the new or emerging researchers held a senior lecturer position, 51 percent were lecturers and 30 percent held an 'other' designation.

PERSONNEL COSTS

Personnel costs for all public tertiary education institutions amounted to \$1.89 billion in 2005. This compares to \$1.81 billion in 2004 and \$1.67 billion in 2003. There was an increase of 4.7 percent in personnel expenditure between 2004 and 2005, and an increase of 53 percent between 2000 and 2005.

Personnel costs form the largest budget item in the TEI sector. As a percentage of total costs, personnel costs in TEIs have varied from 57 percent in 2000 to 55 percent in 2005.

At the sector level, personnel costs as a proportion of total costs rose in wānanga between 2004 and 2005. In 2005, personnel costs comprised 46 percent of total costs at wānanga, compared with 41 percent in 2004. From 2004 to 2005, personnel costs at universities, polytechnics and colleges of education fell as a percentage of total costs to 56, 55 and 57 percent, respectively.

Between 2004 to 2005, personnel costs per full-time equivalent staff member increased in tertiary education institutions by 4.8 percent to \$66,000. Compared to five years earlier, the cost per full-time equivalent staff was 26 percent higher in 2005. From 2004 to 2005, personnel costs per full-time equivalent staff increased by 3.9 percent for universities, by 1.8 percent for polytechnics, and for colleges of education and wānanga by 27 and 19 percent, respectively.

The average personnel costs for tertiary education institutions for the years 2000 to 2005 are shown in the table and graph below. The expenditures have also been adjusted for inflation and these are shown in the lower part of Table 14.2. After adjusting for consumer price inflation, the average personnel expenditure in tertiary education institutions increased from 2004 to 2005, in real terms, by 1.7 percent. Over the six years ending in 2005, expenditure increased per full-time equivalent staff member, in real terms, by 11.2 percent.

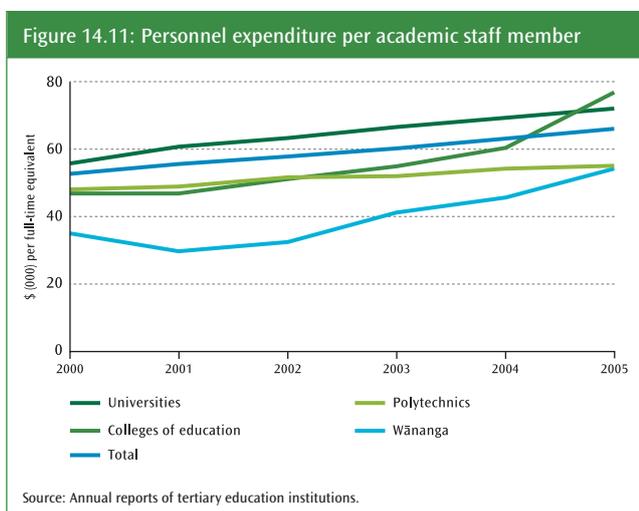
Table 14.2: Personnel expenditure in tertiary education institutions

	2000	2001	2002	2003	2004	2005
\$ per full-time equivalent						
Universities	55,600	60,612	63,288	66,529	69,234	71,900
Polytechnics	48,038	48,766	51,527	51,843	54,067	55,040
Colleges of education	46,836	46,686	51,075	54,778	60,375	76,733
Wānanga	35,007	29,551	32,409	41,098	45,516	54,182
Total	52,529	55,431	57,728	60,076	62,967	65,987
\$ (inflation-adjusted) per full-time equivalent						
Universities	55,600	59,062	60,061	62,048	63,126	63,624
Polytechnics	48,038	47,519	48,899	48,351	49,297	48,705
Colleges of education	46,836	45,491	48,470	51,089	55,049	67,901
Wānanga	35,007	28,795	30,756	38,330	41,500	47,945
Total	52,529	54,013	54,784	56,030	57,411	58,392

Source: Annual reports of tertiary education institutions.

Notes:

1. Due to different cost structures in each sub-sector, caution should be exercised in comparing provider types.
2. The deflator used is the Consumers Price Index (all groups) and the base period is the year 2000.



Note: The change in 2005 in the colleges of education figures reflect the merger of Wellington College of Education with Victoria University of Wellington. Also in 2004, Auckland College of Education merged with the University of Auckland and, for comparison purposes, the college staff have been included with the universities data for 2004.

Reference

- Canadian Association of University Teachers (2006), Women in the Academic Workforce, *Canadian Academic University Teacher Review*, Ontario, Canada.



Tertiary education sector capability

AN OVERVIEW

Government spending on tertiary education increased in the year ended June 2006. Total government expenditure on tertiary education, including operating and capital expenditure, was \$4,046 million in 2006. As a percentage of gross domestic product, both total expenditure and operating expenditure increased in 2006. Total tertiary education expenditure accounted for 2.6 percent of gross domestic product while operating expenditure accounted for 1.9 percent.

The number of equivalent full-time student places funded by government decreased between 2004 and 2005. This is the first decrease in recent years and comes after a slowdown in growth in 2004. Despite the latest decrease in student numbers, government spending on tuition subsidies continued to increase in 2005, due to an increase in the base funding rates.

In 2005, the average domestic fee per equivalent full-time student increased for the second consecutive year, following two years of decreases. The latest increase reflected the transition from the fee stabilisation scheme to policies that will allow some modest fee increases. It also reflects a move away from enrolments in low or zero fee courses. There was a slowdown in international student enrolments in 2005, and as a result total international fees revenue decreased from 2004 to 2005.

LOOKING TO 2006

A number of government initiatives were introduced in 2006 and new proposals were announced that will affect the way that the tertiary education sector is funded.

Additional student component funding was provided for in Budget 2006 for the next four years and the 2006 base rates were increased.

Funding was also made available in Budget 2006 to increase the number of Modern Apprenticeships over the next four years and to increase the size of the Industry Training Fund.

The Performance-Based Research Fund is also to receive additional funding over the next four years and in 2010 the annual value of the fund will be \$226 million.

The government has committed further funding for the Learning for Living initiatives.

FOREWORD

Government support for tertiary education takes a variety of forms and reflects the diversity of learners and their needs. Taken as a whole, these different approaches enable learners of all backgrounds and abilities to have multiple points of entry into tertiary learning. They help to ensure that tertiary-level learning is available in workplaces and through small, community-based, private providers as well as through major tertiary institutions, such as universities and institutes of technology.

During 2005, government funding included:

- student component funding, which provides funding for teaching and learning by subsidising enrolments in approved qualifications
- community education grants, which provide funding for adult and community education courses through tertiary providers, schools and other agencies
- funding for industry training and Modern Apprenticeships
- funding for transition, pre-employment, life and job skills programmes, including Training Opportunities, Youth Training and Skill Enhancement
- funding for research, distributed through the Performance-Based Research Fund
- funding for research, appropriated through Vote Research, Science and Technology
- funding for centres of research excellence
- funding to help build the capability of providers, including the Quality Reinvestment Programme and e-Learning Collaborative Development Fund
- special supplementary grants designed to direct funding to particular groups or for particular tertiary education services
- student loans, which provide funding for eligible students to assist with the cost of tuition fees, course-related expenses and living costs
- student allowances to assist students from low-income families with living expenses
- training benefits and training incentive allowances
- tertiary education Top Achiever Doctoral Scholarships, Enterprise Scholarships, New Zealand Scholarships and Step Up Scholarships.



Tertiary education sector capability

GOVERNMENT FUNDING OF THE TERTIARY EDUCATION SYSTEM

Total government spending on tertiary education through Vote Education and Vote Social Development increased in the 2006 fiscal year. In 2006, total expenditure on tertiary education, including operating and capital expenditure, was \$4,046 million. This is an increase of 6.6 percent on the total expenditure of \$3,795 million in 2005.

Government funding figures in this section are inclusive of goods and services tax, where applicable, and refer to the fiscal year, that is, the year ended 30 June.

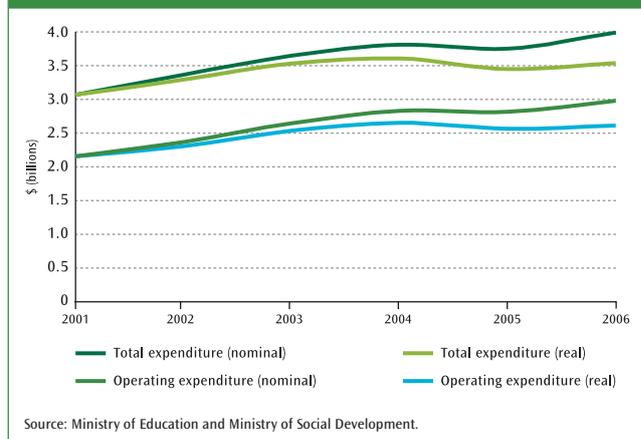
The analysis of government expenditure in this section excludes operating expenditure on the Student Loan Scheme. In 2005/06, operating expenditure on the Student Loan Scheme was \$1,756 million, compared with \$435 million in 2004/05 and \$156 million in 1999/2000. However, operating expenditure in 2005/06 includes a one-off write-down of \$1,412 million in the fair value of the Student Loan Scheme. This write-down occurred as a result of a change in accounting policy that coincided with the government's shift to make student loans interest-free for those resident in New Zealand. The large size of this one-off expenditure item makes comparing trends in government expenditure difficult. Therefore, all operating expenditure on the Student Loan Scheme has been omitted from this analysis. More detail on the operating expenditure on the Student Loan Scheme can be found in the *Student Loan Scheme Annual Report 2005/06*.

Government's operating expenditure on tertiary education totalled \$2,982 million in 2006, compared to operating expenditure of \$2,816 million in the previous year, an increase of 5.9 percent. Capital expenditure increased by 8.7 percent to a total of \$1,064 million in 2006, largely as a result of increased spending of 7.9 percent on student loans.

Between 2001 and 2006, government operating expenditure on tertiary education increased by 38 percent, from \$2,154 million to \$2,982 million. In real terms¹ this amounted to an increase of 21 percent.

The graph which follows traces the trends in government tertiary education expenditure over the last six fiscal years in both real and nominal terms.

Figure 15.1: Government spending (June years) on tertiary education

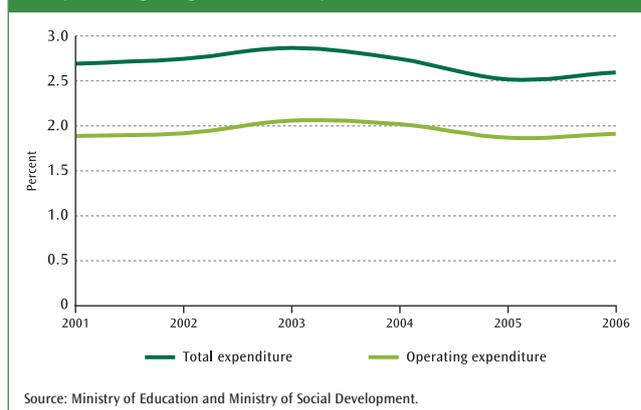


Notes:

1. Operating expenditure on student loans is not included.
2. Real expenditure is expressed in 2001 dollars.

As a percentage of gross domestic product, both total tertiary education expenditure and operating expenditure increased in 2006 after decreasing for the previous two years. The latest increase was the result of increased government spending on tertiary education as well as weaker growth in gross domestic product. In 2006, total expenditure was 2.6 percent of gross domestic product and operating expenditure was 1.9 percent of gross domestic product.

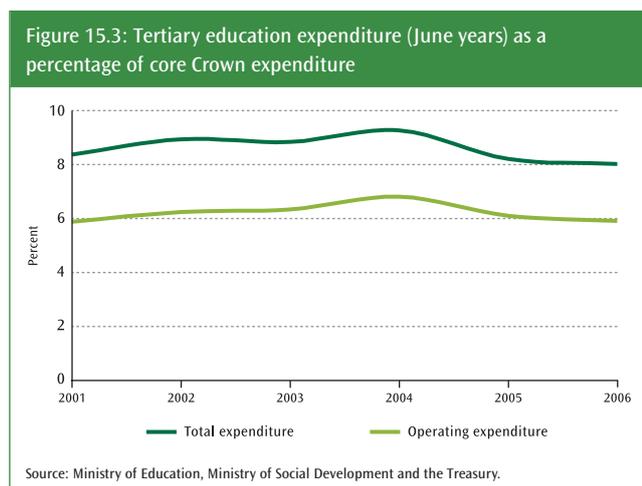
Figure 15.2: Government tertiary education expenditure (June years) as a percentage of gross domestic product



As a percentage of core Crown expenditure, both total tertiary education expenditure and operating expenditure decreased in 2006 for the second consecutive fiscal year. This was the

¹ The Consumers Price Index (CPI) has been used to calculate the increase in real operating expenditure.

result of core Crown expenditure increasing at a faster rate than tertiary education expenditure. As a percentage of core Crown expenditure in 2006, total expenditure was 8.0 percent and operating expenditure was 5.9 percent.



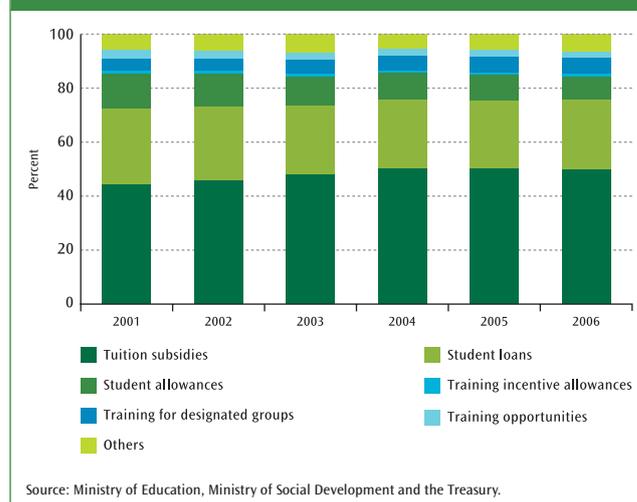
The major items in the government's tertiary education expenditure between July 2005 and June 2006 were:

- \$2,019 million (50 percent of the budget) for tuition subsidies to fund student places at tertiary education providers²
- \$1,046 million (26 percent) for student loans
- \$354 million (8.8 percent) for student allowances
- \$245 million (6.1 percent) for other programmes, including industry training and programmes such as Youth Training, Modern Apprenticeships, Gateway and Skill Enhancement
- \$89 million (2.2 percent) for Training Opportunities, and
- \$32 million (0.8 percent) for training incentive allowances.

The remaining 6.5 percent of the tertiary education budget funded a variety of activities including Unemployment Benefit Training,³ centres of research excellence, and administrative support provided by the New Zealand Qualifications Authority, Career Services rapuara, the Tertiary Education Commission, the Ministry of Social Development and the Ministry of Education.

The proportion of government tertiary education expenditure spent on tuition subsidies has stabilised at around 50 percent between 2004 and 2006, following a period in which subsidies increased.

Figure 15.4: Percentage of government tertiary education expenditure (June years) by component



Notes:

1. From 2004 to 2006, funding allocated to the Performance-Based Research Fund was 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.
3. Other items include funding for Unemployment Benefit Training, tertiary scholarships, capital contributions, centres of research excellence, tertiary education strategic change and administrative support provided by the New Zealand Qualifications Authority, Career Services rapuara, the Tertiary Education Commission, and the Ministries of Social Development and Education.

The biggest share of Crown expenditure is on tuition subsidies. In absolute terms, tuition subsidies had the most growth over the five years to 2006, rising by \$657 million (or 48 percent). From 2001 to 2006, student loans increased by \$178 million (21 percent); industry training, Modern Apprenticeships and pre-employment programmes increased by \$98 million (67 percent). Over the same period, spending on student allowances fell by \$37 million (or 9.4 percent), training opportunities by \$5 million (or 5.2 percent) and training incentive allowances by \$4 million (10 percent).

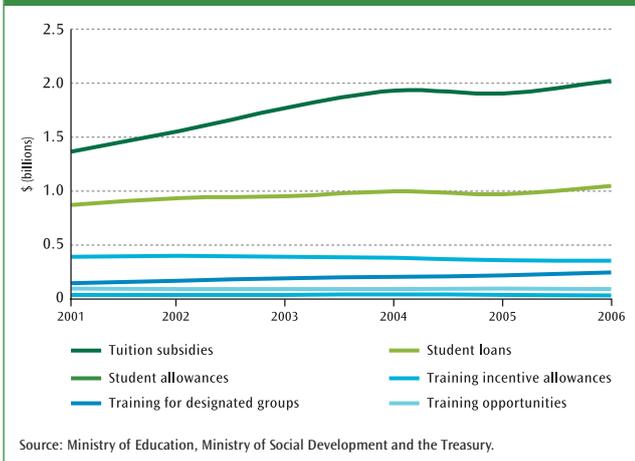
² Funding allocated to the Performance-Based Research Fund has been included in the tuition subsidy from 2004 to 2006.

³ Unemployment Benefit Training replaced Community Wage Training in 2002.



Tertiary education sector capability

Figure 15.5: Government expenditure on tertiary education (June years) by component



Source: Ministry of Education, Ministry of Social Development and the Treasury.

Notes:

1. From 2004 to 2006, funding allocated to the Performance-Based Research Fund was 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.

GOVERNMENT-FUNDED PLACES AND TUITION SUBSIDIES

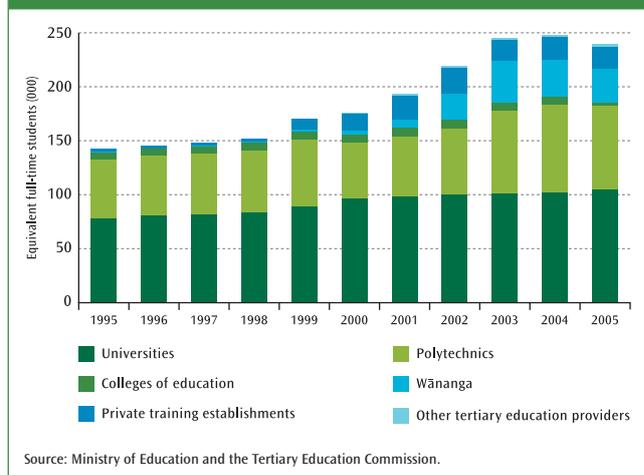
The largest component of government expenditure in tertiary education is distributed via the student component through equivalent full-time student-based tuition subsidies. Tuition subsidies are a contribution towards the cost of tertiary-level learning outcomes, but they do not cover the full cost of tuition. The balance of the cost is normally paid by students by way of a student tuition fee. The equivalent full-time students and the funding expenditure quoted in this section refer to the years ended December.

Tuition subsidies are paid for domestic, enrolled students who were studying for approved qualifications offered by recognised tertiary education providers, including registered private providers. Tuition subsidies are allocated to tertiary providers based on the numbers of equivalent full-time students in various categories and levels. Courses with higher teaching costs receive higher levels of funding, as do students studying at degree level and above, who attract a research top-up.⁴ The number of government-funded equivalent full-time students is a key determinant of the total level of tuition subsidies distributed to tertiary providers.

Government-funded places

Between 2004 and 2005, the number of student places funded by government decreased by 3 percent, from 247,279 to 239,770 equivalent full-time student units. This is the first decrease in recent years and follows a slowdown in the growth of student places in 2004. The number of student places increased by 12 percent from 2002 to 2003. From 1995 to 2005, the number of students increased by 69 percent, from 142,278 to 239,770 equivalent full-time student units.

Figure 15.6: Government-funded places by sub-sector



Source: Ministry of Education and the Tertiary Education Commission.

Note: Care should be taken in comparing data from 2000 onwards with data from years prior to 2000 because of a change in the way funding was delivered from 2000.

Three key factors contributed to the slowdown in the rate of growth of government-funded student places in 2004 and the subsequent decrease in 2005. Firstly, the government's Managing Growth policy, which was introduced in 2004, limited growth in the number of domestic government-funded students at tertiary education institutions. In 2005, funding was restricted to the 2004 actual equivalent full-time student units plus 15 percent or 1,000 student units, whichever was greater. Adjustments to the Managing Growth provisions enable tertiary education institutions to exceed the growth rate limit on student places where it is in the national interest, and fiscally neutral or beneficial to the government on a longer-term basis. Additionally, from 1 September 2005, no funding was provided for any growth in certificate and diploma qualifications above 200 equivalent full-time student units in any rolling 12-month period.

⁴ Research top-ups are being phased out over the period 2004 to 2006.

Secondly, the strong growth in student numbers experienced by wānanga from 2000 onwards came to an end in 2003. Wānanga student numbers fell by 18 percent between 2003 and 2005, from 38,355 to 31,334 equivalent full-time students. A key contributor to this decline was the fall in enrolments at Te Wānanga o Aotearoa.

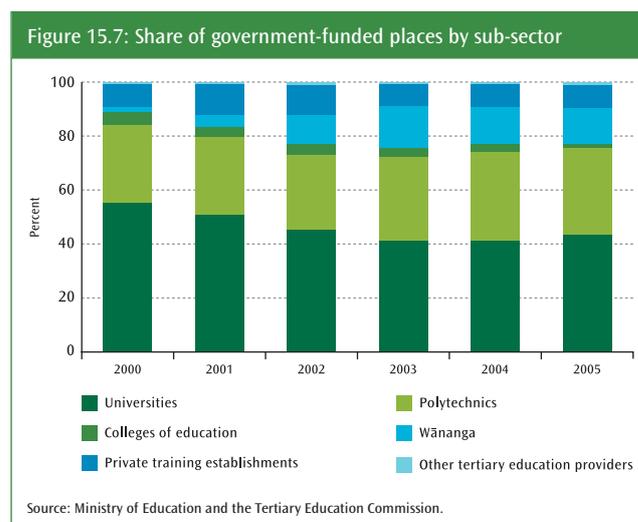
Thirdly, the number of government-funded students in community education decreased between 2003 and 2005 after two years of substantial growth. In 2004, the government introduced moves to cap the number of community education-funded places in tertiary education institutions, in response to the large growth in this area over the preceding two years. As a result, the number of community education students decreased by 52 percent, from 20,357 to 9,751 equivalent full-time student units, between 2003 and 2005.

At a sub-sector level, universities were the only tertiary education institutions to experience growth in the number of government-funded students. Between 2004 and 2005, government-funded places in universities increased by 1.5 percent, from 102,761 to 104,349 equivalent full-time students. However, this increase was due to the inclusion of students from the Auckland College of Education from 1 September 2004 and the Wellington College of Education from 1 January 2005 following their respective mergers with the University of Auckland and Victoria University of Wellington. Consequently, total student numbers at colleges of education fell by 50 percent, from 7,345 to 3,687 equivalent full-time students.

The number of equivalent full-time students at polytechnics declined for the first time since 2000. Between 2004 and 2005, the government-funded places at polytechnics fell by 3.8 percent from 80,358 to 77,338 equivalent full-time students. A funding cap on private training establishments restricted growth in their government-funded student numbers to 0.5 percent over the same period, from 20,466 to 20,575 equivalent full-time students. From 2004 to 2005, other tertiary education providers had strong growth of 45 percent in government-funded equivalent full-time students, from 1,715 to 2,486.

While the growth of government-funded equivalent full-time students at polytechnics and wānanga since 2000 has changed the shape of the tertiary sector as a whole, since 2003 there has been relatively little change in the share of funding in these sub-sectors. Universities had the largest proportion of government-

funded equivalent full-time students in 2005 with 44 percent, down from 55 percent in 2000. Polytechnics' share of total equivalent full-time students was 32 percent (up from 29 percent in 2000), followed by wānanga with 13 percent (up from 1.6 percent in 2000), private training establishments with 8.6 percent (down from 8.8 percent in 2000), and other tertiary education providers with 1 percent.



Tuition subsidies in 2005

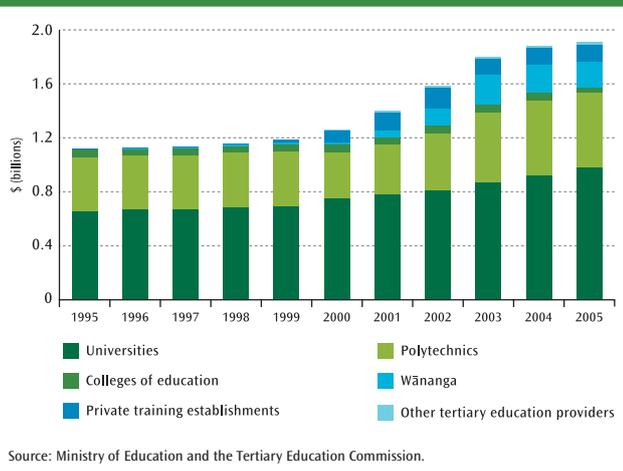
Government expenditure on tuition subsidies continued to increase in 2005, despite a decrease in the number of equivalent full-time students. This increase in tuition subsidies was due to a 3.2 percent increase in base funding rates. Between 2004 and 2005, spending on tuition subsidies increased by 1.7 percent, from \$1,877 million to \$1,909 million. As shown in Figure 15.8, growth in overall tuition subsidy funding has slowed considerably over the last two years, compared with the period from 2001 to 2003, when annual growth was between 11 percent and 14 percent.

In the figures below, tuition subsidies from 2001 to 2003 are inclusive of fee stabilisation special supplementary grants. Also from 2004, Performance-Based Research Fund payments are included in the tuition subsidies category. All tuition subsidies in this section are inclusive of goods and services tax.



Tertiary education sector capability

Figure 15.8: Tuition subsidies by sub-sector



Source: Ministry of Education and the Tertiary Education Commission.

Note: Care should be taken in comparing data from 2000 onwards with data from years prior to 2000 because of a change in the way funding was delivered from 2000.

From 2004 to 2005, tuition subsidies increased for universities by 6.9 percent, from \$9,180 million to \$9,809 million. This increase was a result of higher tertiary funding rates, and the effect of the mergers of Auckland College of Education with the University of Auckland and Wellington College of Education with Victoria University of Wellington. Consequently, there was an offsetting decrease in total funding of 48 percent for colleges of education as a result of the mergers.

After four years of significant growth, funding for student tuition subsidies at polytechnics decreased from 2004 to 2005 by \$2.8 million, or 0.5 percent. Prior to this, funding increased at polytechnics by 8 percent from 2003 to 2004, an increase of \$42 million, and by 26 percent between 2002 and 2003, an increase of \$108 million.

For the second consecutive year, tuition subsidy funding for wānanga decreased by 7 percent as a result of a significant fall in the number of equivalent full-time students. There was a decrease in tuition subsidies at Te Wānanga o Aotearoa and Te Whare Wānanga o Awanuiarangi in 2005.

Private training establishments experienced an increase of 7.7 percent in tuition subsidies between 2004 and 2005. An increase in the number of equivalent full-time students and the increase in funding rates were the key reasons for this increase.

Average subsidies per student

Between 2004 and 2005, average tuition funding per equivalent full-time student for tertiary education organisations increased by 4.9 percent, from \$7,590 to \$7,963. The average tuition subsidies in this section are inclusive of goods and services tax.

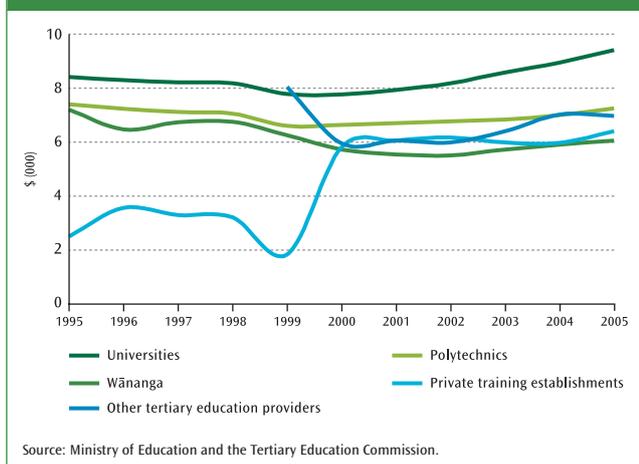
On a per equivalent full-time student basis, the actual average tuition subsidy achieved depends on a number of factors. Two of these are the level of the tuition funding rates and the mix of the enrolments in the various funding categories. If there is a shift of enrolments into the lower-funded categories, then the average funding per equivalent full-time student unit may decline, even when funding rates rise. For example, since 2000, the average equivalent full-time student subsidy in tertiary education institutions has increased by 11 percent, compared to actual increases in the base funding rates of more than 15 percent.

At the sub-sector level, universities had the largest tuition subsidy increase between 2004 and 2005, on a per equivalent full-time student basis. Over this period, the average tuition subsidy increased by 5.2 percent, from \$8,934 to \$9,401. Along with an increase in funding rates, universities benefited from the continued reallocation of funding from research top-ups to the Performance-Based Research Fund. Although top-ups were received by providers in all the sub-sectors, universities received 99 percent of the payments from the Performance-Based Research Fund in 2005.

Between 2004 and 2005, the average tuition subsidy in polytechnics increased by 3.4 percent, from \$7,000 to \$7,237. Before 2004, the average subsidy per equivalent full-time student in polytechnics had remained at a similar level, due to a significant increase in enrolments in lower-funded categories. However, with a stabilisation in the proportion of enrolments in lower-funded categories between 2003 and 2005, the majority of the increase in base funding rates flowed through to the average tuition subsidy in 2005.

At wānanga, the average tuition subsidy increased by 2.7 percent from \$5,892 in 2004 to \$6,053 in 2005. By comparison, the increase in the funding rates was 3.2 percent. In private training establishments, the average tuition subsidy increased by 7.2 percent between 2004 and 2005, from \$5,966 to \$6,394.

Figure 15.9: Average tuition subsidy per equivalent full-time student by sub-sector



Note: Care should be taken in comparing data from 2000 onwards with data from years prior to 2000 because of a change in the way funding was delivered from 2000.

Government funding for different subject areas and levels of qualification

As mentioned in the student component analysis in the previous sections, government funding of tertiary education providers varies for the different subject areas.

- Category A includes funding for courses in the arts and social sciences.
- Category J includes funding for law and commerce courses and was introduced in 2004.
- Category K is funding for community education and was introduced in 2005.

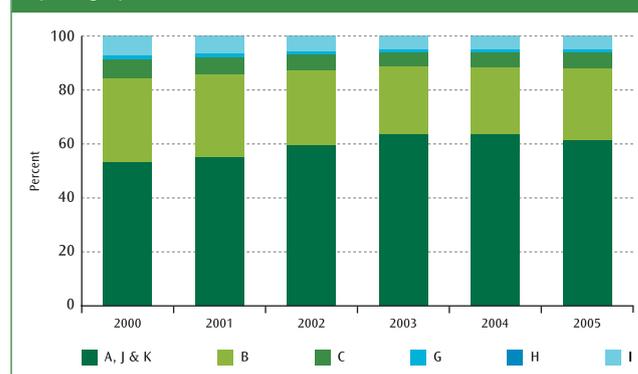
Previously, funding in categories J and K were part of category A. For the purpose of analysing trends, funding in categories J and K are combined with category A.

From 2004 to 2005, the combined number of government-funded equivalent full-time students for categories A, J and K courses decreased from 63 percent to 62 percent of total government-funded equivalent full-time students in tertiary education institutions. This decrease was partly as a result of a decrease in community education students and comes after a period of significant increases, from 2000 to 2004, in the proportion of A, J and K students from 53 percent to 63 percent.

Category B courses are funded at a higher level to support the higher cost of teaching subjects such as sciences, computing, trade training, nursing and fine arts. From 2000 to 2003, category B funding decreased from 31 percent to 25 percent of total government-funded equivalent full-time students in tertiary education institutions. However, since 2003 category B student places remained relatively unchanged at 25 percent of subsidised equivalent full-time students.

In 2005, another 12 percent of government-funded student places in tertiary education institutions were in the other cost categories (C, G, H, I) which subsidise degree-level students studying engineering, architecture, health-related fields and teacher education.

Figure 15.10: Government funding in tertiary education institutions by category



The funding categories can also be disaggregated by the level of the qualification being studied:

- A1, B1, C1, I1, J1, K are for courses in non-degree qualifications.
- A2, B2, C2, G2, H2, I2, J2 are for undergraduate degree courses.
- A3, B3, C3, G3, H3, I3, J3 are for taught courses for postgraduate degrees.
- A4, B4, C4, G4, H4, I4, J4 are for postgraduate research-based degrees.

The higher the level, the higher is the rate of funding, with level 1 categories being the lowest funded. The funding categories at levels 2, 3 and 4 have a research top-up payment attached to them to fund the research activities of the provider and to acknowledge the requirement, set out in section 254(3)(a) of the



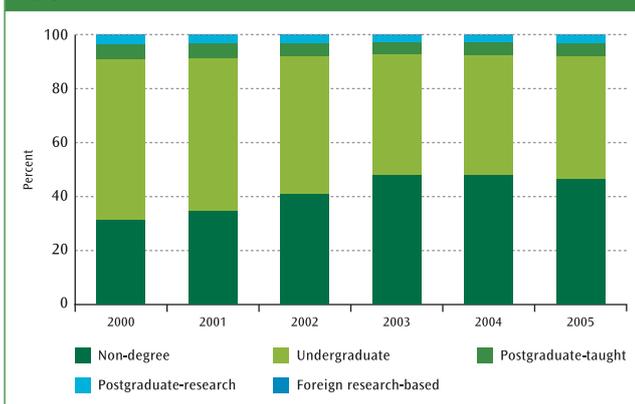
Tertiary education sector capability

Education Act 1989, that teaching of students at degree level be largely conducted by those active in research.

In 2005, 20 percent of research top-up funding was distributed through the Performance-Based Research Fund. In addition, the government also subsidises the tuition of international research-based degree courses but at a relatively low rate, to reflect the contribution of the work of international research students to New Zealand's national research and development output.

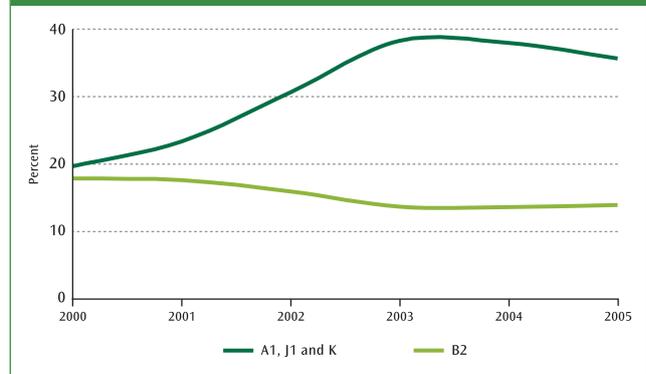
Forty-six percent of equivalent full-time students at tertiary education institutions in 2005 were enrolled at the non-degree level, down from 48 percent in 2004. This compared with a proportion of 32 percent in 2000. The falls since 2003 have ended the trend towards a higher proportion of funding at the non-degree level.

Figure 15.11: Government funding in tertiary education institutions by qualification level



Disaggregating the government funding by subject area and level of qualification allows for a more detailed analysis of expenditure trends. Figure 15.12 shows that, after three years of significant increases, the proportion of A1, J1 and K funding, the lowest-funded sub-categories, in tertiary education institutions declined to 36 percent of total equivalent full-time students in 2005. A1, J1 and K funding had grown from 20 percent in 2000 to a peak of 38 percent in 2003. After falling as a proportion of total equivalent full-time students between 2000 and 2003, B2 funding has stabilised at 14 percent over the last two years.

Figure 15.12: Tuition subsidies in tertiary education institutions by funding category



Funding trends for private training establishments

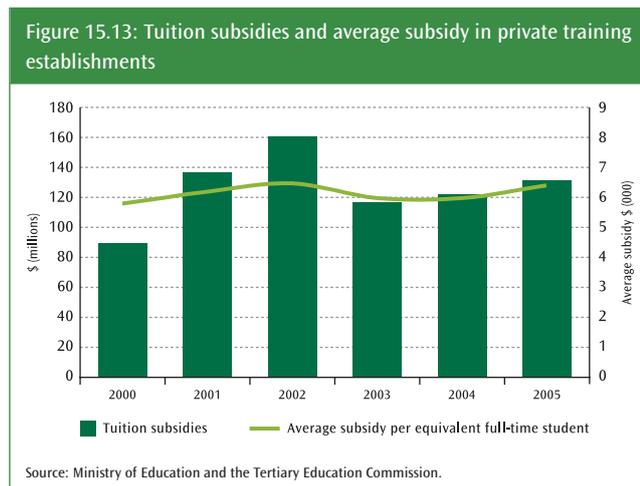
Since 1992, government funding has been available for registered and accredited private training establishments. These private providers receive government funding through a variety of mechanisms:

- industry training
- Training Opportunities
- Youth Training
- Skill Enhancement
- other targeted training programmes, and
- tuition subsidies for qualifications at, or equivalent to, National Qualifications Framework level 3 or above.

Initially, only a small, capped funding pool was available for tuition subsidies at private training establishments. In 1999, the government decided that private training establishments were to be funded at the same rate as tertiary education institutions, with all eligible enrolled students being funded. This resulted in a substantial increase in total funding distributed to these providers from \$7 million in 1998 to \$156 million in 2002. In response, in 2001 the government imposed a moratorium on new private training establishments receiving student component funding and those offering new qualifications. This allowed for some growth in existing providers.

In 2003, the government ended the moratorium and introduced a number of new funding initiatives for private training establishments. The total amount of government funding available from the student component was capped at \$146 million in 2003, \$150 million in 2004 and \$155.1 million in 2005. A new fund was established, the Strategic Priorities Fund, that was designed to focus the delivery of programmes in priority areas of tertiary education, as identified in the tertiary education strategy. This new fund operated within the existing cap and allowed some growth for existing providers in areas well aligned to the strategy and the statement of tertiary education priorities. In addition, new providers could apply to the fund to receive student component funding. In 2005, \$9.8 million was allocated to a total of 87 programmes via the Strategic Priorities Fund. This was a decrease of 40 percent from the previous year when the allocation was \$16.4 million.

A total of 219 private training establishments received \$132 million in tuition subsidies for 20,575 equivalent full-time student places in 2005, at an average subsidy of \$6,394. This compared with 2004, when private training establishments received tuition subsidies of \$122 million for 20,466 equivalent full-time student places, at an average subsidy of \$5,966 per place. These tuition subsidies included funding provided through the Strategic Priorities Fund from 2003 to 2005.



Funding for research⁵

The Education Act 1989 states that the teaching of degrees must be substantially conducted by people active in research. Government funding of research is currently in a transition period, where the funding that was previously distributed through the student component in the form of a tuition subsidy research top-up, for students at degree level and above, is being transferred to the Performance-Based Research Fund.

In 2004, 10 percent of the money generated from the research top-ups for degree-based enrolments was transferred to the Performance-Based Research Fund. In 2005, this figure rose to 20 percent, and is rising to 50 percent in 2006 and 100 percent in 2007. In addition, the government has allocated additional money to be placed into the fund.

Funding under the Performance-Based Research Fund is determined by a mix of peer assessment and performance indicators. It takes account of researcher quality, research degree completions, and external research income earned. In 2005, approximately \$43.5 million was distributed to 25 participating tertiary education organisations through the fund. More detail on the fund and the reasons for its creation are included in chapter 12 of this report.

The value of enrolments-based top-ups to tertiary education institutions in 2005 was \$114 million. This compared to \$116.4 million in 2004, \$118.8 million in 2003 and \$101 million in 2000.

In addition, funding of \$2.7 million was provided in 2005 to subsidise the costs of international research-based students enrolled at New Zealand tertiary education providers. This compared to \$2.6 million in 2004, \$2.1 million in 2003 and \$1.5 million in 2002.

The government also provides funding to centres of research excellence. The centres are inter-institutional research networks focused on areas of acknowledged research strength and areas important for New Zealand's future development. The centres provide funding to encourage researchers from several institutions to work together on a commonly agreed research plan. In 2005, the government allocated \$23.9 million to centres of research excellence, compared to \$23.0 million in 2004 and \$21.9 million in 2003. More detail on these centres can be found in chapter 12 of this report.

⁵ More detail on research funding is in chapter 12.



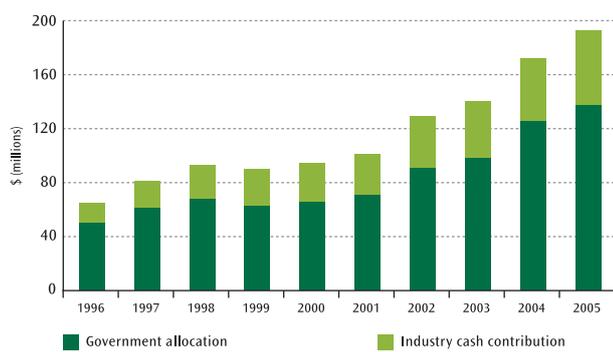
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Funding for industry training and Modern Apprenticeships

Industry training is jointly funded by government and industry. Government's contribution is made through the Industry Training Fund, with industry contributions being in cash or in kind. Employees may bear some of the costs, by meeting some proportion of the training fees or accepting a lower rate of pay as part of the training arrangement.

During 2005, the government invested \$137.3 million in industry training, compared with \$125.4 million in 2004 and \$65.9 million in 2000. Industry's investment was \$55.5 million in cash in 2005, compared with \$46.6 million in 2004 and \$27.9 million in 2000. However, research indicates that the reported cash contribution by industry almost certainly understates its actual contribution. In addition, industry non-cash investment is likely to exceed this cash contribution.

Figure 15.14: Industry and government contributions to the cost of industry training

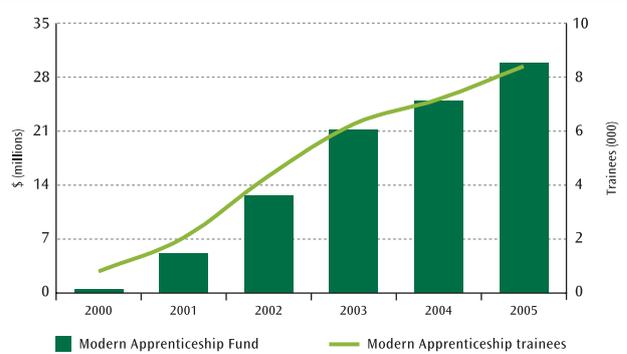


Source: Ministry of Education and the Tertiary Education Commission.

In January 2001, the government implemented a national programme of Modern Apprenticeships to extend the benefits of formal, structured workplace learning to young people aged 16 to 21 years.

Government expenditure on Modern Apprenticeships in 2005 was \$30 million, supporting 8,390 Modern Apprenticeships. This compared with funding of \$25 million supporting 7,175 Modern Apprenticeships in 2004.

Figure 15.15: Modern Apprenticeship fund size and number of trainees



Source: Ministry of Education and the Tertiary Education Commission.

Funding for targeted training programmes

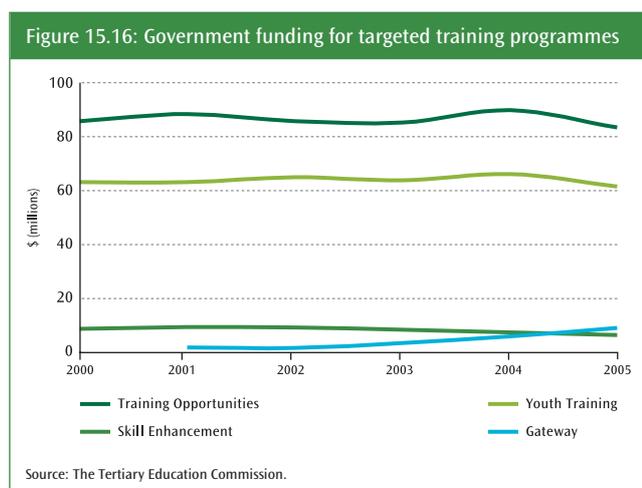
The government provides funding to tertiary education organisations and secondary schools for running a number of targeted training programmes. The targeted training funding quoted in this section is inclusive of goods and services tax.

Training Opportunities is a labour market programme targeted at the long-term unemployed with no or low qualifications. It aims to provide trainees with foundation skills that will enable them to move into employment and/or higher levels of tertiary education. In 2005, a total of 315 secondary and tertiary providers received government funding of \$83 million, compared with 2004, when 368 providers received \$90 million. Government funding for Training Opportunities includes payments made to providers as well as payments made to trainees.

Youth Training provides foundation and vocational skills training to young trainees with no or low qualifications, enabling them to move into employment and/or higher levels of tertiary education. In 2005, a total of 279 providers received funding of \$61 million, compared with 2004, when 315 providers received \$66 million. Government funding for Youth Training includes payments made to providers as well as payments made to trainees.

Skill Enhancement is a vocationally focused training programme aimed at providing young Māori and Pasifika peoples with National Qualifications Framework qualifications at level 3 and above. In 2005, a total of 50 providers received funding of \$6.4 million; in 2004, 59 providers received \$7.5 million.

Gateway is designed to broaden educational options for senior secondary school students by offering them structured workplace learning. The Gateway programme was launched in 2001 for decile 1 to 5 schools. In 2005, it was expanded to decile 6 schools and approximately 5,800 students participated in the programme. Between 2004 and 2005, funding for the Gateway programme increased by 54 percent, from \$5.9 million to \$9.0 million.



Special supplementary grants

Special supplementary grants provide additional funding for tertiary education institutions to be used for specific purposes. Special conditions and requirements are applied to the use of the grants and the council of an institution must ensure that the grant is used only for its stated purpose. If an institution is assessed as not having met the funding requirements, money can be recovered the following year.

In 2005, these special grants were used mostly to supplement institutional funding to support services for students with specific needs, such as students with disabilities, Māori and Pasifika students, and teacher education initiatives. Funding to offset the costs to providers of fee stabilisation was also delivered as special supplementary grants from 2001 through to 2003.

Grants for tertiary students with disabilities are paid to institutions as a bulk grant of \$32.18 for each domestic equivalent full-time student. This is to assist in the provision of additional support for students whose support needs are high in terms of costs. In 2005, tertiary education institutions received

gross funding (before repayments) of \$7.1 million for students with disabilities. In 2004, the net amount of funding delivered (after repayments) was \$6.9 million, in 2003 \$5.9 million and in 2002 \$5.3 million.

The Māori and Pasifika special supplementary grants are provided in order to support initiatives in institutions that are designed to increase and improve the retention and completion rates of these students. The government has announced that from 2008, the Māori and Pasifika grants will be retargeted, with a two-year transition period in 2006 and 2007. From 2008, tertiary education institutions will determine their own appropriate target groups on the basis of socio-economic disadvantage. Funding will also be linked to equivalent full-time student enrolments and completions, and there will be higher funding rates for postgraduate, degree and diploma-level study and no funding for sub-diploma-level study. For 2006 and 2007, funding will still be linked to Māori and Pasifika enrolments. However, the rates will change with higher rates for postgraduate, degree and diploma-level study and no funding for sub-diploma-level study. See www.tec.govt.nz for more detail on these changes.

Currently, Māori and Pasifika special supplementary grants funding to providers is set at a rate of \$145 per equivalent full-time student for postgraduate courses, \$130 for degree courses and \$125 for non-degree courses. In 2005, tertiary education institutions received gross funding (before repayments) of \$6.4 million distributed through these grants. In 2004, the net funding (after repayments) allocated for these grants was \$6.3 million, in 2003 \$6.6 million and in 2002 \$5.9 million.

TRENDS IN STUDENT FEES

In 2005, the average domestic fee per equivalent full-time student increased by 6.6 percent, from \$2,750 to \$2,933. In 2004, the average domestic fee increased by 2.9 percent and, in 2003, it fell by 14 percent. The increase in 2005 reflected the transition from the fee stabilisation scheme (which froze fees between 2001 and 2003) to the fee and course costs maxima, annual fee movement limit and postgraduate fee increase limit schemes, which allowed limited increases in fees. It also reflects the move away from enrolments in low or zero fee courses.

The fees quoted in this section are inclusive of goods and services tax. The average fee is calculated by dividing total domestic fee



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revenue (excluding goods and services tax) by the total number of domestic equivalent full-time students funded by the Ministry of Education. An adjustment is then made for the goods and services tax.

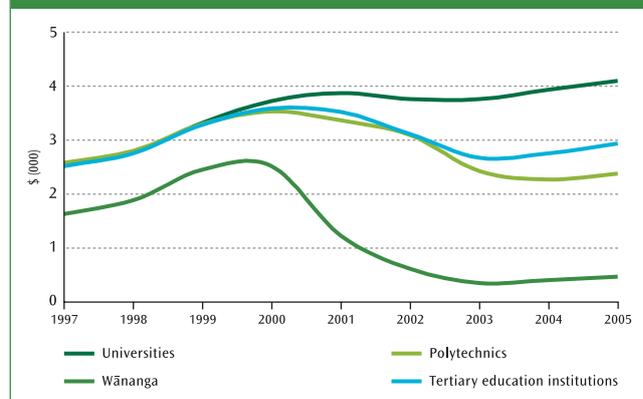
The purpose of the fee and course costs maxima and annual fee movement limit schemes is to restrain the increase in tuition fees and provide certainty for undergraduate students in terms of the cost of their programme of study. Under the fee and course costs maxima policy, a set of tuition fee maxima that providers could charge domestic undergraduate students was introduced. Under the annual fee movement limit, providers with fees below the maxima were allowed to increase their fees by up to 5 percent or to the relevant maximum, whichever was the lesser. In exceptional circumstances a provider could ask for an exemption from the annual fee movement limit and increase fees up to a maximum of 10 percent.

In 2004, providers with fees above the maximum were required to freeze their fees and from 2005 they were required to lower their fees progressively towards the maximum. The postgraduate fee increase limit scheme allowed for domestic postgraduate fees to rise by up to \$500 per equivalent full-time student unit in any one year. In exceptional circumstances a provider could ask for an exemption from the \$500 limit.

Between 2004 and 2005, the average domestic tuition fee per equivalent full-time student in universities increased by 4.2 percent, from \$3,933 to \$4,097. Over the same period, the average fee increase in colleges of education was 6.2 percent, from \$2,646 to \$2,809. Wānanga students had a 16 percent rise from 2004 to 2005 in their average tuition fee, from \$405 to \$468. This followed a 17 percent rise from 2003 to 2004. The large increase in the average tuition fee is a result not of substantial increases in the actual fees charged to students, but of a significant reduction in the proportion of equivalent full-time students in low or zero fee courses.

Between 2004 and 2005, the average tuition fee charged to polytechnic students increased by 4.8 percent, from \$2,267 to \$2,376. This increase comes after four consecutive years of decreases in the average polytechnic fee. Between 2000 and 2004, this fee dropped by 36 percent as a result of an increasing number of discounted or zero fee courses being offered by polytechnics, particularly community and short courses with no fees.

Figure 15.17: Average domestic tuition fees in tertiary education institutions

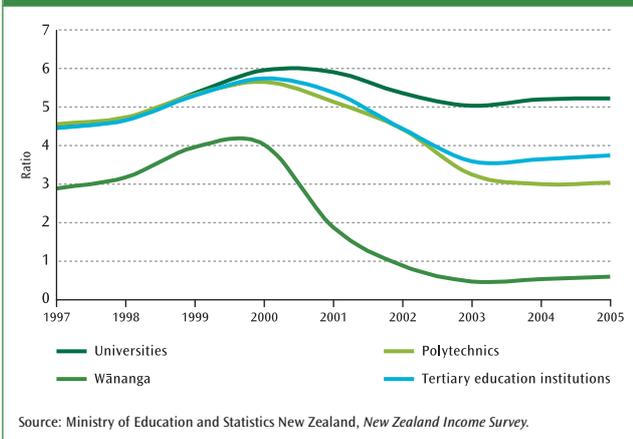


To show how the affordability of fees has changed for students over time, the average domestic tuition fee is expressed as a ratio of the average weekly income for employed people. This is the average weekly income for employed people and includes income from wages/salaries, self-employment and government transfers.

This ratio shows how many weeks of average weekly income it would take to pay for the average tuition fee. For example, the value of 5.7 in 2000 for tertiary education institutions indicates that it would take 5.7 weeks of the average weekly income to pay for the average tuition fee in tertiary education institutions.

Between 2000 and 2003, the ratio was falling across tertiary education institutions, indicating an increase in the affordability of tertiary education for students. However, between 2003 and 2005, the ratio increased in all tertiary sub-sectors. This was because the increase in average tuition fees outpaced the growth in average weekly income. However, in 2005 it was still well below the 2000 ratio.

Figure 15.18: Domestic tuition fee ratio by sub-sector



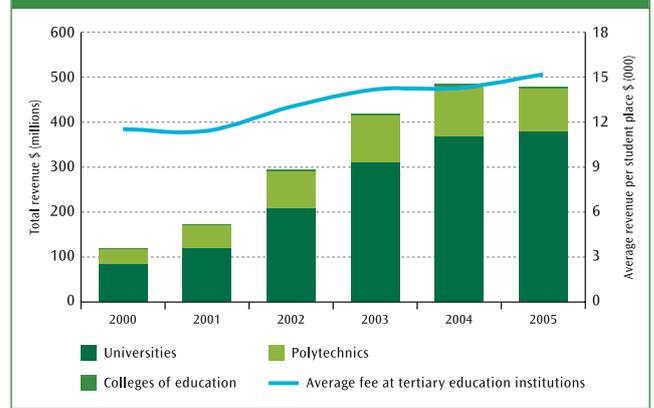
International student tuition fees

International student enrolments have become a major source of revenue for the tertiary education sector, especially for universities and polytechnics. Colleges of education have, however, only modest numbers of international students, while wānanga have not enrolled any international students.

In this section international tuition fees are exclusive of goods and services tax.

Between 2000 and 2005, international students in tertiary education institutions trebled from 10,347 to 31,577 equivalent full-time students. There was, however, a slowdown in international student enrolments in 2005 causing them to fall from the previous year, in terms of equivalent full-time students, by 7.2 percent. As a result, total international fees revenue decreased between 2004 and 2005, falling by 1.4 percent, from \$486 million to \$479 million. A 13 percent decrease in international fee revenue at polytechnics was the key reason for this decrease.

Figure 15.19: International fees revenue and the average fee in tertiary education institutions



COMBINED TUITION REVENUE

By combining the tuition revenue from government subsidies, domestic student fees and international student fees, a fuller picture of the trends in tuition funding at tertiary education institutions can be identified. Figure 15.20 illustrates the recent changes in the combined tuition revenue for domestic and international students in tertiary education institutions.

The revenue in this section is exclusive of goods and services tax.

Between 2000 and 2005, the combined tuition revenue in tertiary education institutions increased by 5.9 percent, from an average of \$9,723 to \$10,296. Most of this increase came between 2004 and 2005, when the combined tuition revenue per equivalent full-time student increased by 5.5 percent or \$534.

At the sector level, universities had the largest growth in combined tuition revenue. From 2000 to 2005, the combined tuition revenue of universities increased by 22 percent, from \$10,218 to \$12,432. The key drivers of this increase were the higher funding rates and an increase in the average international fee per equivalent full-time student. An increase in the average domestic fee from 2004 to 2005 also contributed to this revenue growth.

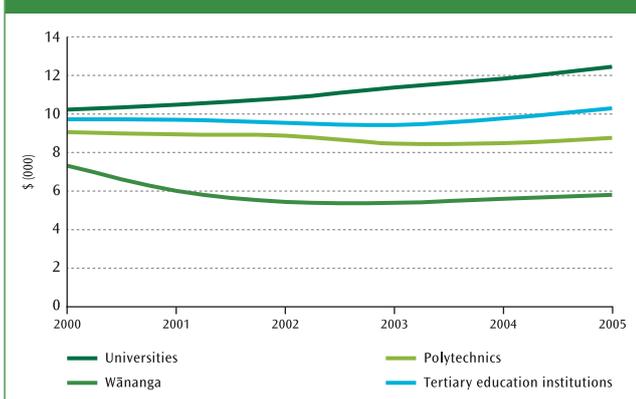
The increase in combined tuition revenue per equivalent full-time student was more modest for colleges of education. Between 2000 and 2005, the combined revenue in colleges increased by 13 percent, from \$8,739 to \$9,858. The increase in the funding rates was the key reason for this increase.



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Polytechnics and wānanga both experienced a decrease in their combined tuition income between 2000 and 2005. In polytechnics, the combined revenue decreased by 3.4 percent, from \$9,055 to \$8,745 per equivalent full-time student. In wānanga, the combined revenue decreased by 21 percent, from \$7,317 to \$5,797 per equivalent full-time student. The factors that contributed to these falls were an increase in the proportion of enrolments in low-cost courses leading to a reduction in the average tuition subsidy and a move to zero or discounted domestic fees. However, the lowest point may have been reached, as the combined revenue per equivalent full-time student increased for both polytechnics and wānanga between 2004 and 2005.

Figure 15.20: Combined tuition revenue in tertiary education institutions



Notes:

1. Revenue is exclusive of goods and services tax.
2. Combined funding per equivalent full-time student is calculated by combining government tuition subsidies with domestic and international tuition fees and then dividing by the sum of government-funded equivalent full-time students and international equivalent full-time students.

While the trend of the average combined tuition revenue is mainly driven by the tuition revenue from domestic students, tuition revenue from international students is higher and thus plays a key role in increasing the tuition revenue of tertiary education providers. In 2005, the average tuition revenue per domestic equivalent full-time student was \$9,849, compared to \$15,165 for every international equivalent full-time student.

INTERNATIONAL COMPARISONS

Fair comparisons of the funding of tertiary education are difficult to make for a number of reasons. 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 Organisation for Economic Co-operation and Development (OECD) provides the most reliable source of standardised international comparisons. It uses purchasing power parities⁶ to make a comparison between 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 measuring the prices of goods and services produced in each economy. However, as some sectors such as education may have quite different cost structures, these differences may not be included in 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, national diplomas) and 6 (doctorates). The classification level 5A is labelled by the OECD as tertiary-type A education. Classification level 5B is labelled as tertiary-type B. In New Zealand, tertiary education has traditionally been measured as formal study, regardless of the classification level.

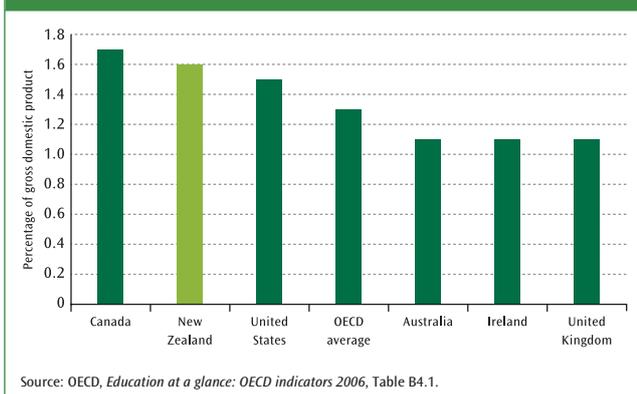
The tertiary education sector as reported in OECD comparisons excludes enrolments in level 1 to 4 certificates and hence represents only about 50 percent of the students measured in New Zealand education statistics. For this reason, the reports only reflect New Zealand's investment in the higher tertiary 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 those presented in these international comparisons.

The New Zealand government spends above the OECD average on higher tertiary education, expressed as a percentage of gross domestic product. New Zealand ranked sixth equal among OECD countries, with spending at 1.6 percent of gross domestic product in 2003. This compared with the OECD country average of 1.3 percent. As New Zealand has a high rate of participation in post-

⁶ 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 the difference in the volume of goods and services purchased.

secondary, non-tertiary education, it is probable that its ranking would improve further if this was taken into account.

Figure 15.21: Government spending on tertiary education in 2003 for selected OECD countries

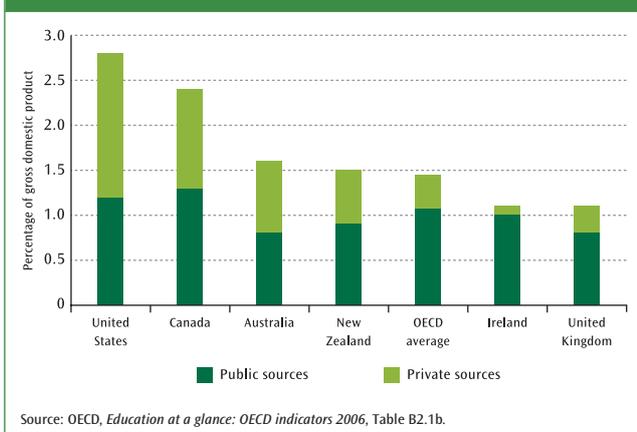


Notes:

1. Government spending includes direct public expenditure on tertiary institutions plus public subsidies to households (including those for living costs).
2. The year of reference for Canada's figure is 2002.

The government expenditure on tertiary education providers as a percentage of gross domestic product is below the OECD average. In 2003, New Zealand spent 0.9 percent of gross domestic product on tertiary education providers, compared with the OECD average of 1.1 percent. However, once student fees are added to government funding of tertiary education providers, the total funding as a proportion of gross domestic product is above the OECD average.

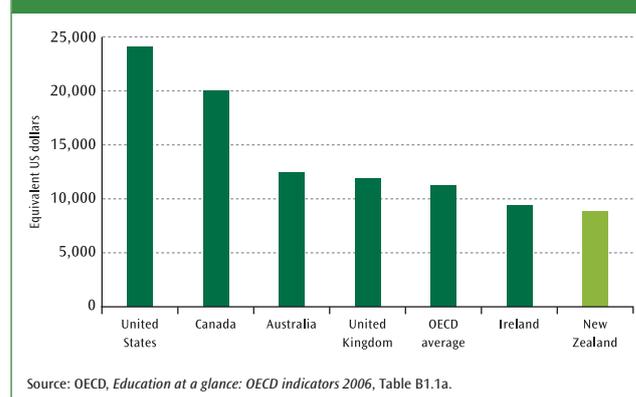
Figure 15.22: Expenditure on educational institutions in 2003 for selected OECD countries



Note: The year of reference for Canada's figure is 2002.

A comparison of annual expenditure on tertiary institutions per student shows that New Zealand ranks 18 out of 28 OECD countries in this area. This puts it below the United States, Australia and the United Kingdom. Annual government and private spending on tertiary institutions was US\$8,832 per student in 2003, on a purchasing power parity basis, compared with the OECD average of US\$11,254 per student. Because of the index measurements used to obtain these comparisons 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. Additionally, 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 15.23: Annual expenditure per student in tertiary education institutions in 2003 for selected OECD countries



Notes:

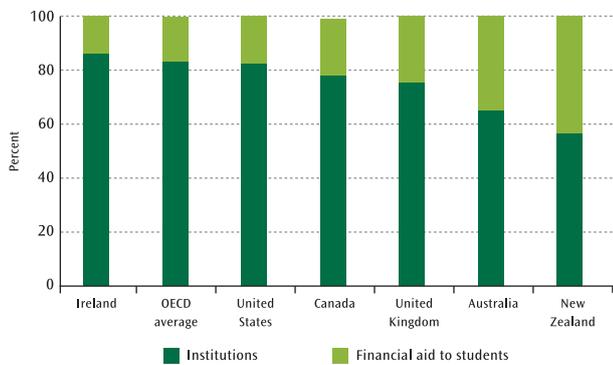
1. This figure expresses annual expenditure on tertiary institutions per student in equivalent US dollars converted using purchasing power parities, based on full-time equivalents.
2. Annual expenditure includes government and private spending on tertiary institutions.
3. The year of reference for Canada's figure is 2002.

In New Zealand, subsidies to students account for 43 percent of government spending on tertiary education, the highest of all OECD countries. OECD countries spend, on average, 17 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.



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Figure 15.24: Distribution of government spending on tertiary education in 2003 for selected OECD countries



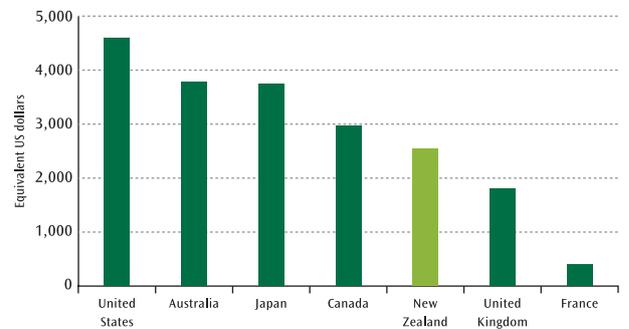
Source: OECD, *Education at a glance: OECD indicators 2006*, Table B5.2.

Notes:

1. 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.
2. The year of reference for Canada's figure is 2002.

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, one-third of countries have annual tuition fees for domestic students charged by public institutions that exceed US\$2,000. New Zealand public institutions charged an average annual fee of US\$2,538 for tertiary-type A programmes.

Figure 15.25: Annual average tuition fees in 2003 for selected OECD countries



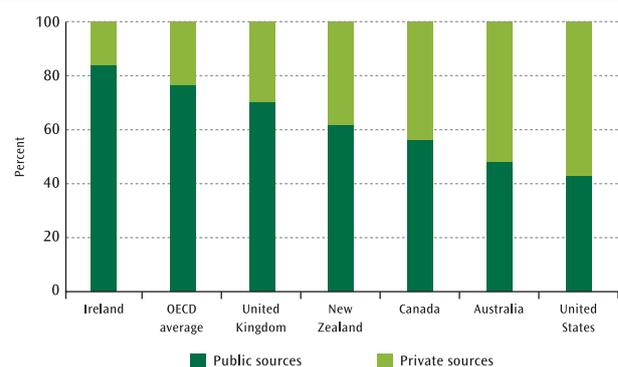
Source: OECD, *Education at a glance: OECD indicators 2006*, Table B5.1.

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.

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

Figure 15.26: Proportions of public and private expenditure in 2003 for selected OECD countries



Source: OECD, *Education at a glance: OECD indicators 2006*, Table B3.2b.

Notes:

1. Private spending includes all direct expenditure on educational institutions, whether partially covered by public subsidies or not.
2. The year of reference for Canada's figure is 2002.

INVESTING IN KNOWLEDGE AND SKILLS IN 2006

A number of government funding approvals were made in 2005 and these will impact on the provision of tertiary education in 2006 and, in some cases, in out-years. The following is a summary of the main initiatives launched:

- From 1 April 2006, the government introduced interest-free student loans for borrowers living in New Zealand for six months or more, whether they are studying or not. This initiative is designed to cut the costs of tertiary study for many people.
- From 1 January 2006, there will be increased student allowances for students with separated parents and for students with siblings who are also studying, through increased annual discounting of the parental income for these students. Students will also be able to earn up to \$180 per week (gross), before their student allowances entitlement is affected. Previously the limit was \$135 a week.
- From 1 January 2006, up to 500 bonded merit scholarships will be available each year to New Zealand's most academically capable students. The \$3,000 government contribution per academic year for tuition fees will be available from the student's second year of study for up to four years.
- The Medical Trainee Intern Allowance for sixth-year medical students will be increased from \$10,000 to \$26,756.
- The government's Managing Growth policy was introduced in 2004, to enable sound fiscal management of student component funding, and to ensure that annual funded growth in tertiary education at the provider level is fiscally sustainable. The managing growth rate limit for tertiary education institutions for 2006 is based on 15 percent growth or 1,000 equivalent full-time student units, whichever is the greater.
- Additional funding of \$99.6 million over the next four years was provided by the government to continue the rolling funding triennium for the student component. A baseline increase of 2.6 percent on student component funding rates was made for 2006.
- The government provided additional funding of \$6 million over four years to increase the number of Modern Apprenticeships by 500, to a total of 9,000 by December 2006. An additional \$31.6 million of funding over four years will also be provided to increase the size of the Industry Training Fund. This will support business-skill needs and productivity and help improve skill capacity in industries generally. Also, government funding of \$36.2 million will be provided in 2006 for sub-degree papers.
- The government has increased the Industry Training Fund by a further \$6.4 million (goods and services tax exclusive) over the next four years for the delivery of foundation learning that will be embedded within industry training provision, working initially with two to three industry training organisations.
- An additional \$74.1 million is to be added to the Performance-Based Research Fund pool over the next four years, with the total annual value increasing to \$226 million (excluding goods and services tax) by 2009/10.
- The government has committed \$51 million (goods and services tax exclusive) over the next four years to the Learning for Living initiatives as the next step towards building access to high-quality educational provision for all people lacking foundation literacy, language and numeracy skills.



Postscript

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AN OVERVIEW

Early in 2006, the government announced changes to the quality, steering and funding of New Zealand's tertiary education system. The proposals aim to align the tertiary sector more closely with national development goals, to build increased public confidence in the sector and to give the government and the sector more certainty. More detail on the proposals was announced by the Minister for Tertiary Education in August 2006. Implementation is expected to be completed in 2008.

New Zealand's second tertiary education strategy was developed in 2006. The strategy sets the government's goals and priorities for 2007 to 2012 and consultations on the strategy were concluded in October 2006. The strategy is expected to build on the benefits of the process of reforms that began with the creation in 2000 of the Tertiary Education Advisory Commission – an independent body set up to advise the government on future directions for tertiary education. The Tertiary Education Strategy 2007/12 is expected to be published in December 2006.

Changes to the Student Loan Scheme Act 1992 enacted in December 2005 led to interest-free student loans from 1 April 2006.

In the area of research and innovation, Budget 2006 provided funding for building research capability in strategically relevant areas, and increased funding under the Performance-Based Research Fund. It also provided further funding for the Partnerships for Excellence initiative.

Budget 2006 also included funding to upskill the workforce as a means of increasing labour productivity. In addition, the government committed funding to roll out the Gateway programme to all secondary schools by 2008, expand Modern Apprenticeships, increase the number of trainees in structured workplace learning and enhance the provision of careers.

New information from the 2006 enrolment collections shows that the number of students in formal tertiary study programmes decreased between January and August 2006, compared to the same period a year earlier. Converting the enrolments to equivalent full-time student units revealed a slightly larger decline in participation in 2006. The decrease was due mainly to lower enrolments at 1 to 3 certificate-level while there were also smaller declines at bachelors- and masters level. In contrast, there were more students studying for level 4 certificates, diplomas, doctorates and honours and postgraduate certificates.

TERTIARY SYSTEM CHANGES

On 4 April 2006 the Minister for Tertiary Education made an announcement on significant changes in tertiary education policy. The main objectives of the changes were:

- a greater focus on government, regional and developmental priorities
- increased public confidence in the tertiary sector, and
- greater financial certainty for government and tertiary education organisations.

To achieve these objectives, the government is to invest in plans agreed between tertiary education organisations and government. This approach will build on the existing tertiary education profile system. As with profiles, plans will include information about what education will be provided, and they will set out the organisation's performance commitments. The key difference will be linking funding with the delivery of the plan. Funding will be committed by government for more than one year.

The Minister identified that the next steps will revolve around the following three key areas:

- Better differentiation of organisations – with the roles and distinctive contributions of different types of tertiary education organisations better defined, and the different parts of the sector working together in more complementary ways. The government wants organisations to play to their strengths.
- Designing an alternative to the current student component funding system. The government wants to invest in institutions based on plans agreed between the organisation and government. These plans will build on existing profiles, but funding will be closely linked to the plan so government can be assured that investment is channelled into the highest priority areas. There will also be a move to multi-year funding to increase certainty for the government and organisations.
- Developing an outcome-focused quality assurance and monitoring system; enabling organisations to demonstrate how they meet specific student and stakeholder needs, and playing a robust role in ensuring quality teaching and learning.



Postscript

On 29 August 2006 the Minister released the tertiary education strategy discussion document which sought feedback on the proposed content and structure of the Tertiary Education Strategy 2007/12.

The tertiary education strategy sets out the government's goals and priorities for New Zealand's tertiary education system from which the more detailed and shorter-term statement of tertiary education priorities are developed. The new tertiary education strategy and statement of tertiary education priorities intend to continue the broad and inclusive direction of the Tertiary Education Strategy 2002/07, but with a sharper focus on the shifts required in tertiary education to achieve greater quality, relevance and value for money.

Consultation on the document included workshops and meetings led by senior officials which took place from late August to late October 2006. The feedback the government received will help inform the next tertiary education strategy and statement of tertiary education priorities which is due for release in December 2006.

Together with the announced tertiary reforms, the tertiary education strategy and statement of tertiary education priorities will support the tertiary education sector in its crucial role in improving the performance of the economy and contributing to New Zealand's social and cultural development.

STUDENT SUPPORT CHANGES

On 21 December 2005, Parliament passed legislation to amend the Student Loan Scheme Act 1992, to enact its interest-free student loans policy. This policy is designed to cut the costs of tertiary study for many people. The interest-free policy will be complemented by an amnesty designed to encourage those borrowers who are overseas to return to New Zealand to contribute to the future growth of the economy.

Interest-free student loans

Key points:

- From 1 April 2006, student loans are interest-free for borrowers living in New Zealand for 183 or more consecutive days (about six months) – whether they are studying or not.
- All interest charged from 1 April 2006 will be written off automatically after 31 March 2007 and then again at the end of every tax year.

- Even if a borrower doesn't satisfy the 183-day requirement, he or she may qualify for an exemption that would also make the loan interest-free, providing they meet certain conditions and provide proof to support an exemption application. For example, if a borrower is studying full-time at postgraduate level overseas, or if they are working for the government of New Zealand, they will qualify for interest-free loans.
- Interest-free student loans do not cover interest charged before 1 April 2006.
- The first interest write-offs under the new policy will happen in April 2007.

Student loan non-resident amnesty

Inland Revenue is administering an amnesty from 1 April 2006 to 31 March 2007 on student loan late payment penalties for borrowers who were non-resident on 31 March 2006.

Borrowers are eligible for the amnesty on student loan late payment penalties if:

- they are non-resident for income tax purposes on 31 March 2006, and have student loan non-resident arrears and penalties at the start of the amnesty period (1 April 2006), or
- they are overseas at the start of the amnesty period, but have not advised Inland Revenue of their absence, and have student loan arrears and penalties when their correct residency status is established.

If a borrower is accepted into the amnesty, Inland Revenue will write off any student loan late payment penalties up to the date the application was received. A borrower will also be required to keep their payments up to date for a two-year period from the date their amnesty application is accepted by Inland Revenue.

Further details on these student loan policy changes can be found at www.ird.govt.nz/studentloans

Other student support policy changes

As part of Budget 2006, the government announced the following student support changes. From 1 January 2007:

- The number of Bonded Merit scholarships will be expanded from 500 to 1,000 in order to meet a government manifesto commitment.
- Doctorate students' eligibility for student allowances will be increased with the recognition of Doctor of Philosophy

degrees and professional doctorates as Long Programmes under Regulation 21 of the Student Allowances Regulations 1998. The policy will provide eligible doctorate and professional doctorate degree students with 156 weeks' (three years') student allowances, in addition to the standard 200-week entitlement available to eligible students over a lifetime.

- The student allowances parental income threshold will increase by 10 percent. From 1 January 2007, eligible students whose parents earn approximately \$39,270 or less will be entitled to a full student allowance. This will have a consequent effect of raising the cut-off point (the level of parental income at which students become ineligible for student allowances) to approximately \$69,413 for those living away from home and approximately \$63,383 for those living at home.
- Students undertaking qualifications that do not receive student component funding will no longer be able to get student loans and allowances. Courses funded through other government streams such as Ministry of Health medical training will not be affected by this change in policy.

RESEARCH AND INNOVATION

Additional funding for the Performance-Based Research Fund

The Performance-Based Research Fund allocates research funding to tertiary education organisations on the basis of their research performance. Its primary focus is on rewarding and encouraging excellence in tertiary education research. As part of Budget 2006, the government has agreed to expand the pool of funding for allocation to providers under the Performance-Based Research Fund. The initiative will give additional incentives for providers to strive for research excellence and it will further the government's commitment to increasing the average quality of research in the tertiary education system.

During the 2005 election campaign, the government made a manifesto commitment to increase the fund to a total value of \$250 million by 2010. The additional funding for the Performance-Based Research Fund in Budget 2005 represents the first stage of the increased funding required to achieve that goal and will bring the total value of the fund to \$226 million by 2009/10.

Building research capability in strategically relevant areas

In Budget 2006, the government committed \$7 million over four years for building research capability in strategically relevant areas.

This initiative allows the Tertiary Education Commission to work with public tertiary education institutions to respond to the results of the 2003 Performance-Based Research Fund's evaluation of research quality in the tertiary sector. The focus is on building research capability in the following subjects of significance to New Zealand, where there are nationwide gaps in high-quality research:

- nursing and associated disciplines related to primary health care and rehabilitation and health maintenance
- veterinary and large animal science, and
- information and communications technology.

The commission has worked with other government agencies and the sector to identify these key areas for investment.

Partnerships for Excellence – 2004/06 proposals

The Partnerships for Excellence initiative aims to build and support capability in public tertiary education institutions to develop comprehensive and sustainable linkages with industry. The initiative also helps encourage private investment in tertiary education research and development as funding provided by government is matched dollar for dollar by the private sector. Funding is provided for partnership projects that enable a clear advance in capability for the tertiary education institution and the sector as a whole.

In July 2005, Cabinet agreed in principle to fund six programmes identified through the third round of the Partnerships for Excellence initiative. The government has now approved capital funding of \$40 million over five years for the following programmes:

- Agriculture and Life Sciences Partnership (Massey University and Lincoln University)
- National Institute of Innovation in Information and Communications Technology (University of Canterbury)
- Institute of Technology TradeFIT (Christchurch Polytechnic Institute of Technology)
- Towards a Future-Focused New Zealand Equine Industry (Massey University)



Postscript

- National Institute for Health Innovation (University of Auckland), and
- Centre for Plastics Innovation and Technology (University of Auckland).

The fostering of linkages between tertiary education institutions and industry is expected to contribute to the goals of increasing the research and teaching capability in New Zealand's tertiary education system, and enhanced innovation, as well as supporting national and regional development goals.

WORKFORCE SKILLS AND LABOUR PRODUCTIVITY

Upskilling the workforce

The government committed funding of \$33.5 million over four years for initiatives to upskill the workforce as part of Budget 2006. The funding is for priorities that form part of a longer-term approach to increase the literacy, numeracy and language skills of the workforce at the low-skilled end. This approach is expected to make a contribution to lifting New Zealand's productivity.

The priority areas for action are:

- shifting workplace practices in key New Zealand industries, sectors and enterprises to help employers improve the literacy, numeracy and language skill levels of their employees and make better use of skills to lift productivity, profitability and pay
- developing ways of motivating and assisting individuals to take up and continue literacy, numeracy and language training, and
- developing the capability and quality of training providers and tutors and increasing the supply of effective and focused literacy, numeracy and language provision that meets the needs of the workplace and learner.

Expanding Gateway to all state secondary schools

In Budget 2006, the government committed additional funding of \$8.1 million over four years to extend Gateway opportunities to include all decile 7 to 10 state and integrated secondary schools. Once the roll-out is complete, Gateway will be available to approximately 400 schools and over 13,000 students.

Gateway integrates school-based learning with structured workplace learning for senior students (years 11 to 13). Students achieve credits in the workplace that are recognised on the

National Qualifications Framework. The Gateway programme builds links between schools and businesses and in 2005 was available in 176 decile 1 to 6 schools. This is around 70 percent of all decile 1 to 6 schools covering over 5,600 students. In 2006, Gateway will be available in 206 decile 1 to 6 state and integrated secondary schools. By 2008, Gateway will be available to all state and integrated secondary schools.

Building skills for life – expanding Modern Apprenticeships

Another government commitment in Budget 2006 was additional funding of \$34.4 million over four years to expand the number of Modern Apprenticeships to 14,000 by December 2008.

Modern Apprenticeships is a pathway for young people into vocational training and qualifications. Demand for Modern Apprenticeships among young people and interest among employers in Modern Apprenticeships remains high. A total of 1,679 Modern Apprentices were reported to have completed their qualification at December 2005.

The current funding provides for 11,000 Modern Apprenticeships to be achieved by December 2007. The extra provision will fund 3,000 additional Modern Apprenticeships by December 2008.

Funding industry training growth

Additional funding of \$15.6 million over four years was appropriated in Budget 2006 to increase participation in industry training. It is expected that this will assist the achievement of the government's participation target of 250,000 trainees in structured workplace learning.

Industry training provides employees with access to structured training arrangements, both on-job and off-job, linked to the Register of Quality Assured Qualifications. Industry training is delivered by way of a direct link to industry through industry training organisations.

Industry training provides a means of increasing skills in the New Zealand workforce. Systematic industry training enhances the productivity and flexibility of the workforce while improving the ability of individuals, firms and industries to compete in the international economy.

Volume growth in industry training will assist in entrenching a training culture within New Zealand's firms. Industry training raises the skill level, productivity, flexibility and efficiency of the New Zealand workforce. It also promotes and supports a

more skilled, dynamic and flexible workforce that is able to react quickly to changing industry needs.

Better tertiary education and trade training decisions

The government has committed \$12.7 million over four years to enable Career Services to put in place a 'one-stop-shop' to expand and enhance the existing Career Services website. The provision also aims to increase the availability of quality, personal advice to learners and their 'influencers'.

The website will expand and enhance training and course material, with an emphasis on improved trade training information, and include enhanced labour market information and linkages to tertiary and trade training.

In addition, Career Services will expand support and assistance through its freephone service to find, interpret and personalise information for users and provide face-to-face assistance for targeted individuals.

Improving access to information held by Career Services will help learners to make better assessments of the quality and relevance of the tertiary education courses and qualifications on offer.

2006 TERTIARY ENROLMENTS

Between January and August 2006, there were 437,000 students enrolled in study programmes at tertiary education providers. Forty-one thousand of these were international students. In addition, preliminary information indicates that the number of trainees engaged in industry-based training is likely to be higher in 2006, compared to 2005 when the number of trainees totalled 161,000.

Between January and August 2006, around 9,000 fewer people studied at tertiary education providers, compared to the same period in 2005. Before this fall in enrolments, participation in tertiary education had risen steadily over the past 10 years. Enrolments were 2 percent lower between January and August 2006, compared to the same period in 2005, and when this number is converted to equivalent full-time student units, the fall is slightly larger, at 3.5 percent. The equivalent full-time student unit count had also fallen slightly from 2004 to 2005. Enrolments of international students also fell in 2006 for the second consecutive year, following strong growth in recent years. Between January and August 2006, there were just over 4,000

fewer international student enrolments, down by 9.5 percent on the same period in 2005.

The latest available information shows that 222,000 students, or 51 percent, enrolled in government-funded tertiary education providers participated in certificate-level study, compared with 62,000, or 14 percent, in diploma study, 148,000, or 34 percent, in bachelors-level study, and 35,000, 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 45 percent. The decrease in the number of people studying from January to August 2006 was mainly at 1 to 3 certificate-level. Study at bachelors- and masters-level has also declined, while it increased for level 4 certificates, diplomas, doctoral study, honours degrees and postgraduate certificates.

Formal enrolments at universities decreased by 1.8 percent for the period January to August 2006, compared to the same period in 2005. Over the same period, enrolments fell at institutes of technology and polytechnics by 0.3 percent, at colleges of education by 1.6 percent and wānanga by 21 percent. The decrease in enrolments at wānanga was mainly in level 1 to 4 certificates while Wānanga enrolments also fell in bachelors-level study. In contrast, enrolments at private training establishments increased by 2.7 percent for the period from January to August 2006, compared to the same period in 2005.

Finding out more

Profile & Trends

NEW ZEALAND'S TERTIARY EDUCATION SECTOR

2005



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This chapter is to provide you with sources of 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: <http://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 that 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 that 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:

- providing resources for the delivery of education
- operating as a regulator by administering educational legislation
- 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: 04-463 8000 fax: 04-463 8001

The divisions that contribute to the Ministry of Education's activities in tertiary education are:

- Tertiary Education Learning Outcomes Policy
- Tertiary Education: Outcomes and Strategy
- Māori Tertiary Education
- Tertiary Information Systems and Sector Liaison
- Tertiary Sector Performance Analysis and Reporting
- Crown Entities Monitoring team
- Data Management and Analysis
- International Education Policy and Development

TERTIARY EDUCATION COMMISSION

Level 10
Vector Building
44 The Terrace
PO Box 27-048
Wellington
phone: 04-462 5200 fax: 04-462 5400
email: info@tec.govt.nz

NEW ZEALAND QUALIFICATIONS AUTHORITY

Level 13
125 The Terrace
PO Box 160
Wellington
phone: 04-802 3000 fax: 04-802 3112
email: helpdesk@nzqa.govt.nz

NEW ZEALAND TEACHERS' COUNCIL

Level 7
93 The Terrace
PO Box 5326
Wellington
phone: 04-471 0852 fax: 04-471 0870
email: inquiries@teacherscouncil.govt.nz



Finding out more

KEY TERTIARY EDUCATION AGENCIES

NEW ZEALAND CAREER SERVICES RAPUARA

Level 4
CMC Building
89 Courtenay Place
PO Box 9446
Te Aro
Wellington
phone: 04-801 5177 fax: 04-801 5161
email: careers@careers.govt.nz

CAREER INFORMATION RESOURCES UNIT

CareerPoint: 0800 222 733
phone: 04-801 5177 fax: 04-801 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: 04-499 4090 fax: 04-499 6224
<http://www.fis.org.nz/>

Links to New Zealand's universities can be found at
www.nzvcc.ac.nz

TERTIARY EDUCATION INSTITUTIONS

THE UNIVERSITY OF AUCKLAND

Private Bag 92019
Auckland 1142
NEW ZEALAND
phone: +64-9-373 7999
phone: +64-9-373 7599
<http://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 9860

Wellesley Campus

Main Reception
WA Building, Wellesley St.
freephone: 0800 288 864
phone: +64-9-921 9999
fax: +64-9-921 9860
<http://www.aut.ac.nz/>

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
<http://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
<http://www.massey.ac.nz/>

TERTIARY EDUCATION INSTITUTIONS

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
<http://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)
<http://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
<http://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
<http://www.otago.ac.nz/>

COLLEGES OF EDUCATION

In 1991, there were six colleges of education. They have progressively merged with their nearest universities with Christchurch and Dunedin Colleges of Education the only remaining colleges of education. They are well advanced with their plans to merge with the University of Canterbury and University of Otago, respectively and they plan to complete their mergers in time for the 2007 academic year.

TERTIARY EDUCATION INSTITUTIONS

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
 - Unitec New Zealand
 - Universal College of Learning
 - Waiariki Institute of Technology
 - Waikato Institute of Technology
 - Wellington Institute of Technology
 - Western Institute of Technology at Taranaki
 - Whanganui Universal College of Learning
 - Whitiāreia Community Polytechnic
-

WĀNANGA

Links to these organisations can be found at
<http://www.tauihu-wananga.maori.nz/>

- Te Wānanga o Aotearoa
- Te Whare Wānanga o Awanuiārangī
- Te Wānanga-o-Raukawa



Finding out more

INDUSTRY TRAINING ORGANISATIONS

Links to these organisations can be found at www.itf.org.nz

As at 31 August 2006:

- Agriculture Industry Training Organisation
- Apparel and Textile Industry Training Organisation
- Aviation, Tourism and Travel Industry Training Organisation
- Boating Industries Association of NZ
- Building and Construction Industry Training Organisation
- Building Services Contractors of NZ
- Community Support Services Industry Training Organisation
- Competenz Industry Training Organisation – engineering, food and manufacturing
- Electricity Supply Industry Training Organisation
- Electrotechnology Industry Training Organisation
- Fire and Rescue Services Industry Training Organisation
- Forest Industries Training and Education Council
- Funeral Service Training Trust of NZ
- Hospitality Standards Institute
- InfraTrain NZ
- Joinery Industry Training Organisation
- Plumbing, Gasfitting & Drainlaying NZ
- NZ Road and Transport Logistics Training Organisation
- NZ Equine Industry Training Organisation
- NZ Extractive Industries Training Organisation
- NZ Flooring Industry Training Organisation
- NZ Furniture Industry Training Organisation
- NZ Hairdressing Industry Training Organisation
- NZ Horticulture Industry Training Organisation
- NZ Industry Training Organisation
- NZ Journalists' Training Organisation
- NZ Local Government Association
- NZ Motor Industry Training Organisation
- NZ Painting Industry Training Organisation
- NZ Retail Meat Industry Training Organisation
- NZ Seafood Industry Council
- NZ Sports Turf Industry Training Organisation
- Opportunity – the Training Organisation
- Pharmacy Industry Training Organisation

INDUSTRY TRAINING ORGANISATIONS

- Plastics and Materials Processing Industry Training Organisation
- Print NZ Industry Training Organisation
- Public Sector Training Organisation
- Real Estate Institute of NZ
- Retail Training NZ
- Sport, Fitness and Recreation Industry Training Organisation
- Te Kaiawhina Ahumahi (Social Services) Industry Training Organisation

SECTOR REPRESENTATIVE GROUPS

AOTEAROA MĀORI PROVIDERS OF TRAINING EDUCATION AND EMPLOYMENT

Level 1
274 Taranaki Street
PO Box 2796
Wellington
phone: 04-495 7660 fax: 04-495 7665
email: teatahou@xtra.co.nz

ASSOCIATION OF PRIVATE PROVIDERS OF ENGLISH LANGUAGE

Stewart Dawson Building
Cnr Willis St & Lambton Quay
PO Box 24-194
Wellington
phone: 0508 4 APPEL (427735) fax: 04-499 8156
email: secretary@appel.org.nz

ASSOCIATION OF TERTIARY EDUCATION MANAGERS

ATEM New Zealand Branch
PO Box 20-097
Christchurch
phone: 03-359 3465 fax: 03-359 3450
email: atem-nz@xtra.co.nz

SECTOR REPRESENTATIVE GROUPS

INDEPENDENT TERTIARY INSTITUTIONS

Stewart Dawson Building
Cnr Willis St & Lambton Quay
PO Box 24-194
Wellington
phone: 04-499 8159
email: dave@ed.co.nz

INDUSTRY TRAINING FEDERATION

Level 2
Stewart Dawson Building
Cnr Willis St & Lambton Quay
PO Box 24-194
Wellington
phone: 04-499 8155 fax: 04-499 8156
email: toni@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: 04-471 1162 fax: 04-473 2350
email: paulinew@itpnz.ac.nz

NEW ZEALAND ASSOCIATION OF PRIVATE EDUCATION PROVIDERS

Level 5, Compudigm House
49 Boulcott St
PO Box 6411
Wellington
phone: 04-471 2460 fax: 0800 NZAPEP (692 737)
email: exec@nzapep.co.nz

NEW ZEALAND UNIVERSITIES ACADEMIC AUDIT UNIT

Level 3
Education House
178 Willis St
PO Box 9747
Wellington 6141
phone: 04-801 7924 fax: 04-801 7926
email: director@aau.ac.nz

SECTOR REPRESENTATIVE GROUPS

NEW ZEALAND VICE-CHANCELLORS' COMMITTEE

Level 11, Xacta Tower
94 Dixon Street
PO Box 11-915
Wellington 6142
phone: 04-381 8500 fax: 04-381 8501
email: jackie@nzvcc.ac.nz

PACIFIC ISLANDS TERTIARY EDUCATION PROVIDERS OF NEW ZEALAND INC

c/- PO Box 15-809
New Lynn
Auckland
phone: 09-825 0136 fax: 09-825 0141

TE TAU IHU O NGĀ WĀNANGA – THE NATIONAL ASSOCIATION OF WĀNANGA

PO Box 119
Otaki
phone: 04-233 9343 fax: 04-233 0994
email: info@tauihu-wananga-maori.nz

STUDENTS' ASSOCIATIONS

NEW ZEALAND UNION OF STUDENTS ASSOCIATION

Level 3
354 Lambton Quay
PO Box 10-191
Wellington
phone: 04-498 2500 fax: 04-473 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: 04-498 2506 fax: 04-473 2391
email: tma.kaituhono@xtra.co.nz



Finding out more

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.

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 <http://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, at NQF levels 5 and above.
- Second stage of tertiary education (ISCED 6) – programmes leading to an advanced research qualification. In the New Zealand tertiary education system, only PhD 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



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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 4. 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. Levels 8 to 10 are for 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 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 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 (defined on page 243) 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
- bachelor 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 2005.

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.



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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 ISCED 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 bachelor degrees, graduate certificates and diplomas and all postgraduate-level qualifications, except doctorates. (See also the ISCED Level definition on page 244)

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 on page 244)

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
AMPTTEE	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 Co-operation 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



Finding out more

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 2005* 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 2005, 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 243-247 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 2005* is also released on the Ministry of Education's website in a set of analytical tables:

<http://educationcounts.edcentre.govt.nz/statistics/tertiary/index.html>. 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 that 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, a number of 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 2005 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 2005 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 completing a qualification in any one year, 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). The qualification completion rate by level relates to the proportion of students who complete a qualification at the same level as the one on which they started.

Note: Completion rates for groups with fewer than 30 students are not reported.

Reliability of estimates

This report includes information from the Household Labour Force and the New Zealand Income Surveys 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.



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Research top-ups funding

The funding for research top-ups and foreign-based research is an estimate only. The top-ups funding is calculated by multiplying the number of government-funded equivalent full-time students at degree level and above by the margin between the non-degree funding rate and the various funding rates for bachelors degrees, postgraduate-taught and postgraduate-research. The funding for foreign postgraduate research-based students is calculated by multiplying the number of government-funded equivalent full-time students by the rate at which they are funded.

Retention

The five-year retention rate is defined as the percentage of learners starting a qualification in one year who have completed it or who are still enrolled five years later.

Note: Retention rates for groups with fewer than 30 students are not reported.

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
 - a programme of study 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 identify accurately where the counts overlap. In Table 5.1 an estimate has been made of the total number of students adjusting for these overlaps.

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 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.

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www.educationcounts.edcentre.govt.nz

Association of Private Providers of English Language

www.appel.org.nz

Association of Tertiary Education Managers

www.atem.org.au

Career Services rapuara

www.careers.govt.nz

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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
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Ministry of Education

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www.steo.govt.nz

(Services for Tertiary Education Organisations)

www.minedu.govt.nz/goto/crens

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Tertiary Education Commission

www.tec.govt.nz

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