

Implementation of the Reforms

The TES is part of the tertiary education reforms aimed at creating a more coherent and collaborative tertiary education system. The reforms are aimed at ensuring that the system is better aligned to the nation's goals and is actively identifying and meeting the needs of the communities it serves.

Shift in focus of reforms from new infrastructure to quality and relevance

The initial focus in the reforms was on developing new processes and infrastructure, and in particular, the establishment of the TEC. This was followed by the implementation of new planning and accountability arrangements, which are now in place for all government-funded TEOs.

Allied to these changes was the development and implementation of funding mechanisms to reward quality and excellence in research and education. A new funding mechanism for research is being implemented - the PBRF. The second round of PBRF quality evaluations will be conducted in 2006. In the area of funding for tuition, there has been considerable work put into design of a performance element in the Student Component funding framework. However, the Minister of Tertiary Education has asked for a more comprehensive review of funding for teaching and learning with a focus on rewarding quality and relevance.

The period 2002 to 2004 has been characterised by significant growth in areas where government considers provision could be of low quality and/or low relevance. This has included adult and community courses provided by TEIs, short courses (such as first-aid certificates) and qualifications at levels 1 and 2. A number of reviews have been conducted of provision in these areas. Funding rules have been tightened for provision of short courses and adult and community education through TEIs, with savings being reinvested to provide higher-quality and higher-relevance courses.

In 2005, the government issued a new STEP. This document signalled a greater shift in focus towards quality and relevance, with less emphasis on increasing participation.

Capability of government agencies reviewed

In 2005, the State Services Commission led a review of the Ministry of Education, the TEC and the New Zealand Qualifications Authority (NZQA). The reviewers were asked by government to "form a judgement and recommend further work on the machinery of government and governance arrangements for the three agencies for the years to come, in order to restore/build confidence in the sector"².

The review provided a number of recommendations covering strategic alignment of the agencies, development of a sector leadership group of Ministers, Chief Executive Officers and the TEC and NZQA Board Chairs, consistent and effective relationship management, capability assessment and development, role clarity and more effective monitoring and negotiation of profiles. The review recommended that at this time there be no major structural changes.

Since the review, the three agencies have been working together on a strategic work programme, led by the chief executives and chairs, to address the issues raised in the review.

Future direction set by Minister

In April 2006, the Minister for Tertiary Education announced significant changes proposed to the tertiary education system to better link tertiary education to economic transformation. The changes cover:

- further defining and applying the distinctive contributions of tertiary organisations and ensuring different parts of the sector work together in more complementary ways
- designing an alternative to the current demand-driven Student Component funding system. The new system will invest in organisations based on multi-year plans agreed with government. These plans will build on existing profiles, but will be more detailed so that government can be assured that its investment is channelled into the highest priority areas
- developing a better quality assurance and monitoring system that focuses on outcomes and assesses the quality of teaching and learning.

The new arrangements will be in place for 2008.

Cross-strategy indicators

This section provides a set of cross-strategy indicators which provide information on the overall state of tertiary education in New Zealand to 2005.

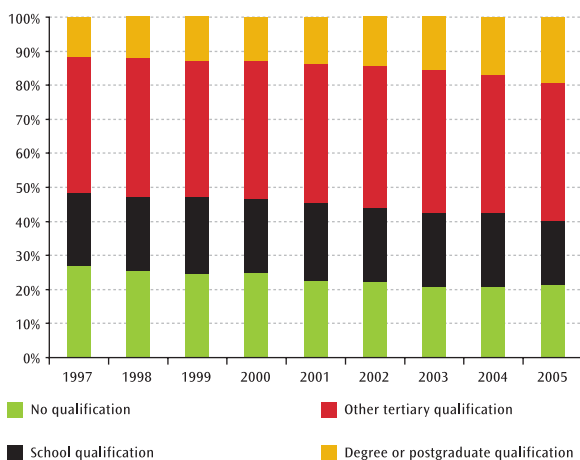
These indicators provide contextual information on the state of the tertiary education system, against which broader changes resulting from the TES can be monitored. Changes in these indicators also provide an alert to possible unintended consequences (positive and negative) of the changes implemented under the TES.

Educational Attainment in the Adult Population

Continued growth in proportion of adult population with tertiary qualifications

The proportion of the population aged 25 to 64³ with a tertiary qualification has continued to increase, from 52 percent in 1997 to 56 percent in 2002, and to 60 percent in 2005.

Figure 6: Distribution of the population aged 25 – 64 years by highest qualification 1997 – 2005



Source: Statistics New Zealand, Household Labour Force Survey

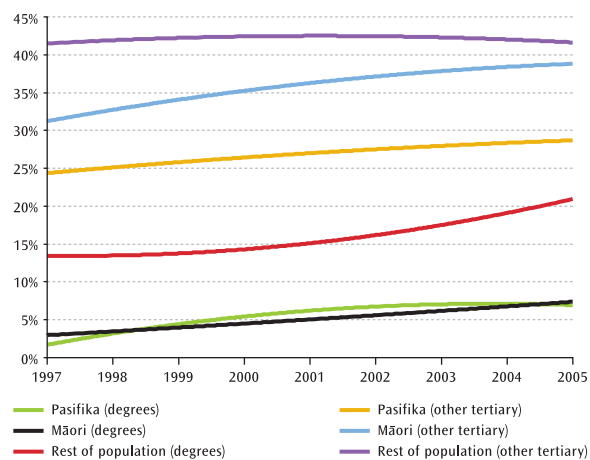
The main growth in highest qualifications in the last three years has been in degree and postgraduate qualifications⁴. The proportion of the population with degree and postgraduate qualifications as their highest qualification has increased from 12 percent in 1997 to 14 percent in 2002, and to 19 percent in 2005.

Persistent differences between ethnic groups

For Māori, the main growth in qualifications continues to be below degree level. This is consistent with their participation in tertiary education. In 2005, the proportion of the Māori population with a highest qualification below degree level was approaching the proportion for the rest of the population.

Growth in the proportion of Māori with a bachelors or higher degree as their highest qualification has levelled off, while the proportion of the rest of the population with these qualifications has continued to increase.

Figure 7: Estimated percentage of population aged 25 – 64 with a degree or other tertiary qualification as highest qualification 1997 – 2005



Source: Statistics New Zealand, Household Labour Force Survey

Notes:

1. Survey data has been used to estimate a regression line for each population.
2. Degree includes bachelors and postgraduate qualifications.
3. Other tertiary qualification refers to qualifications below bachelors level.
4. Rest of the population refers to those who are neither Māori nor Pasifika.

The growth in qualifications attained by Pasifika peoples has been much lower. This reflects the lower historical completion rates of Pasifika students, as well as lower participation rates. The proportion of Pasifika peoples with a highest qualification below degree level remains just over half of the proportion for the rest of the population. There has been steady growth in the proportion with degrees, but it is still substantially lower than that of the rest of the population.



3 This age group represents people who are likely to have finished their initial education and to be active in the labour force. It aligns with Organisation for Economic Co-operation and Development (OECD) indicators.

4 These figures are based on highest qualifications, so they do not count the number of other tertiary qualifications held in addition to degrees and postgraduate qualifications and, therefore, undercount the number of qualifications below degree level.

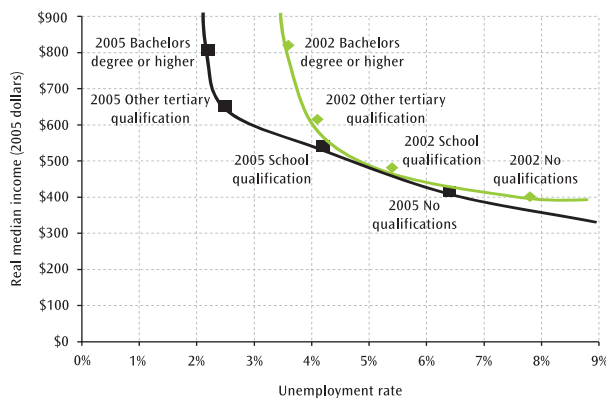
Outcomes of Tertiary Education

Improving labour market benefiting people with school and sub-degree qualifications

The recent improvements in the labour market have resulted in reduced unemployment levels for everyone. However, those who have had the greatest income increase are those with school qualifications only and tertiary qualifications below degree level. This reflects increased demand for low to middle skilled workers. It also reflects the resilience of people with higher qualifications as the economic cycles fluctuate.

The graph below shows the relationship between increasing levels of qualifications and income and unemployment. The general pattern shown is that gaining school or low-level tertiary qualifications results in significantly improved chances of employment and moderate gains in income. Gaining higher-level tertiary qualifications results in greater income, but not such high gains in terms of employment. The change from 2002 to 2005 has been in increased gains in both income and employment for those with qualifications below degree level, while those with degree-level qualifications or above have gained mostly in employment prospects.

Figure 8: Comparison of real median income (2005 dollars) with unemployment rate by level of highest qualification 2002 and 2005

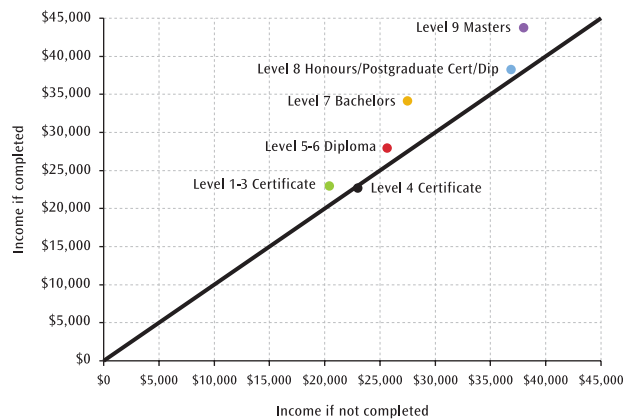


Source: Statistics New Zealand, Household Labour Force Survey and New Zealand Income Survey

A completed qualification is worth more than a partial qualification, but in some cases a higher-level qualification can be better

Information from the Student Loans Integrated Dataset shows the distinct economic advantages to the completion of qualifications three years out from the end of study. These advantages are particularly marked for bachelors and masters degrees.

Figure 9: Comparison of average incomes in 2002 for those who last studied in 1999, by completed or non-completed qualifications



Source: Statistics New Zealand, Student Loans Integrated Dataset

This graph compares the average incomes of people with a completed qualification with the average incomes of people with an uncompleted qualification. The height of the point above the diagonal line represents the additional income gained by completing a qualification.

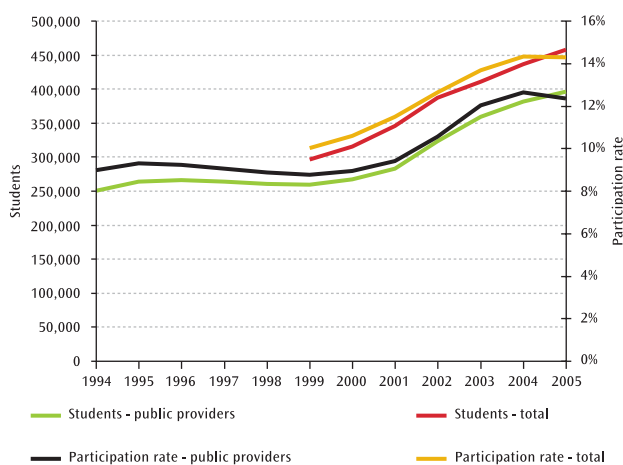
However, this analysis also shows that at certain levels, having an incomplete higher-level qualification has more economic advantage than a completed lower-level qualification. For example, the average income for people with incomplete diplomas is higher than that for people with completed certificates. There is a similar effect for an incomplete honours or masters degree compared with a completed bachelors degree.

Participation in Tertiary Education

Continuing increase in participation in tertiary education

From 2002 to 2005, the number of students in formal tertiary education increased from 386,000 to 457,000, an increase of 18 percent. The proportion of the population aged 15 and over participating in formal tertiary education reached 14 percent in 2004 and remained the same in 2005. Universities and ITPs have been informally reporting decreased enrolments in the early part of 2006.

Figure 10: Formal domestic students and participation rates 1994 – 2005

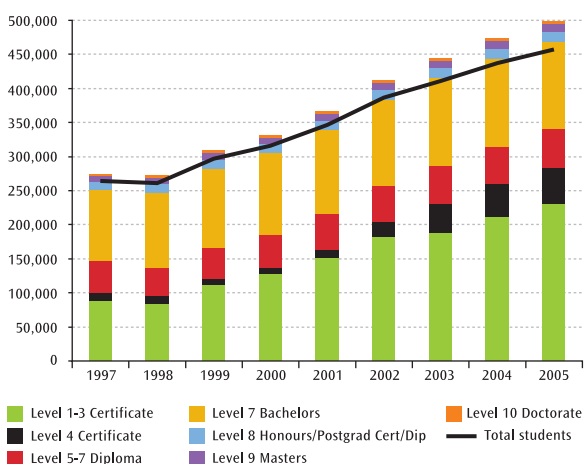


Note: Participation rates have not been adjusted for changes in age structure of the population over time.

Main growth still at certificate level

The main increase in enrolments to 2005 has been at certificate level, as it has been in previous years. The strongest growth was in level 4 certificates, followed by level 1 to 3 certificates. Numbers at degree level have declined in 2005, particularly in ITPs. Overall numbers at postgraduate level continue to increase.

Figure 11: Formal domestic students by qualification level 1997 – 2005



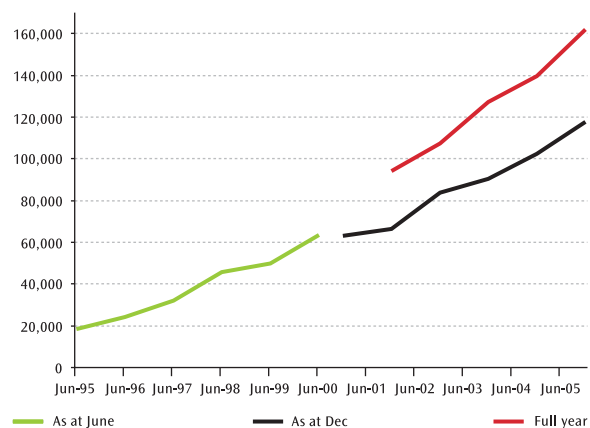
Continued growth in industry training

The number of people participating in industry training has continued to increase, with 161,000 people participating over the full year of 2005. This exceeded the government target of 150,000 by the end of 2005 and is an increase of 51 percent from 2002.

In 2005, there were:

- 31,528 employers participating in industry training, an increase of 28 percent from 2002
- 23,876 national certificates completed by trainees, an increase of 144 percent from 2002
- 8,388 Modern Apprentices as at 31 December 2005, an increase of 93 percent from 2002. They were employed across 5,586 employers.

Figure 12: Trainees in industry training 1995 – 2005



Source: Tertiary Education Commission

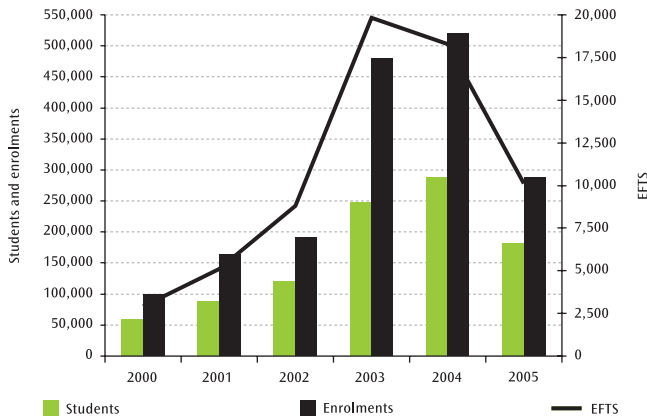
Growth of community education and short courses

One of the concerning trends for government has been the rapid growth of community education and short course provision, particularly in ITPs. This has come about partly as a move to innovative and new approaches to meeting demand for tertiary education and partly as an opportunistic approach to increasing funding and covering shortfalls in other areas of provision. Much of the provision is not well linked to national and regional educational priorities, and has also been of questionable quality.

Student numbers and enrolments in community education grew rapidly in 2003 and peaked in 2004. In 2005, there was a significant decline in terms of both numbers and equivalent full-time students (EFTS), as ITPs reviewed their provision.

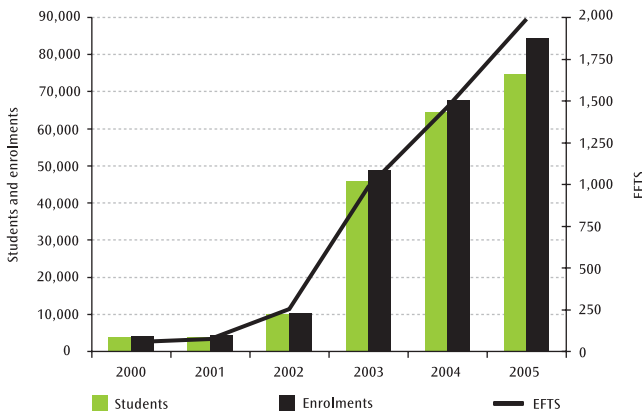


Figure 13: Domestic students, enrolments and EFTS in community education in TEIs 2000 – 2005



There was also rapid growth in the number of students taking short courses through ITPs. Most of this provision has been in first-aid courses. Provision of this type continued to increase in 2005. A number of measures have been put in place to restrict TEI activity in these areas from 2006 onwards.

Figure 14: Domestic students, enrolments and EFTS in stand-alone courses of less than one week equivalent duration 2000 – 2005



Note: This includes all stand-alone courses with an EFTS value of less than 0.035 and excludes community education courses.

Retention and Progression

This year, we have introduced two specific indicators of retention and progression.

One is **first-year attrition rates**, which is the proportion of first-year students in a given year who did not complete a qualification during that year and did not return to study the following year. The largest proportion of students who study without

completing a qualification drop out of study in their first year. This makes first-year attrition rates a good predictive indicator of future retention and completion rates. It can also reflect the success or otherwise of student support services.

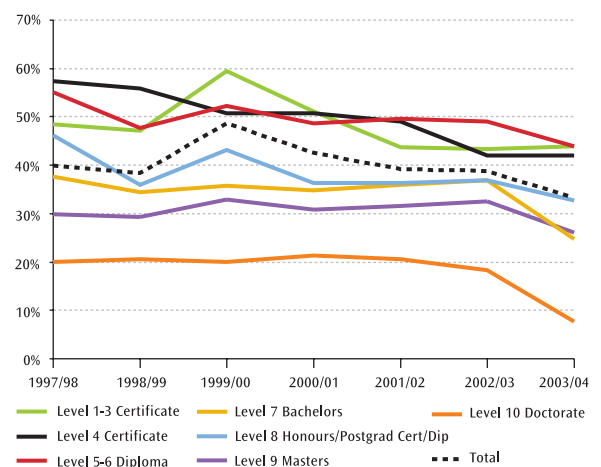
The other is **direct higher-level progression**, which is the proportion of students completing a qualification in a given year who went on to further study at a higher level in the following year. This provides an indicator of the success of qualifications in providing a pathway through the tertiary education system.

We have chosen to use these two indicators throughout the report as they are sensitive to year-to-year changes. However, they do not give the full picture over time. In particular, the patterns for progression are quite different when observed over four to five years following completion, that is, after taking into account gap periods. More complete information on retention, completion and progression is presented in the annual Profile and Trends and other reports produced by the Ministry of Education.

Improving retention following first year of study at degree level and above

Over the last three years there has been an overall reduction in first-year attrition rates. The reductions are particularly noticeable at degree and postgraduate levels. First-year attrition rates below degree level remain more static.

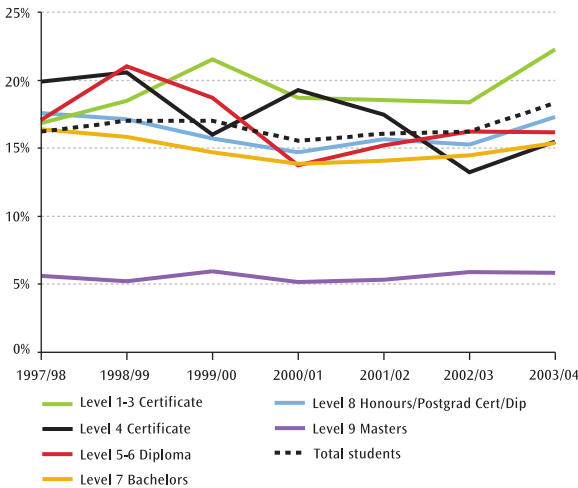
Figure 15: First-year attrition rates by qualification level 1997/98 – 2003/04



Progression to higher-level study increasing

Rates of direct higher progression have been fairly steady since 1997. Over the last two to three years, there has been some increase in progression from level 1 to 4 certificates and bachelors and honours degrees.

Figure 16: Direct higher-level progression rates by level of qualification completed 1997/98–2003/04



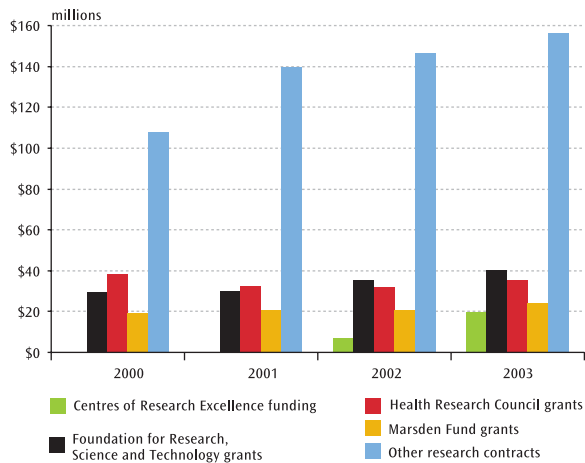
Research within the Tertiary Education Sector

Research contract income growing

An indicator of the overall relevance, quality and reputation of research in the tertiary sector is the amount of funding from research contracts. The total funding for university research contracts has continued to increase, with funding totalling \$276 million in 2004, an increase of 15 percent on 2002.

The indicator below looks at research contract income by source. It shows that the main growth in contract income for universities has come from contracts other than those funded out of Centres for Research Excellence and the government’s contestable research funds. This trend demonstrates that universities are producing research of recognised quality, which stands the test of competitive bidding and is relevant to a range of private and public funders.

Figure 17: University research contract income by source 2000–2003



Source: Tertiary Education Commission, annual reports of universities, Royal Society of NZ, Foundation for Research, Science and Technology and Health Research Council

Step increase in spin-out companies resulting from university R&D

Research commissioned by the Foundation for Research, Science and Technology⁵ found that there has been a step change in the rate of spin-out company formation by universities, as well as Crown Research Institutes (CRIs), since 2000. A total of 29 university spin-out companies were formed in the period 2001 to 2005, compared with 10 in the period 1995 to 2000. These companies have been set up to realise the commercial benefits from research and development (R&D) projects. The report identifies a range of funding and policy shifts that has created a more favourable environment for commercialisation of R&D since 2000.

Building the research infrastructure

The government is supporting the development of a super-high-speed internet link between universities and research organisations in New Zealand and overseas. The link, which will be known as the Advanced Network for Research and Education, will enable much greater collaboration between researchers and the multiplication of computing power through the linking of computers across New Zealand and around the world. It will support participation in cutting edge research, development and education in areas such as biotechnology, eLearning, health and creative media, including film.



5 New Zealand Institute of Economic Research, *Measurement of Spin-outs from Foundation-funded Research*, report to the Foundation for Research, Science and Technology, 2005.

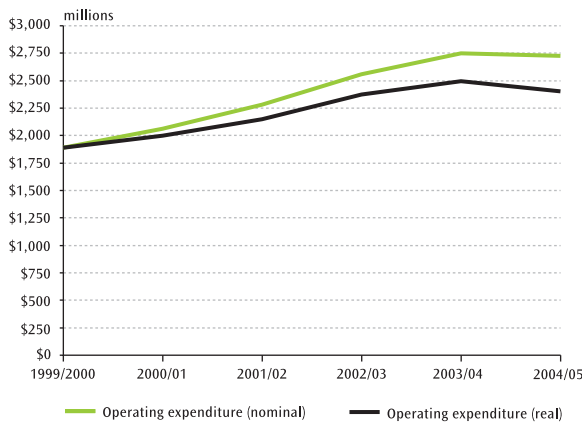
A consortium of seven New Zealand universities and three CRIs, with initial support from the government, are a funding partner in the Australian Synchrotron project. The synchrotron is a multi-functional, multi-user large science facility that uses very high-energy electrons to create very bright, pinpoint beams of light. These beams of synchrotron light have become essential tools for science and industry for investigating the molecular structure of things and are critical for cutting edge research in areas such as drug discovery, analysis of advanced materials and bio-medical imaging. Investing in the development of the project will ensure access to the facilities for New Zealand scientists.

Affordability of Tertiary Education

Affordability to government

In 2004/05, the government spent \$2,721 million on tertiary education, down by 0.9 percent on the 2003/04 actual spending of \$2,745 million. In addition, the government provided \$979 million in capital contributions in 2004/05⁶, bringing the total budget for that year to \$3,700 million.

Figure 18: Total government operating spending on tertiary education in the year to 30 June 1999/00 – 2004/05



Note: Capital contributions are excluded.

The biggest share of total government expenditure continues to be on tuition subsidies, which accounted for 47 percent of the total budget in 2003/04.

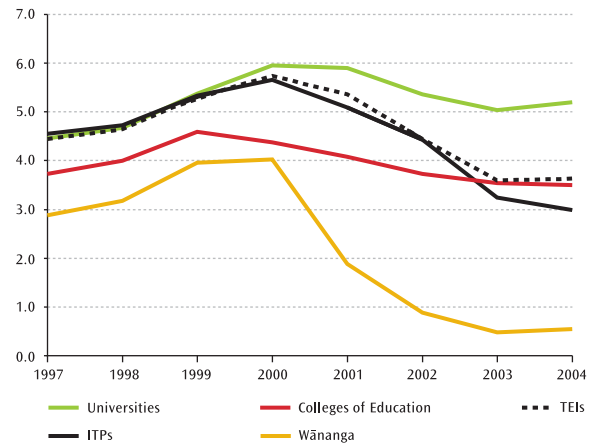
Employer contributions to industry training

Industries contributed at least \$53.6 million in 2005 to the costs of industry training, up from \$38.2 million in 2002. Industry contributions made up around 30 percent of accounted costs. Government invested an estimated \$127.6 million in 2005, up from \$90.6 million in 2002.

Affordability to students

The graph below shows the ratio of the average fee for a domestic student at a TEI to the average weekly wage over the period 1997 to 2004. In effect, this ratio calculates, for someone with average income, how many weeks of gross earnings it would take to cover the average fee charged by a TEI.

Figure 19: Ratio of average domestic student fees at public providers to average weekly income 1997 – 2004



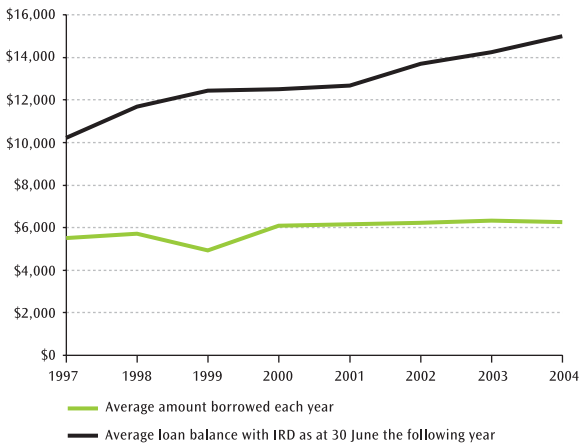
Sources: Ministry of Education and Statistics New Zealand, New Zealand Income Survey

Fees peaked in real terms in 2000, and have since declined significantly as a result of fee stabilisation policies. In 2004, universities had the highest average fees, followed by colleges of education. The average fee at wānanga remained very low. This is due to the large number of enrolments in zero-fee courses in this sub-sector.

The average amount borrowed under the Student Loan Scheme in 2004 was \$6,258, down slightly on 2003. This figure includes borrowing for study in PTEs as well as in TEIs. Average loan balances have grown since 2002. This growth reflects the development of the loan scheme, with more people borrowing over a longer period of time, rather than increases in the cost of tertiary education.

6 The majority, but not all, of this allocation is for student loans.

Figure 20: Average amount of student loans borrowed each year and average loan balance as at 30 June the following year 1997 – 2004



Sources: Inland Revenue and Ministry of Social Development

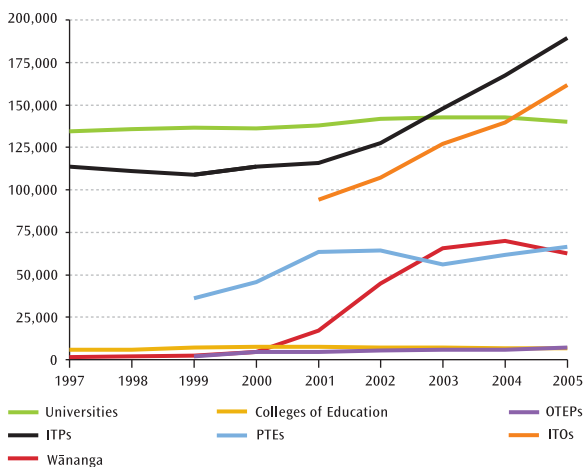
Tertiary Education Organisations

Growing provision in ITPs and ITOs

Since 2002 the major growth in student numbers (in formal education) has been in ITPs and ITOs.

In 2005, the ITP sub-sector had the largest number of students, followed by ITOs and then universities.

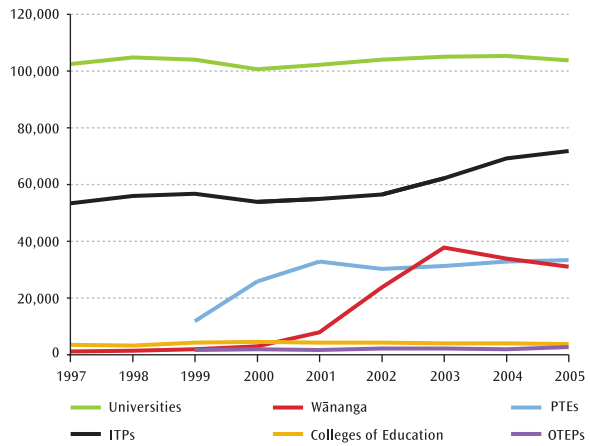
Figure 21: Formal students in tertiary education by sub-sector 1997 – 2005



Note: Includes international students. ITO off-job trainees have been excluded from the counts in the sub-sector providing those courses.

In terms of equivalent full-time students (EFTS), universities remain the largest sub-sector, reflecting the greater amount of full-time/full-year study. ITPs are the second largest, followed by PTEs and wānanga.

Figure 22: Equivalent full-time students by sub-sector 1997 – 2005



Note: International students and ITO off-job training are included in sub-sector totals.

Two other significant changes during the period of the strategy have been:

1. the proposed merging of the two remaining colleges of education, Dunedin and Christchurch, with universities. These mergers have been recommended by their respective councils and are subject to public consultation.
2. the reduction in the number of ITOs from 46 in 2002 to 41 in 2006 through mergers.

