



CHAPTER SIXTEEN

FUNDING OF TERTIARY EDUCATION // 190-203

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AN OVERVIEW

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

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

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

THE 2007 YEAR

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

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

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

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

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

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

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

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

GOVERNMENT EXPENDITURE ON TERTIARY EDUCATION²

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

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

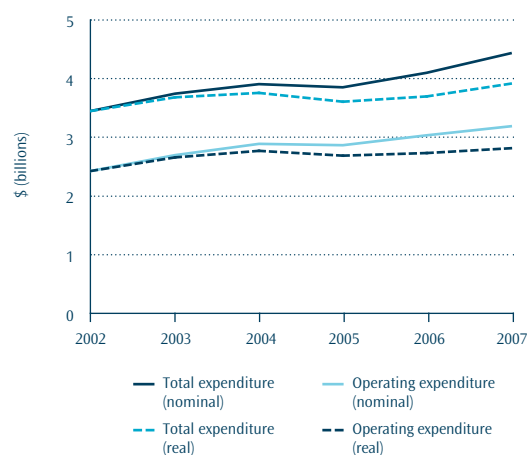
	% change from 2002	
	Nominal	Inflation adjusted
Total expenditure \$4.4 billion	30%	15%
Operating expenditure \$3.2 billion	33%	17%

Notes:

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

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

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



EXPENDITURE AS A PERCENTAGE OF GDP

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

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

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

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

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

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



EXPENDITURE BY COMPONENT

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

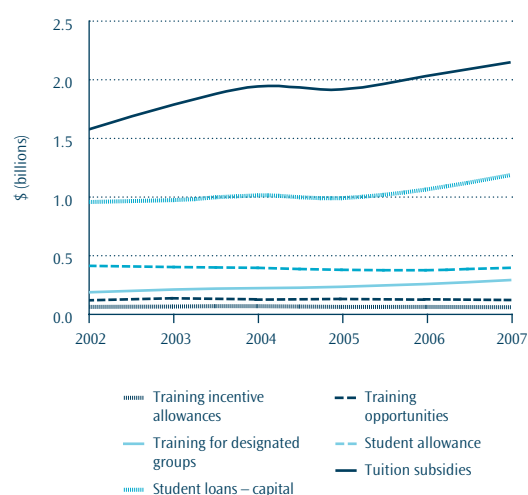
Government spending on tuition subsidies, the largest expenditure on tertiary education, increased again in 2006/07 and was substantially above the 2001/02 level. Spending on student loans increased again in 2006/07, following a period of relative stability between 2001/02 and 2004/05. Spending on student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

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

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

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

Source: Ministry of Education and Ministry of Social Development.



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

GOVERNMENT-FUNDED PLACES

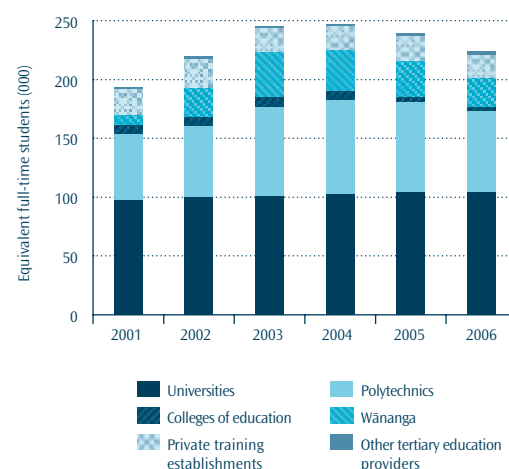
The number of government-funded student places continued to fall in 2006, especially in polytechnics and wānanga.

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

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

Source: Ministry of Education and Tertiary Education Commission.

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



TUITION SUBSIDIES

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

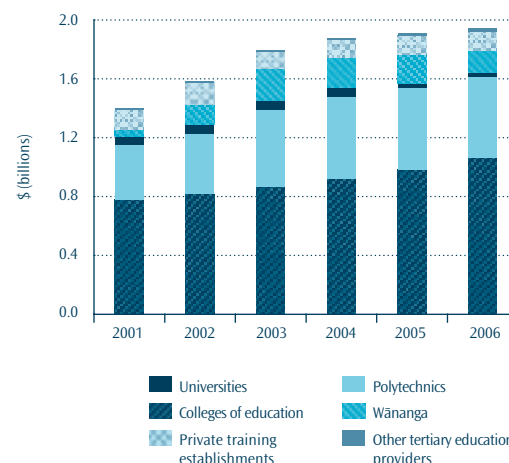
Tuition subsidies by sub-sector in 2006:

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

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

Source: Ministry of Education and Tertiary Education Commission.

Figure 16.5// Tuition subsidies by sub-sector



AVERAGE TUITION SUBSIDY

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

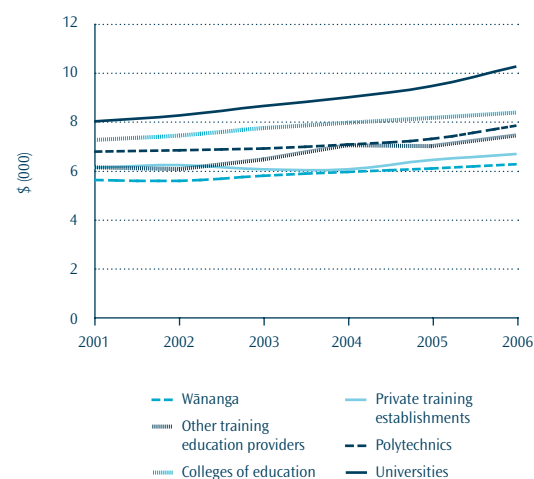
Average tuition subsidies per equivalent full-time student in 2006:

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

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

Source: Ministry of Education and Tertiary Education Commission.

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



GOVERNMENT-FUNDED PLACES BY CATEGORY

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

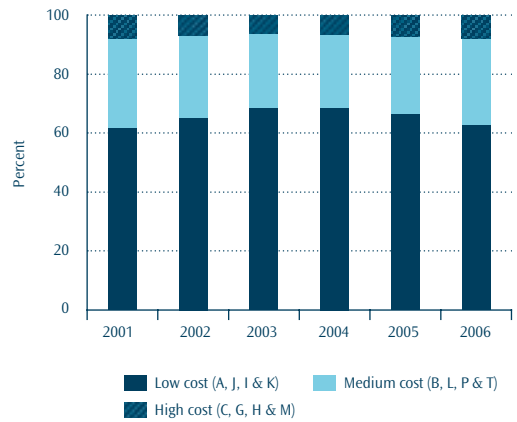
The proportion of government-funded places in low-cost categories in tertiary education institutions continued to fall in 2006.

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

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

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

Source: Ministry of Education and Tertiary Education Commission.



GOVERNMENT-FUNDED PLACES BY LEVEL

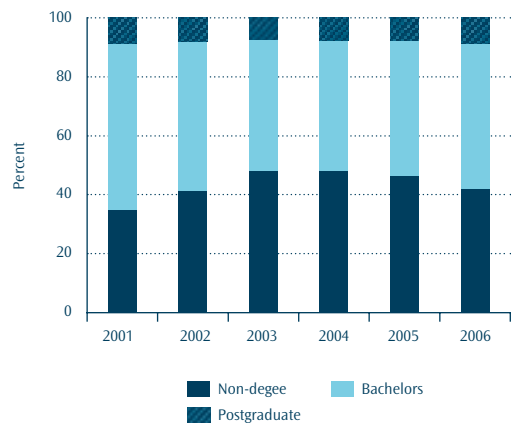
Figure 16.8// Government-funded places in tertiary education institutions by level

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

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

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

Source: Ministry of Education and Tertiary Education Commission.



AVERAGE DOMESTIC FEES

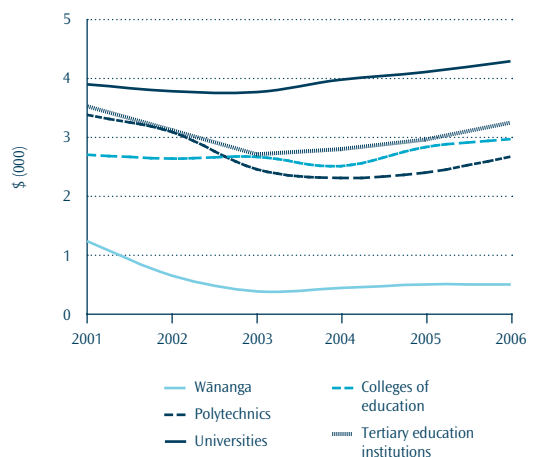
Figure 16.9// Average domestic tuition fees in tertiary education institutions

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

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

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

Source: Ministry of Education and Tertiary Education Commission.



AFFORDABILITY OF TERTIARY EDUCATION

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

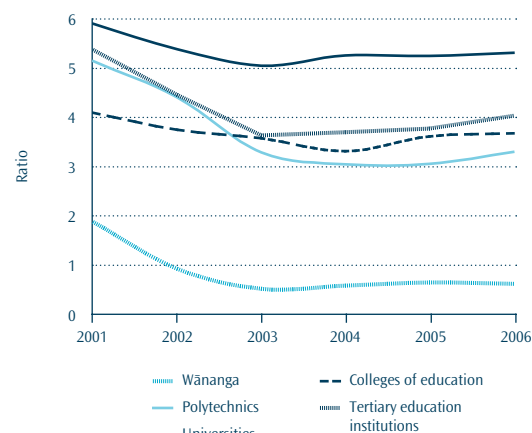
Overall, the affordability of tertiary education deteriorated slightly, with the average domestic fee increasing in tertiary education institutions. The affordability of polytechnic fees deteriorated the most in 2006. An increase in the proportion of enrolments in higher-cost courses in polytechnics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

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

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

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

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



INTERNATIONAL FEE REVENUE

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

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

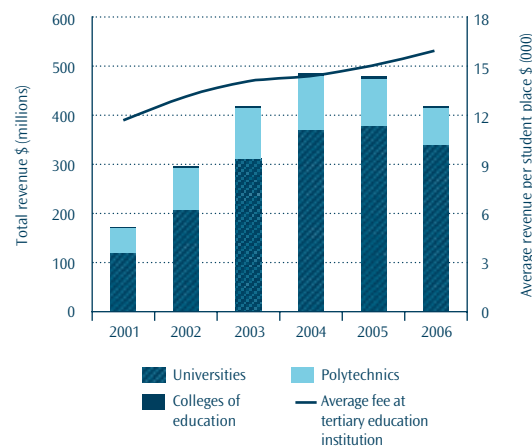
International tuition fee revenues in 2006:

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

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

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



COMBINED TUITION REVENUE

Figure 16.12// Combined tuition revenue in tertiary education institutions

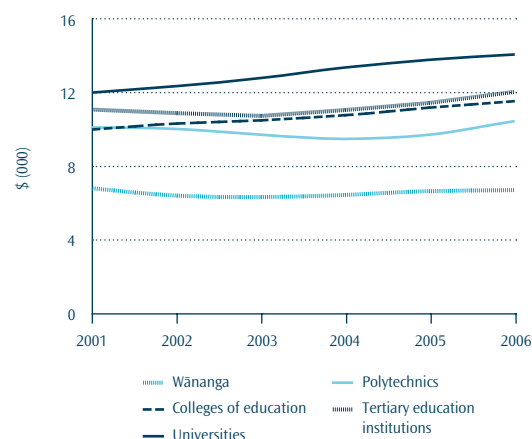
The average tuition funding per student increased for all sub-sectors in 2006, with the largest increase being in the polytechnics.

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

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

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

Source: Ministry of Education and Tertiary Education Commission.

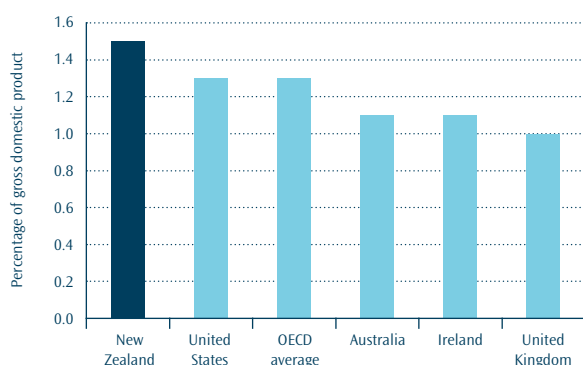


INTERNATIONAL FUNDING COMPARISONS

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

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

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



Source: OECD (2007), *Education at a glance: 2007 OECD indicators*, Table B4.1.

Note: Government spending includes direct public expenditure on tertiary institutions plus public subsidies to households (including those for living costs).

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

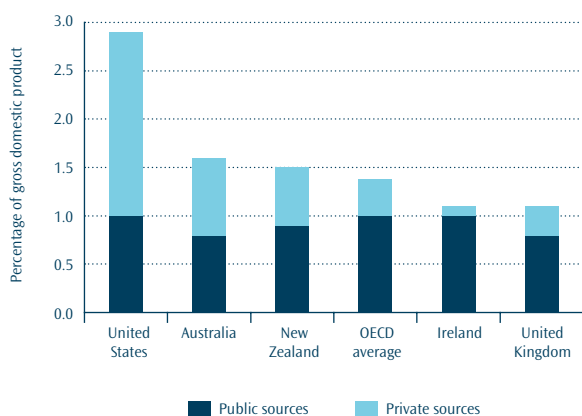
In all OECD international comparisons, tertiary education is defined according to the International Standard Classification of Education level. The levels of tertiary education include levels 5A (bachelors, honours, masters, postgraduate certificates and diplomas), 5B (diplomas and national diplomas)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

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

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

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

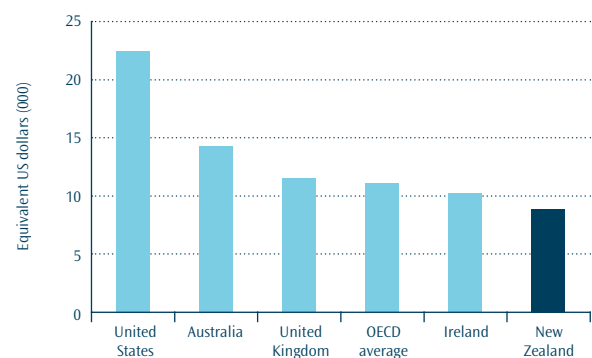
Figure 16.14 // Expenditure on educational institutions in 2004 for selected OECD countries



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

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

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



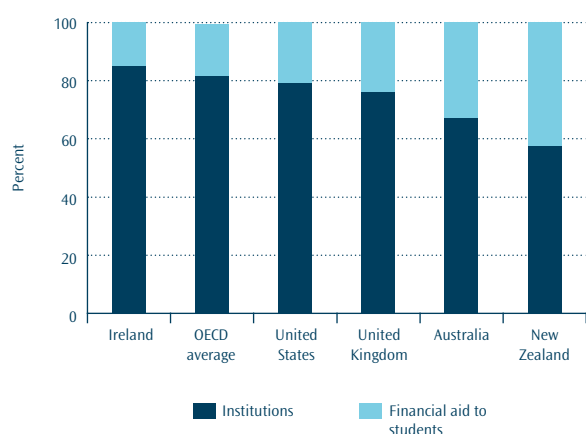
Source: OECD (2007), *Education at a glance: 2007 OECD indicators*, Table B1.1a.

Notes:

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

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

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

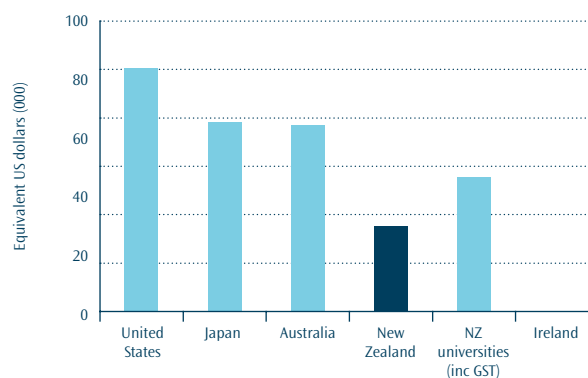


Source: OECD (2007), *Education at a glance: 2007 OECD indicators*, Table B5.2.

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

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

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



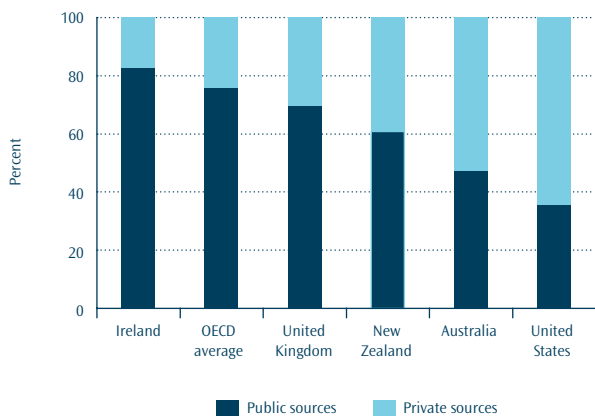
Source: OECD (2007), *Education at a glance: 2007 OECD indicators*, Table B5.1a.

Notes:

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

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

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



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

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

PUBLIC FUNDING MODELS FOR HIGHER EDUCATION

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

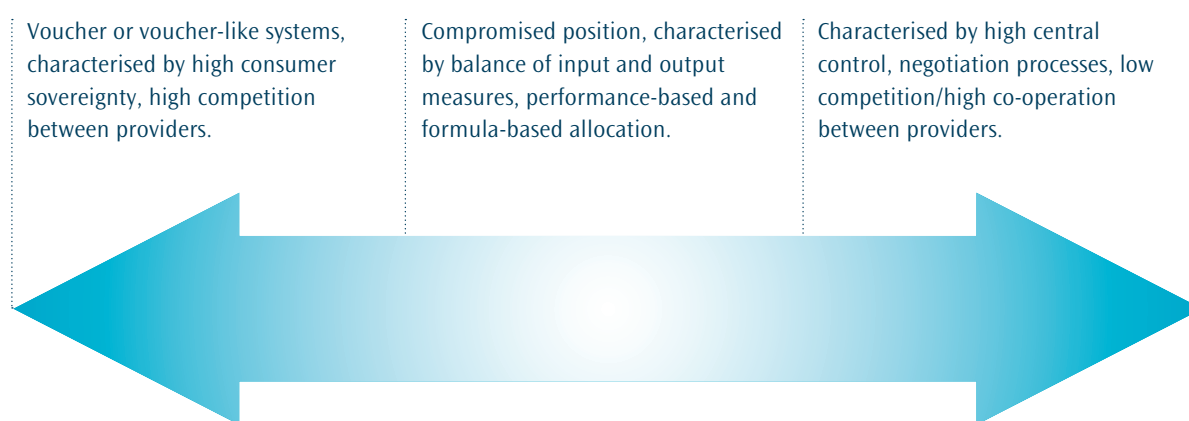
Where this has occurred, performance-based mechanisms to allocate tuition and research funds have emerged. These mechanisms have often been used to 'steer' provision in directions deemed to be of national importance, and sometimes to promote 'quality' provision. Still other countries have integrated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

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

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

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

Figure 16.19 // Funding allocation mechanisms continuum conceptual model



There are four stages to the grant calculation:

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

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

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

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

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

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

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

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

References:

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