

External research income earned by New Zealand universities

This factsheet uses information collected as part of Statistics New Zealand's *Research and Development Survey* to analyse trends in the source of university external research income (ERI) between 2000 and 2009.

Key findings

The ERI data indicates that:

- On both an inflation-adjusted and per full-time equivalent researcher basis, the ERI earned by universities increased significantly between 2000 and 2009. Most of this increase came from government sources.
- The government was the main source of ERI for the universities. In 2009, 75 percent of ERI earned by universities was sourced from government, an increase from 68 percent in 2000.
- The ERI earned by universities that was sourced from business was higher in 2009 than in 2000. But, as a percentage of all university ERI, the percentage sourced from business was lower in 2009 than in 2000.
- The share of New Zealand business research and development expenditure attracted by universities was the same in 2009 as in 2002.
- The ERI earned by universities from overseas sources was higher in 2009 than in 2002, with universities capturing a greater share of the total expenditure by overseas sources on research and development organisations.

Introduction

The external research income (ERI) attracted by New Zealand universities is an important indicator of the quality of the research they are undertaking, as the contracts are awarded on a contestable basis. Organisations that fund research only continue to do so if they consider they are getting good value from the funding they give. In the case of research funded by business, this means that the funding organisation considers that the knowledge and ideas they have 'purchased' from

a university can be translated into financial value for the firm.

The source of ERI data is also an important indicator of the connectedness of the university sector to funders – and in particular, to the private sector.

Defining external research income

The ERI reported by the universities is treated as having been 'earned' at the point when the research income was expended by the universities. In other words, a university might sign a research contract with a funder in 2008, but might progressively spend the money over 2008-2010. From an accounting point of view, we treat the income as relating to the time at which it was spent, not when the contract was signed. So the sum of the contract is treated as income when the 'work' called for in the contract was performed.

The types of ERI sourced from government include specific research grants from the Tertiary Education Commission (TEC) and the Ministry of Education (MoE) – such as funding for Centres of Research Excellence – funding distributed via research purchase agencies (Foundation for Research, Science and Technology, Health Research Council and Royal Society), funding from other government ministries and agencies, funding from Crown Research Institutes and funding from local government authorities. Note that government funding does not include money distributed via the Performance-Based Research Fund (PBRF), as that is treated as part of the universities' base educational funding.

Much of the ERI sourced from Crown Research Institutes, Centres of Research Excellence and research purchase agencies represents strategic funding by the government, for projects in line with government research priorities.

External research income sourced from New Zealand business also includes funding from State Owned Enterprises.

University external research income by source

The university ERI data is presented in Table 1. This shows ERI by source in both nominal and inflation-adjusted terms. In total, universities attracted around \$440 million worth of ERI in 2009. In inflation-adjusted terms, ERI earned by the universities increased by 105 percent between 2000 and 2009. The largest source of ERI for the universities was the government. In 2009, 75 percent of ERI came from this source, with the next largest source from New Zealand business (9 percent).

Table 1: University external research income by source (\$millions)

Source	2000	2002	2004	2005	2007	2009	% Δ 00-09
Nominal - \$ millions							
Government	115	163	200	241	262	330	187%
NZ business	22	23	38	48	30	41	86%
Overseas	18	14	19	20	22	24	33%
Other tertiary education providers	3	n/a	9	10	10	20	567%
Other	12	21	19	22	22	27	125%
Total	170	221	285	341	346	442	160%
Inflation-adjusted (2009 dollars) - \$ millions							
Government	146	196	232	271	278	330	126%
NZ business	28	28	44	54	32	41	47%
Overseas	23	17	22	22	23	24	5%
Other tertiary education providers	4	n/a	10	11	11	20	425%
Other	15	25	22	25	23	27	77%
Total	216	266	330	383	367	442	105%
Distribution of university ERI by source							
Government	68%	74%	70%	71%	76%	75%	
NZ business	13%	10%	13%	14%	9%	9%	
Overseas	11%	6%	7%	6%	6%	5%	
Other tertiary education providers	2%	n/a	3%	3%	3%	5%	
Other	7%	10%	7%	6%	6%	6%	

Notes: 1. The CPI has been used to adjust the ERI figures for inflation. 2. The 'Other tertiary education providers' category represents ERI from other New Zealand tertiary education institutions. It is likely to include subcontracting of research contracts. 3. The 'Other' category includes ERI from sources such as charitable trusts, endowments and gifts to fund research.

Source: Statistics New Zealand and Ministry of Education

Inflation-adjusted ERI can also be expressed per full-time equivalent (FTE) researcher. Table 2 shows that university ERI per FTE researcher increased by 86 percent between 2000 and 2009. The fastest growth between 2000 and 2009 was by ERI sourced from 'Other tertiary education providers' (376 percent), but this increase was off a very low base. External research income from government increased by a significant 105 percent between 2000 and 2009 on a per FTE researcher basis.

Table 2: Inflation-adjusted university external research income per full-time equivalent researcher by source (\$000s) in 2009 dollars

Source	2000	2002	2004	2005	2007	2009	% Δ 00-09
Government	23.2	30.7	33.2	38.2	39.9	47.5	105%
NZ business	4.4	4.3	6.3	7.6	4.6	5.9	33%
Overseas	3.6	2.6	3.2	3.2	3.4	3.5	-5%
Other tertiary education providers	0.6	n/a	1.5	1.6	1.5	2.9	376%
Other	2.4	4.0	3.2	3.5	3.4	3.9	61%
Total	34.2	41.7	47.3	54.1	52.7	63.6	86%

Notes: 1. The colleges of education have been treated as part of the universities for the entire period. 2. The CPI has been used to adjust the ERI figures for inflation. 3. The following categories of staff have been used in the per FTE calculation: Professor, Associate Professor, Senior Lecturer, Lecturer, and Research only staff.

Source: Statistics New Zealand and Ministry of Education

A closer look at university external research income sourced from government

Disaggregated data for university ERI sourced from government between 2004 and 2009 is presented in Table 3. The data shows that the largest proportion of university ERI sourced from government is earned via the government research purchase agencies – 57 percent in 2009. The purchase agencies include the Foundation for Research, Science and Technology, the Health Research Council and money distributed by the Royal Society via the Marsden Fund.

In inflation-adjusted terms, the fastest growth between 2004 and 2009 was via 'Specific research grants from TEC/MoE', which grew by 136 percent. There was also significant growth in funding sourced from other central government agencies outside of the purchase agencies.

Table 3: University external research income from government sources (\$millions)

Source	2004	2005	2007	2009	% Δ 04-09
Nominal - \$ millions					
Specific research grants from TEC/MoE	26	21	55	71	173%
Government research purchase agencies	134	173	155	188	40%
Other central government agencies	30	38	38	56	87%
Crown Research Institutes	8	8	12	13	63%
Local government	2	2	2	2	0%
Total	200	241	262	330	65%
Inflation-adjusted (2009 dollars) - \$ millions					
Specific research grants from TEC/MoE	30	24	58	71	136%
Government research purchase agencies	155	194	165	188	21%
Other central government agencies	35	43	40	56	61%
Crown Research Institutes	9	9	13	13	40%
Local government	2	2	2	2	-14%
Total	232	271	278	330	43%
Distribution of university ERI from government sources					
Specific research grants from TEC/MoE	13%	9%	21%	22%	
Government research purchase agencies	67%	72%	59%	57%	
Other central government agencies	15%	16%	15%	17%	
Crown Research Institutes	4%	3%	5%	4%	
Local government	1%	1%	1%	1%	

Notes: 1. The CPI has been used to adjust the ERI figures for inflation. 2. 'Specific research grants from TEC/MoE' includes funding received for Centres of Research Excellence but excludes money allocated via the Performance-Based Research Fund.

Source: Statistics New Zealand and Ministry of Education

Table 4 presents the amount of ERI per FTE researcher on an inflation-adjusted basis that was sourced from government. All sources of government ERI for universities, with the exception of 'Local government', increased between 2004 and 2009. The largest increase in ERI for universities was from 'Specific research grants from TEC/MoE', which increased by 137 percent. This was followed by 'Other central government agencies' (62 percent) and Crown Research Institutes (41 percent). The *Tertiary Education Strategy 2010-2015* states that better linkages with Crown Research Institutes are important so the increase in funding per researcher from Crown Research Institutes is in

line with the strategy.

Table 4: Inflation-adjusted university external research income per full-time equivalent researcher sourced from government (\$000s) in 2009 dollars

Source	2004	2005	2007	2009	% Δ 04-09
Specific research grants from TEC/MoE	4.3	3.3	8.4	10.2	137%
Government research purchase agencies	22.2	27.4	23.6	27.1	22%
Other central government agencies	5.0	6.0	5.8	8.1	62%
Crown Research Institutes	1.3	1.3	1.8	1.9	41%
Local government	0.3	0.3	0.3	0.3	-13%
Total	33.2	38.2	39.9	47.5	43%

Notes: 1. The colleges of education have been treated as part of the universities for the entire period. 2. The CPI has been used to adjust the ERI figures for inflation. 3. The following categories of staff have been used in the per FTE calculation: Professor, Associate Professor, Senior Lecturer, Lecturer, and Research only staff. 4. 'Specific research grants from TEC/MoE' includes funding received for Centres of Research Excellence.

Source: Statistics New Zealand and Ministry of Education

A closer look at university external research income sourced from New Zealand business and overseas

The interaction of the universities with private business in New Zealand is a key area of focus for the government. The *Tertiary Education Strategy 2010-2015* emphasises the need for better linkages between universities and firms. In addition, the government's overall research direction is to use research to support its economic growth agenda. Therefore, the ERI sourced from business is a useful indicator of the links between the universities and the business sector and of the extent to which university research is taken up by firms.

The ERI data in Table 1 showed that the ERI sourced from business increased by 47 percent in inflation-adjusted terms between 2000 and 2009. On a per FTE basis, the inflation-adjusted increase was 33 percent.

Table 5 shows that as a proportion of all expenditure on research and development by business, the share earned by universities reached a high of 6 percent in 2004 and 2005, before dropping to a low of 3 percent in 2007. In 2009, the share increased slightly to 4 percent.

Table 5: Share of expenditure on research and development by New Zealand business

Recipient	2002	2004	2005	2007	2009
Universities	4%	6%	6%	3%	4%
Government	18%	13%	12%	13%	9%
NZ business	78%	81%	82%	84%	87%

Source: Statistics New Zealand

Another area of focus is the amount of ERI sourced from overseas. The *Tertiary Education Strategy 2010-2015* emphasises the need for strong international connections.

The data in Table 1 showed that ERI sourced from overseas increased by 5 percent in inflation-adjusted terms between 2000 and 2009. However, Table 2 showed that on a per FTE basis this represented a decrease of 5 percent.

Table 6 shows that as a percentage of all ERI financed from overseas sources, the university share reached 18 percent in 2009, compared with 15 percent in 2002.

Table 6: Share of expenditure on research and development from overseas sources

Recipient	2002	2004	2005	2007	2009
Universities	15%	16%	21%	21%	18%
Government	20%	16%	23%	26%	17%
Business	65%	68%	56%	52%	66%

Source: Statistics New Zealand

References

Tertiary Education Strategy 2010-2015, Ministry of Education: Wellington.

<http://www.minedu.govt.nz/NZEducation/EducationPolicies/TertiaryEducation/PolicyAndStrategy/TertiaryEducationStrategy.aspx>

More information on the Research and Development Survey

The *Research and Development Survey* is a biennial survey of research and development expenditure in New Zealand carried out by Statistics New Zealand. The summary results of the *2010 Research and Development Survey* can be found on the following Statistics New Zealand web page:

http://www.stats.govt.nz/browse_for_stats/businesses/research_and_development/ResearchandDevelopmentSurvey_HOTP2010.aspx