

AUSTRALIAN VICE CHANCELLORS' COMMITTEE

(E) RESEARCH

Table E.1	Higher Degree Research: Students by Broad Field of Education, 2001-2003.
Table E.2	DEST/ARC Research Training Awards (New Awards), 1996-2003
Table E.3	Research Income Received by Universities and their Controlled Entities by Source, 1992-2003
Table E.4	Research Income by Source, 2002-2003
Table E.5	Research Funding, 2001-2008
Table E.6	Resources committed to all Cooperative Research Centres (CRCs) by Organisation Type 2000, 2002
Table E.7	University Expenditure on Research and Development, 1988-2002
Table E.8	Gross Australian Expenditure on R&D by Sector, 1988/89-2002/03
Table E.9	Gross Australian Expenditure on R&D by Type of Activity, 2002/03

AUSTRALIAN VICE CHANCELLORS' COMMITTEE

Table E.1 Higher Degree Research: Students by Broad Field of Education, 2001-2003.

	2001		2002		2003	
	Master's	Doctorate	Master's	Doctorate	Master's	Doctorate
Broad Field of Education						
Natural and Physical Sciences	1,100	5,965	1,081	6,553	1,074	6,884
Information Technology	210	771	301	1,000	347	1,134
Engineering and Related Technologies	1,023	2,906	1,228	3,374	1,195	3,699
Architecture and Building	234	384	267	425	264	468
Agriculture, Environmental and Related Studies	435	1,384	461	1,517	391	1,581
Health	1,027	4,052	1,216	4,663	1,138	4,976
Education	1,014	2,813	1,163	3,380	1,117	3,454
Management and Commerce	527	2,378	569	3,008	501	3,128
Society and Culture	2,314	7,667	2,499	8,958	2,347	9,164
Creative Arts	1,356	943	1,384	1,169	1,410	1,395
Total Number of Students	9,240	29,263	10,169	34,040	9,784	35,875

Source: DEST Selected Higher Education Student Statistics

AUSTRALIAN VICE CHANCELLORS' COMMITTEE

Table E.2 DEST/ARC Research Training Awards (New Awards), 1996-2003

	1996	1997	1998	1999	2000	2001	2002	2003
Australian PG Awards (with Stipend)	1,550	1,605	1,595	1,550	1,550	1,550	1,550	1,550
Australian PG Awards (Industry)	150	205	232	288	334	350	397	461
International PG Research Scholarships	300	300	300	300	300	300	310	330
Research Fellowships (a)	100	112	100	100	100	100	165	166
Total	2,100	2,222	2,227	2,238	2,284	2,300	2,422	2,507

Source: DEST Higher Education Triennium Funding Reports and ARC Annual Reports.

Note:

(a) Pre 2001 - Includes Australian Postdoctoral Fellowship, Australian Research Fellowship, Queen Elizabeth II Fellowship, and the Senior Research Fellowship.

(b) From 2002 - Includes Australian Postdoctoral Fellowship, Australian Research Fellowship, Queen Elizabeth II Fellowship, and the Australian Professional Fellowship.

AUSTRALIAN VICE CHANCELLORS' COMMITTEE

Table E.3 Research Income Received by Universities and their Controlled Entities by Source, 1992-2003

	1992 (a)	1993 (a)	1994	1995	1996	1997	1998	1999	2000 (c)	2001	2002	2003
	(\$m)	(\$m)	(\$m)	(\$m)	(\$m)	(\$m)	(\$m)	(\$m)	(\$m)	(\$m)	(\$m)	(\$m)
Research Income Source												
National Competitive Grants (NCG)												
Commonwealth Competitive Grants	267	282	309	311	355	378	394	442	460	475	510	628
Cooperative Research Centres (b)	13	27	40	41	44	46	46	43				
Non-Commonwealth Competitive Schemes	11	9	8	11	8	13	12	15	15	14	14	22
Total NCG's	291	318	347	362	407	437	453	501	474	490	525	650
Other Public Sector Funding												
Local Government	1	1	3	2	2	3	2	3	4	5	5	8
State Government	34	38	48	52	56	61	65	73	92	102	117	145
Commonwealth Government	36	35	43	58	56	67	65	62	72	94	106	115
Total Other Public Sector	71	74	93	111	113	130	132	138	168	200	228	268
Industry and Other Funding												
Australian:												
Contracts	29	33	80	81	95	102	117	105	103	119	149	169
Grants	31	36	25	31	32	34	36	45	61	70	64	75
Donations, Bequests & Foundations	17	18	52	58	50	51	57	62	74	65	82	70
Syndicated R&D	0	0	11	4	2	21	7	2	2	2	2	2
International	9	8	22	29	35	46	50	61	91	137	130	138
Other	23	24	0	0	0	0	0	0	0	0	0	0
Total Industry and Other Funding	109	119	189	203	215	255	266	275	330	393	426	454
TOTAL (\$m)	470	511	630	677	733	822	851	914	972	1083	1179	1372

Source: DEST Higher Education Research Data Collection (formerly Financial and Research Publications Data Collection) and unpublished table.

Notes:

(a) Non NCG income excludes income for controlled entities.

(b) CRC data is based on financial year, e.g. 1992/93 shown as 1992; notional funding based on Commonwealth funding for CRCs in proportion to individual institutions' stake in individual CRCs; 1992 to 1997 excluded Institute of Advanced Studies, ANU

(c) CRC data from 2000 is unavailable.

AUSTRALIAN VICE CHANCELLORS' COMMITTEE

Table E.4 Research Income by Source, 2002-2003

	Total (\$m)	% of total research income	Total (\$m)	% of total research income	% change 2002-2003
Research Income Source	2002		2003		
Commonwealth Competitive Grants	510	40%	628	42%	23%
Non-Commonwealth Competitive Grants	14	1%	22	2%	55%
Total National Competitive Grants	524	41%	650	44%	24%
Local Government	5	0%	8	1%	64%
State Government	117	9%	144	10%	23%
Other Commonwealth Government	106	8%	114	8%	8%
Total Other Public Sector Funding	228	18%	267	18%	17%
Australian Contracts	149	12%	169	11%	14%
Australian Grants	64	5%	74	5%	14%
Donations, Bequests and Foundations	82	6%	70	5%	-14%
International Funding	130	10%	138	9%	6%
Syndicated R&D	2	0%	2	0%	11%
Total Industry & Other Funding	426	34%	452	31%	6%
Commonwealth Grants to CRCs	59	5%	72	5%	24%
Non-university participants	20	2%	26	2%	28%
Third party contributions	15	1%	14	1%	-3%
Total CRC funding	93	7%	112	8%	20%
Total Research Income (AVCC members)	1,271		1,481		17%
Total Government Grants	752	59%	917	62%	22%
Total Financial Data (Excluding CRCs)	1,177	93%	1,369	92%	16%

Source: Higher Education Research Data Collection (HERDC) Time Series Data

AUSTRALIAN VICE CHANCELLORS' COMMITTEE

Table E.5 Research Funding, 2001-2008

	2001	2002	2003	2004	2005	2006	2007	2008
RESEARCH FUNDING (\$'m)								
Research Training Scheme	541	540	541	541	540	540	540	540
Institutional Grants Scheme	274	284	285	285	284	284	284	284
Research Infrastructure Block Grants	86	119	140	160	179	192	192	192
Regional Protection Scheme		2	3	6	3	3	3	3
ARC Grants	257	285	364	414	472	535	535	535
NHMRC Grants	159	193	205	205	205	205	205	205
Other Research Programs	7	36	65	66	64	62	9	9
Total Research Funding	1,323	1,459	1,603	1,677	1,747	1,822	1,769	1,769

Source: DEST's Triennium Higher Education Reports and unpublished data.

Note:

(a) figures in current years price.

AUSTRALIAN VICE CHANCELLORS' COMMITTEE

**Table E.6 Resources committed to all Cooperative Research Centres (CRCs)
by Organisation Type 2000, 2002 (a)**

Organisation Type	2000	2002
CRC Program (Commonwealth)	26%	25%
Universities	23%	25%
Industry (incl. GBEs)	19%	18%
CSIRO	14%	13%
States	10%	11%
Commonwealth excluding CSIRO	5%	4%
Others (mainly Medical Research Institutes)	4%	4%
Total (\$m)	5,804	7,337

Source: CRC Compendium 2002

Notes:

(a) While the resources committed to all CRCs are reported in 2000 by DISR, the initial contract period is of five to seven years, with some starting from 1997 and some from 1998.

AUSTRALIAN VICE CHANCELLORS' COMMITTEE

Table E.7 University Expenditure on Research and Development, 1988-2002

	1988	1990	1992	1996	1998	2000	2002
Source of Funds							
General University Funds				65%	64%	63%	59%
Commonwealth Schemes				16%	17%	17%	15%
Other Commonwealth Government				7%	7%	6%	12%
Total Commonwealth Government	91%	88%	91%	89%	88%	87%	86%
State and Local Government	2%	3%	2%	2%	3%	3%	3%
Business Enterprise	3%	2%	3%	5%	5%	5%	5%
Other Australian	4%	6%	4%	3%	3%	3%	3%
Overseas	1%	1%	1%	1%	2%	2%	3%
Type of Research							
Pure Basic Research	38%	41%	40%	34%	34%	31%	28%
Strategic Basic Research	24%	22%	24%	25%	25%	24%	23%
Applied Research	31%	31%	30%	35%	35%	38%	41%
Experimental Development	7%	6%	6%	6%	6%	8%	8%
Type of Expenditure							
Staff	69%	62%	64%	51%	52%	50%	49%
Other capital	8%	10%	11%	6%	6%	6%	5%
Other current	20%	22%	21%	42%	41%	42%	42%
Land and buildings	3%	6%	5%	2%	1%	2%	4%
Field of Study (b)							
Medical and Health Sciences	17%	19%	19%	21%	23%		
Biological Sciences	14%	12%	12%	12%	12%		
General Engineering	14%	7%	7%	7%	7%		
Other Sciences & Technologies	26%	32%	32%	32%	31%		
Social Sciences	18%	22%	22%	19%	19%		
Humanities	12%	9%	10%	8%	8%		
Research Fields, Courses and Disciplines (RFCD)							
Medical & Health Science						24%	25%
Physical, Chemical, Mathematical & Earth Science						14%	13%
Biological Science						12%	12%
Engineering & Technology						11%	11%
Agricultural, Vet and Environmental Science						7%	7%
Information, Computing and Communication						4%	4%
Education						3%	4%
Economics, Commerce & Management						6%	6%
Behavioural Science						3%	3%
Humanities						3%	3%
Other						11%	11%
Total (\$m)	1,077	1,351	1,695	2,308	2,600	2,775	3,430

Source: ABS, *Research and Experimental Development*, (8111.0); ABS, *Research and Experimental Development, All Sector Summary* (Cat. No. 8112.0)

Notes:

(a) All annual expenditures are in respective year price.

(b) ABS introduced a new classification, "Research Fields, Courses and Disciplines (RFCD)", from 2000 and therefore the 2000 data is not directly comparable to previous years.

AUSTRALIAN VICE CHANCELLORS' COMMITTEE

Table E.8 Gross Australian Expenditure on R&D by Sector, 1988/89-2002/03

	1988/89	1990/91	1992/93	1994/95	1996/97	1998/99	2000/01	2002/03
Sector								
Business	42%	40%	44%	47%	48%	46%	48%	49%
General Government - Commonwealth	20%	20%	18%	16%	14%	14%	13%	13%
General Government - State	11%	13%	10%	11%	9%	10%	9%	8%
Higher Education	25%	26%	26%	25%	26%	29%	27%	28%
Private Non-Profit	1%	2%	2%	2%	2%	2%	3%	3%
Total (\$m)	4,281	5,222	6,483	7,467	8,792	8,936	10,417	12,250

Sources: ABS - R&D Survey, All Sector Summary, 2002/03 (Cat. 8112.0).

AUSTRALIAN VICE CHANCELLORS' COMMITTEE

Table E.9 Gross Australian Expenditure on R&D by Type of Activity, 2002/03

	Pure Basic Research	Strategic Basic Research	Applied Research	Experimental Development
Sector				
Business	4%	18%	35%	85%
General Government - Commonwealth	8%	25%	16%	6%
General Government - State	4%	7%	15%	2%
Higher Education	79%	42%	32%	6%
Private Non-Profit	5%	8%	3%	1%
Total (\$m)	1,240	1,904	4,379	4,727

Sources: ABS - R&D Survey, All Sector Summary, 2002/03 (Cat. 8112.0).