

Higher education In Australia

IHEM Country report

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Abbreviations

ACCC	Australian Competition and Consumer Commission
ACGR	Australian Competitive Grants Register
AEC	Australian Education Council
APA	Australian Postgraduate Awards
AQF	Australian Qualifications Framework
AQTF	Australian Quality Training Framework
ARC	Australian Research Council
ATEC	Australian Tertiary Education Commission
ATO	Australian Taxation Office
AUC	Australian Universities Commission
AUQA	Australian Universities Quality Agency
AVCC	Australian Vice Chancellors' Committee
BA	Bachelor of Arts
BAGSc	Bachelor degree in agriculture
BAppSc	Bachelor of Applied Science
BArch	Bachelor degrees in architecture
BBusAdmin	Bachelor of Business Administration
BCom	Bachelor of Commerce
BDS	Bachelor degree in dentistry
BEng	Bachelor degree in engineering
BSc	Bachelor of Science
BVSc/BVS	Bachelor degree in veterinary science
CAEs	colleges of advanced education
CEQ	Course Experience Questionnaire
CGS	Commonwealth Grant Scheme
COAG	the Council of Australian Governments
CRCs	Cooperative Research Centres
CSIRO	the Commonwealth Scientific and Industrial Research Organisation
CSP	Commonwealth-supported place
CTEC	The Commonwealth Tertiary Education Commission
CTS	Commercialisation Training Scheme
DEST	Department of Education, Science and Training
DipEd	Diploma of Education
DLitt	Doctor of Letters
DSc	Doctor of Science
DSP	the Higher Education Disability Support Program
DSTO	the Defence Science and Technology Organisation
EAG	Expert Advisory Group
EFTSL	equivalent full-time student load
EFTSU	Equivalent Full-time Student Units
ESP	the Higher Education Equity Support Program
FYEQ	First Year Experience Questionnaire
GDS	Graduate Destination Survey
HDR	higher degrees by research

Introduction

HECS	Higher Education Contribution Scheme
HEEP	Higher Education Equity Programme
HEFA	Higher Education Funding Act 1988
HEIs	higher education institutions
HELP	Higher Education Loan Programme
HERD	higher education R&D
HERDC	Higher Education Research Data Collection
HESA	Higher Education Support Act 2003
HEWRRs	Higher Education Workplace Relations Requirements
IGS	Institutional Grants Scheme
K&I	Knowledge and Innovation
LLB	Bachelor degrees in law
LTPF	Learning and Teaching Performance Fund
MB BS	Medical degree
MCEETYA	Ministerial Council on Education, Employment, Training and Youth Affairs
MD	Doctor of Medicine
MOVEET	Council of Ministers of Vocational Education, Employment and Training
NHMRC	National Health and Medical Research Council
NSSE	National Survey of Student Engagement
NTF	National Training Framework
PELS	Postgraduate Education Loan Scheme
PSRAs	public sector research agencies
RAE	Research Assessment Exercise
RIBG	Research Infrastructure Block Grants Scheme
RPS	Regional Protections Scheme
RQF	Research Quality Framework
RRTMR	research and research training management report
RTO	Registered Training Organisations
RTS	Research Training Scheme
SLE	Student Learning Entitlement
TAFE	Technical and Further Education'
TEAS	Tertiary Education Assistance Scheme
TER	Tertiary Entrance Rank
UAI	Universities Admissions Index
VET	vocational and technical education sector
WRP	Workplace Reform Programme
YA	Youth Allowance
YMC	the Youth Ministers Council

The CHEPS International Higher Education Monitor

The CHEPS International Higher Education Monitor (IHEM) is an ongoing research project, commissioned by the Dutch Ministry of Education, Culture and Science. The project aims to provide higher education policy makers with relevant and up-to-date information on national higher education systems and policy changes. This information is presented through in-depth country reports, comparative thematic reports, annual update reports, statistical bulletins and a statistical data-base. The core countries for which this information is collected and presented include Australia, Austria, Finland, Flanders (Belgium), France, Germany, the Netherlands, Portugal, Sweden and the United Kingdom.

Country reports

Increasingly, governments take international trends into account when developing national higher education policies. Continuing European integration, the increasing mobility of people within the European Union, as well as supra-national initiatives deployed at the European level with respect to higher education (e.g. the Leonardo and Socrates programs) necessitate such an orientation. Policy makers therefore need to have access to adequate information on higher education structures, trends and issues in Europe as well as other countries. New technologies have opened access for everyone to vast amounts of facts and figures on higher education in almost every country. Although these data are indispensable for higher education policy makers and analysts, they often do not provide much in the way of usable information. What is lacking is a frame of reference to properly interpret the data.

Such a framework is offered by the CHEPS International Higher Education Monitor country reports. These reports have a clear structure, describing the higher education infrastructure and the research infrastructure. In addition to an in-depth description of the institutional fabric of the higher education system, the reports address issues of finance, governance and quality in higher education. The country reports provide the frame of reference for the interpretation of policy initiatives, trend-analyses and cross-country comparisons.

A wide scope of sources are used for these country reports including national statistics, (inter)national journals and magazines, national policy documents, research papers, and international documents and databases.

To keep track of the latest (policy) changes in higher education annual update reports are published.

These publications and other information on the IHEM can be found on:

http://www.utwente.nl/cheps/higher_education_monitor

1 Introduction

1.1 Facts about Australia¹

The aim of this report is to describe the main features of the Australian higher education system. We will address the structure of the system, how this developed, and what policies and trends may be observed in recent decades. Before doing this, we will present a few general facts about Australia.



Australia is a constitutional democracy consisting of a federation of six states and two territories. In the Australian federal systems, the powers of the Commonwealth are limited to areas deemed to be of national importance. As discussed in more detail below, just how far those areas extend is presently the subject of considerable debate.

¹ Based on: Australian Education International (2006). Country Education Profiles Australia. Canberra, Commonwealth of Australia.

, Meek, V. L., L. Goedegebuure, et al. (2006). The Academic Research Enterprise: Australia, University of New England.

, Australian Vice-Chancellors' Committee (2007). Australian University Handbook. Canberra, AVCC.

Whereas in terms of landmass Australia is the sixth largest country in the world – approximately the same size as the Continental United States – it has a population only slightly larger than the Netherlands. Most of the nation’s population of some 20 million people (0.3 per cent of world population) is highly urbanised. Most Australians live in the major coastal cities and regional centers. The capital city Canberra is located in the Australian Capital Territory which is situated inland between the two largest cities—Sydney in New South Wales with a population of 4.15 million, and Melbourne in Victoria with 3.49 million. Australia’s population is diverse, with some 23 per cent of the population being born outside Australia.

The annual population growth rate is 1.2%. It is an aging population, with 20.8% in aged bracket 0-14 years, 16.6% 15-24 years, 53.1% 25- 64 years, and 12.5% of the population 65 years or older. Nearly 22% of the population is foreign born or of foreign nationality (Australian Bureau of Statistics 2001-2006). The average Australian lives in an urbanised setting, is of working age, born in Australia, unlikely to immigrate, English speaking, Caucasian and Christian.

In recent years the growth rate of the Australian economy has exceeded that of most other OECD countries, while maintaining low inflation and high employment. In 2006, unemployment was approximately 5% of the workforce. In terms of average weekly earnings, holding a degree or diploma is clearly an advantage: graduate employment is relatively high, with 81% of graduates finding work within four months of their date of graduation. The Australian GDP has steadily increased over the last 15 years, from 485.04 \$b in 1990 to 734.21 \$b in 2003.

Historically, the nation’s wealth was based on primary products – mineral and agricultural. But in recent decades there has been a deliberate attempt by Government and industry to switch the basis of the Australian economy from primary products to knowledge – to create what one Prime Minister termed in the 1980s as the *Clever Country*. While in the early 1970s, about 21 per cent of Australia’s GDP was based on manufacturing and 5.4 per cent on agriculture, presently those figures are 12 per cent and 3.6 per cent respectively. Much of Australia’s wealth still comes from minerals and in recent years, Australia has enjoyed strong economic growth based largely on mineral exports, particularly to countries such as China and Japan. However, the mining industry itself, like other sectors of the economy, is more knowledge dependent and research based than in the past. Since, 1997, Australia has been a net exporter of education in general and of R&D services in particular. Of Australia’s main exports, education services is ranked ninth.

1.2 Education system ²

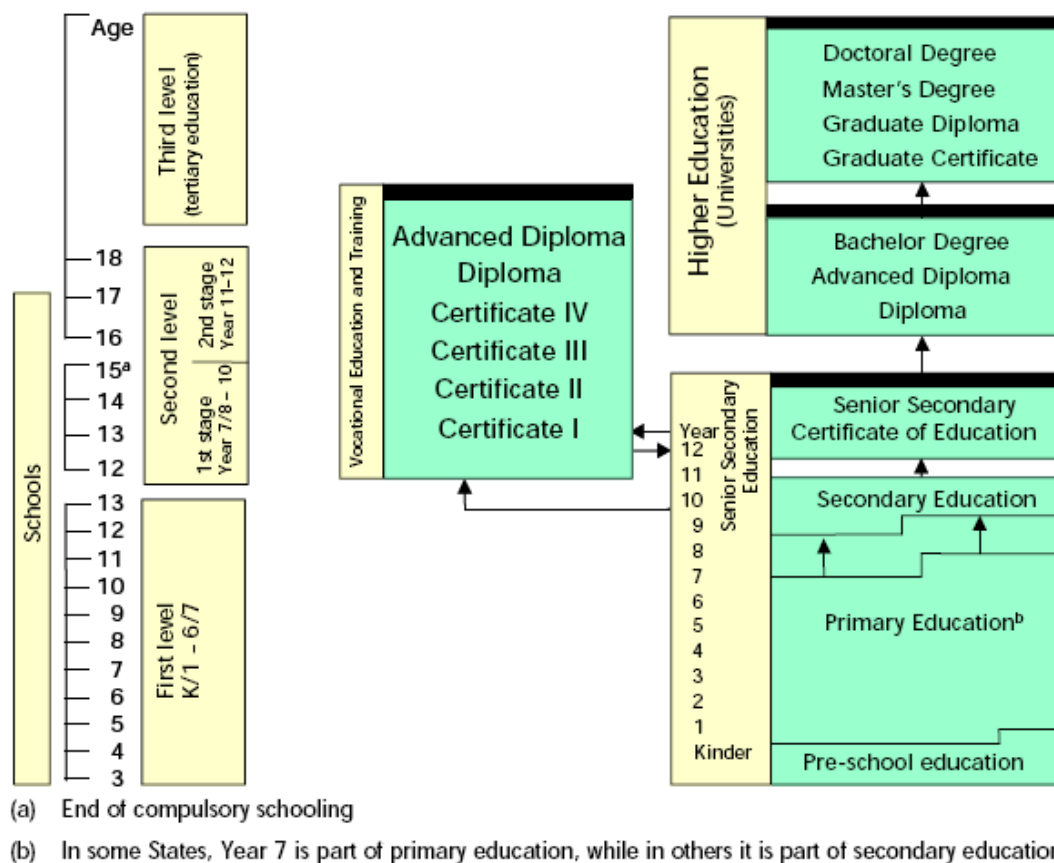
² This section is heavily based on Australian Education International (2006). Country Education Profiles Australia. Canberra, Commonwealth of Australia.

The diagram below pictures the structure of the Australian education system in terms of levels and diplomas.

1.2.1 Pre-school education

Pre-school education is offered as *pre-school* or *kindergarten*, depending on the State or Territory. Preschool programmes are provided in public and private preschools for children generally between the ages of three and four or five. Pre-school and school education have a similar structure across Australia with only slight variations amongst the States and Territories. Pre-school education is commonly one year in length and is not compulsory.

Figure 1-1: The education system



1.2.2 School education

Children begin *primary school* at the age of five. Primary schools provide basic education for children up to 12 or 13 years of age, after which they transfer to a *secondary school*. School education is thirteen years and divided into:

- a preparatory year before Year 1: not compulsory but almost universally undertaken;
- primary schooling: six or seven years—Years 1-6 or 1-7;
- secondary schooling: five or six years—Years 7-12 or 8-12.

Children start in the preparatory year at around five years of age although in some States the starting age is closer to four years. School education is compulsory until the age of 15 or 16. By this age, students usually have completed Year 9 but more commonly Year 10. The provision of school education in Australia is the responsibility of the States and Territories.

Secondary schools are most commonly comprehensive but there are also specialist secondary schools offering programmes that are academically selective or specialising in areas such technology, languages, performing arts, agriculture, sports, or creative arts. The majority of secondary schools are co-educational but some government secondary schools and about one-third of non-government secondary schools are single-sex. Secondary schools may also be divided into those offering programmes at the junior secondary level or senior secondary level.

Senior secondary education covers Years 11 and 12. Completion of Year 12 represents 13 years of education in Australia. The relevant State or Territory Senior Secondary Certificate of Education is awarded each on successful completion of Year 12 – different names are used for the certificates in State and Territory. Senior secondary education offers several types of programmes that prepare pupils for future study, employment, and adult life.

Pupils planning to continue to higher education at universities undertake tertiary entrance programmes. Tertiary entrance subjects are usually highly specialised offering intensive and in-depth study of a subject at an advanced level. The study programmes involve the development of a detailed theoretical knowledge and understanding of the subject matter. Skills are developed in problem-solving, research, investigation, evaluation, and critical or complex analysis in the subject area. Applied skills appropriate to the subject area are also developed. In some subject areas, such as mathematics and science, subjects may be offered at more than one level of depth or complexity. The tertiary entrance subjects in all States and Territories generally have similarities in their learning outcomes although the range of subjects available and the packaging and labeling of subjects varies.

For pupils planning to continue to other postsecondary or vocational studies, other study programmes are offered across a range of subject areas. The theoretical level of these subjects is appropriate for completing secondary education but may not be acceptable for admission to university.

1.2.3 Vocational and technical education

There are no significant variations in the structure of postsecondary education across Australia. Postsecondary education is offered in two sectors – the vocational and technical education (VET) sector and the higher education sector. We will briefly

discuss VET here and reserve more room for higher education in the rest of this report.

Vocational and technical education first developed in Australia through the mechanics institutes and schools of arts of the 1800s. Technical education continued to evolve differently in each state according to its particular needs and priorities. In the 1970s, it became clear that Australia's traditional manufacturing, mining, and agricultural industries had started to decline and new industries like communications, finance, hospitality and other service industries were emerging. The re-branding of technical education as '*Technical and Further Education*' (TAFE) began to generate more public interest in the sector and marked the beginning of substantial Australian Government investment. The late 1980s brought more commonality across the States and Territories, with the introduction of national qualifications nomenclature and an increasing national focus.

The Australian Government is currently reforming the national training system to ensure it is more demand driven and more responsive to the ever-changing needs of business and industry. Australia is moving away from a system driven by training providers developing courses and curriculum, to one where industry decides what competencies are needed in each qualification, and these are delivered and recognised nationally. The *National Skills Framework* provides the basis for high quality, flexible, nationally consistent vocational and technical education which meets industry needs and which employers can trust. The National Training Framework (NTF) consists of the *Australian Quality Training Framework (AQTF)* and nationally endorsed, industry developed training packages.

VET programmes can be undertaken through multiple pathways connecting schools, postsecondary institutions, the workplace, and agreements ('articulation' is the term here) between the VET sector and the higher education sector. All providers of VET must be Registered Training Organisations (RTO).

Programmes offered under the NTF lead to the following qualifications:

- Certificates I – IV
- Diplomas, Advanced Diplomas
- Vocational Graduate Certificates and Diplomas.

Vocational and technical education in Australia is focussed on providing skills for the labour market, thereby linking students' learning to work. It is increasingly a first choice for many of the 70 per cent of young Australians who do not go directly from school to university. In 2004 approximately 1.6 million students (11 per cent of the population aged between 15 and 64) were enrolled in publicly funded vocational and technical education. Ninety per cent of these were studying part-time. Vocational and technical education within the senior secondary curriculum, commonly known as *VET in Schools*, is designed to broaden students' choices by providing alternative pathways

to tertiary education and work beyond subjects which predominately lead to university.

There are around 4200 registered training providers, consisting of 78 TAFE institutes and other government providers, including agricultural colleges, operated by States and Territories, with the remainder operating as part of the private market. Around 80 per cent of vocational and technical education students in the publicly funded training system (approximately 1.25 million) are enrolled in a TAFE institute.

The VET and higher education sectors in Australia remain largely distinct but there are an increasing number of connections developing between them (OECD 1996). Articulation from VET programmes into specific degree-level programmes at universities is now well developed. Movement between vocational and technical education and higher education programmes is based on articulation agreements made between institutions at a local level. The articulation model generally involves a sequential pathway between qualifications in vocational and technical education and higher education, allowing students to progress from one qualification to the next, and offering multiple entry and exit points. Students also move between the two sectors through credit transfer arrangements, which involve the recognition of prior study in the form of block credit (stages or years of a course), specified credit (modules in vocational and technical education explicitly recognised as equivalent to units in higher education) or unspecified credit (in the form of course credit points or similar). A few universities offer programmes under the NTF, and some mainly VET institutions are accredited to offer Associate degree, Bachelor degree, Graduate Certificate and Graduate Diploma programmes.

TAFE is, potentially, a bridge between secondary and university education and to the extent that it is a separate sector, it performs functions comparable in several important respects to those sectors but in quite distinctive ways. As with the universities, TAFE prepares students for vocations although these vocations tend to be trades-based or increasingly those 'middle level' occupations in technical areas and service sectors, some of which -- nursing for example -- are now provided for in the universities.

There are no regular teacher education programmes as preparation for teaching at a university such as there are for school teaching. The emphasis is on mastery of the specific discipline or field, and normally academic staff have postgraduate level qualifications, in many cases at Doctoral level. However, most universities encourage their academic staff undertake to regular professional development, and run in-house programmes for teaching.

1.2.4 Private or Non-government Education

Private or non-government education exists in parallel with government institutions at all levels in Australia. Non-government schools are operated by or associated with the Catholic Church, other Christian denominations, other religions such as Judaism and

Islam, or educational philosophies such as Montessori and Steiner. All non-government schools are registered with the State or Territory education department and are subject to regular inspection. They generally use the same curricula as government schools and must conform to government requirements in terms of premises and teacher registration. Non-government schools derive their income from fees, endowments and financial assistance from both the Australian and the State or Territory Governments. Non-government RTOs within the VET sector are the responsibility of the State and Territory training authorities.³

1.2.5 International education and training

Australia is internationally competitive in providing education and training both in Australia and offshore for students from outside Australia. Such students are known as *overseas students*. In 2005, there were 344 815 overseas students studying in Australia, with the largest numbers coming from China, India, South Korea, Hong Kong, Malaysia, Japan, Indonesia, Thailand, United States of America, and Singapore. There has also been significant increase in the number of students coming from South America and the Middle East. Overseas students undertake the same programmes as Australian students. In 2005, 51.2 per cent of the overseas students were enrolled in higher education, 18.4 per cent in VET, 15.5 per cent in ELICOS (English language), and 7.7 per cent in school education. About 7.2 per cent were studying in other programmes.

³ A study by Louise Watson, carried out for the Australian Department of Education in 1999 and 2000, reports a great deal of quantitative and qualitative information on the size and scope of the private, non-university higher education sector; see: Watson, L. (2000). *Survey of Private Providers in Australian Higher Education 1999. Evaluations and Investigations Program*. Canberra, DETYA.

2 The Higher Education System

2.1 Types of higher education institutions

2.1.1 History ⁴

The development of Australia's system of higher education had its origins in the traditions of Oxford and Cambridge, with emphasis on the liberal academic tradition. As the need for a more highly educated, technical and professional work-force grew, a larger, more diverse university system was developed to meet these needs. Today's Australian universities combine elements of both the British and American educational systems

2.1.2 Some key events in Australian higher education

The University of Sydney, founded in 1850 in New South Wales, was the first Australian university. Three years later the University of Melbourne was established by the Colony of Victoria. By 1912 a university had been founded in each State: the University of Adelaide in South Australia in 1874, the University of Tasmania in 1890, the University of Queensland in 1909 and the University of Western Australia in 1911. In 1901, at the time of Australia's Federation, the Australian population was 3,8 million and there were fewer than 2,652 university students. The decades since World War II have seen a substantial expansion of Australian higher education. In the 1950s, enrolments increased by 30,000 and participation rates doubled. By 1960 there were ten universities having 53,000 students. Over the 1960s university enrolments climbed steeply, doubling by end of the decade.

In the early 1960s, the Martin Committee Report led to the establishment of the 'binary' system of higher education, with universities (research and degree-level education) and *colleges of advanced education* (CAEs) offering vocational education up to diploma level.

The 1960s and 1970s saw widespread reform of university management structures. In 1974 the Commonwealth assumed full responsibility for funding higher education (universities and CAEs). By 1985 there were 65 higher education institutions (19 universities and 46 CAEs).

Towards the end of the 1980s, the *Unified National System* of higher education was established, replacing the distinction between universities and CAEs and reducing the number of higher education institutions overall. The Federal Government assumed a

⁴ See: Australian Education International (2006). Country Education Profiles Australia. Canberra, Commonwealth of Australia.

, Marginson, S. I. F., J.J.F. and Altbach, P.G. (2006). International Handbook of Higher Education. Part Two: Regions and Countries. Dordrecht, Springer International Handbooks of Education.

for more information on the history of Australian higher education.

greater role in directing university activities towards serving national economic ends and expressed commitment to growth in student numbers. The increase in funded student places was also made possible thanks to increasing the user pays (tuition fees) from 1989 onwards. A universal *Higher Education Contribution Scheme* (HECS) for domestic students – a world first – was introduced and full-fee courses for international students appeared on the scene.

From 1996 into the 21st century the Howard Government's higher education reform agenda was having its impact on the system. In 1997 Australia had 37 'public' universities (654,694 students). A series of government reviews looking at different aspects of Australia's research and innovation system were held and led to reforms encompassing teaching and learning, workplace relations, governance, student financing, research, cross-sectoral collaboration and quality matters. More recently, in 2003, the Higher Education Support Act 2003 replaced the 1989 Higher Education Funding Act. In 2004 the *Research Quality Framework* (RQF) initiative was announced to develop the basis for improved assessment of the quality and impact of publicly funded research. Reviews of Commonwealth and State regulation of universities and implementation of the Government's reform packages are still continuing today.

The first universities in Australia were established in four of the original colonies - the University of Sydney in 1850 in New South Wales, the University of Melbourne in 1853 in Victoria, the University of Adelaide in 1874 in South Australia and the University of Tasmania in 1890. Following the creation of the Commonwealth of Australia in 1901, the University of Queensland was established in 1909 and the University of Western Australia in 1911. Between the two World Wars, two university colleges were established - Canberra University College in 1930 in the Australian Capital Territory which later joined the Australian National University in the 1960s, and the New England University College in 1938 in northern New South Wales which became the University of New England in 1954. The post war period saw the establishment of the Australian National University in 1946 and several more new universities until the number of universities had risen to nineteen by the late 1970s.

The 1960s saw the development of a binary system of higher education, consisting of the universities and a large group of advanced education institutions. Eventually there were about 70 institutions or *Colleges of Advanced Education* (CAEs) which included many long established institutions such as the large central institutes of technology, regional colleges, colleges specialising in teacher education and a number of small colleges specialising in fields such as agriculture. The advanced education institutions initially offered sub-degree level awards and later offered awards mainly at the pass Bachelor degree level, but did not offer Honours Bachelor degrees. With a few exceptions, they were not funded for research and did not offer postgraduate awards.

As part of a major reform process in 1987 the Commonwealth government decided to remove the binary divide between the 19 universities and the other higher education institutions, such as the CAEs. In 1988 Labour Minister John Dawkins announced a large-scale reform of the higher education system and its financial base (Dawkins 1987; Dawkins 1988). This was done in a major programme of amalgamations and rationalisations, resulting in significantly fewer higher education institutions. The total number of institutions was progressively reduced from 78 to 38 universities through informal influence and various forms of financial encouragement from the side of the federal and state governments. Thus, the *Unified National System of Higher Education* was created in 1989.

2.1.3 Teacher education institutions

Primary teacher education and some lower secondary teacher education took place in Australia for many years at teachers colleges. The teachers colleges were mainly government institutions but there was a small number of non-government colleges run by religious orders/authorities and non-sectarian agencies. They offered a three-year Diploma of Teaching.

When the *Colleges of Advanced Education* (CAEs) were established in the mid 1960s, many incorporated existing specialist institutions such as the teachers colleges. The three-year Diploma of Teaching was replaced by the four-year Bachelor of Education. A wide range of upgrading programmes for holders of the Diploma of Teaching were also offered. The CAEs also were able to offer a one-year programme for university graduates in addition to those programmes offered by the universities. From 1989, the CAEs were incorporated into a university structure. Currently, teacher education for all levels of schooling takes place in universities and a small number of accredited non-government colleges, leading to Bachelor degree or postgraduate level qualifications.

2.1.4 Institutional diversity in today's higher education system

A higher education provider is a body that is established or recognised by or under the law of the Australian Government, a State, the Australian Capital Territory or the Northern Territory. The provider has to be approved by the Australian Government Minister for Education, Science and Training before it can receive grants or its students can receive assistance from the Australian Government under the *Higher Education Support Act 2003* (HESA). Providers are subject to quality and accountability requirements.

Today, the post-secondary education sector in Australia consists of universities and other post secondary education institutions. The latter system consists mostly of *Technical and Further Education (TAFE) colleges*, described in section 1.

The higher education system comprises 44 institutions (2007). Forty of these receive Commonwealth funding – either on a triennial (i.e. three-year) basis, or on a contract basis. There are some private universities, but clearly the public universities dominate

the market. The public universities cater to almost 97 percent of the total student load (554,000 students) in higher education.

Under the *Higher Education Support Act 2003* (HESA – see section 4.2), higher education providers are divided into three groups: Table A, Table B and Table C Higher Education Providers.

- Table A providers are eligible to access all grants available to higher education providers under HESA. There are currently 39 Table A Providers which are predominantly public universities.
- Table B providers are eligible to access a limited number of grants available to higher education providers under HESA. Currently there are 3 Table B higher education providers listed in HESA, namely Bond University; The University of Notre Dame Australia; and Melbourne College of Divinity.
- Table C providers are a approved and accredited overseas higher education providers who have established a branch in Australia. Table C providers have access to FEE-HELP and OS-HELP loans for eligible students. Currently there is one Table C provider listed in HESA: Carnegie Mellon University.

Outside of these three groups, there is a large number of private institutions which are recognised by State authorities as higher education providers. While the recognised private providers do not receive direct public subsidies from the government, their (full-time) students do receive student support. This non-university private higher education sector caters for a rather small clientele. It mainly provides specialised, part-time courses that are closely related to professional work, offering courses in a range of areas including theological studies, business and information technology and arts and health related studies. Australia has over 100 higher education providers approved by State/Territory authorities to offer particular higher education courses. It is not so much degree (i.e. diplomas or advanced diploma) programmes below the level of a bachelors degree that are popular in this sector. Instead, mostly postgraduate diploma programmes are taken up by the students in this private non-university sector. In that respect, the sector is different from the public university sector and hardly acts as a competitor to the universities. The private institutions are very diverse and competing mainly among themselves.

The private higher education institutions are listed in the Register of the Australian Qualifications Framework (AQF) The *AQF Register* contains information about the recognition status of institutions and the qualifications they award. There are two registers which are relevant:

- Non Self-Accrediting Higher Education Institutions and their AQF-approved qualifications
- Overseas Higher Education Institutions and their AQF-comparable approved qualifications

Research activity is widely distributed across the university sector, but 5 of the 36 universities receive nearly half the research income. In other words, the system is to

some extent stratified. Table 2-1 provides a categorisation of Australian universities. The research intensive institutions - also known as the elite sandstones – have organised themselves in the *Group of Eight* (Go8). They are seen as the most prestigious institutions. There are also the technological universities (the former major technical institutes), the institutions set up in the 1960s, the regional universities, and the newer universities (established after 1974).

Table 2-1: Categorisation of Australian universities

Research intensive	Technological	Sixties	Regional	Newer
Addelaide	Curtin	Flinders	Ballarat	Bond
ANU	QUT	Griffith	Central Old	Canberra
Melbourne	RMIT	La Trobe	Charles Sturt	Catholic
Monash	UniSA	Macquarie	James Cook	Deakin
Queensland	UTS	Murdoch	Newcastle	Edith Cowan
Sydney			N. Territory	Swinburn
UNSW			Southern Cross	VUT
WA			Southern Qld	Western Sydney
			Tasmania	
			UNE	
			Wollongong	

Source: (Moody 1998, p. 3)

Australian universities are generally comprehensive institutions offering a wide range of programmes. They vary significantly in size, ranging from the largest with around 40 000 students down to the smallest at around 2 000 students. Most range between 10 000 to 20 000 students. Many universities are located in the major cities but there is a significant number located in smaller regional centres. The larger universities usually have a number of campuses. Most universities are organised on the basis of faculties or schools but may also have a number of specialised and/or research centres or institutes. Many have residential colleges which have no responsibility for teaching but may provide additional tutoring.

Traditionally, universities in Australia have offered academic and professional education. *Professional* in Australia refers to degree level awards qualifying the holder to practice in a profession such as architecture, dentistry, engineering, law,

medicine, social work and veterinary science. More recently, many universities and other higher education providers have added a range of more applied or *vocational* programmes in fields such as business, management, design, hospitality and tourism. These may also be referred to as *professional* programmes, i.e. occupationally-oriented programmes.

Universities do not necessarily offer programmes in all disciplines. For example, there are only ten medical faculties in Australia, seven faculties of pharmacy, five of dentistry and four of veterinary science. Non-university higher education institutions tend to offer a narrower range of studies, in some cases offering programmes in only one or two fields of study.

Most programmes are available in full-time or part-time mode. Delivery of programmes through distance education and on-line through the internet has grown rapidly in recent years. In some cases, programmes may be provided outside Australia.

2.2 Diplomas and degrees awarded

2.2.1 Introduction

The academic degrees offered by universities are listed in the AQF; see section 6.2. The AQF is a unified system of educational recognition that was introduced in 1995. The AQF distinguishes the following qualification levels:

- Doctoral degree
- Masters degree
- Graduate diploma
- Graduate certificate
- Bachelor degree
- Associate degree
- Advanced Diploma
- Diploma

The AQF provides descriptors for these qualifications which are accredited through the higher education sector.

Diplomas, advanced diplomas, associate degrees

In the higher education sector, AQF *Diplomas* are based on an academic programme with an applied focus, providing general or specialised training for employment at the para-professional level. Diplomas require from one to two years of full-time study or part-time equivalent. Entry requirements are variable depending on the purpose and nature of the programme.

In the higher education sector, an *Advanced Diploma* usually comprises units from a Bachelor degree programme, providing an early exit point with a stand-alone qualification but with the option of continuing to the Bachelor degree. Entry is usually

based on normal university entry requirements. Most Advanced Diplomas require two years of full-time study or part-time equivalent.

The *Associate Degree* provides the foundational underpinnings of one or more academic disciplines. It includes the development of academic skills and attributes necessary to access, comprehend and evaluate information from a range of sources. It is intended to develop generic employment-related skills relevant to a range of employment contexts. Normally the Associate Degree requires two years of full-time study, and provides the basis for full articulation into the relevant Bachelor degree programmes.

Bachelor degrees

In universities, the main programme is the bachelor's degree. The AQF describes the Bachelor Degree (BA) as follows: the BA indicates the acquisition of a systematic and coherent body of knowledge, the underlying principles and concepts, and the associated problem-solving techniques. It involves the development of the academic skills and attitudes necessary to comprehend and evaluate new information, concepts and evidence from a range of sources. It also involves the development of the ability to review, consolidate, extend and apply the knowledge and techniques acquired.

The basic Bachelor degree requires three years of full-time study or part-time equivalent. Some examples of such degrees are Bachelor of Arts (BA), Bachelor of Science (BSc), Bachelor of Commerce (BCom), Bachelor of Applied Science (BAppSc), and Bachelor of Business Administration (BBusAdmin).

Some universities offer three-year Bachelor degrees in professional fields, such as technology [engineering] (BTech), jurisprudence (BJuris) and architectural studies (BAppSc–ArchSc), which provide professionally oriented education different from that of the four-year BEng and LLB and the five-year BArch. A number of Bachelor degree courses are four or more years in duration. Apart from Honours degrees (described below) this is most common in professional education, where additional time may be required to prepare students to operate in a professional context. For example, Bachelor degrees in law (LLB), engineering (BEng) and agriculture (BAGSc) normally require four years of full-time study; Bachelor degrees in architecture (BArch), dentistry (BDSc) and veterinary science (BVSc/BVS) normally require five years of study. The medical degree (MB BS) is six years in duration.

The term *Honours degree* is usually used to distinguish it from a basic three-year degree. Where the basic degree course requires three years of study, the Bachelor Honours degree requires four years of study, with students being selected on the basis of outstanding academic achievement at a earlier stage in the undergraduate degree programme. The additional year normally involves specialised study and research, and the submission of a thesis. For degrees of four (or more) years, for example in engineering or law, the Bachelor Honours degree is awarded on the basis of the level of performance in the degree as a whole. Honours are often awarded solely on merit, but in some cases additional work is required, usually in the final year. Generally this involves an increased course load or short thesis rather than a longer course but

occasionally an additional year's study is required. When a Bachelor degree is awarded with Honours the abbreviation 'Hons' is used - for example, BA (Hons), LLB (Hons). Honours graduates with Honours in the First Class or in the Second Class (Upper Division) may be permitted to proceed directly to a Doctoral programme.

Graduate certificates and diplomas

Graduate Certificates and *Graduate Diplomas* are postgraduate qualifications below the level of Master degrees. They can involve the broadening of skills already gained in an undergraduate programme or developing knowledge and skills in a new professional area. The Graduate Diploma may also provide further specialisation within a systematic and coherent body of knowledge. Graduate Certificates and Graduate Diplomas are usually based on coursework rather than research. The [Graduate] Diploma of Education (DipEd) is probably the best known award to develop new skills. Graduate Diplomas normally require one year of full-time study, or part-time equivalent. Entry is normally based on a Bachelor degree.

Master degrees

The Master Degree is a postgraduate qualification. A Master Degree may involve the enhancement of specific professional or vocational skills through directed coursework and/or research. Alternatively, a Master Degree may indicate the acquisition of in-depth understanding in a specific area of knowledge through research. A master's degree typically requires two years. There are three types of Master degree programmes: coursework, research and professional. Most Masters degrees require the equivalent of two years of study post the three year Bachelor degree or one year of study post the Bachelor Honours degree or four year (or longer) Bachelor degree. A Master degree may be undertaken by coursework, project work and research in varying combinations with entry from a Bachelor degree, a Bachelor Honours degree or a Graduate Diploma. Master degrees with a major coursework component often have a *professional* or vocational orientation, but some are academic in subject orientation. The *research Master* degree programme is comprised of at least two-thirds research with a substantial, often externally assessed thesis and normally requires a minimum of one calendar year of full-time study. Entry requires a Bachelor Honours degree or Master preliminary year, a research-based Graduate Diploma or equivalent research experience. The research Master degree is often converted to, or used as preparation for a Doctoral programme.

The *professional Masters* degree programme may involve a work-based project, with entry from a relevant qualification and professional experience or extensive relevant professional experience. Professional coursework Masters degrees are often undertaken by part-time study.

Doctoral degrees

Doctoral Degrees are the highest level of postgraduate study. The Research Doctorate, the Professional Doctorate and the Higher Doctorate are the three main categories of doctoral degrees awarded by Australian universities. A typical research or

professional doctorate programme would require the equivalent of three to four years of full-time work. Characteristics of learning outcomes at this level include a substantial original contribution to knowledge in the form of new knowledge or significant and original adaptation, application and interpretation of existing knowledge.

Doctoral degrees usually involve a searching review of the literature, experimentation or other systematic approach to the relevant body of knowledge. An original research project is undertaken resulting in a significant contribution to knowledge and understanding and/or the application of knowledge within a discipline or field of study. A substantial and well ordered thesis is prepared, demonstrating the relationship of the research to the broader framework of the discipline or field of study.

The *Research Doctorate* is usually entered from a research or part-research Masters degree or a Bachelor Honours degree (First or Second Class, upper division) and is primarily achieved through supervised research.

The *Professional Doctorate* is usually entered from a combined research and coursework Masters degree, a Bachelor Honours degree (First or Second Class, upper division) or equivalent and requires significant professional practice either prior to and/or as part of the programme, which may be undertaken through varying combinations of coursework and research.

Most universities in Australia award *Higher Doctorates* such as the Doctor of Letters (DLitt), Doctor of Science (DSc), Doctor of Laws, Doctor of Medicine (MD). Regulations for the award vary between institutions, and in many universities the award is restricted to scholars with a substantial connection with the institution. In most disciplines, Higher Doctorates are awarded on the basis of published or unpublished work considered constituting a significant original contribution to the field of study. However, Higher Doctorates may be awarded on the basis of a thesis, especially in medicine, dentistry and law. Comparatively few Higher Doctorates are awarded in Australia, the MD being by far the most frequently granted.

2.3 Admission

2.3.1 Entrance qualifications

Admission to a higher education course for school leavers is normally based on completion of full secondary education, (i.e. Year 12). Entry is normally determined by the student's tertiary entrance score, rank or index. *Tertiary Admissions Centres* in each State or Territory act as 'clearing centres' and coordinate the admission to the universities in 'their' state. Since the 1996 academic year there has been a national approach to handling interstate applications to facilitate the entry of students to institutions outside their home state.

The method of calculation of the tertiary entrance score, rank or index varies between States and Territories in Australia. Students seeking admission to higher education are provided with a *tertiary entrance score or rank*, in some cases referred to as a

universities admissions index, on the basis of their senior secondary education performance. These are used by the higher education authorities for selecting students for admission to specific programmes. The *Tertiary Entrance Rank* (TER) may be calculated in various ways, depending on the State. For instance it can be calculated as a percentile ranking of students, e.g. a student with a TER of 90 means the student was ranked in the top 10 per cent of the age cohort. The TER is reported on a scale of 0 to 100 in intervals of 0.05.

To provide the basis for decisions on applications by individual universities, each state develops a ranking for each percentile level of achievement in each subject. Thus, a student given a 'mark' of 100 would be in the top one per cent of students, while one with a score of 90 would be at the bottom end of the top 10 per cent, and so on. The subject scores are combined to give an aggregate score, with the scores attracting a subject weighting determined by the State. Admissions of school leavers is based on the aggregate score thus calculated in the Senior Secondary Certificates of Education.

Individual universities may also have additional academic requirements for admission to specific programmes. Each university in a State will determine its own cut-off point score for each subject area and gives this to the State Clearing Centre. The students for their part will have expressed their university preferences in order. During a highly interactive period of three days between the clearing centres and the universities, the allocations are made, albeit complicated by a proportion of students declining offers made to them. The prestigious, popular universities will set high entry cut-off points, but their required scores will vary between subjects, possibly quite markedly. Each university needs therefore to have a good understanding of its standing in the student reckoning, subject by subject. Students appear to be extensively informed, one of the sources being a *Good University Guide*, published by a major national newspaper (Jongbloed, Kaiser et al. 2004).

Students who wish to apply for entry to higher education institutions in another State or Territory use their home State or Territory scores and do not have to sit for a further examination. Tertiary admissions centres convert interstate scores or rankings using a common index (a *Universities Admission Index*) which was developed by the Australasian Conference of Tertiary Admissions Centres.

Most institutions make special provision for the admission of mature-age students. Such applicants for admission to regular programmes are usually required to have completed Year 12, but are sometimes admitted without this prerequisite if they meet other criteria, such as work experience in the area they wish to study, an entrance examination, or a demonstrated aptitude for study. There are also special admission schemes or arrangements for other identified groups, such as Indigenous people.

2.4 Access

The key factors determining the capacity of Australians to access higher education are the overall size of the higher education sector relative to the Australian population, and the distribution of places across States and Territories.

2.4.1 Excess demand

Student demand consistently exceeds the supply of higher education places, although the extent of unmet demand varies from year to year. The Australian Vice Chancellors' Committee (AVCC) *Survey of Applicants for Undergraduate Higher Education Courses* reports on State admission centre applicants and their (first or second) preferences for undergraduate study.

In 2003, there were 229,427 eligible applicants for Australian university entry, up by 3% from the prior year. There were 63,118 unsuccessful eligible applicants recorded in 2003, 17% more than 2002. Over 27 per cent of Australian eligible applicants were unsuccessful in 2003. In ratio terms, for every 100 eligible applicants nationally, over 27 did not receive an offer in 2003, compared with 24 in 2002. It is widely accepted across the higher education sector, however, that these figures represent an inflated view of the genuine level of unmet demand. In determining realistic estimates of eligible applicants not able to obtain an undergraduate place, the AVCC discounts the total gross applicant figures, taking into account the following factors:

- Less qualified applicants
- Double counting of interstate eligible applicants
- The number of preferences expressed by applicants
- The rejection rate of offers by successful applicants.

The discounted figures offer more realistic measure of unmet demand. Using the corrected figures, the realistic number of unsuccessful applicants in Australia is estimated to be in the range of 18,700 (8%) to 25,700 (11%) in 2003, compared to 14,000 (6%) to 20,000 (9%) in 2002. More recent studies of unmet demand, however, show a decline in the numbers of unsuccessful eligible applicants by more than a half (AVCC 2006a).

2.4.2 Equity issues

Equity has always been an issue of concern in Australia and is reflected in the popular colloquialism "a fair go". In 1990, the Commonwealth Government signaled its recognition of these concerns in a discussion paper "A Fair Chance for All: Higher Education That's Within Everyone's Reach". Equity interests are also served in Australia by the long tradition of part-time study which has enabled students in employment to improve their qualifications and in more recent years by the expansion of distance education.

While Australia strives for social justice and equal rights of all Australians to enjoy higher education, concerns are expressed frequently about the differential rates of access to higher education. It is increasingly recognised that Australians with low educational levels are vulnerable and at risk of being marginalised in a knowledge-based society in which labour markets require sophisticated skills and the capacity to access and interpret new knowledge. While the number of students from socially disadvantaged backgrounds has increased significantly over the last decade, their share of the student population has remained relatively stable. This may be in part attributed to student aspirations, which play an important part in educational decisions. This is a particular issue for Indigenous (primarily Aboriginal) students and those from rural or socio-economically disadvantaged backgrounds.

Policies have been implemented to encourage students from these groups to participate in higher education. Some of these policies will be discussed below in the section on financial support for students. However, in general, the Australian government requires that institutions receiving public funds support equity of access. Since 1991, the Australian Government has identified the following groups as targets for equity planning, on the basis of their history of relative disadvantage in accessing higher education. These are:

- Indigenous Australians;
- people from a non-English-speaking background who have arrived in Australia within the last ten years;
- people with disabilities;
- people from rural and isolated areas;
- women, particularly those in non-traditional areas of study; and
- people from socio-economically disadvantaged backgrounds.

Assistance is provided to institutions for their Indigenous students through the *Indigenous Support Fund* and for other equity groups through the *Higher Education Equity Programme* (HEEP). A review of HEEP took place in 2003-04. Table 2-2 sets out the number and proportion of the HEEP equity groups between 1991 and 2003.

Table 2-2: Equity groups in higher education, 1991 to 2003

	1991	share 1991	2003	share 2003
from low SES background	74309	14,7%	97241	14,5%
from non-English speaking background	20769	4,1%	23342	3,5%
from rural areas	92998	18,4%	116689	17,4%
from isolated areas	7885	1,6%	8682	1,3%
with a disability	-		23855	3,6%

Source: (DEST 2003)

Of students who applied for admission to university in 2006, 57% were female. Of students who were offered places in 2006, 58% were female which indicates that they were slightly more successful in gaining entry into university in 2006.

Australian higher education participation is heavily biased in favour of people from high socio-economic status (SES) backgrounds and heavily biased against people from low SES backgrounds. Broadly, the 25% of people from high SES backgrounds enrol in higher education at twice their representation in the general population, people from the 50% in the middle SES group enrol in rough proportion of their share of the population, and the 25% of people from low SES backgrounds have about half their proportionate participation in higher education. Socio-economic status differs widely by region. Major urban areas have a disproportionately low proportion of low SES people – only 17% for all of Australia - and a disproportionately high share of high and medium SES populations.

Perhaps the most significant contribution to equity was the introduction in 1989 of the deferred payment of tuition fees (CPB & CHEPS 2001). This policy – introduced by then Minister John Dawkins – meant that for those who cannot afford to pay the tuition fee up front, payment can be deferred until after graduation. This payment scheme is known as the *Higher Education Contribution Scheme* (HECS) and is discussed at length elsewhere in this report.

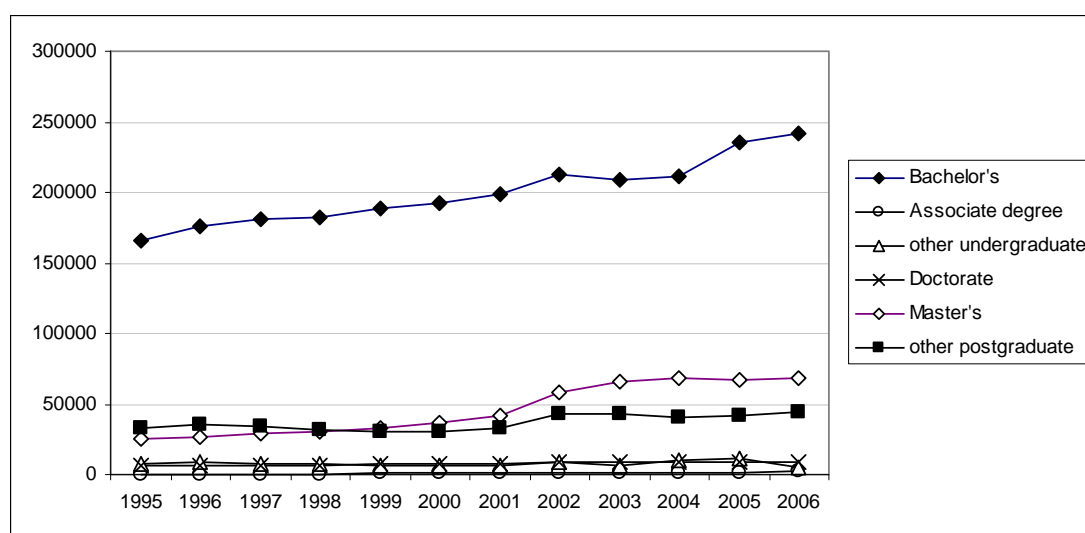
At first glance, having a tuition scheme in place might seem paradoxical. How does the introduction of a charge on students advance equity? The claim rests on the argument that university graduates are better placed than non-graduates to obtain jobs and to earn a good income, that the individual rate of return on a university degree exceeds that of the social rate of return and that there are better ways to use public funds for education than heavy subsidies to undergraduate programmes. The debate on this issue in Australia occurred in the late eighties but subsided quickly and the scheme of deferred payment, although still criticised by the students' unions and academics, has gained widespread acceptance and is of considerable international interest. The government, by reinvesting the income it received from the deferred payment in further places in higher education, was able to claim that it had achieved several policy objectives: an increase in funded places, equity goals, and a contribution to fiscal responsibility.

To combat equity issues, the Department of Education, Science and Training (DEST) provides additional support to universities for equity purposes, such as the Higher Education Equity Support Program (ESP) and the Higher Education Disability Support Program (DSP). DEST also administers the Commonwealth Learning Scholarships to assist low socio-economic students, particularly those who are from rural and regional areas or Indigenous, with costs associated with higher education.

2.5 Statistics

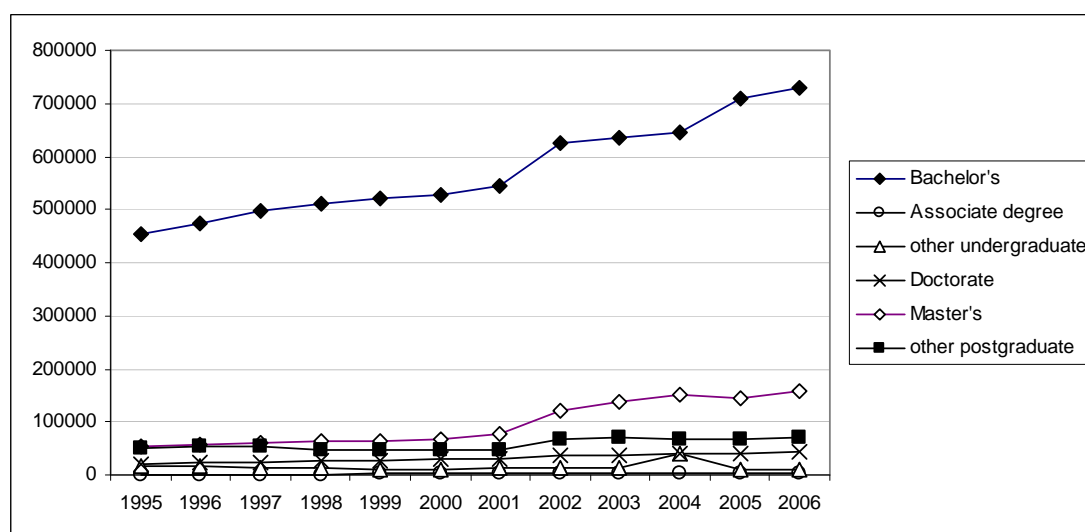
Diploma programmes and associate degree programmes are marginal programmes in terms of inflow and enrolment. The main undergraduate programmes are the bachelor programmes and inflow and enrolment in such programmes have grown steadily over the last decade. In 2002 and 2005 the number of new entrants ‘peaked’ which lead to an upward shift in the trendline of enrolment. The rise in 2002, that can also be observed in the master programmes and the other postgraduate programmes, is caused by an increase in economics-related programmes.

Figure 2-1: New entrants in university programmes



Source: IHEM database 2008

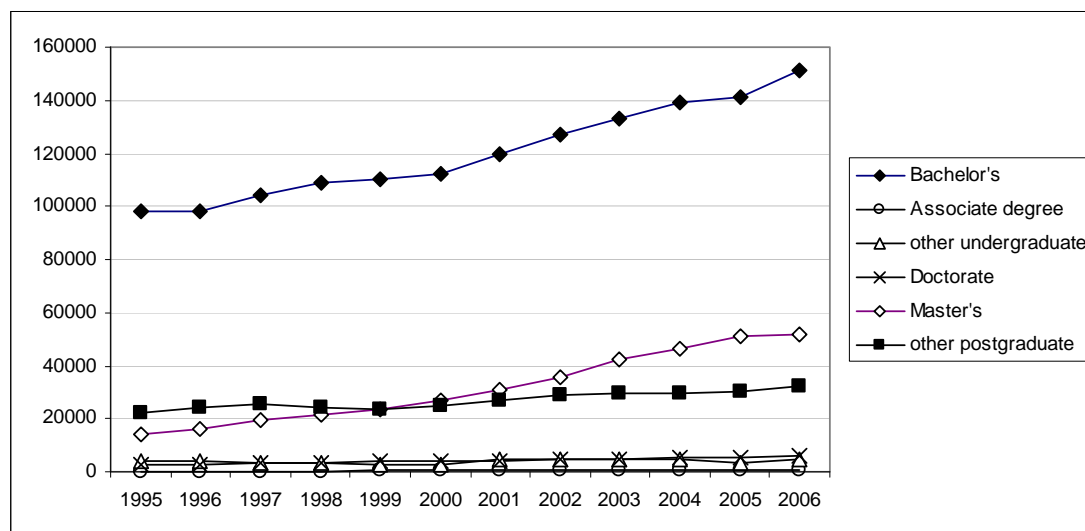
Figure 2-2: Enrolment in university programmes (headcount)



Source: IHEM database 2008

Comparing the levels of inflow and enrolment, it can be noticed that the level of bachelor enrolment is relatively high. This is due to the length of the programme (three to four years) which is longer than the rest of the programmes.

Figure 2-3: Higher education graduates by programme



Source: IHEM database 2008

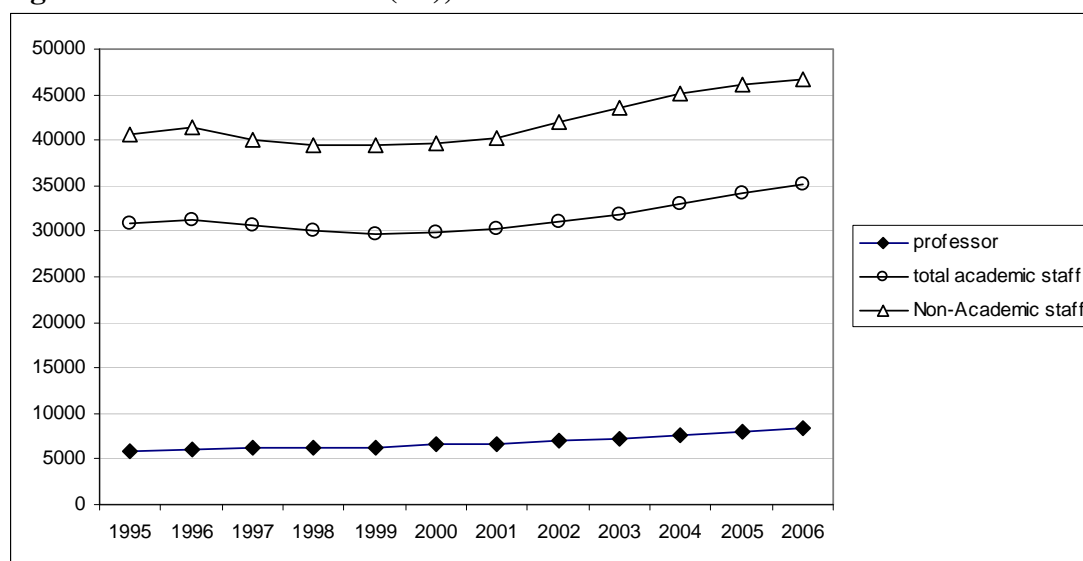
2.6 Staff

There was just under 82,000 staff (in full-time equivalents, FTE) employed in Australian higher education providers in 2006 according to the statistics published by the Australian Department of Education (DEST). This number is the total of academic staff and non-academic (or: general) staff. Academic staff can be classified according to the following levels:

- Level A: Associate Lecturer (tutor)
- Level B: Lecturer (or equivalent)
- Level C: Senior lecturer (or equivalent)
- Level D: Associate professor, reader
- Level E: Professor

Around two thirds of staff is tenured – the rest being employed on a limited term.

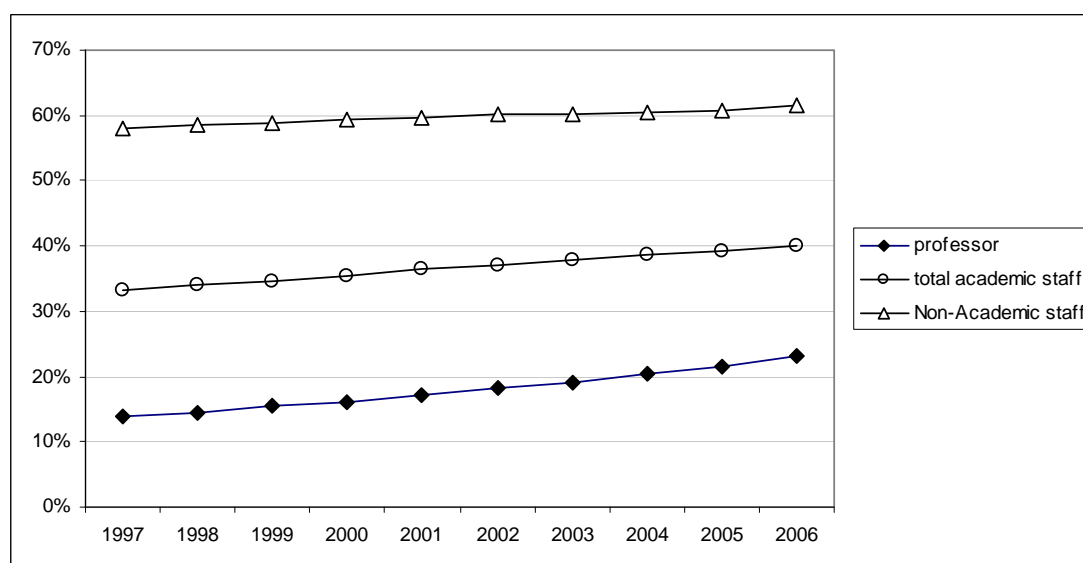
Staff numbers have been steadily increasing since 1999.

Figure 2-4: Number of staff (fte), 1995 – 2006

Source: IHEM database 2008

There is a slight trend away from full-time employment and toward part-time and casual employment. Almost three in every four staff members were employed on a full-time basis in 2005.

Staff engaged in a ‘research only’ function accounts for 12.1% of total full-time equivalence in 2005. There has been a steady growth in academic staff undertaking research only. Unlike ‘teaching only’ staff, the majority of staff in this function (76.5%) were employed on a full-time basis. This level has remained steady since 2000. Staff engaged in a ‘teaching and research’ function accounted for 26.8% of total full-time equivalence in 2005. Of these, 90.7% were employed on a full-time basis, and only 0.2% as casual.

Figure 2-5: Percentage of female staff

Source: IHEM database 2008

Like in many other countries, Australia's higher education staff is ageing, with an increase of 81% from 1996 to 2005 in staff aged 55 and over. In 1996 around one in eight staff was aged 55 and over. This proportion increased to almost one in five in 2005. This change has been characterized mainly by an increase in female staff, as numbers in this age group have more than doubled since 1996. The number of female staff in academic classifications has increased. The greatest proportional increase of women has occurred in the senior academic classifications

3 Research infrastructure

3.1 Introduction

Australia has a well-developed but comparatively small science base, with the majority of its R&D effort concentrated in the public sector. Taking into account the size of the nation, Australia's contribution to world science is impressive, particularly with respect to medical and health disciplines and biological sciences and astronomy. Australia's scientific output has steadily increased:

- in 2004, Australia accounted for 2.89 per cent of world research;
- it ranked ninth out of 21 countries behind Canada, France, Germany, Italy, Japan, Spain, the United Kingdom (UK) and the United States of America (USA) in the total number of research publications and ahead of countries such as Korea, the Netherlands, Sweden and Switzerland;
- it ranked eighth out of 21 countries in the number of research publications on a *per capita* basis, ahead of Canada, France, Germany, Japan and the USA and behind Denmark, Finland, Israel, Netherlands Switzerland and the UK.

Over the last decade or so, Australia's investment in knowledge (defined by the OECD as including R&D, education and training, and software) as a percentage of GDP has varied from a low of 3.7% in 1993 to a high of 4.12% in 2002. This places Australia amongst the top 50 per cent of OECD countries, but below the OECD average of 5.2%. In the last three decades, total expenditure on R&D has quadrupled, from A\$3.1 billion in 1976-77 to A\$12.2 billion in 2002-3, with an average growth rate of 5.2 per cent.

3.2 Performers

3.2.1 Public sector research agencies

The Australian Government is a major R&D performer through Australian government agencies such as the CSIRO (*Commonwealth Scientific and Industrial Research Organisation*) and the DSTO (*Defence Science and Technology Organisation*).

CSIRO is Australia's national science agency. It operates as an independent statutory authority. Its primary tasks include conducting research to: assist Australian industry; further the interests of the Australian community; and encourage or facilitate the application or utilisation of scientific research results. It also performs a number of subsidiary roles such as the training of researchers and the interpretation and dissemination of scientific and technical information. It devotes very few resources to experimental development (the domain of the business sector) or to pure basic research — a major focus of activity in higher education institutions. CSIRO has 6500 employees and 17 research divisions located across 57 sites throughout Australia, including two locations abroad. CSIRO has established six priority programmes: the National Research Flagships.

DSTO's mission-based research effort is far more concentrated than that of the CSIRO and focuses on 'providing specialist advice to the Government and Defence to ensure the efficient and effective operation of defence and the development of Australia's future defence capability'.

Other public sector research agencies (PSRAs) are much smaller. We mention ANSTO (*Australian Nuclear Science and Technology Organisation*), *Geoscience Australia* and the *Australian Institute of Marine Science*.

The R&D expenditure by federal research agencies lies around A\$1.6 billion in 2004-05. Australia has a high proportion of its domestic R&D performed by such government labs. In 2004, the OECD as a whole undertook around 12.5% of total R&D activity in PSRAs, whereas the figure for Australia is 16.2%.

3.2.2 Universities

Where the public sector research agencies undertake strategic basic and applied research; the higher education institutions primarily undertake basic research. Universities perform a large part of the publicly funded research (see figure 3.1). Higher education expenditure on R&D in 2004-05 represents 0.48% of gross domestic product (GDP), which is up from 0.40% in the mid 1990s and 0.33% in 1990-91. The universities' share of national R&D activity in 2004-05 is 27%, which is a percentage that has been relatively stable over the past decades. By way of comparison: the OECD average for 2004 is 17%.

Part of the R&D activity in the higher education sector takes place in Centres of Excellence. The Centres of Excellence (CoE) program is a competitive program run by the Australian Research Council (ARC). Starting in 2003, initially 8 such centres were set up in research priority areas. The designated national research priorities were (1) an environmentally sustainable Australia, (2) promoting and maintaining good health, (3) frontier technologies for building and transforming Australian industries, (4) safeguarding Australia. Two selection rounds were held so far (in 2003 and 2005) and with the recent (2007) start of a new centre (Policing & Security) some 18 CoEs are operating. No new CoEs are foreseen for the future.

Apart from the CoEs just mentioned, the ARC also has five International Centres of Excellence and co-funds three other CoEs (Genomics, Stem Cells, ICT). All such centres are collaborations between various organisations (universities, business, CRC, CSIRO and international partners).

3.2.3 Industry

In 2004-05, business expenditure on R&D accounted for almost 8.5 billion A\$. This represents 0.95% of GDP. The business sector has conducted an increasing share of R&D activity over the past 30 years, its share growing from 23% of gross domestic expenditure on R&D in 1978-79 to 53.5% in 2004-5.

As part of the R&D efforts by industry we mention the *Cooperative Research Centres* (CRC) program. The CRC programme links researchers with industry to focus R&D

efforts on progress towards utilisation and commercialisation. There are currently 56 CRCs operating in 6 sectors: environment (13), agriculture and rural-based manufacturing (15), ICT (5), mining and energy (7), medical science and technology (8), and manufacturing technology (8).

3.2.4 Other performers

State and Territory government research agencies like the Queensland Department of Primary Industry and Fisheries also undertake significant R&D, with collective spending of around \$980 million in 2004-05. The overall importance of State and Territory government research agencies as R&D performers has increased over the long run compared with Australian Government research agencies. It currently accounts for 6.2% of overall R&D activity.

The private non-profit sector is relatively small but it increased its share in national R&D activity from 1.2% to 3.1% in the past 25 years.

3.3 Providers

3.3.1 Australian government

Direct government funding support for R&D (see figure 3-1) has been concentrated on research in universities (almost A\$ 4.3 billion in 2004-05), CSIRO and other public agencies, rather than on business R&D and other knowledge assets. Where business support is provided by the Australian Government, it is overwhelmingly aimed at stimulating R&D through tax concessions (A\$ 580 million in 2004-05), rather than commercialisation or diffusion of ideas.

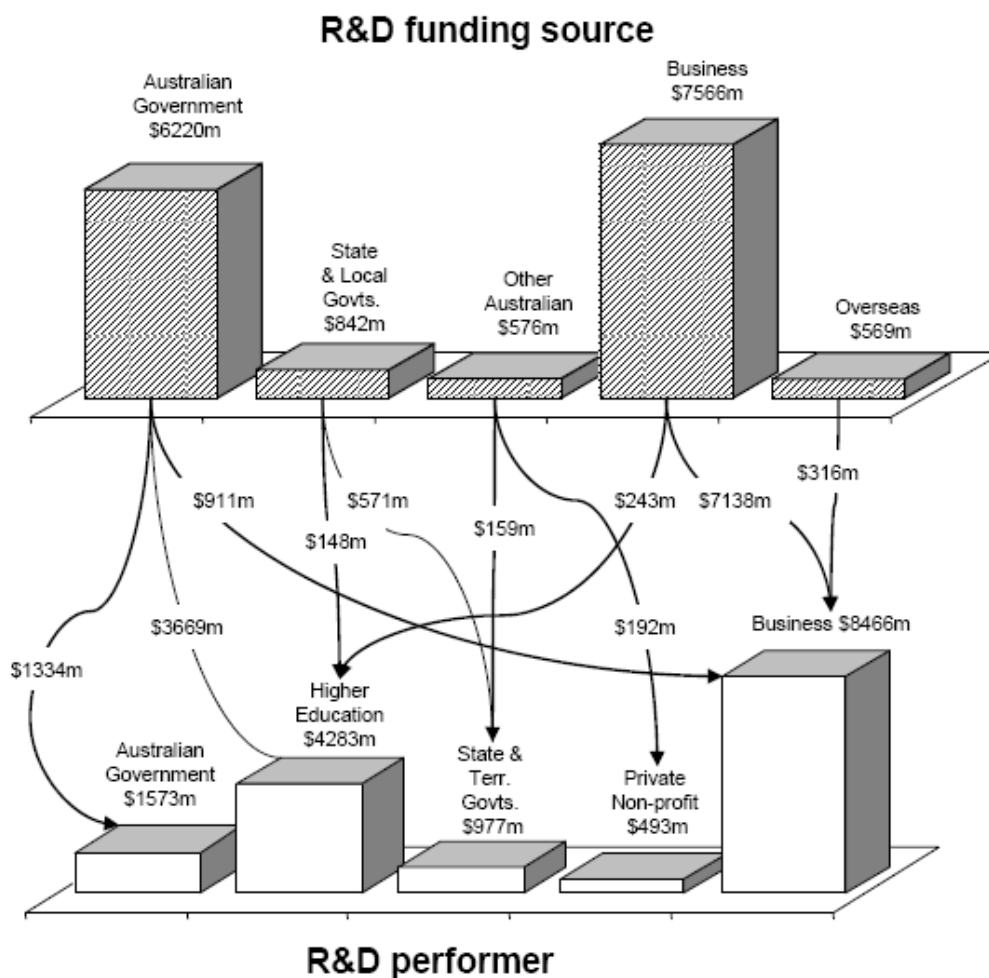
The data presented in figure 3-1 indicates the major research (R&D) sources of funding. Government - overwhelmingly, the Australian federal government - funds the bulk of its own and most higher education R&D (HERD). The higher education sector is the single most important direct recipient of R&D funding from the Australian Government (A\$ 3.7 billion in 2004-05), commanding around four in every ten dollars. The remaining six in every ten dollars are roughly evenly distributed between government agencies (the PSRAs), business, and public-private sector organisations (such as the CRCs).

Compared with most other countries, Australia devotes a relatively high proportion of its total science and innovation budget to PSRA research, with these agencies accounting for around 23 per cent of total Australian Government support in 2005-06 (Productivity Commission 2007p. 464)

Universities receive block funding for research directly from the Australian Government as part of their *Commonwealth Government Grant* and performance-based block grants (see section 4.5). They are also the primary recipient of the competitive

funding programs administered by the *Australian Research Council* (ARC) and the *National Health and Medical Research Council* (NHMRC).

Figure 3-1: Performers and providers of research in Australia, 2004/05



Source: (Productivity Commission 2007, p. 25)

Note: Dollar amounts are in Australian Dollars.

Competitive funding by the ARC and the NHMRC is allocated at the project and sub-institution level. The ARC funds research in all fields except clinical medicine and dentistry, with specific funding for medical research administered by the NHMRC. Competitive funding levels have increased significantly over the past few years.

The main streams of ARC funding are *Discovery* – for investigator initiated research and research fellowships - and *Linkage* – which supports collaborative research projects, infrastructure, and fellowships undertaken with partner organisations in the private sector and government. A component of this stream also provides the funding for the Centres of excellence mentioned earlier.

The bulk of NHMRC funding goes to the higher education sector (72 per cent of funding in 2005), but funding also goes to medical research institutes (25 per cent of funding in 2005), and hospitals and other government and non-government research organisations (3 per cent).

3.3.2 Industry

Industry is the largest provider of R&D financial resources. The majority of funding for R&D in the business sector comes from the sector itself (A\$ 7.1 billion in 2004-05). Universities get only 5% of their R&D funds from industry.

3.3.3 Other providers

State and local governments provide R&D funding mainly to their own research agencies, the remainder going to higher education institution and ARC research institutes. Non-profit agencies, individuals and others contribute to R&D activity in state government and non-profit organizations.

3.4 Research Policies

Research is funded through a system of dual funding, described in more detail in section 4.5 later on in this report. On the one hand there is the Commonwealth funding of universities, while on the other there is the competitive funding through the research councils (ARC and NHMRC). This system has been under close scrutiny in particular from the year 1999 onwards. While the research funding system has always included elements of selectivity and concentration, the intention of increasing competition over research funding even further was expressed by the then Minister, David Kemp in a discussion paper on research and research training entitled *New Knowledge, New Opportunities* (Kemp 1999). The paper identified several deficiencies in the existing framework which were considered to limit institutional capacity to respond to the challenges of the emerging knowledge economy. These included: funding incentives that do not sufficiently encourage diversity and excellence; poor connections between university research and the national innovation system; too little concentration by institutions on areas of relative strength; inadequate preparation of research graduates for employment; and unacceptable wastage of resources associated with low completion rates and long completion times of research graduates. A particular concern was with research training and the funding of PhD and research masters students.

The government released its policy statement on research and research training, *Knowledge and Innovation: A Policy Statement on Research and Research Training* in December 1999 (Kemp 1999). Major changes to the policy and funding framework for higher education research in Australia were identified. The principal ones were:

- a strengthened Australian Research Council and an invigorated national competitive grants system;

- performance-based funding for research student places and research activity in universities;
- the establishment of a broad quality verification framework supported by Research and Research Training Management Plans; and
- a collaborative research program to address the needs of rural and regional communities.

The Government, in January 2001, announced a major Innovation Action Plan, *Backing Australia's Ability* (Commonwealth of Australia 2001). This increased funding generally by A\$2.9 billion over five years and in higher education by A\$1.47 billion. The plans included funding for a doubling of ARC competitive grants, increased project-specific and systemic infrastructure grants. The *Knowledge and Innovation* (K&I) Reforms led to major changes in the block funding for university research.

A comprehensive evaluation of the effectiveness of the *Knowledge and Innovation* reforms was undertaken in 2003 by an External Reference Group (ERG) chaired by Professor Chris Fell. The evaluation reviewed the operation and impact of the block grant research programmes, the Research Training Scheme (RTS), the Institutional Grants Scheme (IGS), and the Research Infrastructure Block Grants Scheme (RIBG). The K&I principles of excellence, autonomy, linkage and collaboration, contestability and accountability were largely supported the stakeholders. It was found that the approach adopted under K&I of making all research block funding provided to universities subject to performance formulae had had a positive impact. Universities and university bodies broadly opposed any move of research funds away from performance-based block funding for the universities towards the research councils.

There was substantial comment on the need to assess universities on the *quality* of their research outputs and the desirability of using such assessments as a tool for funds allocation. The discussion focussed on whether Australia should adopt some variant of the United Kingdom's Research Assessment Exercise (RAE). While the majority of respondents in the HE field saw significant problems with the RAE, the government did go ahead in the following years with its plans to design an RAE-type of approach to quality assessment.

4 Financial aspects

4.1 Introduction

The expansion of Australia's higher education system over the past fifty years has been accompanied by substantial structural and funding changes. During World War II and in the following years the Australian Government began to play a more prominent role in public higher education funding and policy, assuming full funding responsibility for higher education in 1974 and abolishing tuition fees in the same year.

The major reorganisation of the higher education sector was undertaken by the Government in the 1980s (see section 2.1) against a background of significant policy reforms aimed at engaging Australia with the global economy and the huge increase in participation rates in the final years of schooling. During this period the Government introduced student contributions through the Higher Education Contribution Scheme (HECS), designed to provide a more equitable arrangement for funding of the higher education sector.

From 1986 universities were able to charge full fees for overseas students. Universities were quick to take up the opportunity to generate additional income flowing from this initiative and to market themselves as high quality education providers. The deregulation of higher education gained momentum in the 1990s. Fee-paying post graduate courses for Australian students were introduced and growth in domestic fee-paying students dominated growth in post-graduate studies in the 1990s. From 1998, universities were given the flexibility to offer fee-paying places to Australian undergraduate students which has led to greater numbers of domestic fee-payers and greater flexibility in the setting of fees by universities.

We will now describe the funding of teaching (section 4.2), the HECS system of charging deferred tuition fees (section 4.3), student support (section 4.4) and the funding of research (4.5). Section 4.6 provides an overview of the income sources of Australian universities.

4.2 Funds for teaching

4.2.1 Funding until 1990

The funding arrangements for Australian universities until the late 1950s and for colleges of advanced education until the 1970s were as follows: institutions received a block grant from their State government which they supplemented with fees from clients - students. Institutions were expected to service all the eligible clients who sought their services. An increase in the demand for services and the number of clients serviced, as imperfectly as these could be ascertained, supported arguments for

increases in funding, but they were persuasive only. The annual pressures on State government budgets probably affected the size of the government grant.

In 1957 the Committee on Australian Universities, installed by the government and chaired by Sir Keith Murray, carried out an Inquiry on the financing of Australian universities. It came to the finding that the financial stringency was the root cause of the shortcomings across universities: short staffing, poor infrastructure, high failure rates, weak honours and postgraduate programmes. The financial recommendations of the Murray Committee were accepted in full and led to increased funds to the sector and the establishment of the Australian Universities Commission (AUC). The Commonwealth Government accepted greater responsibility for the States' universities. In 1974, after years of growth in the system, the Commonwealth assumed full responsibility for the funding of higher education (universities and CAEs). The Commonwealth Tertiary Education Commission (CTEC) was established to have an advisory role and responsibility for allocating government funding among the universities.

From the Commonwealth Government's acceptance of the recommendations of the Murray Committee in 1958 until 1974 universities received 43% of their funding from the Commonwealth, 36% from State Governments, 10% from student fees and 11% from investments and other sources.

During 1987-1988, the Ministerial Committee on Higher Education Funding (The Wran Committee) addressed the challenges of expanding capacity and effectiveness of higher education sector and the improvement of access for under-represented groups. The Wran Committee considered sources of funding involving students as the direct beneficiaries of higher education. It proposed an integrated growth and equity reform package that was comprised of: a higher education contribution scheme (HECS – see section 4.3), an access improvement package and industry and community contributions.

Table 4-1: Overview of funding groups

Funding group	Discipline group	Relativity
1	Arts A; economics; law; psychology	1
2	Education	1,2
3	architecture; arts B (humanities); mathematics	1,5
4	engineering; medicine A; sciences	2,5
5	agriculture; dentistry; medicine B	2,9
6	applied science; veterinary science	4,6

Source: (Moody 1998)

During the 1980s and 1990s the Commonwealth related its funding for teaching on increasingly sophisticated measures of student load (equivalent full-time students and then weighted student units) in discipline groups of different cost levels. In a formula kept secret at the time (it was applied and first published in 1993) the then Australian Universities' Commission and Commonwealth Tertiary Education Commission used 6 different funding groups:

The funding model contained (actually until today) many elements of supply-side central planning. It revolved around the central allocation of single block (i.e. lump sum) operating grants that were allocated to the universities on a three-year ('triennial') basis for a given number of student places. A set of relativities was established between the average costs of delivery of courses in groups of disciplines (clusters) at the undergraduate, postgraduate coursework and postgraduate research levels. This was known as the *Relative Funding Model*. In its final version, the Relative Funding Model contained 10 cost clusters – five at the undergraduate level, three at the postgraduate coursework level and two at the postgraduate research level. Weighting factors reflecting the relativities between the base (or lowest cost) cluster and each of the other clusters were then established.

The Relative Funding Model was designed to treat each institution in an equal way with respect to its funds per student. It was used in consequent years only as the starting point for negotiations between Commonwealth government and individual institutions about the number of student places to be provided.

From 1996, operating funding for higher education institutions is allocated in the context of three targets:

1. a *total load* target which defines the student load (in *Equivalent Full-time Student Units*, EFTSU) for which an institution is funded in a given year of the relevant triennium;
2. an *undergraduate* target which defines the minimum load (EFTSU) to be dedicated to undergraduate teaching activity in a given year; and
3. a *new to higher education* target which defines the number of students institutions are expected to enrol in a given year who have not previously undertaken higher education.

Today, these regulations are still in place. Institutions are expected to meet or exceed each of these targets which are negotiated by each university individually with officials of the Commonwealth Department for Education. While minor variations from target in a given year (e.g. up to -2 per cent) are accepted due to the range of factors which affect an institution's enrolments, consistent under-performance and large negative variations are not acceptable and may lead to a downward adjustment of the operating grant. The allocated number attracts a grant at a standard rate for undergraduate students, but there may be some negotiations between the department and the institution about the balance of the programme to ensure adequate coverage of the more expensive degree programmes.

The Commonwealth funds are allocated on the basis of *Educational Profiles* agreed between universities and the federal education department. Educational profiles were introduced as such by the 1989 white paper (Dawkins 1989), although their origins are in the procedures and recommendations of the Murray Committee of 1957. An institution's educational profile comprises:

- a statistical record covering teaching activities and student load;
- a quality improvement plan;
- an equity plan;
- an Aboriginal and Torres Strait Islander education strategy; and
- a capital management plan.

The profile serves as an accountability mechanism as well as a communication tool. The information provided in the profile facilitates a review of an institution's performance in achieving previously agreed objectives and forms a basis for assessing the resource needs of the institution. Typically an institution's profile meeting with the Department takes from half a day to a day. During the meeting, major institutional developments are discussed, such as the introduction of new courses, institutional restructuring or changes to internal budget policy, the institution's performance over the last year on its teaching profile (especially how well it met its planned student load), et cetera. Also major sector-wide developments such as quality assurance, changes to HECS, the number full fee-paying students and changes to Government policy will be on the table.

Operating grants are allocated on a *rolling triennial* basis. This means that announcements of funding are three years in advance. For example, at the end of year t , the Minister for Education and Training announces funding for year $t+3$. This provides institutions with considerable funding certainty. Operating grants are provided to institutions in the form of one line or *block grants*. Grants are not split into components for salaries or equipment purchases for example. Institutions are responsible for the internal allocation of grants between activities. Government funding for universities is granted on the conditions that the institution will spend each amount of financial assistance received by it only in accordance with the educational profile of the institution provided to the Minister.

4.2.2 The 2003 Funding Bill

The *Higher Education Funding Act 1988* (HEFA) that contained the regulations determining the Commonwealth grants supplied to the Australian university sector was replaced in December 2003 by the *Higher Education Support Bill 2003*. This Bill was finally passed through the Australian Parliament after long negotiations and consultation rounds. The 2003 legislation contained many of the major structural reforms that were proposed in the Government's "Our Universities: Backing Australia's Future" reform package (Nelson 2003), mentioned in section 3 above. The reforms contained the proposals announced by then minister for Education, Science

and Training (dr. Brendan Nelson) in response to a review of the Australian higher education sector carried out in 2002.

The Bill meant that from 2005 on, the number of student places per institution funded by the Commonwealth government (the so-called HECS places – see next section) were called Commonwealth supported places. Commonwealth supported students make a contribution towards the cost of their education (called a ‘student contribution’) while the Australian Government contributes the remainder. This was part of the new funding model – the *Commonwealth Grant Scheme (CGS)* for teaching and scholarship – that replaced the HEFA block grants system. The Commonwealth contribution per student is set by discipline (see Table 4-2). The relative public contributions per student depend partly on the cost of instruction but are also set with an eye upon the private contribution made per student (the HECS – see next section). This explains why a degree program like Law attracts significantly less government funding compared to a programme like humanities. Education and Nursing receive more funds per student compared to other programmes that lie in the same range of instruction costs, because the training of teachers and nurses is seen as an area of particular government concern.

Table 4-2: Commonwealth funding rates for 2005

Discipline	Course contribution per equivalent full-time student (in A\$)
Law	1,509
Accounting, Administration, Economics, Commerce	2,481
Humanities	4,180
Mathematics, Statistics	4,937
Behavioural Science, Social Studies	6,636
Computing, Built Environment, Health	7,392
Foreign Languages, Visual and Performing Arts	9,091
Engineering, Science, Surveying	12,303
Dentistry, Medicine, Veterinary Science	15,422
Agriculture	16,394
National Priority Education	7,278
National Priority Nursing	9,733

Source: DEST

Each higher education institution that receives funds under the CGS enters into a Funding Agreement with the Commonwealth. As before, annual negotiations take place over the number of places and the discipline mix that the Commonwealth will support. Places to be supported may be at the undergraduate level, the postgraduate non-research level in negotiated fields, and in enabling (i.e. ‘bridging’) courses. The Agreement is negotiated in the context of each institution’s mission and strategic direction for course provision. Institutions are supported according to the discipline mix actually delivered in a year, as long as the total Commonwealth contribution does

not exceed one per cent of the Commonwealth contribution that would have been payable on the agreed discipline mix. Penalties are applied to institutions that consistently enroll non full fee paying students beyond a two per cent limit. Unfilled places from institutions that consistently under enroll are to be redistributed to other universities according to Commonwealth priorities, following consultations with the States and Territories.

4.2.3 Student Learning Entitlements

Closely connected to the student support regulations (section 4.4) is the system of *Student Learning Entitlements* (SLEs), introduced in 2005. The following quotation from the then education minister explains the rationale for the SLE scheme:

“... students will still be required to contribute to the cost of their education if they are studying in an Australian Government-supported place. However, in order to access an Australian Government-supported place, students will be required to have sufficient Student Learning Entitlement (SLE). Students will receive SLE from 1 January 2005, providing them with access to an Australian Government-supported place for the equivalent of seven years of full time study. Additional SLE will also be provided to eligible students enrolling in an undergraduate course that is longer than six years, an honours course, a graduate entry bachelor degree or a postgraduate course... The SLE’s aim is to provide greater opportunities for more students to gain access to an Australian Government-supported place as new entrants occupy places freed up by students who have consumed their SLE”. (Nelson 2003, p. 57)

There are three types of SLE.

- Ordinary
- Additional
- Lifelong

‘Ordinary’ SLE allows for the equivalent of seven years of full-time study. A student’s SLE is reduced by the study load of the course in which he or she is enrolled as a Commonwealth supported student. The seven year maximum came in place of the five year limit that was originally proposed in the *Backing Australia’s Future* policy paper (Nelson 2003).

There are provisions which enable students to extend their SLE beyond seven years: ‘Additional’ SLE provides for an extra entitlement to ensure students have enough SLE to complete at least one course of study as a Commonwealth supported student. Any additional SLE granted to a student for a course of study can only be used for that particular course. Students can be allocated additional SLE for a Commonwealth supported course of study, if the course is an undergraduate course longer than six years, is an honours course, is a graduate entry bachelor degree, or is a postgraduate course. Most Australian undergraduates take three- or four-year bachelor degrees, so seven equivalent full-time years is quite generous for the majority of students.

The final type of SLE is 'Lifelong' SLE, which students can start to accrue in order to update qualifications or to retrain. Individuals start receiving Lifelong SLE on 1 January of the year of their 27th birthday. Lifelong SLE will accrue at the rate of 1 equivalent full-time student load (EFTSL) on 1 January of the first year of accrual and 0.25 EFTSL on 1 January of every year thereafter.

It is still too soon to evaluate the effect of the SLE, but observers like Dobson (Dobson 2006) conclude: "This is not to say that the SLE concept is a bad one, but in the Australian context, it does not seem to have been a necessary one. Such evidence as exists seems to indicate that up until now, few students have exceeded the limits set by the new scheme, so perhaps there is little need for concern about 'the perpetual student', or the alleged cost burden they are inflicting on the Australian tax payer." (Dobson 2006, p. 9)

In an independent report commissioned of PhillipsKPA by the Australian Vice Chancellors' Committee entitled *University Reporting Requirements* (AVCC 2006b), the SLE system was criticised both for the reporting burden it places on universities and for being ineffective in its stated aim of spreading Commonwealth support for university students more equitably. For example, the report states:

"In policy terms, the SLE appears to be of little benefit to students, providers, the Government or the public. It is a limitation on previous student entitlements and delivers no additional funding or other benefits to providers. There is no evidence that it will provide significant savings or obvious policy gains for the Government, and it seems of questionable public interest given the unproductive costs involved in its administration. Critically, it appears likely to be almost completely ineffective. An analysis undertaken by the University of Western Australia of the total load accumulated at the University of 16,000 students it had enrolled in 2005 indicated only five of that total would have exceeded their SLE, had the SLE limitations been made retrospectively. Given the courses studied by those students, it is also likely that the SLE would have been extended in each case. While it is acknowledged that it was not possible in the UWA analysis to include load undertaken previously at other universities, these figures suggest it is highly unlikely that significant numbers of students will exceed their SLE. Thus there are very serious policy doubts about the value of the SLE." (AVCC 2006b, p. 35-36).

There are no doubts about its administrative consequences. The SLE system requires DEST and higher education providers to implement and maintain a system of unique national student identifiers, monitor and track each student's consumption of their entitlement across providers and time, and report frequently to ensure that at any point in time the entitlement has not been exceeded. (DEST 2004a; AVCC 2006b, p. 35)

4.3 Tuition fees

4.3.1 Higher Education Contribution Scheme

Tertiary students have contributed to the cost of their tuition for most of the history of tertiary education in Australia in all States other than Western Australia, which has a long tradition of free higher education. University tuition fees were charged in all States other than WA for the century from their establishment until their abolition in 1974. The Commonwealth reintroduced tuition fees in 1987 in the form of an up-front higher education administration charge of A\$250 for full-time students. This raised a comparatively small sum for the opposition it encountered.

In 1988 then Minister Dawkins commissioned Neville Wran to chair a review of higher education funding. The review committee recommended three principles (Wran Committee 1988):

1. employers, students and the community each benefit from higher education and should therefore contribute to its costs;
2. employers should contribute by a levy that was set at 1.5% of payroll;
3. students should contribute about one third of the cost of their course, but this contribution should be deferrable and repaid as a levy on students' income tax when they earned better than average incomes.

The employers' levy was introduced as the training guarantee, but it never achieved its goals and was later removed.

The third element, called the (students') *Higher Education Contribution Scheme*, was designed by Bruce Chapman, a member of the Wran Committee and an economist at ANU.

Notwithstanding its rigorous design and its intuitive appeal, HECS was opposed vigorously by powerful Government departments, as it has been opposed when it has been considered for introduction in New Zealand and the UK. The Australian Taxation Office (ATO) opposed HECS because it would divert the office from its core responsibility for tax collection to administer a scheme for graduates' debt collection (the ATO's role has been subsequently broadened to include child welfare support collection and payment). The departments of finance and treasury lead the opposition of the central economics departments because HECS would muffle price signals of an upfront charge or simple tuition fee, which is precisely its attraction. That HECS was introduced as it was in 1989 despite this strong opposition was due to its astute design by Chapman, to Wran's persuasiveness, particularly of the social democrats in the Labour Party and outside, and to the skill and determination of the then Minister, John Dawkins.

In the scheme recommended by the Wran Committee students would be charged at one of three levels, depending on whether the subjects they studied were of low, medium or high cost. The Government that introduced the scheme adopted the

alternative, considered but rejected by the Wran Committee, of setting HECS at the same rate for all subjects. But it adopted the other major elements of the scheme recommended by the committee, of setting HECS at an average of about 30% of teaching costs and setting the income at which graduates would have to repay their debt at a level where graduates were receiving better than average incomes.

The level of HECS-tuition fees is determined by the Minister of Education. The HECS rate was originally set to recover 20% of the costs of an average university programme, which was A\$ 1,800 in 1989. The level of HECS was indexed to the cost of living and increased to A\$ 2,450 in 1996. The rate relates to full-time students. Part-time students paid proportionately less.

HECS payments are made on a semester basis. Normally, students have two choices in how to pay their HECS contribution:

- Pay up-front with a 20%-discount;⁵
- Defer or partially defer their payments until after graduation.

The first alternative allows students to make their HECS contribution directly to the institution at the beginning of each semester. In this case students receive a 20%-discount on their upfront payments. The second alternative, chosen by the majority of students (71% of HECS-liable students in 1997; nowadays more close to 80%), enables students to defer payment of HECS until after graduation. In this method of deferred payments, the Commonwealth government pays the tuition price to the institutions and provides the students with a loan. An important characteristic of the HECS-loan is that no interest is charged on the outstanding debt. The total debt is only indexed annually by adjusting it in line with the cost of living on the basis of the Consumer Price Index. A combination of both payment options is also possible. Since 1998, students may choose to pay part of the fees upfront (at least A\$ 500) with a 25%-discount, and defer the remainder.

Repayments of the HECS-loan are collected through the tax system and are income-contingent. This implies that people repay at different rates, depending on annual income after graduation. Graduates with high earnings repay more rapidly through higher (monthly) installments than graduates with lower earnings. The repayments only start when annual earnings exceed a certain threshold. Until 1996, this threshold was equal to the average taxable income of Australians working for pay (A\$ 27,675 per annum in 1996). Since 1997, the income threshold at which repayments start has been lowered. The annual repayment rate increases with the level of income. If income exceeds the minimum threshold, ATO will withdraw automatically 3% of the total taxable income as HECS-repayment. A growth in income leads to a successive gradual increase in the repayment rate up to a maximum of 6% of total taxable income.

⁵ At the time of the introduction of the HECS this discount was 15%. Later it was increased to 25% and, in 2005, was lowered to 20%.

4.3.2 Fee policies and full-cost fees

Until 1997, HECS rates were equal for all fields of study. As of January 1997, HECS charges were differentiated (by the then Minister Vanstone) into three tariff bands: low, middle, and high (table 4-3). In addition, compared to the uniform tuition level of 1996 (A\$ 2,450), the weighted average HECS rate was increased by about 40% and on average came close to about 50% of teaching costs. In 1997, also the income at which the HECS debt begins to be repaid was changed. The income threshold went down from A\$ 30,000 to A\$ 20,700 per year.

Table 4-3: The HECS rates for the year 1997

	Programmes	HECS rate per student
Band 1	arts, humanities, social studies, behavioural sciences, education, visual/performing arts, nursing, justice and legal studies	A\$ 3,300
Band 2	mathematics, computing, other health sciences, agriculture/renewable resources, built environment/architecture, sciences, engineering/processing, administration, business and economics	A\$ 4,700
Band 3	law, medicine, medical science, dentistry, dental services and veterinary science.	A\$ 5,500

The table above illustrates that some subjects are not charged in proportion to their teaching costs, as recommended by Wran and advocated by Chapman. Law is a low cost discipline but was included in the highest HECS band meaning that law students contributed around 90% of the teaching cost of their subjects. Administration, business and economics are also a low cost discipline but are included in the middle band, so these students contributed 77% of the teaching costs of their subjects. In fact, students of the highest cost disciplines contributed the lowest proportion of their teaching costs. Nursing is a medium cost discipline but was included in the lowest HECS band so that these students contributed only 34% towards their teaching costs.

Then Minister Vanstone justified the introduction of differential fees in 1997 by referring to the different income-earning capacities of graduates, arguing that law and business subjects should be in higher HECS bands because of the higher income-earning capacity of their graduates, and that education and nursing subjects should be in the lowest HECS band because of the lower incomes of their graduates. In other words, the differentiated pricing structure was a hybrid model, in which both costs and expected future benefits from obtaining a particular degree were given a weight (Chapman 1997).

Fees and fee-policies differ between different types of students.

Universities cannot set the fees for the undergraduate students in the quota agreed with the Commonwealth government (the *CSPs*, see section 4.2).

Since 1998 however, they may set the level of the fee for Australian undergraduates they enroll. To prevent universities from 'over-enrolling', the number of additional students is limited to 25% of the government-funded quota. These students are expected to pay a full-cost fee. Since 2005, universities must fill their CSPs before offering *domestic fee-paying places* to students, and CSPs must comprise at least 65% of all places for domestic students in a course of study. The rates for the tuition fees in the domestic fee-paying places vary, depending on the particular subjects students choose to study. For a university like the University of Melbourne, fees range from A\$ 16,000 (social sciences) to A\$ 43,000 (medicine).

Australian universities are also allowed to charge *overseas students* on a full cost recovery basis. In fact, one of the most dramatic and important developments from 1990 onwards has been the enrolment of international students on a fee basis. In 1987, the Commonwealth government allowed higher education institutions to charge overseas students on a full cost recovery basis. Since January 1990, all new international students have been required to pay the full costs of their education. This is to ensure that the government operating grant is not being used to subsidise overseas students. The overseas student load increased dramatically between 1990 and 2006 – from almost 25,000 in 1990 to 95,000 in the year 2000 and further on to 164,000 in the year 2006. In 2005, revenues from fee-paying overseas students constituted 15% of the total revenues in the Australian university sector. While the main concentrations of overseas students are still in the areas of business studies, computer science and engineering, overseas students are now spread over a wide range of fields. One quarter of international students are from China, with the majority coming from Asian countries. The Australian Department of Education and Science has a separate unit that deals with the support of the commercial activities of Australia's education community: *Australian Education International*.

Turning to *postgraduate students*, we note that public universities are also permitted to set the level of the tuition fees. Since 1994, higher education providers have been able to offer fee-paying postgraduate level places for both coursework and research postgraduate degrees, with no regulation of the level of fees charged. Today, most places in graduate and postgraduate coursework programs are full-fee places. Only limited numbers of CSPs are available in some courses. The student's contribution for postgraduate studies varies greatly.

When in December 2003 the *Higher Education Support Bill 2003* was passed through Australian Parliament, new regulation with regard to tuition fees came into force. One of the most controversial parts of the Bill was allowing universities to set the fees for their undergraduate students up to a maximum that differs according to the 'Band' in which the program is categorized. The maximum student contribution rates follow the same categories as the differentiated HECS system:

Table 4-4: Maximum student contribution by programme category

programme category	Description	maximum student contribution (in Austr \$)
priority fields	education and nursing	3,768
Band 1	arts, humanities, social studies	4,710
Band 2	math, science, engineering, business, economics	6,709
Band 3	law, medicine, dentistry, veterinary science	7,854

From the year 2005, these arrangements are in place. The new national priority fields (Education and Nursing) were introduced to attract students to courses that are regarded as a national priority for the government. The maximum student contributions in the areas of teaching and nursing were set at the levels that would have applied if the pre-2005 HECS schedule had been maintained.

The Australian Competition and Consumer Commission (ACCC) is overseeing how universities respond to the new deregulated environment. The new environment is expected to lead to increased collaboration between universities and a rationalisation of courses. The ACCC will monitor potential anti-competitive behaviour such as price-fixing, market-sharing, boycotts and it will watch consumer protection. With respect to the latter, the provision of information to students received more attention. This led to the setting up of a Public (Internet) Portal (www.goingtouni.gov.au) that provides (prospective) students with data on higher education courses, selection procedures, information on student support and information on course costs.

4.4 Student support

As stated above, Australian (i.e. domestic) students that study on a CSP will be asked to contribute to the costs of their training. However, the government is providing support to lower any financial barriers that may stand in the way of able students that wish to go to university. For a student, the cost of a higher education degree consists of the fees students have to pay to the higher education provider and their maintenance costs (accommodation and general living expenses). The HECS system addresses the first (sections 4.4.1 and 4.4.2), while the student maintenance grants (section 4.4.3) addresses the latter.

4.4.1 HECS and accessibility

In exploring the effects of the HECS (see section 4.3) on accessibility, several studies were carried out. The major conclusion is that the proportions of students from

different socioeconomic backgrounds have hardly changed since the introduction of HECS (Chapman 1997; Andrews 1999). Students from lower SES groups benefited as much as other groups from the increase in student numbers. The effects of HECS on individual decision making have also been measured through attitudinal surveys. On the basis of a survey immediately after the introduction of HECS in 1989, Robertson et al. (1990) conclude that HECS had little effect on the composition of the pool of applicants and no effect on the composition of those accepting an offer to enroll. On the request of parliament, the Higher Education Council imposed a system of monitoring the effects of the HECS, particularly for the socio-economically disadvantaged. In their first survey in 1991, executed by the consulting firm Ernst and Young, it was found that school leavers gave a low ranking to HECS for deciding not to go to higher education. School leavers who intended to go to university and adults indicated HECS as a middle-ranking factor for deciding not to enroll, after academic factors and more pressing economic factors. The Council concluded that “most qualified applicants from across groups in the study would not be significantly deterred by HECS” (Higher Education Council 1992, p. 21).

Some opponents of the HECS system have indicated that some groups of (potential) students might be unwilling to incur a HECS-debt because they dislike debt (Andrews 1999). This debt-aversion stems from either the aversion to the risk of being unable to repay the debt, or because it shifts expenditures from the future to the present. Indeed some evidence suggests that financial pressures are having an increasing impact on student behaviours and study experiences. The number of students deferring the payment of tuition fees, for example, has climbed steadily since the increase of HECS rates in 1997, reaching an all time high of 79% in 2001. This reversed the trend that was evident prior to 1997 and suggests that fee levels may have reached a point of considerable sensitivity in terms of students’ capacity to pay up front. More students are now working part-time to cover expenses, and the average hours worked has increased. Longer working hours are strongly linked to increased drop out rates. Not surprisingly, disadvantaged students are more sensitive to financial pressures. They are more likely to: defer their HECS fees; resort to personal loans (on top of HECS debts); study part-time when they would prefer to study full-time if finances permitted; and have a restricted choice of course and university due to financial considerations. There is also international evidence suggesting that disadvantaged groups are more debt averse, even when loan repayments are income contingent. There is now also some evidence in Australia to suggest that HECS debts may be influencing the willingness of graduates to take on home mortgages.

4.4.2 Tuition support mechanisms

To assist students in paying for their tuition fees, the following arrangements and programmes are in place:

- *HECS-HELP (Higher Education Loan Programme)* provides eligible students in a *Commonwealth Supported Place* (CSP) with a loan to cover payment of their student contributions. Students that choose to take out a loan actually defer the payment of their tuition fee and instead incur a debt. The loan carries no interest

and will not have to be repaid until the student's personal income exceeds the minimum threshold for compulsory repayment. For students (that is: the ones in a CSP) that do not defer the payment of the tuition fee, a *discount* of 20% on the tuition fee paid up-front to their higher education provider is granted.⁶

- *FEE-HELP*, introduced in 2005, is available for students studying in a domestic fee-paying place to help them pay their tuition fee by providing them with a loan. It is available for undergraduate as well as postgraduate students.⁷ There is a loan fee of 20% for FEE-HELP loans for undergraduate courses of study but no loan fee for FEE-HELP loans for postgraduate courses. Students can borrow up to a maximum under FEE-HELP (indexed each year; set at A\$80,000 for most courses in 2007).
- The *Research Training Scheme* (RTS) provides block grants to eligible institutions to support research training for students undertaking higher degrees by research (HDR) - Doctorate and Masters degrees by research - including coursework components of these degrees, provided that the coursework components do not exceed one third of the degree. These students, referred to as 'RTS students', are exempt from payment of student contribution amounts and tuition fees for units undertaken as part of an HDR course of study.
- *Australian Postgraduate Awards* (APAs) are available to eligible domestic students for a period of two years for a Masters by research degree or three years, with a possible extension of six months, for a Doctorate by research degree. Award holders receive an annual stipend and may also be eligible for other allowances. Each institution has responsibility for determining the selection process by which awards are allocated to applicants.

4.4.3 Student support for costs of maintenance

To help students in paying for their living costs, income support is provided through the following programmes, the first of which is the most important.

Youth Allowance is available for eligible full-time students,⁸ aged 16 to 24, that are studying in approved institutions. The Youth Allowance scheme was introduced on 1 July 1998. It replaced several other welfare programs for young people, including *Austudy* for students aged less than 25 years, and schemes for unemployed young people. Long and Hayden (2001) summarised the change thus: "Youth Allowance replaced five different income-support schemes for young students and job seekers. The consolidation of educational and labour market income-support programs was designed...to encourage young people to participate in full-time study or training" (Long and Hayden 2001, p. 33). The amount of Youth Allowance (YA) depends on the income and assets of a student's parents or that of his/her partner. If the student is

⁶ Before the passing of the higher education support Bill this discount was 25%.

⁷ Until 2005, the Postgraduate Education Loan Scheme (PELS) existed. PELS provided loans to fee-paying students in postgraduate programmes. In 2005, PELS was subsumed under FEE-HELP.

⁸ *Part-time* is defined as less than 75% of a full-time study load.

seen as independent a personal income test applies. The amount of the allowance depends on the living situation of the student (under/over 18; living away from parents' home or at parents' home; single/partnered). A typical amount (in 2007) would be A\$ 350 per two weeks for a student aged over 18 and living away from home. YA is part of the social security system. It is also aimed at individuals aged 16-20 that are looking for work full time. Students that have finished their (higher) education and are looking for work may continue receiving YA. This makes it difficult to show figures for the sums of money paid to students in higher education.

Austudy is available for eligible full-time students aged 25 years and over. Variations to *Austudy* are subject to assistance previously received, part-time study, and an income and assets test. *Austudy* support is roughly comparable to Youth Allowance. Through the *Student Financial Supplement Scheme*, students had the option of converting all or part of their Youth Allowance or *Austudy* grant into a loan (within a particular range). The amount of loan was twice the amount of grant surrendered. For example, for every dollar of YA or *Austudy* traded in, students could receive 2 dollars worth of Financial Supplement loan. No interest was charged on the loan, but the amount owed was adjusted each year for increases in the consumer price index. In 2004 this option was abolished.

Other assistance available to students includes *Fares Allowance* (for tertiary students who are living away from their permanent home to study), a Health Care Card (that entitles the student to cheaper medicines; only for low income earners), or a Remote Area Allowance (extra financial help for students living in a remote area).

ABSTUDY provides financial assistance for Australian Aboriginals and Torres Strait Islanders who undertake full-time or part-time study.

Commonwealth Learning Scholarships are available since 2004 to assist domestic students from low socio-economic backgrounds, particularly those from rural and regional areas and Indigenous students, with costs associated with higher education. There are three scholarships – one for education costs, one for accommodation costs and one for Indigenous students. These scholarships are aimed at students doing undergraduate degrees, associate degrees and approved enabling courses. Most are awarded on a competitive basis (i.e. merit-based) and are non-repayable. The Scholarships are allocated annually to eligible higher education providers. The Australian Government issues guidelines to providers for the allocation of these scholarships but providers determine their own application and selection processes.

It has to be said that Australia's support for university students, even ones of fairly modest means, is not particularly generous. The main support scheme (Youth Allowance) is particularly underwhelming in its coverage, and it is very difficult for most students to meet the stringent eligibility requirements. Because most students (particularly younger ones) must be assessed for eligibility according to their family's rather than their own means, a relatively low proportion of 18 and 19 year olds is

eligible. In 2005, the Australian Senate published a review of the student support system (Senate Employment Workplace Relations and Education References Committees 2005). The review was an examination of students' living costs and the ways and means of support payments.

4.5 Funding of research

4.5.1 The dual funding system

Australia, like many other countries, utilises both block funding and competitive funding arrangements for higher education research (see Table 4-4). Block funding constitutes around 60% of Commonwealth funding and flows directly from the government to the universities. The mechanisms for this will be described shortly

4.5.2 Council

The university's act establishes the council as the university's governing body. Councils typically comprise from 15 to 30 members, some of whom are appointed by the State minister, parliament or governor-in-council; some are elected by staff and students and perhaps the university's alumni; some such as the vice chancellor are members by virtue of their office; and some may be co-opted by council. This results in a membership that is about one third each from State Government, business and the university community.

The second funding stream, the *Competitive research funding*, was already discussed in section 3.3 of this report, where we discussed the ARC and the NHMRC grants – part of which are allocated to a number of Centres of Excellence. The research council grants cover some 40% of Commonwealth funding for university research.

Table 4-4: Higher education research funding (from government and non-government sources), 2004

Category	Funding (\$m)	Proportion (%)
Imputed share of Australian government operating grant for teaching-related research (2004-05)	587	18
Research block grants		
research training scheme	540	16
institutional grants scheme	284	9
research infrastructure block	160	5
Australian postgraduate awards	89	3
regional protection scheme	6	..
total	1079	33
Research income		
Australian competitive grants	734	22
Other public sector	300	9
industry and other	459	14
CRC research income	113	4
total	1606	49
Total	3272	100

Source: (Productivity Commission 2007, p. 506)

The remainder of this section is devoted to the block funding for research. Part of these direct funds derive from the operating grants received by universities from the Commonwealth government (see section 4.2). These resources are allocated by the Department of Education, Science and Training (DEST) as block operating grants based on student enrolments. If one assumes that all academic staff in Australian universities engages in teaching and research and that approximately 75 per cent of their time is for teaching and 25 per cent is for research, one can make a split between the funding of teaching and the funding of research. This leads to an imputed share of Commonwealth funding that is for research. In Table 4-4 this represents 18 per cent of research funding.

Other block funding components that derive from the Government are:

- Institutional Grants scheme
- Research Training Scheme
- Research Infrastructure Block Grants Scheme
- Australian Postgraduate Awards
- Regional Protection Scheme

These instruments were introduced in the year 2000 as a result of the *Knowledge & Innovation* policy package (Kemp 1999).

4.5.3 Institutional Grants Scheme

The *Institutional Grants Scheme* (IGS) provides block grants, on a calendar year basis, to eligible higher education institutions (HEIs) to support research and research training activities. HEIs have discretion in the way they spend their IGS grant. The IGS may be used to fund any activity related to research. The purpose of the IGS is to support the general fabric of the research and research training activities of HEIs and to allow HEIs to manage their own research activities and set their own priorities.

Funding under the IGS is allocated on the basis of a formula. The components and weightings are as follows:

- success in attracting research income from a diversity of sources (60%);
- success in attracting research students (30%);
- the quality and output of its research publications (10%).

‘Research income’ reflects the capacity of an institution to undertake research. This feature provides institutions with a strong incentive to seek research income from competitive grants rather than other sources, such as industry. By including research income in the formula, recognition is given to the fact that institutions incur additional costs in undertaking research beyond the specific costs of research projects. Underlying the IGS scheme is the idea that institutions are likely to be more outwardly focused in their research when research income from all sources is equally weighted.

The inclusion of research student numbers in the formula recognises the general costs of sustaining quality research training environments beyond the specific tuition costs involved in student supervision. The formula takes into account the size and composition of the research student body of an institution to reflect cost differentials associated with broad fields of research. Low cost: high cost student load is weighted at 1 : 2.35.

The formula also rewards institutions on the basis of the quantity and quality of their research outputs through the inclusion of an amended publications measure put forward by the Australian Vice-Chancellors' Committee. The new measure, adapted from the 'Composite Competitive Index' measure used previously in the Research Quantum allocation, ensures that those in the arts, humanities and social science fields will receive equal recognition as those areas that can more readily attract research income from external sources.

The research output index developed for inclusion in the formula includes four categories of publications, each having a weight:

- Books, authored research (weighting: 5)
- Book chapters (weighting: 1)
- Articles in scholarly refereed journals (weighting: 1)
- Full written conference paper – refereed proceedings (weighting: 1)

For each of these, specific eligibility requirements apply. For journal articles, this means that (with a few exceptions) the journal is listed in one of the *Institute for Scientific Information* (ISI) indexes or in another acceptable directory of journals.

4.5.4 Research Training Scheme

The *Research Training Scheme* (RTS) provides block grants, on a calendar year basis, to eligible higher education institutions (HEIs) providers to support research training for students undertaking Doctorate and Masters degrees by research. To enhance the quality of research training provision in Australia the RTS grant is based on performance through a formula comprising three elements, most of them similar to the ones used for the IGS allocations:

- numbers of all research students completing their degree (50%);
- research income (40%);
- a revised publications measure (10%).

The RTS provides Commonwealth-funded Master's by research and PhD students with an 'entitlement' to a HECS exemption for the duration of the course, up to a maximum period of four years' full-time equivalent study for a doctorate by research and two years' full-time equivalent study for a masters by research.

The number of RTS places to be Commonwealth-funded at each institution in 2001 was based on each institution's share in 2000 of the then 21,500 HECS-exempt places plus the 'gap' places each institution had committed to the RTS. 'Gap' places are those additional research Master's and PhD places offered by institutions in excess of

their HECS-exempt allocation. The total RTS funding provided to the sector in 2001 established the base for future years.

4.5.5 Research Infrastructure Block Grants Scheme

The Research Infrastructure Block Grants Scheme (RIBG) provides block grants, on a calendar year basis, to eligible HEIs to enhance the development and maintenance of research infrastructure for the support of high quality research in all disciplines. The RIBG is also expected to meet project-related infrastructure costs associated with Australian Competitive (ARC and NHMRC) Grants and to remedy deficiencies in research infrastructure. The RIBG grant amount is proportional to an institution's relative success in attracting research income from competitive funding schemes listed on the *Australian Competitive Grants Register (ACGR)*. The ACGR lists qualifying, nationally competitive research funding schemes. The most important qualifying criterion for inclusion in the ACGR is that the funding scheme must have a well-defined mechanism for competition and selection by a well-qualified panel.

Similar to the procedure for measuring the research output for the purpose of the IGS grant, research income data are described in, and collected through, the Higher Education Research Data Collection (HERDC). Research income is collected in four categories under the HERDC:

Category 1: Australian Competitive Grants Income;

Category 2: Other Public Sector Research Income;

Category 3: Industry and Other Research Income;

Category 4: Cooperative Research Centres Research Income

and is unweighted.

4.5.6 Australian Postgraduate Awards

The main objectives of the Australian Postgraduate Awards (APA) programme are to support postgraduate research training in the higher education sector; and to provide financial support to domestic postgraduate students of exceptional research promise who undertake their higher degree by research at an eligible Australian higher education provider. Participating providers are provided with Commonwealth funding for continuing and new awards each year under the APA programme. Awards are available for a period of two years for a Masters by research degree or three years, with a possible extension of six months, for a Doctorate by research degree. Award holders receive an annual stipend and may also be eligible for other allowances.

The allocation of funding to participating providers is based on a formula that is reflective of their overall research performance. The formula comprises 50% research degree completions, 40% research income and 10% publications and uses data averaged over two years. Students that wish to qualify for an APA are expected to apply directly to a participating higher education institution. Each institution has responsibility for determining the selection process by which awards are allocated to applicants. In 2007 there were almost 1600 APA places in Australian universities.

4.5.7 Regional Protections Scheme

The Regional Protections Scheme (RPS) is a relatively small programme that helps to protect designated regional higher education providers from losses of income against their indexed 2001 RTS and IGS combined grants. In 2007, RPS funds were available to five universities. The RPS budget was 3.1 million A\$.

4.5.8 Commercialisation Training Scheme

The Commercialisation Training Scheme (CTS) is a new instrument that was announced as part of the *Backing Australia's Ability* policy package. Its final arrangement was agreed upon in 2006. The objective of the CTS is to provide high quality research commercialisation training for the next generation of Australian researchers as a means of equipping them with the skills, knowledge and experience necessary to bring research-based ideas, inventions and innovations to market. The CTS allows for around 250 new postgraduate research scholarships to be created for students that will receive training in three areas:

- Commercialisation Know-how (a strategic understanding of commercialisation processes);
- Technical Commercialisation Skills (e.g. Intellectual Property Management, Financial Management, Project Management and Market Research); and
- Organisational Behaviour Skills (e.g. Leadership, Teamwork and Presentation skills).

Australian government funding (A\$ 5.3 million in 2007) is provided through annual block grants to participating higher education providers who are responsible for identifying and selecting high quality Australian higher degree by research students. Student applications for CTS support are made directly to a participating provider. CTS students are exempt from payment of student contribution amounts and tuition fees for units undertaken as part of CTS training.

4.5.9 Research and Research Training Management Reports

From 2002, institutions are required to submit an approved *research and research training management report (RRTMR)* in order to be eligible for block funding for research and research training. RRTMRs were introduced in 2000 as part of the Knowledge and Innovation reforms. The reports form a part of the accountability requirements for universities, providing transparency in the setting and reporting of institutional goals for research and research training and providing an overview of each institution's distinctive contribution to the national innovation system.

RRTMR reports comprise two sections:

Part A - in which institutions describe their objectives for research and research training, their future directions, practices and policies for managing research and research training, processes used to ensure quality research training experience, collaboration and partnerships, and arrangements to manage intellectual property issues, the commercialisation of research outcomes and contractual arrangements; and

Part B - in which institutions report on their research and research training performance in a standardised format, which will enable performance trends over time and between institutions to be detected. Part B is focussing in particular on institutions' identified research strengths.

During 2003, 42 eligible institutions submitted a report to the Education Minister who published all reports on the DEST website. The current stance of the minister with respect to the RRTMR is unclear, given the fact that a new model for assessing the quality of research was recently introduced: the *Research Quality Framework* (RQF).

4.5.10 Research Quality Framework

In May 2004, the Prime Minister announced that the Australian Government would establish Quality and Accessibility Frameworks for Publicly Funded Research as part of the *Backing Australia's Ability* strategy. The aim of the Research Quality Framework (RQF) initiative is to develop the basis for an improved assessment of the quality and impact of publicly funded research and an effective process to achieve this. The RQF provides the Australian Government with the basis for redistributing a significant proportion of the research block (i.e. IGS and RTS) funding on the basis of ratings for research quality and research impact. The background to this RQF was discussed earlier in this report in section 3.3. Earlier on in this section we showed that the existing distribution of university research block funding is based on quantitative measures (i.e. numbers of publications, external research income and Higher Degree by Research (HDR) student load and completions) that have been used as proxies for quality. The government felt that the current particular quantitative measures do not provide sufficient information upon which to identify and reward areas of research excellence or to encourage the wider community to increase its investment in Australian research. The RQF was developed to identify and reward high quality and high impact research wherever it occurs.

In November 2006, the then minister for Education announced that she would go ahead with the RQF and planned to restructure the current quantitative based research funding scheme to one which evaluates research based on quality and impact. Preparatory work and trialling was to continue in 2007, with data collection in 2008 and funding implementation in 2009. On 18 September 2007, the Minister for Education Science and Training released the final *Specifications* for the 2008 RQF. The Minister based her decisions on the advice of the RQF Development Advisory Group, chaired by Australia's Chief Scientist Dr Jim Peacock (Development Advisory Group for the RQF 2006). This Development Advisory Group made some revisions to the work of the Expert Advisory Group laid down in its *Preferred RQF Model* report (Expert Advisory Group for the RQF 2005).

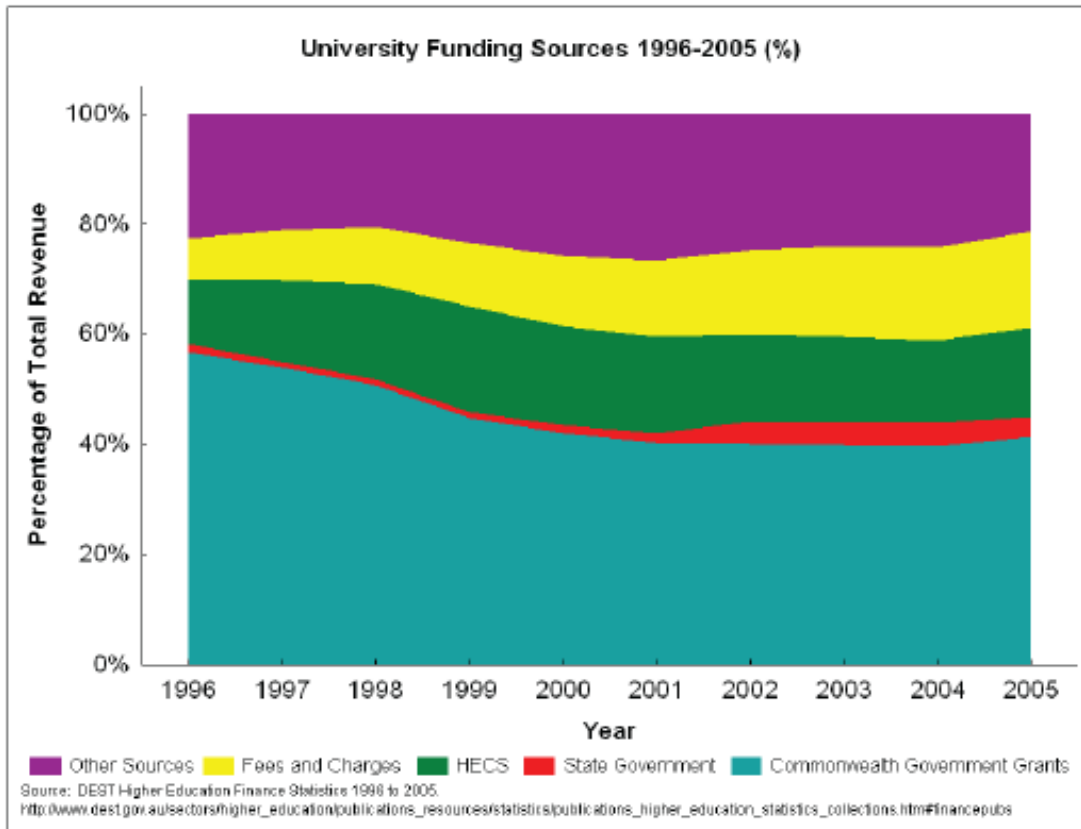
Apart from quality, a university's research funding will take into account the cost of the research assessed, possibly based on either the British RAE discipline weightings. Funding will take into account the volume of an institution's research, as measured by

its staff FTE assessed for the RQF. Institutions will retain discretion over the internal allocation of RQF-driven IGS and RTS block funding.

4.6 Sources of income of higher education institutions

The following graph illustrates the changes in university funding sources from 1996 to 2005 in percentage terms.

Figure 4-1: University funding sources



Source: (AVCC 2007)

While Commonwealth income still is the largest part of university resources, its share has declined steadily over the years, whereas the share of student contributions has increased. Looking at table 4-6, it is made clear that in 2005 the share of student contributions was 39%, with 13% coming from HECS-HELP and FEE-HELP and the rest from fee-paying students (overseas as well as non-overseas).

Table 4-6: Revenues (in A\$) of Australian universities, 2005

Total Revenues from Continuing Operations	14.327.515	100%
Australian Government Financial Assistance	7.853.861	55%
Australian Government Grants	5.917.589	41%
<i>Commonwealth Grants Scheme and Other Grants</i>	3.525.157	25%
<i>Scholarships</i>	150.995	1%
<i>DEST Research Grants</i>	1.075.493	8%
<i>Australian Research Council</i>	455.384	3%
<i>Other Australian Government Financial Assistance</i>	710.559	5%
HECS-HELP - Australian Government Payments	1.647.594	11%
FEE-HELP - Australian Government Payments	288.678	2%
State and Local Government Financial Assistance	514.275	4%
Upfront Student Contributions	396.079	3%
Fees and Charges	3.277.277	23%
<i>Continuing Education</i>	90.556	1%
<i>Fee Paying Overseas Students</i>	2.168.498	15%
<i>Fee Paying Non-Overseas Postgraduate Students</i>	191.952	1%
<i>Fee Paying Non-Overseas Undergraduate Students</i>	103.657	1%
<i>Fee Paying Non-Overseas Non-Award Students</i>	40.783	0%
<i>Other Domestic Course Fees and Charges</i>	113.598	1%
<i>Other Fees and Charges</i>	568.233	4%
Investment Income	582.214	4%
Royalties, Trademarks and Licenses	35.788	0%
Consultancy and Contracts	651.016	5%
Other Income	1.016.479	7%
<i>Donations and Bequests</i>	161.236	1%
<i>Scholarships and Prizes</i>	35.767	0%
<i>Non-Government Grants</i>	170.866	1%
<i>Net Gain on Disposal of Property, Plant and Equipment</i>	25.960	0%
<i>Fair Value Gains on Other Financial Assets through Profit or Loss</i>	16.415	0%
<i>Net Gain on Sale of Available-for-Sale Financial Assets</i>	31.006	0%
<i>Net Foreign Exchange Gains</i>	1.264	0%
<i>Other Revenue</i>	573.966	4%
Share of Net Result	526	0%

Source: DEST: Selected Higher Education Statistics (www.dest.gov.au)

5 Governance structure

5.1 Historical developments

Decision-making, regulation and governance for higher education are shared among the Australian Government, the State and Territory Governments and the institutions themselves. The legislative and accountability frameworks for Australian universities are unusual because, according to the Australian Constitution, State/Territory governments generally have responsibility for the enabling legislation for each university, but since 1974 the Commonwealth has responsibility for the public funding of those institutions. Today (as shown in Table 4-6) State and Territory governments contribute just 4 per cent of universities' total operating revenue.

In November 1991, the States/Territories agreed to the Commonwealth providing funds directly to higher education institutions, rather than through the States/Territories. This change recognised that the Australian higher education system was national in character, with accompanying national priorities and objectives. It improved accountability by making higher education institutions, rather than the States, directly accountable to the Commonwealth for the expenditure of public funds. Direct Commonwealth funding of institutions began in 1993.

States/Territories retained legislative responsibility for the establishment and oversight of institutions and for ensuring that they met the reporting obligations, financial management and accounting standards for public authorities. During the second half of the 1990s there was increasing recognition of the need for common accreditation and quality management processes across all States and Territories. This led the Council of Australian Governments (COAG) to amalgamate a number of ministerial councils in order to optimise coordination of policy making across interrelated portfolios. One of the combinations involved merging three previously existing councils – the Australian Education Council (AEC), the Council of Ministers of Vocational Education, Employment and Training (MOVEET) and the Youth Ministers Council (YMC) – to form the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA). Membership of MCEETYA comprises Australian, State and Territory ministers as well as New Zealand Ministers responsible for the portfolios of education, employment, training and youth affairs.

Functions of the Council include coordination of strategic policy at the national level, negotiation and development of national agreements on shared objectives and interests (including principles for Australian Government/State relations) in the Council's areas of responsibility, negotiations on scope and format of national reporting on areas of responsibility, sharing of information and collaborative use of resources towards agreed objectives and priorities, and coordination of communication with, and collaboration between, related national structures.

State governments have considerable formal power over universities, in their power to make and amend their constituting acts, in their appointments to universities' governing bodies and in their power to make university statutes or bylaws, which have to be approved by the governor in council. They exercised these powers, and the power they initially had as the main source of universities' income, until WWII. States had considerable say over the establishment of faculties, departments and chairs, and sometimes sought to influence the appointment and removal of staff. While all of the State governments' formal legislative powers over universities remain, their influence over universities has diminished greatly and what influence remains is indirect, through their discussions with the Commonwealth on its allocation of funds to higher education. This is no doubt due in large part to the reduction in the States' financial power over universities, but the States have also taken little and sporadic interest in higher education policy over the last two decades.

5.2 Present system of governance

Due to the fact that Australia is a federation of states and territories, there has always been discussion on the respective roles of the federal and the state governments in steering the higher education sector. Today, the Australian federal Government has significant financial and policy responsibility for higher education, while State and Territory governments retain major legislative responsibility. Higher education is administered at the Australian federal government level through the *Department of Education, Science and Training* (DEST). DEST has responsibility for the Australian Government's higher education policy development and programme administration. In addition, the *Australian Research Council* makes detailed recommendations to the Australian Minister for Education, Science and Training on the allocation of targeted research funds. Other Australian Government departments also provide some funding to higher education institutions.

State and Territory governments are responsible for the administration of university legislation, accreditation of new universities, accreditation of higher education courses offered by non-self accrediting institutions, and auditing of university financial statements. Universities are 'public' institutions established by State Governments as self accrediting institutions. Apart from the Australian National University, which is constituted under an Act of the Federal Parliament, all of Australia's universities are established or recognized under State or Territory legislation.

The Commonwealth provides the majority of public funding. It allocates grants to universities on the conditions set out in the Funding Act (the Higher Education Support Act 2003 - HESA). The conditions include requiring universities to spend their operating grants in accordance with its educational profile, to report the statistics directed by the Minister, to implement HECS, to abide by the Minister's guidelines on charging tuition fees, and various other matters. Universities are required under

HESA to give the Minister annually a financial statement in respect of the previous calendar year, together with a report on the statement by a qualified auditor. The Commonwealth Government issues financial reporting guidelines each year which outline the approved form for financial statements. The HESA allows the Commonwealth Minister to require universities to provide statistical information. This enables DEST, with the cooperation of the Australian Bureau of Statistics (ABS), to collect and disseminate statistics on the provision of higher education in Australian universities. The collection is referred to as the *Higher Education Statistics Collection*.

While the Commonwealth has considerable direct power over universities through its control of funding, this sometimes encounters very strong resistance from State governments, universities themselves and other powerful sections of the community. An example is the widespread opposition to the Commonwealth's 'voluntary student unionism' Bill which would have made university funding conditional on their abolishing compulsory general service fees that students have to pay to universities in order to make use of university-wide facilities. So on many issues the Commonwealth seeks to achieve its aims by persuasion, indirect pressure and by conducting its own processes in ways that promote the change it seeks. An example of the Commonwealth's indirect exercise of power is its interest in reducing the size of universities' councils and strengthening their internal management, an issue that has long interested the Commonwealth (see below).

The involvement of both the Commonwealth and States and Territories in setting the regulatory and accountability framework for universities was raised in a review instigated by the Minister of Education in 2002. This governance review was part of a broader review that began with the release of an overview paper, entitled *Higher Education at the Crossroads* that set out some of the characteristics of the higher education sector and the challenges it faces. Between June and September 2002 a series of issues papers was produced to explore a variety of key issues in more depth. One of the issues papers was called: *Meeting the challenges: The governance and management of universities* (DEST 2002) and looked specifically at the regulatory environment for universities. All actors in the higher education arena were invited to respond to this issues paper. In doing so, several submissions to the Review proposed the establishment of an intermediary body between federal government and universities to play either a role in the regulatory environment or to perform part of the accountability framework.

The Government's response to the 'Crossroads' Review was announced on 13 May 2003. It came in the form of a package of higher education reforms, entitled: *Universities: Backing Australia's Future*. The reform package included so-called *National Governance Protocols*, the aim of which is to improve governance practices at universities by providing a set of standards to ensure that governing bodies are effectively overseeing university operations. These protocols came into effect in 2004 and covered issues such as having the higher education provider specify its objectives

in its enabling legislation, the size of the governing body (which should not exceed 22 members), grievance procedures and procedures for overseeing the (commercial) entities controlled by the university. Universities that met the Protocols could count on increases in their Commonwealth grant funding. In 2007, a review of the protocols was set in motion by MCEETYA.

In 2004, the Department of Education released yet another issues paper about governance issues: *Rationalising Responsibility for Higher Education in Australia* (DEST 2004b). The paper illustrated areas of significant differences between states and territories according to their differing enabling legislation for universities and such legislation's implementation. It also discussed moving universities' enabling legislation to the federal sphere. A new discussion paper (DEST 2005a), *Building better foundations; A discussion about re-aligning Commonwealth-State responsibilities*, further explored the issues raised in the 2002 paper in more detail. It examined the merits of changing the arrangements for responsibility for higher education and suggested that there may be benefits in the Australian Government having a greater role in three key regulatory functions which are currently the responsibility of State and Territory governments. These are the implementation of the National Protocols on Higher Education Approval Processes, universities' powers to engage in commercial activities and the operation of governing bodies. These are all matters which are regulated by State and Territory governments.

Apart from governance issues, other major political and regulatory framework conditions for universities relate to international issues (in particular legislation that oversees services supplied to overseas students studying in Australia on student visas), Quality assurance (see next chapter) and the Workplace Relations framework. With respect to the latter we now provide some background information as well as a discussion on recent plans.

Workplace relations cover the university salaries – how these are set and – and other terms of employment relating to the workplace of academics and non-academics working in the public universities (e.g. tenure, non-continuous employment). Until 2000, the university sector could settle employment agreements within national 'rounds' of bargaining at the sector (or 'enterprise') level. However, at various points in time the government attempted to foster arrangements which reflected the needs of individual institutions, to promote direct relations between universities and their staff and to improve management and administrative efficiency. In 1999, it announced the establishment of the Workplace Reform Programme (WRP), which was implemented from 1 January 2000. Additional funds were made available (broadly equivalent to a two per cent salary increase for university staff) to universities that met nine of 14 criteria. The criteria covered among other things bargaining processes, performance management, cost savings, discretionary revenue generation, productivity measures, flexible working arrangements, and management and administration issues. However, university bargaining continued to yield relatively uniform outcomes, largely because of union bargaining approaches.

In 2003, and parallel to the governance protocols discussed above, the federal government issued *Higher Education Workplace Relations Requirements* (HEWRRs) that higher education providers eligible for grants under the Commonwealth Grant Scheme need to satisfy. For their staff, higher education providers should have in place working arrangements and conditions of employment which are tailored to the circumstances of the higher education provider and which benefit both the higher education provider and its employees. Extra Commonwealth Funding was made contingent on universities demonstrating a commitment to workplace reform. Institutions must demonstrate that they have agreements which give all employees, collectively and individually, equal opportunity to participate in future bargaining processes and have made efforts to cease reliance on sector-wide industrial instruments (i.e. developing agreements about terms of employment which are comprehensive and closed).

The current (2007-8) situation with respect to Workplace Relations is that, to be eligible for the increase in funding under the *Higher Education Support Act 2003* through the Commonwealth Grant Scheme (7.5% in 2007 and later years), all workplace agreements, policies and practices put in place by universities need to comply with the HEWRRs. Compliance with the HEWRRs and access to increased funding is determined annually.

In 2007, the Group of Eight (the - self proclaimed – eight leading research universities of Australia) published a policy discussion paper on – what they call – designing a new policy architecture for higher education and university research (Group of Eight 2007). In its report – *Seizing the Opportunities* – it proposes a new policy framework to replace the centrally-controlled supply model with a dynamic model of ‘balanced incentives’. One of the eight proposals is the establishment of an *Australian Tertiary Education Commission* (ATEC) under Commonwealth legislation. ATEC would function as an independent, intermediary agency between government and tertiary education institutions. It would be responsible to a joint Ministerial Council. ATEC would be responsible for planning, resource allocation and regulation in respect of post-school education throughout Australia. ATEC would have responsibility for the allocation of block grants to universities and the negotiation of agreements with universities in relation to the use of those funds and performance accountabilities. So far, the Minister of Education has not formally reacted to the Go8 proposal.

5.3 Institutional governance

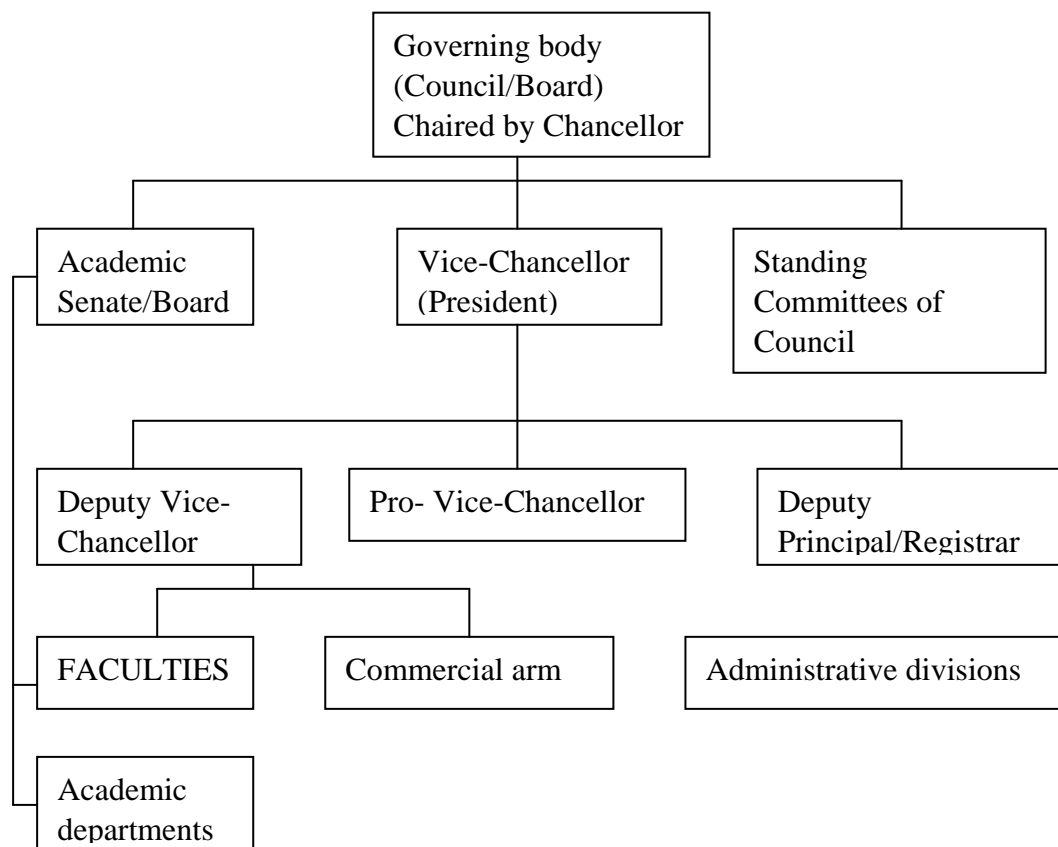
Each public university has its own enabling legislation that establishes it as a statutory body in its home State/Territory. Their establishment legislation vests responsibility for governance and management of the university in a governing body in the form of a Council or Senate, which is accountable to the relevant government for university

operations. Although universities are established as separate statutory bodies, they are authorised by legislation to be self-governing institutions.

The formal governing body of each Australian university is the Council, Senate or Board of Governors, presided over by a Chancellor elected by the members of the governing body. Members are drawn from government, industry, the community, academic staff, graduates and students. The chief executive authority rests with the Vice-Chancellor (increasingly also called the President), who is accountable to the Council, Senate or Board of Governors and is responsible for the academic and administrative operation of the institution.

An indicative structure of the governance of an individual Australian university is shown in Figure 5-1.

Figure 5-1: University governance: indicative structure



5.3.1 Council

The university's act establishes the council as the university's governing body. Councils typically comprise from 15 to 30 members, some of whom are appointed by the State minister, parliament or governor-in-council; some are elected by staff and students and perhaps the university's alumni; some such as the vice chancellor are

members by virtue of their office; and some may be co-opted by council. This results in a membership that is about one third each from State Government, business and the university community.

Some acts reserve some academic powers to the university's main academic body – its academic board or senate - but with that limited exception, the council has the formal power to make all the university's decisions: academic, financial and staffing. In practice the council's power is more limited. All councils exercise considerable power in their selection and appointment of the university's vice chancellor and some councils maintain a large although broad measure of control over the university indirectly through the vice chancellor. But the relations between council and its vice chancellor are usually more complex, with the council relying heavily on the vice chancellor for information on the university and advice on decisions before it.

The Council approves the university's budget, and through it can exercise considerable power on the allocation of the university's resources. However, university budgets are long and complex. They are developed after much work and discussion within the university. Rarely does a council upset that work and substantially change recommendations made to it. If it has concerns or doubts it is more likely to raise questions and sometimes return a recommendation for further work. Council's views are more likely to influence framing future budgets than decide specific and immediate outcomes.

The university's act provides for the university to award degrees and other academic qualifications specified in the university's statutes or bylaws. The statutes state the general conditions for admission to candidature, assessment and the award of specific qualifications. The requirements for each award are specified in regulations, which again are made by the council. But the council concedes expertise on academic matters to the university's academic staff and rarely if ever decides such a matter without the advice of academic board.

There are similar divisions of responsibility over staffing, capital development and other major decisions of the university. This shares power throughout the university and thereby fosters the commitment of those with whom the power is shared. However, it can make decision-making time-consuming, involving a large number of people over an extended time; the compromises necessary to get broad agreement can make decisions complex and qualified; and divided responsibility means that no one body is simply accountable for a decision or lack of one. This has long concerned the Commonwealth which has wished to strengthen universities' internal management. In 1995, the Commonwealth established the *Higher Education Management Review Committee* (known as the Hoare committee). Hoare and his colleagues made several recommendations (Hoare 1995). The Review Committee came to the conclusion that the size of the governing body was less important than the quality of the membership and the quality of the information made available to them. Nevertheless, it believed that there was scope for rationalisation and that an appropriate mix of members could

be reached in most institutions typically with between 10 and 15 members. Another review of Higher Education Financing and Policy (published in the so-called the West Report) also made recommendations with respect to governance and management issues (West 1998).

5.3.2 Academic board

The university's academic board or *senate* is formally responsible for the admission of students, assessment, recommending on course requirements and the award of degrees and university prizes and academic matters in general. Academic boards range in size from a score to 100. Typically they comprise the vice chancellor, deputy vice chancellors, deans and in some cases heads of department *ex officio*, and elected representatives of various classes of staff and students. The board would also normally include heads of academic support services such as the library, and the registrar and academic registrar.

Some members of academic board argue that almost all decisions of the university – on budgets, staffing, buildings, even the design of the enrolment form - have academic implications and thus require the board's approval. Other members of the university, typically members of management (who may also be members of the board), argue that the board's powers are much more limited in scope and are only advisory in nature. Perhaps the most broadly true generalisation about Australian universities' academic boards is that their actual roles and powers in their university's decision-making are quite different from their formal provisions, whatever they may be. Boards' roles are shaped by the university's tradition and culture and by the attitudes of the vice chancellor, chair of the board, its members and the university community generally. It is also true of many of the boards of the older pre-1987 universities that they have less power now than they had three decades ago when they were professorial boards comprising the university's 'God-professors'.

5.3.3 Senior university management

Senior university management typically comprises the vice chancellor as chief executive officer, from two to four deputy and pro vice chancellors variously responsible for planning and financial matters and academic matters of great importance to the university such as research (but rarely teaching), and one or two career managers responsible for academic administration and/or fabric and finance. Depending on the nature of the university and of particular appointments, deans and heads of key service units such as the library and information technology may also be members of senior management.

5.3.4 Faculties

The university's statutes or bylaw establishes faculties which normally comprise a dean, the heads of the departments of the faculty and staff and students elected by those of the faculty. The statutes normally make the faculty the body primarily responsible for the conditions by which students are admitted, examined and graduated, although most decisions on individual cases are actually taken at the

department level. Faculties or their deans allocate resources between departments and largely establish the balance of undergraduate and postgraduate courses, research, and community and entrepreneurial activities. Faculties typically make rules which establish committees and officers that conduct most of the faculty's business.

5.3.5 Departments

In the traditional and common university structure the primary organisational unit is the department, around which the university organises its teaching, most of its research, its academic staffing, its allocation of space and many ancillary matters. In principle, each department is based on one discipline or field of teaching and research. The archetype of this organisation is the arts and science faculties, which apparently neatly divide their disciplines and resources into departments of approximately equal size and importance of chemistry, mathematics, physics, etc and English, history, philosophy, politics, etc.

Overlooking the framework for universities one can conclude that universities in Australia have substantial autonomy. Within the national priority and funding constraints they have significant discretion over:

- Academic profile
- Teaching methods and delivery of programs
- Student profile
- Extent and nature of internationalization
- Staffing requirements
- Research and development

Universities themselves are responsible for such matters as

- appropriate management and governance structures;
- management of operations including budgets and internal allocation of resources;
- staff remuneration and conditions;
- student enrolment decisions;
- accreditation of their own awards;
- quality assurance; and
- development and evaluation of their curricula.

With respect to commercialization activity we note that the legislative framework in a State/Territory regulates the powers of universities to undertake commercial activities. For example, universities, in general, are restricted in their borrowing and investment powers to the 'purposes of the university'. Universities frequently need some form of consent from the State or Territory Treasurer in relation to their borrowing and investment activities. They are often restricted in the use and disposal of assets, especially land allocated to them for campuses.

6 Quality assurance

6.1 Introduction

Ever since the late 1970's the Australian Government has encouraged universities to critically monitor their own performance. Throughout the 1980's this focus has been sharpened to include the improvement of efficiency and effectiveness, and an increased awareness of public accountability. The Commonwealth funded major discipline reviews during the mid 1980's to determine standards and to improve quality and efficiency in universities. While the reviews revealed the importance of quality assurance within institutions and across the sector, there was no way to ensure that institutions acted upon review recommendations. In 1991 the Commonwealth moved from the discipline review approach to a whole of institution approach to quality assurance. It announced a comprehensive set of measures to enhance the quality of higher education teaching and research. Those universities able to demonstrate a high level of quality assurance in the context of their missions and goals were provided with extra funding.

The Commonwealth established the Committee for Quality Assurance in Higher Education in 1992 to:

- provide advice on quality assurance issues;
- conduct independent audits of institutional quality assurance policies and procedures and;
- make recommendations about the allocation of annual quality-related funds.

The Committee conducted three rounds of independent whole of institution audits from 1993 to 1995. The voluntary self-assessment undertaken by institutions under this programme triggered considerable change at the institutional level as gaps were identified and outcomes measured.

Since 1998, all funded institutions have been required to submit an *Institutional Quality Assurance and Improvement Plan* to the Commonwealth as part of the educational profiles process.

This annual process includes institutions providing a number of documents and plans to the Commonwealth and visits to universities may be arranged, in some cases, to obtain further information. The plans outline the university's goals and aims in the key areas of teaching and learning, research, management and community service. Each institution is required to provide detail of the strategies that have been adopted to achieve their goals and the performance indicators used to assess their success. The plans are expected to include the outcomes data from two national surveys; the *Course Experience Questionnaire* and the *Graduate Destination Survey*.

The Graduate Destination Survey (GDS) is Australia's official annual review of the activities of university graduates who have recently completed their qualification.

Graduates are surveyed approximately four months after course completion; and the survey report analyses their employment status, type of work gained and further study undertaken.

The Course Experience Questionnaire (CEQ) is an annual survey about the attitudes of graduates towards their courses and the skills they acquired whilst undertaking tertiary education. The CEQ assesses the graduates' perceptions of the teaching they received at university. Universities throughout the country participate in the survey.

The institutions' Quality Assurance plans and the CEQ and GDS act as means of public accountability in the area of quality assurance for Australia's publicly funded universities, and enable students to make more informed choices about the institution that best suits their particular needs.

In March 2000 the Ministerial Council on Employment, Education, Training and Youth Affairs (MCEETYA) endorsed two new initiatives to enhance and strengthen the quality assurance framework for higher education in Australia: An independent audit body, the *Australian Universities Quality Agency* (AUQA); and The National Protocols for Higher Education Approval Processes.

The AUQA conducts an external quality audit. The AUQA is an independent body established by the government to audit teaching, learning, research and administration in Australian self-accrediting universities on a five-yearly basis. It provides public reports on the outcomes of these audits. The AUQA also has the power to audit the processes of State and Territory accreditation authorities. It reports on the criteria for the accreditation of new universities and non-university higher education degrees.

The audits have begun in 2001. The audits are 'whole of institutions' audits, based on self-assessment and site visits, and focussing on the adequacy of an institution's quality assurance arrangements in the key areas of teaching and learning, research and management. The audits assess the institution's success in maintaining standards consistent with university education in Australia. The AUQA makes use of panels of experts with substantial senior academic and administrative experience in higher education. Failure to respond appropriately to negative assessment reports might result in funding sanctions by the Commonwealth or regulatory action by the relevant state or Territory which may affect the accreditation status of the institution.

From 2005, the AUQA undertakes the Quality Auditing of Offshore Higher Education in an effort to assure the quality of Australian higher education provision in the international market.

6.2 Accreditation and the Australian Qualifications Framework

The term ‘university’ is protected by legislation in Australia. Universities are established by State or Territory legislation following a detailed assessment of their academic and financial credentials. Universities are ‘self-accrediting’, that is, they are authorised to accredit their own courses and are responsible for their academic standards. The capacity to responsibly exercise this autonomy is among the criteria for recognition as a university in Australia. To be self-accrediting, universities must have appropriate quality assurance processes in place, including peer assessment processes, external examination of higher degrees and the involvement of professional bodies in the accreditation of particular courses. Reflecting particular historical circumstances, there are also a small number of self-accrediting higher education institutions which are not universities.

Each State and Territory has a higher education accreditation authority which accredits higher education courses to be offered by those higher education institutions which are not self-accrediting. The accrediting authorities are listed in the *Register of Authorities Empowered by Government to Accredit Post-Compulsory Education and Training Courses – Part III – Higher Education Agencies with Authority to Accredit*. This register is maintained through the *Australian Qualifications Framework (AQF)*.

The AQF is a unified system of thirteen national qualifications in schools, vocational education and training, and universities. The Framework links together all of these qualifications and provides a quality assured national system of educational recognition which promotes lifelong learning and a seamless and diverse education and training system. The AQF qualifications were presented earlier in this report (section 1.3).

Apart from this function of the AQF, another function is to maintain public *registers* (i.e. lists) of institutions (or authorities) empowered by governments to accredit qualifications and to issue qualifications. In other words, the AQF lists approved (or *recognised*) post-compulsory education providers and accreditation authorities. In Australia, the term “accreditation” (or “approval” in the university sector) refers to the process which ensures that a course is of a standard appropriate to a particular qualification and the course and methods of delivery are likely to lead to the specified learning outcomes.

Universities are listed on the AQF Registers. Listing on the registers indicates that the ministers of education (i.e. MCEETYA) guarantee the quality of the university. Currently, the list (register) of self-accrediting higher education institutions includes all public universities, a number of specialist (public) institutions and colleges, and three private universities.⁹

⁹ Bond University, Deakin University, University of Notre Dame.

State and Territory government accreditation authorities also accredit higher education courses delivered by approved non self-accrediting providers, and these are listed on the AQF Register of *Bodies with Authority to Issue Qualifications*. The non-self accrediting providers are mainly private providers. Private providers of accredited higher education courses have to be approved by their State in order to issue AQF qualifications. For instance, the list for the state of New South Wales includes *Securities Institute Education* (a provider that falls into the category *professional and industry associations*) and the *Sydney College of Divinity* (a theological college). Registration ('approval') does not imply 'receiving government funds'. It is important for the institutions' students though, since their full-time students qualify for student support.

Higher education courses offered by non self-accrediting providers must: satisfy the degree level requirements set by the AQF;

- be comparable to courses at the same level at Australian universities;
- be able to be successfully delivered at the level proposed; and
- a provider must have appropriate financial and other arrangements to permit successful delivery of the course, and must be a fit and proper person to accept responsibility for the course.

Therefore, any private institution wanting to offer a course leading to a higher education qualification must have the course accredited by the higher education authority in the relevant department of the State or Territory government.

6.3 National Protocols

Australian State and Territory governments have a number of responsibilities with respect to quality assurance in higher education. These include the recognition of new universities and the accreditation of higher education courses. These responsibilities are standardised by the *National Protocols for Higher Education Approval Processes*.

In March 2000, the Ministers assembled in MCEETYA endorsed the *National Protocols*, which provide criteria for the recognition of new universities and the accreditation of higher education courses to be offered by non self-accrediting providers. The National Protocols were designed to ensure consistent criteria and standards across Australia in such matters as the recognition of new universities, the operation of overseas higher education institutions in Australia, and the accreditation of higher education courses to be offered by non-self accrediting providers. They are seen as important to protecting the standing and competitiveness of Australian universities nationally and internationally.

During 2004 and 2005, an extensive process of consultation led to the further development of the National Protocols. In July 2006, MCEETYA endorsed a revised

set of National Protocols. Nowadays five Protocols outline criteria and processes for higher education approvals:

- Protocol A: Nationally agreed criteria and approval processes for all higher education institutions
- Protocol B: Criteria and processes for the registration of non self-accrediting higher education institutions and the accreditation of their higher education course/s
- Protocol C: Criteria and processes for awarding self-accrediting authority to higher education institutions other than universities
- Protocol D: Criteria and processes for establishing Australian universities
- Protocol E: Criteria and processes for overseas higher education institutions seeking to operate in Australia

The revised National Protocols are to be implemented from 31 December 2007 and include a number of new provisions, which will allow more diverse types of higher education institutions to develop in Australia, including:

Specialist universities: High quality higher education institutions meeting the same requirements as other universities, with the exception of breadth of fields of study. They will be required to offer courses including research masters and doctorates, and undertake research activity, in one or two fields of study only.

Self-accrediting institutions other than universities: Selected non-self accrediting providers, usually with a strong track record in re-accreditation, will be able to seek authority to accredit their own courses.

University colleges: This title will be protected under the revised National Protocols, reserved for use by new universities, which at point of establishment, need only undertake research and research training in one field. It may also be used by provisionally approved 'greenfield' institutions based on a plan, which would normally be mentored by an existing university.

Overseas institutions: Clearer rules around entry and their use of university title will assist more overseas institutions to establish a presence here and offer their own qualifications, thereby increasing choice for students.¹⁰

The revised National Protocols will apply to both new and existing institutions. Compliance will be regularly assessed through the standard quality assurance processes that apply to each institution. Nationally agreed quality assurance arrangements include a system of institution registration, course accreditation, a national qualifications framework (the *Australian Qualifications Framework*, AQF) and external quality audits. The National Protocols specifically relate to registration and accreditation procedures.

The protocols, that may allow new providers to use the word 'university' in their institution's name, have been welcomed by the private providers as a breakthrough.

¹⁰ *Carnegie Mellon University* opened its doors in Adelaide in May 2007 as the first foreign university in Australia. The number of students is 71 but it is expected to increase to 200 within three years.

6.4 Other initiatives to assure teaching quality

A National Institute for Learning and Teaching in Higher Education (*The Carrick Institute for Learning and Teaching in Higher Education*) was established to stress the attention to be given to the quality of Teaching and learning. On the same note, a *Learning and Teaching Performance Fund* (LTPF) started operations in 2007. These initiatives make available a total of A\$251 million from 2006 to 2008 to reward excellence in learning and teaching in higher education. The Learning and Teaching Performance Fund started in 2006.

The LTPF is to award A\$82m in 2007 and A\$109m in 2008 to those universities that excel in the teaching and learning aspects of higher education. To discuss future directions, DEST published a discussion paper on the future of the LTPF. (DEST 2005b). This led to extensive consultation with the sector. There were two groups that worked with DEST: an advisory group comprising representatives from the higher education sector, and the Australian Vice-Chancellors' Committee (AVCC) Working Group on Learning and Teaching. The advisory group and the working group were consulted about the quantitative indicators and the weightings that would be used in the allocation model for 2006. There were mixed views in the sector on the appropriateness of the indicators used. The Department proposed to establish a working group to assist it to work through any technical improvements that need to be made to the methodology and to help develop an overall model that will lead to further improvements in learning and teaching in the sector. The department sought to identify issues that could be addressed to improve the fund for 2007 and to help plan the medium to longer term future of the fund.

Initial consultation with the sector found that there was a clear preference for openness and transparency about all the processes of the fund, and on this basis the data and methodology for the fund were published on the Department's website. Based on the information produced for the previous round of the LTPF, a leading newspaper, *The Australian*, published an article which ranked universities. These preliminary rankings gained significant attention in the public arena. Many universities have expressed concerns about the publication of the rankings and have indicated that this adversely impacted on their enrolments. On the other hand, some universities that ranked highly in the league table have benefited from the positive publicity. Universities argued strongly that measuring performance at the whole of institution level is not appropriate as the data and indicators used are subject to large variations across fields of study. Aggregating the data also fails to take account of excellence in particular areas of strength, or encourage specialisation in specific areas.

There was broad support for allocating funding on the basis of university performance in separate areas of activity. Universities that demonstrated excellence on one or more outcome groups could receive funding. Alternatively, universities could be funded for

excellence in broad discipline areas. This approach could offset some of the limitations of aggregated data. To provide more meaningful data and allow time for changes to be reflected in the indicators, it was proposed that funding could be allocated on the basis of average scores over 2-3 years.

There was some criticism of the use of attrition as an indicator. The rationale for including employment as an indicator was questioned, as it can be influenced by local employment and/or economic conditions. Some argued that the fund should include postgraduate and international students in the assessment population and that the indicators for success, namely progress and attrition, should use all students rather than commencing domestic bachelor students. The *Graduate Starting Salaries* survey was not considered a viable indicator, as the starting salaries of graduates are affected by a wide range of factors unrelated to excellence in learning and teaching. Many of these factors are outside the university's control. There was support for including an instrument in the longer term that focussed on the views of students currently experiencing the university environment, such as the *First Year Experience Questionnaire* (FYEQ) or the *National Survey of Student Engagement* (NSSE). There was support for an expert panel for the next fund round, to act as an objective observer.

6.5 Research quality

In May 2004 the Prime Minister announced that the Australian Government would establish Quality and Accessibility Frameworks for publicly funded research as part of the Backing Australia's Ability programme. The aim of the *Research Quality Framework* initiative is to develop the basis for an improved assessment of the quality and impact of publicly funded research and an effective process to achieve this. The Research Quality Framework should:

- be transparent to government and taxpayers so that they are better informed about the results of the public investment in research;
- ensure that all publicly funded research agencies and research providers are encouraged to focus on the quality and relevance of their research; and
- avoid a high cost of implementation and imposing a high administration burden on research providers.

In 2004, the Government established an *Expert Advisory Group* (EAG), chaired by Professor Sir Gareth Roberts to support the development of the Research Quality Framework. The proposed model (see: Expert Advisory Group for the RQF 2005) in essence boiled down to universities submitting groups of researchers for assessment by external panels on the basis of portfolios provided, resulting in a system of star ratings which would then form the basis for the allocation of lump sum budgets to the participating organisations. Discussion on the RQF Preferred Model raised many questions and concerns about issues such as who were to be the researchers and

groupings to take part in the assessment, the evidence to be provided for the assessment, and the definition of what was to be defined as research impact.

Other concerns with the RQF include lack of recognition of some aspects of research, particularly in the social sciences and humanities, lack of financial sustainability of some disciplines, high administrative costs to institutions, and the encouragement of inequitable institutional behaviour with respect to poaching star research teams.

Following further discussion in the Expert Advisory Group, the final advice was provided in March 2006 to Minister Julie Bishop, who immediately installed the RQF Development Advisory Group to get going with the implementation of the RQF aiming at 2008 for its first assessment round. Both the quality and the impact of the research are to be expressed in ratings which in turn are translated into funding decisions. The government's research support program as well as the research training program funding are to be based on evidence of a university's research training quality as well as the quality and impact of its research (Development Advisory Group for the RQF 2006).

The methodology for the RQF is roughly similar to the British Research Assessment Exercise in its approach to evaluating the quality of research by means of peer review. However, on top of that, the impact of the research is to be evaluated as well. The RQF methodology is based on the following principles:

Research Groups (consisting of, at least five members) will form the unit of assessment for the RQF and will define the focus of their research activities by Research Fields.

Assessment Panels will rate the Research Groups for both quality and impact, separately. It is foreseen that 13 assessment panels will be used for the 2008 assessment. Each Panel will have 12 members and will include a Chair, a minimum of three international assessors and a minimum of three end users.

The basis of the *quality assessment* for a research group will be:

- the four best Research Outputs for each researcher in the Group;
- the full list of Research Outputs for the Group produced in the six-year assessment period; and
- supplementary evidence of research quality provided as part of a so-called Context Statement.

Quality assessment augmented by metrics: the peer review assessment process will be assisted by the inclusion of relevant and appropriate quantitative measures of research quality which will be applied to a Research Group's "body of work" (that is, the four best outputs per researcher and the full list of research outputs for the Group). These measures may be a combination of generic and panel-specific measures to be determined by the Assessment Panels and communicated to the sector through the RQF Guidelines.

Five-point assessment scale for both quality and impact: the RQF will produce separate assessment and reporting for Quality and Impact, against a five-point rating scale for each. The table below shows the descriptions of the ratings.

Table 6-1: The rating scale for research quality

Rating	Descriptor
5	research that is world leading in its field or makes an equally exceptional contribution in an area of particular significance in Australia
4	research that meets world standards of excellence in its field or makes an equally excellent contribution in an area of particular significance in Australia
3	research that is recognised internationally as excellent in terms of originality, significance and rigour but which nonetheless falls short of the highest standards of excellence
2	research that is recognised as methodologically sound in its field and of high originality, significance and rigour
1	research that is deemed to fall below the standard of recognised quality work

Research *impact* is defined as the social, economic, environmental and/or cultural benefit of research to end users in the wider community regionally, nationally, and/or internationally. The basis of the *impact assessment* for a research group will be an Impact Statement of up to 10 pages, including:

- an evidence-based statement of claims for the Group against generic and panel-specific impact criteria, including verifiable indicators in support of those claims;
- up to four case studies that illustrate the Group's claims of impact; and
- details of end users who can be contacted by Assessment Panels to verify the Research Group's claims.

The table below shows the descriptions of the impact ratings.

Table 6-2: The rating scale for impact

Rating	Descriptor
A	Adoption of the research has produced an outstanding social, economic, environmental and/or cultural benefit for the wider community, regionally within Australia, nationally or internationally.
B	Adoption of the research has produced an significant social, economic, environmental and/or cultural benefit for the wider community, regionally within Australia, nationally or internationally.
C	Research has been adopted to produce new policies, products, attitudes, behaviours and/or outlooks in the end user community
D	Research has had limited or no identifiable social, economic, environmental and/or cultural outcome, regionally within Australia, nationally or internationally
E	Research has engaged with the end user community to address a social, economic, environmental and/or cultural issue regionally within Australia, nationally or internationally

In terms of the funding tied to the ratings: Research groups rated below “2” for quality will not contribute to an institution’s RQF quality funding. Research groups rated below “D” for impact will not contribute to an institution’s RQF impact funding.

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