



# Submission

to the review of Australian higher education

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*Submission to the review of Australian higher education*  
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# 1 Overview: higher education for Australia's future

This is an introduction and overview of Griffith University's submission to the review of Australian higher education. The submission mostly follows the order of the *Review of Australian higher education discussion paper* (Commonwealth of Australia, 2008c). However, Griffith has not attempted to address every issue raised in the discussion paper, but only those issues to which it can make a novel contribution based on its expertise and analysis. On issues not covered in this submission Griffith is pleased to support the views submitted by Innovative Research Universities Australia (2008b).

This introduction and overview is in these parts:

- 1.1 Serving the national interest
- 1.2 Environmental sustainability
- 1.3 The continued salience of the public-private distinction
- 1.4 Institutional types by level and scope of accreditation
- 1.5 Institutional types by institutions' antecedents
  - 1.5.1 DOCIT-ATN
  - 1.5.2 Group of 8
  - 1.5.3 Innovative research universities Australia
  - 1.5.4 Metropolitan new generation universities
  - 1.5.5 Rural universities
  - 1.5.6 Summary
- 1.6 Buffer body
- 1.7 Planned program of change
- 1.8 Response to questions.

## 1.1 Serving the national interest

Like most activities, higher education serves both public and private interests and generates both public and private benefits. But over the last 15 years too little emphasis has been given to Australian universities' contribution to the national interest. Greater attention should be given to universities' role in:

- developing students' civic responsibility, engagement and contribution;
- contributing to their regions' civic, social and economic life;
- contributing to social inclusion, including by reducing the disparities in the participation of people from low socio economic status backgrounds, Indigenous Australians and people from rural and isolated areas;
- building social cohesion through mutual understanding;
- contributing to environmental sustainability.

Australia will continue to rely heavily on its universities to contribute to innovation, but will want universities to form part of a national innovation system. Griffith elaborated on how this may be improved in its submission to the review of the national innovation system. Australia will want its universities to continue to undertake the bulk of Australia's pure research, but also to undertake research and develop capacity relevant to their communities. The university's views on this are set out in its submission on research for the national interest.

It is important for Australia's long term future that development is balanced throughout the continent, and not concentrated in the cities and regions that already enjoy natural advantages. This development should include tertiary education, and as Griffith argues on pages 10-11 of its submission Australian higher education's contribution to social inclusion, there should be a reasonable provision of tertiary education throughout Australia's regions. The UK's Department for Innovation, Universities and Skills (2008) recently invited discussion of a proposal to establish some 20 new centres of higher education in 'cold spots' or areas currently poorly served by higher education. While the Department does not advance a single model for new higher education centres, 2 of the 4 methods for establishing such centres it describes involve further education colleges, the UK's analogues of Australian Tafe institutes. Griffith submits that Australia should conduct a similar survey to identify geographic 'cold spots' in higher education provision, and systematically fill gaps with the combination of Tafe and university provision most effective for each region.

Nation building should thus be done at 3 levels:

- developments of national significance;
- regional development; and
- institution building.

## 1.2 Environmental sustainability

Universities should also make a significant contribution to environmental sustainability in their research, teaching and practice. At least for Griffith, this involves 4 actions:

- 1 adopting a green and sustainable policy and governance arrangements;
- 2 measuring, establishing targets and monitoring performance on the institution's environmental impact and particularly its carbon footprint;
- 3 complying with government policy and legislation, including the *National Greenhouse and Energy Reporting Act 2007* (Cth) and the Queensland Government's procurement policy which includes principles for sustainable procurement; and
- 4 allocating resources to improve the university's environmental performance.

Presumably the Deputy Prime Minister, Minister for Employment and Workplace Relations, Minister for Education and Minister for Social Inclusion will wish to have an overview of what Australian universities are doing to contribute to environmental sustainability. The Higher Education Funding Council for England has taken a number of actions to promote environmentally sustainable practices in English higher education which offer useful examples for Australia. Action started in 2003 when the Department for Education and Skills published

its *Sustainable development action plan for education and skills* (DfES, 2003). After consultation on a support strategy and action plan the Higher Education Council for England published its strategic statement, a 10-year vision and an action plan for sustainable development (HEFCE, 2005). In June 2008 the funding council (HEFCE, 2008c) invited consultation on its 2008 update to strategic statement and action plan.

The *HEFCE strategic review of sustainable development in higher education in England* (HEFCE, 2008a) sought to establish a baseline of sustainable development in higher education against which progress can be measured, or at least demonstrated. It reviewed sustainable development research, teaching and in facilities and corporate management. The review found that there was considerable variation amongst institutions about what sustainable development might be and how it should be appropriately pursued (if at all) within institutions. The review therefore found that sustainable development is very disparate in UK higher education. It is very widely dispersed within different institutions and varies widely across institutions. Some institutions engage in multiple and coordinated institution-wide sustainable development activities involving hundreds of staff, some have only a few active individuals, and some institutions have no identified sustainable development activity at all.

The English review found that there remain a number of barriers to the take-up of sustainable development research and teaching. In some institutions there is a lack of interest and a focus on mono-discipline research and teaching which discourages environmental perspectives. Barriers to adopting sustainable operations of facilities and corporate management were the age and condition of some campuses, highly devolved budgeting, current procurement practices and the poor return on investment of some sustainable developments.

The Higher Education Funding Council for England is also establishing a revolving green fund of initially £30m to provide interest-free loans to institutions for projects that help to reduce greenhouse gas emissions (Eastwood, 2008). Institutions will be able to retain the funds until their investment has paid off or they may retain the funds to reinvest in subsequent approved projects (HEFCE, 2008b).

### 1.3 The continued salience of the public-private distinction

The discussion paper correctly notes that most public Australian universities gain most of their revenue from private sources, and that many public universities operate partly through private bodies, either directly or indirectly. However, the distinction between public and private institutions is still significant because of control, aims, and accountability.

Public institutions are controlled by the general public through a governing council many of whose members are appointed or nominated by the relevant government. The public can and does through its representatives change the activities of public institutions from time to time to suit its understanding of the general interest. In contrast private institutions are established by a private individual or body. The institution must abide by the general laws of the land but beyond that the public has no say in the private body's activities.

Secondly, public institutions must serve the public interest, however that is defined by the institution's founding document, by the relevant minister and by the institution's members. Of course institutions and their senior management can become self-serving, but this is a betrayal of a public institution's nature and may be remedied by the public. Self-service, or service of a narrower religious, sectional, or shareholder interest is almost a defining characteristic of private institutions.

Finally, public institutions are subject to a range of accountability measures not required of private institutions. Public institutions are normally required to publish an annual report which discloses their full operations. Public institutions are subject to freedom of information, compulsory review by an ombuds office, and to more formal review of their decisions by the courts. This is in addition to the equal opportunity, occupational health and other general regulations that apply to both public and private institutions. If a member of the public believes that a public institution has strayed from the institution's public purpose they may make a representation to their member of parliament and to the responsible minister. Some private institutions are eleemosynary or established to serve a charitable purpose, but should the institution stray from its purpose there's nothing a member of the public can do to restore a private institution to its proper purpose.

This may be illustrated by an example. Consider an institution that gives preference in its student admissions to children of the institution's staff. If the institution is public a concerned member of the public could examine the institution's selection policy because it is published, or if it isn't published, require its production through freedom of information legislation. If a public institution were shown to be giving preference to staff's children this would be widely deprecated as an abuse of process, and the practice could be stopped, if necessary by a court order. If the public institution continued to act contrary to the public interest the relevant minister could change its council members. If a concerned member of the public claimed that a private university was giving preference to children of the institution's staff the institution could respond simply: it is none of your business.

There are, of course, 3 types of institutions by control:

- public;
- private not for profit;
- private for profit.

In general, these types should be treated differently in higher education policy. The Government looks first to public institutions to implement government policy and so public institutions are properly subject to far greater direction than private institutions. Public institutions are responsible for developments of national significance and for regional development; therefore the Government will be concerned that these institutions are sufficiently strong to serve their purposes.

Private not for profit institutions are more similar to public than to private for profit institutions, yet the Australian Government has introduced a difference in their regulation not relevant to their type of control, by prohibiting public institutions but permitting private institutions to continue offering full fee paying places to domestic undergraduate students. The profit motive drives for profit providers to increase fees to the level that their market will bear, to cut costs and to maximise their number of students. Cost cutting and volume maximisation poses great risks to the quality of education and so for profit private providers should be subject to more stringent monitoring of standards than public and not for profit institutions.

The tripartite distinction of institutions by control is not quite sophisticated enough to reflect the complexities of current arrangements and regulatory requirements. To do this Griffith proposes a typology of levels of public funding and responsibility illustrated in table 1. Four types of institutions are shown in the table: full public institutions which offer only Hecs places to domestic students such as Batchelor Institute of Indigenous Tertiary Education, entrepreneurial public institutions which offer both Hecs and Fee-help places such as most

public universities, private institutions with public obligations which don't offer HeCs places but offer Fee-help places (which are guaranteed and subsidised by the Australian Government), and full private institutions which offer no place subsidised by government. Arguably these types still do not reflect the complete complexity of current arrangements and more types along this continuum could be elaborated if that were considered desirable.

Griffith submits that each institutional type should reflect a level of public funding and commensurate level of public responsibility. Because of the different risks to educational standards each type should also be subject to different levels of domestic standards monitoring. International programs would still be subject to the *Education for Overseas Students Act 2000* (Cth). So the full public institution that offers only HeCs places to domestic students would be allocated an institutional grant to support the institution's social inclusion program. If the institution were self accrediting its standards monitoring would be an institution wide assessment because the institution offers no program to raise revenue which would have greater risk of relaxing standards. The entrepreneurial public institutions that offer both HeCs and Fee-help places to domestic students would still have important social inclusion responsibilities, but these would be supported by social inclusion funding allocated by performance or for a specific project. Self accrediting entrepreneurial public institutions would still have institution wide standards monitoring, but commercial activities such as places offered to full fee-paying domestic students would be scrutinised more closely because they have greater risk of relaxed standards.

Private institutions that offer Fee-help but no HeCs place to domestic students still receive public support because Fee-help is guaranteed and subsidised by the Australian Government. These semi private institutions would have some, albeit limited responsibilities for social inclusion imposed by government, some of which may be supported by contractual payments. Semi private institutions would in any case be required to report staff, students and finance data. Self accrediting private institutions would have their standards monitored more closely because of the greater risk of relaxed standards. For the purposes of social inclusion responsibilities and standards monitoring it may be appropriate to distinguish between for profit and not for profit semi private institutions. Full private institutions that offer no publicly subsidised place to domestic students would have limited social inclusion responsibilities imposed by government, although they may assume them voluntarily. Nevertheless, these institutions would have some reporting responsibilities, just as private corporations and indeed individuals have various responsibilities imposed by government. Again, it may be appropriate to distinguish between for profit and not for profit fully private institutions for the purposes of social inclusion and standards maintenance.

Table 1: institutional types by level of public funding and responsibility

	<b>Levels of public funding and responsibility</b>			
<b>Type:</b>	Full public	Entrepreneurial public	Semi private	Full private
<b>Domestic places:</b>	HeCs only	HeCs and Fee-help places	Fee-help places	No publicly subsidised place
<b>Social inclusion:</b>	Institutional grant	Performance and project grants	Contractual payments and reporting	Reporting
<b>Domestic standards monitoring:</b>	Assessment of the institution	Assessment of institution and of commercial activities	Assessment of commercial activities	Assessment of commercial activities

## 1.4 Institutional types by level and scope of accreditation

It may also be useful to identify types of institution by level and scope of accreditation. Table 2 shows 4 types of institutions by scope of accreditation, from fully self accrediting institutions to institutions that may accredit their own programs within a limited scope, such as bachelors and coursework masters programs in business. Self accreditation may be conditional for institutions that are newly seeking self accreditation status. Or an institution may have their programs accredited individually. These types correspond to levels of accreditation, from institutional for full self accrediting institutions to accreditation by field and level of program to accreditation for each program.

Table 2: institutional types by level and scope of accreditation

	<b>Scope of accreditation</b>			
<b>Type:</b>	Full self accrediting	Self accrediting within scope	Conditional self accrediting within scope	Programs accredited individually
<b>Level of accreditation:</b>	Institutional	By field and level of education	By field and level of education	By program
<b>Duration:</b>	For 5 to 10 years	For 5 to 10 years	For 3 to 5 years	For 3 to 5 years
<b>Monitoring:</b>	Accreditation body	Accreditation body	Accreditation body and monitoring panel	Accreditation body

## 1.5 Institutional types by institutions' antecedents

Institutional types are also based on intuitively meaningful analyses of institutions' antecedents. Lysons and Hatherley (1996: 26) grouped UK universities by an intuitive analysis of their antecedents: classical redbrick universities, former polytechnics, former colleges of technology and greenfields universities. Lysons (1990: 293) proposed an intuitively meaningful classification of Australian higher education institutions into 4 groups reflecting their antecedents: older universities, institutes of technology, colleges of advanced education and younger universities. Stanley and Reynolds (1994: 359) and Marginson (1997: 10, 12) posited Lysons' grouping of Australian higher education institutions, although with different labels reflecting subsequent developments and the authors' tastes, and apparently independently since they cite neither Lysons nor each other.

### 1.5.1 *DOCIT-ATN*

The first sub group of Australian higher education institutions was established in May 1975, after the establishment of the AVCC and just before the precursor of its analogue for the former colleges of advanced education, the Australian conference of principals of colleges of advanced education was established later in that year. This group was the conference of directors of central institutes of technology (DOCIT – NSWIT, QIT, RMIT, SAIT, WAIT). These institutions originated as technical colleges in the central business districts of their capital cities, some of them over a century ago. As they developed they accumulated more and more senior levels of responsibility, most distinctively the diploma of engineering which was until 1972 the qualification required for registration as an engineer. These institutions formed themselves into a group to prepare a submission to the Williams committee of inquiry into education and training (1976) seeking recognition as senior institutions of vocational

higher education and some of the funding and many of the privileges of self governance and accreditation then accorded universities.

DOCIT founded its institutions' distinctiveness on their size (they enrolled almost one third of all advanced education full time equivalent students), on the advanced level of their teaching (most of their programs were degrees rather than the diplomas of the other CAEs) and their conduct of applied research (DEET, 1993: 18). They were therefore like a CAE version of the Group of 8. Interestingly, the directors of RMIT and SAIT thought there was a conflict of interest between DOCIT and the Australian conference of principals of colleges of advanced education and so did not simultaneously sit on both bodies. DOCIT encountered too much opposition to its aspirations and disbanded in 1982, but revived in 1999 as the Australian technology network (Curtin, QUT, RMIT, UniSA and UTS). For the purposes of analysis Swinburne University of Technology is included as an ATN-like university.

### *1.5.2 Group of 8*

The Group of 8 (2002) 'of Australia's leading universities' comprises the universities with the most research income. The group started meeting informally in 1994 and was incorporated in 1999 to lobby the Australian Government to further concentrate resources in its member institutions. It comprises the oldest universities in the Australian mainland capital cities: the University of Sydney (founded in 1850), the University of Melbourne (1852), The University of Adelaide (1874), the University of Queensland (1909), the University of Western Australia (1913), the Australian National University (1946); and the second university established in each of Australia's 2 biggest cities, the University of NSW (1949) and Monash University (1958). These are the universities with the biggest accumulations of academic and socio-economic capital. They sometimes claim to have the strongest concentration of research, but this is not correct. On the accepted measure of research intensity, the Brennan index, Flinders University outranks both the ANU and Monash.

While there is apparently no direct analogue of the Australian technological network, the Group of 8 is similar to the Russell Group (no date) in the UK ('An informal self-selected representative body from research-led institutions, so-called because meetings take place in the Russell Hotel') and the Association of American Universities (2002) ('An association of 63 leading research universities in the United States and Canada' that 'focuses on issues that are important to research-intensive universities').

### *1.5.3 Innovative research universities Australia*

From the 1960s to the 1970s State Governments established and the Australian Government supported universities in the mainland capitals to cope with the great expansion of enrolments as the baby boom generation reached the age when they expected to enrol in higher education. These universities are Macquarie (1964) in Sydney, Flinders (1966) in Adelaide, La Trobe (1967) in Melbourne, Griffith (1971) in Brisbane and Murdoch (1973) in Perth. At the same time governments established similar universities in 2 major regional cities: Newcastle (1965) and Townsville (James Cook, 1970). Macquarie University subsequently left the Innovative Research Universities Australia (IRUA) (2008a) group, but it clearly remains an IRUA type. While the first universities in each capital were built in red brick clad in sandstone on the fringes of their central business districts, the newer universities were built in concrete and glass amongst the gumtrees in their cities' comfortable suburbs, as Simon Marginson (1997) observed. The founders of these universities wanted to break from the pattern of traditional universities most recently reinforced by the founders of Monash University in 1958 by applying some of the innovative ideas from the 7

new universities established in the UK at the time of the Robbins Committee on Higher Education 1961-1963.

The first of the new UK universities was Sussex University and most Australian literature on the foundation of IRUA members refers to Sussex as the model. Sussex's first vice chancellor in 1961 was John, now Lord Fulton. When Fulton left in 1967 to chair the British Council, Asa, now Lord Briggs took over from him as vice-chancellor, having been Sussex's first pro-vice-chancellor and founding dean of the school of social studies. Asa Briggs probably provided most of the Sussex ideas. However, at the time Essex was better known as a model in Australia because of the 1963 Reith lectures delivered by its founding vice chancellor, Albert E Sloman on 'A university in the making' which described essentially the Sussex/new university model. The distinctive features of these universities was their interdisciplinarity, collegial governance rather than being controlled by the traditional 'god professor', and in being built in modern architecture.

The University of Wollongong is not correctly considered a regional university (any more than the University of Newcastle) because it is located in a large city with a population of 257,000, it is close enough to Sydney to recruit many of its students from Sydney and because the university and its staff have close interactions with Sydney. Wollongong is similar to IRU Australia institutions in age of establishment, size, innovative approach and size of research budget. For the purposes of analysis the University of Wollongong is therefore included as an IRUA-like university.

Innovative Research Universities Australia was formed in 2003 and identifies with the 1994 group, so called because it was founded in 1994, which comprises the universities of Essex, Sussex and 14 other universities that share 'aims, standards and values' (1994 Group, 2004).

#### *1.5.4 Metropolitan new generation universities*

Governments in the UK, Australia and the US not only established new universities to cater for the baby boom school-leavers, but also new types of higher education institutions. These were polytechnics in the UK and New Zealand, colleges of advanced education in Australia and community colleges in the US and Canada. The distinction between the university and non university sectors of higher education became untenable in Australia and the UK and was dissolved in 1988 in Australia and 1994 in the UK.

Many of the newly designated universities established the new generation universities network in 2002, comprising the Australian Catholic University, Central Queensland University, Edith Cowan University, Southern Cross University, University of Ballarat, University of Canberra, University of South Australia, University of the Sunshine Coast, University of Western Sydney and Victoria University of Technology. Some of these universities are also rural universities so for the purposes of analysis it is sometimes convenient to consider only the metropolitan new generation universities.

The hardest ungrouped university to place is Deakin University. It was established before the Dawkins changes of 1987 but it shares many of the characteristics of the metropolitan new generation universities: it is modern, it was based on an amalgamation of former colleges of advanced education including a teachers' college, most of its student load is at campuses in the suburbs of a large city, and it has a similar although greater research intensity than the new generation universities. For the purposes of this analysis Deakin University is therefore included amongst metropolitan new generation universities, although it doesn't identify with this group. The new generation universities network is now disbanded, but it was mainly a lobby group which planned to 'develop in partnership with the UK coalition of modern

universities’, now called ‘Million+’ (HERO, no date). The newer universities had an international group which meets occasionally (UWS, 2002).

### 1.5.5 Rural universities

There has been sporadic talk of establishing a group of regional universities, but one hasn’t been established formally because of disagreement over the meaning of regional, because many rural campuses are parts of universities with campuses in capital cities, and because rural campuses generate most of their leverage from local interest groups rather than from collective national action. Nonetheless, the universities which have most of their student load outside a mainland capital city have common characteristics and are conveniently grouped.

### 1.5.6 Summary

Australian public universities thus share these characteristics.

**ATN-like:** institutions that were established early as technical institutes in a capital city and formally designated a university after 1987.

**Group of 8:** the oldest universities in their mainland capital cities with the biggest research budgets and the biggest accumulations of academic, cultural and socio-economic capital.

**IRUA-like:** institutions that were established from the mid 1960s to the mid 1970s as distinctively different from the older capital city universities and which have medium sized research budgets.

**Metropolitan new generation:**

institutions based on former colleges of advanced education that were designated as universities around 1987, whose research is still developing, and which have most of their student load in cities of more than 250,000 people.

**Regional:** universities with most of their student load in centres with a population of less than 250,000 people. This is expected to include the University of the Sunshine Coast until about 2020, when because of the Sunshine Coast’s large increase in population the university will become a metropolitan new generation university.

These groups are shown in the table below.

Table 3: Australian university groups

<b>ATN-like</b>	<b>Group of 8</b>	<b>IRU Australia-like</b>	<b>Metropolitan new generation</b>	<b>Rural</b>
Curtin QUT RMIT UniSA UTS  Swinburne	Adelaide ANU Monash U of Melbourne UNSW U of Queensland U of Sydney UWA	Flinders Griffith James Cook La Trobe Murdoch Newcastle  Macquarie Wollongong	Aus Catholic U Canberra Edith Cowan U Western Sydney Victoria University  Deakin	Ballarat Central Qld Charles Darwin Charles Sturt Southern Cross Sunshine Coast Tasmania UNE U Southern Qld

## 1.6 Buffer body

Griffith does not support the introduction of a higher education or tertiary education buffer body. A buffer body is proposed to insulate institutions from political influence, but this would obstruct the overarching goal of getting institutions and the Government working closer together to serve the national interest. A buffer body is posited as being independent, but independent of whom? If it is independent just of government it would be widely perceived as being the sector's advocate and thus not so effective in pursuing the government's goals. If the body were independent just of institutions it would be widely perceived as being another part of government and would thus multiply the number of Australian government bodies with which institutions would have to deal. If the body were independent of both government and the sector it would introduce a third major influence on policy. While policy plurality is in some cases highly desirable, Australian higher education surely does not currently lack different policy advocates.

Griffith's experience of the previous Australian Government buffer body, the Commonwealth Tertiary Education Commission, is of restrictions on the university's ability to respond flexibly if at all to student and employers' demands, and of compliance with triennial plans which were not able to anticipate the changing priorities of government, changes in the higher education environment, and institutional developments.

## 1.7 Planned program of change

Australian higher education has suffered from episodic attempts to remake the whole sector in the image of a new policy prescription. This is highly disruptive and discards much of the strength that has been accumulated since the last systemic policy make-over. Griffith submits that the better approach is to set a long term goal and plan a series of staged movements towards that goal. Policy change should also build on or at least incorporate successful traditions. Longstanding institutions and arrangements should be retained if they are demonstrably successful, despite being inconsistent with a new policy. This would allow more variety (and some additional complexity) to develop organically.

## 1.8 Response to questions

Griffith responds to the review's questions on the issues discussed in this chapter in this way.

*1 How adequate is the statement of functions and characteristics of higher education in modern Australia?*

Griffith recommends that greater attention be given to universities' role in:

- developing students' civic responsibility, engagement and contribution;
- contributing to their regions' civic, social and economic life;
- contributing to social inclusion, including by reducing the disparities in the participation of people from low socio economic status backgrounds, Indigenous Australians and people from rural and isolated areas;
- building social cohesion through mutual understanding;
- contributing to environmental sustainability.

7 *What is the relevance and applicability of the findings and approaches proposed in the United Kingdom paper, Higher Education at Work, for increasing skills levels in the workforce to Australia?*

This is a poorly conceived paper which would be very poor policy for Australia, as it will be for the UK.

- 1 The paper tries to construct employers as the clients of higher education's learning and teaching programs. But students, not employers, apply for admission, enrol, pay fees, forego income, study, sit assessment and graduate.
- 2 Employers' statements of labour force needs are unreliable indicators of actual labour force demands. For example, employers (and academics in the relevant fields) claim that there is an undersupply of graduates in the physical sciences yet all of these disciplines had a higher than average proportion of graduates reporting that they were seeking full time employment in the most recent graduate destination survey –

Table 4: % of graduates seeking full time employment by selected fields of education, 2007

<b>Field of education</b>	<b>% seeking full time employment</b>
Mean, all fields	15.5
Chemistry	17.0
Computer science	17.0
Mathematics	19.2
Physical sciences	21.9
Life sciences	27.3

Source: Graduate Careers Australia (2008: 18) table 4a: bachelor degree graduates available for full-time employment, by aggregated field of education and employment status, 2007 (%)

- 3 The reports of what employers say they seek in graduates are belied by their actual hiring practices. Chief executives and their representative bodies may report that they seek 'generic' or 'employability' skills (the methods of many employer surveys are questionable) but their human resources departments recruit graduates with very specific technical skills, preferring graduates with specific work experience.
- 4 Australian vocational education and training has suffered an 'employer-led' policy over the last 3 years, yet it is precisely this policy that has led to the claimed skills shortages that employers complain about.



## 2 Australian higher education's contribution to social inclusion

This chapter addresses the fourth term of reference of the review of Australian higher education –

The Review Panel will advise Government on possible key objectives for higher education in Australia, starting with the themes below, and how these could be achieved through reform of the sector and changes to regulation and funding arrangements.

\* \* \*

### **Underpinning social inclusion through access and opportunity**

Supporting and widening access to higher education, including participation by students from a wide range of backgrounds.

(DEEWR, 2008c)

The chapter takes as its starting point the observation in the discussion paper that higher education can enhance social inclusion and reduce social and economic disadvantage by deepening our understanding of health and social issues and by providing access to higher levels of learning to people from all backgrounds (Commonwealth of Australia, 2008c: 1). The paper argues that the current Australian policy on equity in higher education, which is based on *A fair chance for all* (DEET, 1990), continues to be important for national policy, evaluation and intervention. However, it has gaps and limitations when applied to institutions and their regions. While higher education has hardly featured in social inclusion policy in Australia or overseas, social inclusion offers a useful framework for structuring and evaluating institutions' contribution to equity.

The chapter is in these parts:

- 2.1 Current Australian policy on equity in higher education
- 2.2 Evaluation of policy for students from low socio economic status backgrounds
- 2.3 Possible contribution of social inclusion
- 2.4 Implications for higher equity policy
  - 2.4.1 The importance of locality
  - 2.4.2 The relation between nation building and regional development
  - 2.4.3 Coordination across agencies and portfolios
  - 2.4.4 Importance of curriculum
  - 2.4.5 National targets
  - 2.4.6 National coordination
  - 2.4.7 Role of targeted funding
- 2.5 Recapitulation and conclusion
- 2.6 Response to the review's questions

## 2.1 Current Australian policy on equity in higher education

The origins of the current Australian policy on equity in higher education are in *Higher education: a policy statement* ('the White Paper') (Dawkins, 1988). In the White Paper the Australian Government stated its commitment to improving access to and success in higher education (page 20) and said that direct and specific strategies are needed at the institutional, State and national levels to achieve greater equity in higher education (page 21). The Government stated its intention to develop a statement of national equity objectives in higher education and develop guidelines and suggestions for institutions to adopt in their planning (Dawkins, 1988: 54).

The White Paper argued that –

The equity goals of institutions should be based on an analysis of the nature and level of disadvantage experienced by different client groups in the institution's student population and wider catchment area. This analysis should examine any significant variations in educational participation and outcomes, including differences in the rate of student progress and graduation.

(Dawkins, 1988: 55)

The statement of national equity objectives in higher education foreshadowed in the White Paper was published two years later as *A fair chance for all: national and institutional planning for equity in higher education* (DEET, 1990). *A fair chance for all* identified six groups as being 'significantly under-represented in higher education' (DEET, 1990: 10):

People from socio-economically disadvantaged backgrounds  
Aboriginal and Torres Strait Islander people  
Women, particularly in non-traditional courses and postgraduate study  
People with disabilities  
People from non-English-speaking backgrounds  
People from rural and isolated areas.

(DEET, 1990: 10)

As the discussion paper observes (Commonwealth of Australia, 2008c: 28), *A fair chance for all* said that –

The overall objective for equity in higher education is to ensure that Australians from all groups in society have the opportunity to participate successfully in higher education. This will be achieved by changing the balance of the student population to reflect more closely the composition of society as a whole.

(DEET, 1990: 8)

This principle of proportional representation was operationalised in *Equity and general performance indicators in higher education* (Martin, 1994) which defined each equity group and established for each group performance indicators and a reference value, which is the group's share of the total population. Institutions are free to decide which equity groups to concentrate on and to adopt their own institutional target for each equity group they target.

## 2.2 Evaluation of policy for students from low socio economic status backgrounds

James and colleagues (2004: 65) found that there had been negligible if any improvement in the participation of students from low socio economic backgrounds since 1991, and James, Bexley & Maxwell (2008: 23) found that by 2006 the level of under representation of students from low socioeconomic backgrounds ‘has remained virtually unchanged for the past decade despite the expansion in the total number of domestic students in higher education.’ There is evidence that Australia is unusual in failing to improve access for people from low socio economic status backgrounds. Clancy & Goastellec (2007: 150) compare the changes in social groups’ access to higher education in 7 countries, which are set out in table 5.

Table 5: comparison of changes in social groups’ access to higher education in 7 countries

	Admission to higher education: odds ratio parents white collar/blue collar (Marks et al, 2000)					
Australia		1980: 2.4			1999: 2.3	
	Admission to higher education: odds ratio parents with higher education/ parents with no higher education (Marks et al, 2000)					
		1980: 2.5			1999: 2.5	
Finland	Participation in higher education: odds ratio parents with higher education/ primary education only (MOE, Finland, 2005)	1985: 12.1	1990: 11.3	1995: 9.9	2000: 7.2	
France	Higher education enrolment: odds ratio white collar/blue collar (DEPP, 2005)	1984: 8.3			2002: 7.4	
Ireland	Admission to higher education: odds ratio 6 highest/5 lowest groups (Clancy, 2001)	1980: 6:2	1986: 6.1	1992: 3.2	1998: 3.5	
Norway	Participation in higher education: odds ratio parents higher education/ compulsory education only (MOER, Norway, 2005)		1992: 8.8		2002: 7.7	
UK	Higher education: odds ratio white collar/ blue collar (DES, 2003; ONS, 2004)	1960: 8.9	1970: 8.9	1980: 6.5	1990: 6.3	2000: 4.2
USA	College participation by family income: odds ratio top/ bottom quartile (Mortenson, 2005)	1970: 7.21	1980: 4.59	1990: 6.36	2000: 5.56	2003: 5.75

Source: Clancy & Goastellec (2007: 150) Table 3: Changing inequalities in access to higher education by social group: evidence from selected countries

It will be noted from the table that in the USA in 1970 students whose family's income was in the top quartile nationally were 7.21 times more likely to participate in college than students whose family income was in the bottom quartile. However, the odds ratio improved to 5.75 by 2003. In comparison there has been negligible improvement in the inequality in access to higher education in Australia. In 1980 students whose parents had a white collar occupation were 2.4 times more likely to gain admission to Australian higher education than students whose parents had a blue collar occupation, and this fell only minimally to 2.3 times in 1999. Similarly, students with parents who had a higher education qualification were 2.5 more times likely to gain admission to higher education in Australia than students whose parents had primary education only in 1980, and this hadn't improved at all by 1999.

Marks & McMillan (2007: 372) reach a different conclusion which Marks (personal communication, 24 April 2008) suggests may be due to a different construction of the odds ratios. Clancy & Goastellec (2007: 151) conclude –

In only one of the countries on which we report, Australia, has there been no reduction in social group inequalities – in this instance over a period of almost two decades.

(Clancy & Goastellec, 2007: 151)

Two explanations may be considered for the lack of improvement in the access for people from low socioeconomic status backgrounds 'despite the expansion in the total number of domestic students in higher education' as James, Bexley & Maxwell (2008: 23) observe. First, too much emphasis may have been given to improving access by expanding the system. The White Paper (Dawkins, 1988: 21) said that –

Improvements in access and equity are heavily dependent on growth in the system. Without new places in the system, it will be difficult to change the balance of the student body to reflect more closely the structure and composition of society as a whole.

(Dawkins, 1988: 21)

But studies have subsequently found that expansion of higher education reduces inequality when participation of the advantaged group reaches saturation, but not before. This is Raftery and Hout's (1993) hypothesis of maximally maintained inequality, the hypothesis that the expansion of a level of education does not increase the odds of a less advantaged social class participating until the participation of the more advantaged class reaches saturation, which is the point at which nearly all or around 80 per cent of young people participate. Arum, Gamoran & Shavit (2007: 18-9) found that the hypothesis of maximally maintained inequality is supported for participation in higher education on average across the 13 countries included in their analysis. A corollary of the hypothesis of maximally maintained inequality is Lucas' (2001) hypothesis of effectively maintained inequality, the hypothesis that once saturation is reached in a level of education, lower inequalities in participation overall may be replaced by inequalities in participation in a more selective tier or track at that level. Applying this to Australian higher education, the hypothesis states that more equal participation in higher education overall would be replaced by increased inequality in participation in the most selective tier of higher education. Arum, Gamoran & Shavit (2007: 20-1) report mixed results for the hypothesis of effectively maintained inequality.

In addition to a possible over reliance on expansion to improve access for people from low socioeconomic status backgrounds, a second possible reason for the lack of improvement in equitable access is the lack of a strong causal explanation or at least hypothesis for under representation. The White Paper (Dawkins, 1988: 21) said that –

While growth will facilitate the achievement of greater equity in higher education, growth alone will not be sufficient. As a complement, more direct and specific strategies are needed at the institutional, State and national levels. The development of these strategies requires a close examination of factors influencing both access to higher education and the success rates of those who gain entry. Schools as well as higher education institutions will have a crucial role to play in this process.

(Dawkins, 1988: 21)

Soon thereafter, in reflecting on the ‘Dawkins revolution’ Karmel (1989:9) observed –

Few would quarrel with the importance which the White Paper attaches to access and equity. However, aspirations to enrolment in higher education are formed earlier in the lives of potential students than at the point of entry. Family attitudes, parental expectations and the cultural environment affect the educational aspirations of the young. Persistence at school is the critical factor in bringing people to the point of entry to post-school institutions.

Accordingly, higher education institutions can make only a minor contribution to improving the social mix of students. Changes must occur in society itself and in the opportunities available in schools.

(Karmel, 1989: 9)

But the close examination of factors influencing access to higher education foreshadowed in the White Paper has not been undertaken in Australia until recently, and it indeed has found that ‘Schools as well as higher education institutions will have a crucial role to play in this process’ as the White Paper envisaged. James, Bexley & Maxwell (2008: 26) found that –

From an analysis of the available data, there appear to be two main factors underlying the low participation rate of students from low SES backgrounds in higher education: non-completion of secondary schooling — related to lower levels of academic achievement in school — and progression to the VET sector or to work rather than higher education.

(James, Bexley & Maxwell, 2008: 26)

James, Bexley & Maxwell (2008: 10) argue that it is likely that a lower level of achievement in school by pupils from low socio economic status backgrounds is a precursor to lower educational aspirations and thence lower school completion rates. Similarly, Minister Gillard’s ministerial budget statement for 2008-09 (Commonwealth of Australia, 2008b: 9) said that ‘The Government understands that the reasons why students from disadvantaged backgrounds do not make it to higher education usually have their roots far earlier in life.’ That is, inequity in higher education originates 15 years earlier. This is a reiteration of international findings. Sparkes & Glennerster (2002: 178), for example, report –

Several strands of CASE's [ESRC Research Centre for Analysis of Social Exclusion] work have reinforced the conclusion that educational failure is strongly associated with the process of social exclusion [references omitted]. Moreover, there is growing evidence that this is more than an association. The relationship is causal and can be reversed. But it is a long and difficult process to do so. And we still know too little about what works and what does not.

(Sparkes & Glennerster, 2002: 178)

This has led governments in the US and the UK to develop a role for higher education in what is called in the US 'early outreach' to raise the aspirations and achievements of pupils in the early and middle years of schooling. Higher education institutions provide systematic and graduated enrichment and support programs for pupils, their teachers and their parents. Venezia & Rainwater (2007: 18) report that some programs offered by US college start with pupils as early as third grade, although most start at junior and middle secondary level. Programs include tutoring, mentoring, counselling, activities to involve parents, and development of school curriculum and staff. One of the early US State programs is Florida's College Reach Out Program (CROP) which was started in 1983.

A good example of this collaboration is provided by San Diego State University, which runs 3 major programs in collaboration with school systems. The City Heights educational collaborative was started in 1998 and involves a primary, middle and high school. About 60 students from San Diego State's education college teach in the City Heights schools each year, and students and academic staff from more than 40 other academic departments have participated in the partnership through research, service learning and other projects (Hebel, 2007b). The Compact for Success is a partnership between the university and Sweetwater Union High School District that was started in 1999 (Hebel, 1007a). The university starts by inviting pupils in grade 7 and their parents to an information session on the university campus. By the time pupils are in grade 10 campus visits have progressed to include introducing students to academic elements and support services, reviewing individual pupils' 4 year plans, stressing the importance of academic readiness and rewarding continued academic success. The university also helps the school district with its curriculum and teacher development. The university guarantees admission to all Sweetwater graduates who meet the program's achievement and participation requirements. Thirdly, university's National Center for Urban School Transformation identifies successful urban schools throughout the USA and brings their best practices to support other urban schools in creating model high performing schools (San Diego State University, no date).

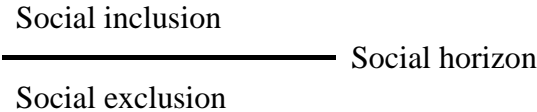
The success of these and other programs supported by States and philanthropies led the Clinton administration to introduce in 1999 GEAR UP – Gaining Early Awareness and Readiness for Undergraduate Programs. GEAR UP allocates grants of 6 years to states and partnerships to provide services at middle and high schools in depressed areas. Programs serve an entire cohort of students beginning no later than the seventh grade and follow the cohort through high school (U.S. Department of Education, 2008). In 2001 the Blair Government introduced Excellence Challenge, which has now been amalgamated into Aimhigher, to widen participation in higher education by raising the awareness, aspirations and attainment of young people from under-represented groups (HERO Ltd, no date; DfES, 2003: 13). James, Bexley & Maxwell (2008: 76) report that 'After 18 months of Aim Higher, the proportion of year 11 students from participating schools was 3.9 per cent higher than in non-participating schools.'

In contrast to the US and the UK, there has been no national higher education early outreach program in Australia, although some individual institutions such as Griffith University have introduced early school intervention programs.

### 2.3 Possible contribution of social inclusion

Social inclusion is the capacity to participate in key activities of the society. Its opposite social exclusion is a form or concept of poverty, and the relation between poverty and social exclusion is much contested. While social inclusion/exclusion is often presented as a dualism or dichotomous classification, social inclusion and exclusion are better considered as a continuum above and below the social horizon –

Figure 1: the social inclusion-exclusion continuum



Gough, Eisenschitz & McCulloch (2006: 50) depict the relation between different levels and concepts of poverty and social exclusion this way –

Table 6: different levels and concepts of poverty and social exclusion

Concept of deprivation	Measure
Oppressive relations	Disempowerment, alienation
Social exclusion 3	Lack of cultural and social capital
Social exclusion 2	Constraints on social participation such as racism, sexism, etc
Social exclusion 1	Insufficient resources to participate in normal social interactions
Relative poverty	Resources less than a defined benchmark
Absolute poverty	Insufficient resources for physiological reproduction

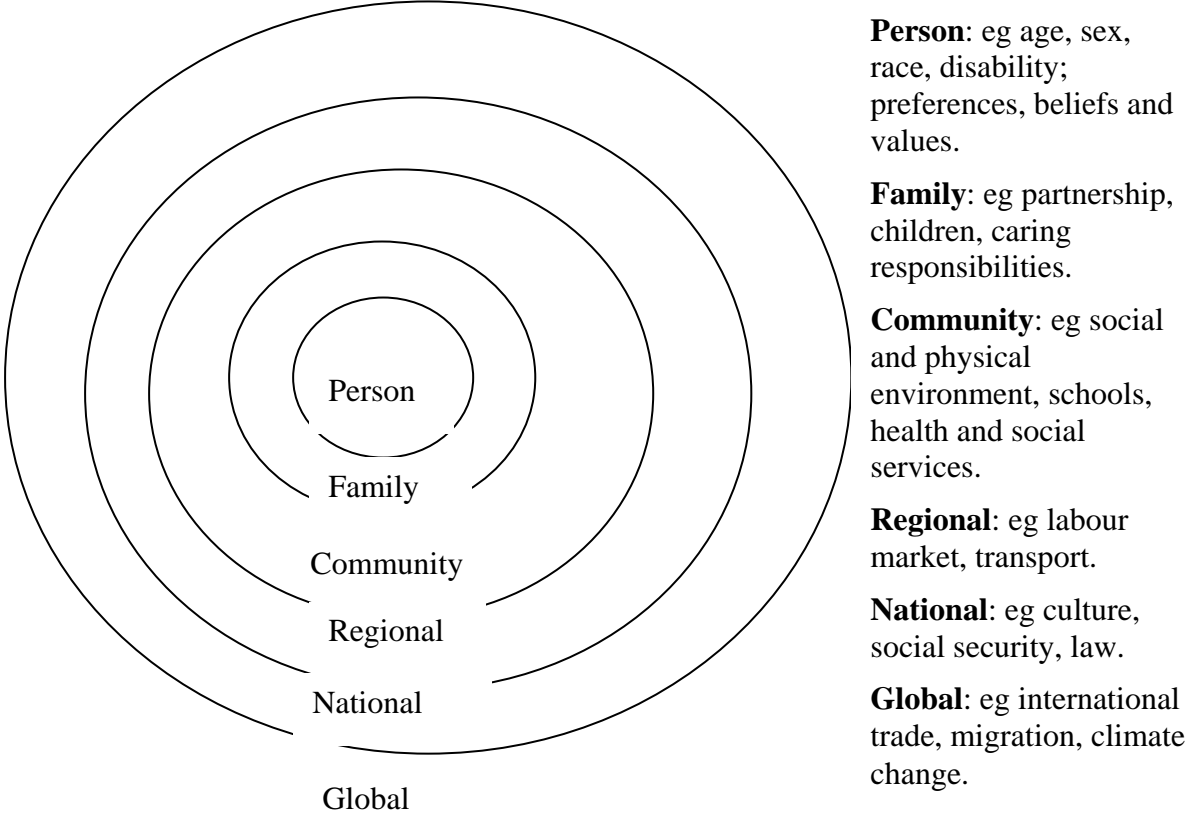
Source: adapted from Gough, Eisenschitz & McCulloch (2006: 50) Table 3.1: Different concepts of deprivation.

The concept of different levels of engagement in society is useful in identifying a role for higher education in social inclusion since levels of education are as closely associated with levels of engagement in society as they are with levels of pay and employment. A person without literacy and numeracy is excluded from many key activities in a modern industrialised society, although they would have been part of the large majority in Medieval societies (King, 2008). A person with only primary education is less excluded than the illiterate and innumerate, but remains excluded from much employment and many other opportunities to participate in a modern industrialised society (O’Connor & Moodie, 2008a).

In the previous age of elite higher education not to participate in higher education was to be excluded from the elite, but it did not mean exclusion from the mainstream of society which also did not participate in higher education. But in an age of mass higher education not to participate in higher education is to be excluded from medium and high status occupations and therefore from medium and high income as the late Martin Trow (1972: 69-70) observed. It also excludes people from the highest level of engagement in society – from society’s sophisticated cultural and political conversation, and therefore from a level of political engagement, influence and power (O’Connor & Moodie, 2008b).

Burchardt, Le Grand & Piachaud (2002a: 7) argue that different levels of social organisation influence each other. They depict the relations between levels of society as a series of concentric rings, or as an onion as they describe it. At the heart of the onion is the individual, whose social exclusion is affected by their personal characteristics such as their age, sex, race, disability, preferences, beliefs and values. The next ring of the onion is the family, where a person’s social exclusion is affected by their partnership, children and caring responsibilities. The next level is the community which Burchardt, Le Grand & Piachaud say includes the family’s social and physical environment, and local services – educational, health and social. The fourth level of influence on the individual is the local such as the local labour market and transport. Then comes national influences such as culture, social security and law. And the final ring of Burchardt, Le Grand & Piachaud’s onion is the global influences of international trade, migration and climate change.

Figure 2: levels of social organisation



Source: Burchardt, Le Grand & Piachaud (2002a: 7) Figure 1.1 An integrated approach

Burchardt, Le Grand & Piachaud (2002a: 7-8) note that intermediate levels of social organisation such as the community is influenced not only by the broader local, national and international levels of social organisation, but also by the families and individuals who constitute it. It is also clear, although Burchardt, Le Grand & Piachaud don't make this point, that their levels of social organisation aren't strictly hierarchical. Thus a person's race, which Burchardt, Le Grand & Piachaud describe as an individual characteristic, is constructed by their community and possibly also by national policies on race. Likewise for most people their religion, which Burchardt, Le Grand & Piachaud don't include in their diagram, is variously constructed by themselves, their local mosque or church, possibly by a national church, and for many religions, also globally.

This concept of levels of social organisation is useful in identifying another aspect of higher education's role in fostering social inclusion. In this age of globalisation – which many social inclusion theorists posit as an important dynamic of exclusion – the level of society one engages with is significant. A person, family, group or community who sees their cultural, social and economic circumstances connected with the international world – who is engaged with the global community – is clearly more empowered than one who does not understand let alone influence the global forces that affect them (O'Connor & Moodie, 2008a).

We may therefore posit a role for higher education in giving people, groups, communities and regions the capacity to have the highest levels of engagement at the local, regional, national and international levels of social organisation. And for that engagement to be at the highest level both conceptually and geographically the university must offer high level coursework and research programs and must be engaged with international research.

Analysts of social inclusion make 3 observations. First, that different strands of disadvantage interlock and are highly interdependent 'so that progress in overcoming one limitation, say, unemployment, can be inhibited by related factors like limited funds, poor health, inadequate training or having a criminal record' (Vinson, 2007). There is considerable evidence that many problems that emerge from adolescence such as disengagement from education and work, substance abuse and getting caught up in the criminal justice system originate from unsuccessful engagement with the early years of schooling, and that this in turn is associated with a variety of personal, family and social difficulties. Most families are able to cope with isolated and brief difficulties, but many families are not able to cope with multiple and recurrent difficulties. These families need access to a range of supports which might include short term financial aid, health, family counselling and behavioural treatment. This suggests that any action that universities take to promote social inclusion should be coordinated with providers of other educational, health and social services.

Secondly, disadvantage is remarkably concentrated geographically (Baum, 2008). Vinson analysed the performance of each Australian postcode by 25 indicators of social, health and economic disadvantage. He found that just 1.5% of localities are ranked in the top 5% of each indicator of disadvantage, which was from 6 to 7 times more than the average (Vinson, 2007). This fits in well with universities regional role, since many universities either have a campus near a region of high disadvantage, or may establish a partnership with such a region.

A third observation fundamental to social inclusion is that it involves social relations which are essentially dynamic (Burchardt, Le Grand & Piachaud, 2007b: 31). Thus social exclusion is not a static status as some have understood poverty, class and indeed socio economic status. The dynamism of social inclusion offers the possibility of a causal mechanism missing in the initial application of *A fair chance for all*, or at least provides a site for universities' social justice action.

The final part of this chapter considers the implications of this analysis for equity policy in Australian higher education.

## 2.4 Implications for higher education equity policy

From the foregoing one may draw 7 implications for higher education equity policy: the importance of locality, the relation between nation building and regional development, the need to coordinate programs for each locality across agencies and portfolios, the importance of curriculum, the need to maintain national targets and for a new indicator of socio economic status, national coordination, and the role of targeted funding.

### 2.4.1 *The importance of locality*

The first implication of an emphasis on social inclusion is that universities' work with their local communities is important and should be strengthened. Many Australian universities are located in areas of high relative disadvantage. Likewise, some of the most prestigious and best funded US universities are located in the most disadvantaged areas of the US, mostly in the inner urban areas of large cities. These universities have obvious opportunities to contribute to the development of their immediate localities, as many do. Some universities which do not have a campus located in a disadvantaged region are forming partnerships with a disadvantaged community somewhat distant from their main campus and this should be encouraged. Universities should seek to develop their communities' engagement with social life at the highest level. Furthermore, universities should develop their communities' engagement not only with regional and national but also with international levels of social organisation.

Higher education's role should be to give people, groups, communities and regions the capacity to have the highest level of engagement at the local, regional, national and international levels of social organisation. For that engagement to be at the highest level both conceptually and geographically the university must offer high level coursework and research programs and must be engaged with international research.

### 2.4.2 *The relation between nation building and regional development*

While higher education institutions' social inclusion interventions should be mainly local, they should be within a national policy of nation building and regional development to give institutions' interventions some coherence and to maximise their contribution to other important social and economic goals. It is important for Australia's long term future that development is balanced throughout the continent, and not concentrated in the cities and regions that already enjoy natural advantages. While there is at least 1 higher education campus in each major city and in many regions, there are still important regions without a higher education campus. This is an important issue for social inclusion since as Birrell & Edwards' (2007) figures show, while 41% of 18 to 20 year olds in capital cities aren't engaged in any form of education, 61% of young people outside capital cities aren't participating in education.

Yet the solution cannot be to establish a university campus in every region and population centre. The former Universities Commission held that a catchment area of from 100,000 to 200,000 people was needed to support a university campus. While one may quibble with the precise thresholds, it is clear that a campus with a catchment area of much less than 100,000 can't support the range and quality of programs that students expect. Since Tafe institutes are

much more widely dispersed throughout the regions than more expensive university campuses, much of the opportunities for regional participation in higher education should be through Tafe institutes offering associate and perhaps bachelor degrees under the auspices of a collaborating university. Such Tafe-university partnerships should result in the development of Tafe institutes as dual sector tertiary education institutes that offer both vocational and higher education. The Australian and State governments will need to collaborate strongly and coordinate Tafe and higher education institutions to ensure that all Australians have a reasonable opportunity of participating in higher education.

Some universities have established small higher education campuses in towns of 50,000 or fewer people, some of which also have a Tafe institute. Some regional university campuses are co-located with Tafe campuses, and the consortium of universities with regional operations proposes more effective partnerships with Tafe institutes. But university co-locations and partnerships with Tafe institutes still maintain separate teaching staff, administrations and facilities which make them less efficient than combined operations. Again, Australian and State governments will need to collaborate and coordinate their institutions to establish one dual sector institution and campus in these regions which warrant one but not two separate public tertiary education providers.

Therefore government intervention is needed to ensure higher education's contribution to balanced national development and the full inclusion of people in all regions in higher education and its related benefits of employment and social engagement. This Government intervention should take 2 forms: coordination and targeted funding. These are elaborated at the end of this section.

### *2.4.3 Coordination across agencies and portfolios*

The interconnectedness of economic, social, educational and other aspects of disadvantage suggests that social inclusion policy consider interventions across portfolios or government departments and agencies: providing 'joined-up' services for local communities is a major concern of social inclusion. Therefore any action by a university should be coordinated with complementary action by other agencies. An obvious candidate is vocational education, since not all people wish to undertake their tertiary study in universities.

Universities should also develop their social inclusion policies with adult and community education. Many of the excluded have poor backgrounds in and experiences of formal education. They are therefore very poorly prepared and unreceptive if not antagonistic to formal education. People with poor or unsuccessful experiences of school education often return to formal education through hobby and recreation classes which lead to literacy and study skills classes and thence to advanced education. Many providers of adult and community education are recognised as such, but others have other primary roles, as Golding (2006) has shown of men's sheds and of voluntary fire, emergency services and landcare organisations.

Universities also need to collaborate with the lower levels of secondary education and the upper levels of primary education, since this is where the aspiration and foundation for tertiary education is formed. The examples of US universities' early outreach programs described earlier in this paper offer useful ideas for what may be developed in Australia. Griffith University Professor Ross Homel and colleagues' (2006a) pathways to prevention establishes a multi-agency intervention and support program for primary schools in Inala, a highly disadvantaged suburb near Griffith's Brisbane campuses. The success of this program suggests that it should be expanded, perhaps by broadening the full service schools program supported by the Australian Government in 1999 and 2000 (DEEWR, 2008a).

### **Case study: pathways to prevention project**

Pathways to prevention is a demonstration project developed jointly by Griffith University and Mission Australia to implement an early intervention program in the most disadvantaged urban area in Queensland. The project is unusual because it is built on a university-community agency partnership supported by the Queensland Government but funded primarily from corporate and philanthropic sources and from the Australian Research Council. Despite considerable challenges, the project has achieved many of its objectives.

Pathways to prevention focuses on children's transition to school. It integrates family support with preschool and school-based programs in the 7 Inala state schools within a community development framework. The target population is children aged 4 to 6 years in the area, and their families and ethnic communities.

The purpose of the pre-school intervention program is to enhance children's communication and social skills to provide a foundation for school success and develop positive behaviours and interpersonal relationships. These activities are conducted during regular preschool sessions by specialist staff. The family independence program helps caregivers and families to create a stimulating home environment that is harmonious and conducive to child development, through the provision of culturally sensitive services. Families are able to access multilayered levels of support and to combine different programs according to their level of need or readiness to participate.

The quantitative outcomes for children after 1 year of involvement in the project provide some of the strongest evidence that multilayered interventions in school and community settings can influence developmental pathways. Although caution is required given the quasi-experimental nature of the research design, the outcomes of the project to date suggest intervention effects that are in line with or exceed international norms.

*Further information:* [http://www.griffith.edu.au/\\_\\_data/assets/pdf\\_file/0016/13372/trends.pdf](http://www.griffith.edu.au/__data/assets/pdf_file/0016/13372/trends.pdf)

#### *2.4.4 Importance of curriculum*

The engagement and inclusion of people previously excluded from higher education will require substantial changes to the curriculum. Higher education programs will have to be offered in ways that attract and retain students who previously had not considered higher education as a possible or even desirable path. This may be achieved by relating education and work in new ways, or at least in adapting to current circumstances earlier ways of integrating education and work in what used to be known as sandwich courses. Sandwich courses intersperse blocks of work and intensive study in various combinations convenient to employers, educational institutions and students. They are most familiar as apprenticeships, but they were popular in Australia and UK higher education from the 1950s (Topping, 1975), mostly in institutes of technology. Griffith University currently offers 2 sandwich type programs, both at its Logan campus which serves one of the most disadvantaged communities in Queensland: the bachelor of commerce (professional) and the bachelor of information technology @ work.

### **Case study: bachelor of commerce (professional)**

The bachelor of commerce (professional) starts with a 1 week orientation when employers come on campus to introduce students to their industry and their expectations of graduates. Students spend their first year studying full time in 3 semesters. The first year introduces students to the wide range of business disciplines necessary to understand the interdisciplinary nature of commercial analysis and problem solving. Interspersed with these studies is a range of more advanced studies from students' major of choice which aligns with the internship they will pursue. In their second and third years students work in a financial services firm while studying part time over 3 semesters. The internship provides students industry experience and a salary while studying.

*More information:*

[http://www17.griffith.edu.au/cis/p\\_cat/admission.asp?ProgCode=1336&type=overview](http://www17.griffith.edu.au/cis/p_cat/admission.asp?ProgCode=1336&type=overview)

### **Case study: bachelor of information technology @ work**

Students start the first year of their bachelor of information technology @ work studying full time in 3 semesters. They then work in industry full time for the next 3 years while studying part time on line. Students' employers release them for 45 days during each summer to complete an intensive summer semester. Students enrolled in the BIT @ Work can apply their learning in industry during the standard semester and return focused and enthusiastic during the summer semester. The program enables students to focus on their studies during the summer semester without major distractions from work and to relate their learning to their practice. The fourth year includes enrolment in the industry affiliates program for 0.25 efts1. While this subject is mainly industry placement, it demands participation on campus with other students in the cohort and course conveners and assessors.

*More information:*

[http://www17.griffith.edu.au/cis/p\\_cat/admission.asp?ProgCode=1250&type=overview](http://www17.griffith.edu.au/cis/p_cat/admission.asp?ProgCode=1250&type=overview)

Students are attracted to these programs because they give them early involvement with paid semi professional work related to their studies and career goals. Employers benefit from employing earlier than they otherwise would highly able and motivated students. They shape students' education directly as well as indirectly through membership of program boards, and have much less risk in their graduate recruitment since they have observed potential recruits over a prolonged period.

#### *2.4.5 National targets*

The Australian Government should maintain targets for proportionate participation of each segment of society in each segment and level of education. So the university sector as a whole must aim for proportionate participation by class, race, sex, ethnicity, location, and for people with disabilities and those who have other special characteristics that may restrict their social engagement. But a social inclusion policy would not apply these targets *mutatis mutandi* to each university, as some national policies do. Each university campus will need to tailor a social inclusion policy and programs to their specific locality.

In 1998 in a major report for the Commonwealth, Western, McMillan & Durrington (1998) recommended that the postcode method of identifying socio economic status be replaced by an index based on parents' education and/or highest level of education (see also McMillan & Western, 2000). The Australian Government did not implement that recommendation. The arguments for replacing postcodes with a more sensitive indicator of socio economic status are even stronger now than they were a decade ago. The postcode method isn't sufficiently accurate to apply to groups of fewer than about 200 students and it does not help identify causal factors or processes. Griffith therefore supports James, Bexley & Maxwell's recommendation (2008: 7) that a new measure of socio economic status be developed for higher education based on parents' highest level of education.

#### 2.4.6 *National coordination*

Each higher education institution should develop a social inclusion policy and programs for intervention. Each policy should include milestones, targets and an evaluation process. But the aggregation of each university campus' social inclusion policy and programs will not amount to a comprehensive social inclusion program that will meet national targets of proportionate participation. Australia will need a mechanism to identify and fill gaps in the locality-based policies and interventions of each campus to ensure there is reasonably comprehensive provision both geographically and by underrepresented group. Australia will also need a mechanism to monitor performance on national targets and stimulate additional or different interventions where a target is not being met.

The Department may stimulate institutions to coordinate their programs and fill gaps by publishing institutions' policies and programs in a form that is readily referenced. This could have 3 parts. A **national directory of social inclusion interventions** could show which underrepresented groups are being targeted by each intervention and the targets that have been set. Simply aggregating each intervention's targets should show whether they are sufficiently ambitious and comprehensive to meet national targets, and it may be necessary for the Department to encourage institutions to set more ambitious targets or establish broader programs, perhaps by offering additional funding for institution which meet their targets.

A second part of a national coordination of social inclusion could be an **atlas of social inclusion interventions**. By comparing the atlas of social inclusion interventions with Vinson's (2007) table of Australian postcodes by level of disadvantage it would be possible to identify disadvantaged regions that are not currently served by higher education institutions. As this submission has already argued, the solution to geographic gaps in social inclusion interventions cannot be to establish a university campus in every region and population centre. Australian and State governments will need to collaborate with each other and coordinate their institutions to establish an effective but also efficient geographic provision of higher education opportunities.

A third part of national coordination of social inclusion should be a **monitoring of targets**, both of each intervention and of the national targets for proportionate participation of each segment of society in each segment and level of education. Performance on these targets should inform the allocation of targeted funding for social inclusion.

### 2.4.7 Role of targeted funding

The Australian Government said in *A fair chance for all* that –

Underpinning the Government’s equity strategy is the understanding that higher education institutions are publicly funded, so they have a clear responsibility to provide opportunities for all sections of the Australian community.

(DEET, 1990: 8)

While Australian universities are still publicly funded, universities’ financial circumstances in 2008 are entirely different to those of almost 20 years ago. Australian Governments provided only 41% of universities’ funds in 2006, much less than the 63% provided in 1990. (Most of the difference is in a substantial increase in funds from international student fees (15%), and from consultancy and contracts (5%) and other fees and charges (3.7%) which are included in ‘Other’ in table 3.)

Table 7: major sources of universities’ funds, 1990 and 2007

Source	1990		2006	
	\$'000	% of total	\$'000	% of total
Australian Government grants	3,081,328	63	6,551,626	41
State government	241,666	5	617,460	4
Heccs deferred and upfront	571,237	12	2,222,231	14
Other domestic student fees	267,468	6	896,056	6
International student fees	138,833	3	2,375,362	15
Investment income	256,269	5	698,624	4
Donations and bequests	111,969	2	159,260	1
Other	186,405	4	2,392,402	15
<b>Total</b>	<b>4,855,175</b>	<b>100</b>	<b>15,913,021</b>	<b>100</b>

Sources: DEET (1991) Table 56. Higher education institution income (\$'000) by source, State and institution; DEST (2007) Table 1. Adjusted statement of financial performance for each HEP, 2006 (\$'000).

The Australian Government established the precursors to the institutional (research) grants scheme and the research infrastructure block grants scheme in 1991 to distribute research funds to institutions by institutional performance rather than by status following the dismantling of the binary divide. In 2001 the Australian Government introduced the research training scheme to allocate by institutional performance very substantial funds to support research training. From 2006 the Australian Government has allocated a substantial learning and teaching performance fund. In contrast the Australian Government allocates rather modest funds for institutional performance in equity.

Table 8 shows the amounts the Australian Government allocated for institutional performance in the 2008-09 budget. It will be noted that 91% of the contestable institutional performance funds are for research and research training, 7.5% are allocated for learning and teaching and only 1.5% are allocated for institutional performance in equity. Equity is no more or less a core institutional activity than research and teaching, and it is very expensive since it is labour intensive and requires the provision of additional resources to targeted students.

Table 8: amount and proportion of funds allocated for institutional performance by program, budget estimate 2008-09

<b>Program</b>	<b>(\$m)</b>	<b>%</b>
Research training scheme	592	
Institutional (research) grants scheme	311	
Research infrastructure block grants	210	
<i>Sub total research and research training</i>	<i>1,113</i>	<i>91.0</i>
<i>Learning and teaching performance fund</i>	<i>92</i>	<i>7.5</i>
<i>Equity programs</i>	<i>18</i>	<i>1.5</i>
<b>Total</b>	<b>1,223</b>	<b>100.0</b>

Sources: DISSR (2008) Table 4. Estimated cost for programs and incentives providing support for science and innovation through special appropriations and other measures; DEEWR (2008d) Table 2.3: Total resources for outcome 3.

Extensive targeted funds will be needed to improve the static equity performance over the last 17 years. The targeted social inclusion funds should be allocated on 2 grounds: to fill gaps and to reward performance. A review of the national directory of social inclusion interventions proposed earlier in this paper will disclose the underrepresented groups which are not adequately served by current interventions and to which additional targeted funding should be directed to fill the observed gaps.

A review of the atlas of social inclusion interventions proposed earlier will disclose which regions should be targeted for additional funding to fill the geographic gaps in provision. Some dual sector tertiary education institutes will require targeted funding in addition to the standard funding and fees they attract from their vocational and higher education load. The regional loading currently provided by the Australian Government is indiscriminate in applying to all university campuses that fit within its formula regardless of the viability of the campus, yet at the same time it is inconsistent in providing a regional loading to the University of Wollongong but not to the University of Newcastle nor indeed Griffith University's Gold Coast campus. The regional loading should be restructured as targeted funding to universities and to dual sector tertiary education institutes to maintain viable and efficient campuses in modest population centres.

The second part of targeted social inclusion funding would be for institutions that achieved the milestones they set in their policy, achieved their targets and achieved satisfactory evaluation of their social inclusion interventions. This would follow the third part of national coordination of social inclusion proposed in the previous section of monitoring targets for each intervention.

## 2.5 Recapitulation and conclusion<sup>1</sup>

Recent research covering 7 countries concluded that Australia was unusual in its lack of success in improving access to higher education for disadvantaged social groups:

In only one of the countries on which we report, Australia, has there been no reduction in social group inequalities – in this instance over a period of almost two decades.

(Clancy & Goastellec, 2007: 151)

As noted in the discussion paper, recent Australian research has confirmed that participation of people from low SES backgrounds has remained virtually unchanged for 15 years despite the overall expansion of access to higher education in that period.

Possible reasons for the lack of success of the government policy include:

- an over-emphasis on increasing access by expanding the system, when studies have subsequently found that expansion of higher education reduces inequality only when participation of the advantaged group reaches saturation, but not before; and
- the lack of strong causal explanation or at least hypothesis for under-representation and interventions grounded in evidence.

Research suggests that inequity in higher education originates 15 years earlier. A lower level of achievement in school by pupils from low SES backgrounds is a precursor to lower educational aspirations and thence lower school completion rates, which in turn is a major factor underlying the low participation rate in higher education (James, Bexley & Maxwell, 2008: 10).

While the Dawkins White Paper of 1988 foreshadowed the crucial role to be played by schools in enhancing access to higher education for disadvantaged groups, there has been no national policy or program targeting early outreach programs. Some individual institutions, however, have independently introduced early school intervention programs. GEAR UP – Gaining Early Awareness and Readiness for Undergraduate Programs – was introduced in the US in 1999 by the Clinton administration. It allocates grants of 6 years to states and partnerships to provide services at middle and high schools in depressed areas. Programs serve an entire cohort of students beginning no later than seventh grade and follow the cohort through high school (U.S. Department of Education, 2008).

In 2001 the Blair Government introduced Excellence Challenge, which has now been amalgamated into Aimhigher, to widen participation in higher education by raising awareness, aspirations and attainment of young people from under-represented groups (HERO Ltd, no date; DfES, 2003: 13).

Higher education has not yet been directly engaged in social inclusion programs in Australia or overseas beyond providing the analytic foundation and evaluation services through research centres. However, the principles of levels of social engagement at levels of social organisation argue for universities' direct involvement in developing policies and delivering programs. Analysts of social inclusion make three observations.

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<sup>1</sup> This summary is based on IRU Australia's draft submission to the review on opportunities to participate in higher education.

- 1 Different strands of disadvantage interlock and are highly interdependent ‘so that progress in overcoming one limitation, say, unemployment, can be inhibited by related factors like limited funds, poor health, inadequate training or having a criminal record’ (Vinson, 2007).
- 2 Disadvantage is remarkably concentrated geographically. Vinson (2007) found that just 1.5 per cent of localities are ranked in the top 5% of each of 25 indicators of social, health and economic disadvantage, which was from 6 to 7 times more than the average.
- 3 Social inclusion involves social relations which are essentially dynamic and hence social exclusion is not a static status and can be changed.

There are 7 key implications for higher education equity policy.

**1 The importance of locality** The first implication is that universities’ work with their local communities is important and should be strengthened. Many Australian universities are located in areas of high relative disadvantage. Universities which do not have a campus located in a disadvantaged region should be encouraged to form partnerships with disadvantaged communities somewhat distant from their institution which are not already served by a local university.

**2 The relation between nation building and regional development** While higher education institutions’ social inclusion interventions should be mainly local, they should be within a national policy of nation building and regional development to give institutions’ interventions some coherence and to maximise their contribution to other important social and economic goals. It is important for Australia’s long term future that development is balanced throughout the continent, and not concentrated in the cities and regions that already enjoy natural advantages. While there is at least 1 higher education campus in each major city and in many regions, there are still important regions without a higher education campus. This is an important issue for social inclusion since as Birrell & Edwards’ (2007) figures show, while 41% of 18 to 20 year olds in capital cities aren’t engaged in any form of education, 61% of young people outside capital cities aren’t participating in education.

**3 Coordination across agencies and portfolios** Governments are increasingly recognising the need for ‘joined-up’ services for local communities if they are to address successfully the interconnectedness of economic, social, educational and other aspects of disadvantage. Similarly, any action by a university to address disadvantage and increase participation in higher education should be coordinated with complementary action by other agencies, in particular: primary and early secondary education providers; vocational education and training providers; and formal and informal adult and community education bodies.

**4 Importance of curriculum** The engagement and inclusion of people previously excluded from higher education will require substantial changes to the curriculum. Higher education programs will have to be offered in ways that attract and retain students who previously had not considered higher education as a possible or even desirable path. This may be achieved by relating education and work in new ways, or at least in adapting to current circumstances earlier ways of integrating education and work in what used to be known as sandwich courses.

**5 National targets** The Australian government should set national targets for proportionate participation of each segment of society in each category and level of education. This would

require the university sector as a whole to aim for proportionate participation by SES, race, sex, ethnicity, location and for people with disabilities and other groups with special characteristics. Each university campus, however, will need to tailor a social inclusion policy and programs to suit the specific needs of their locality, and their social inclusion targets will be determined accordingly.

**6 National coordination** Australia will need a mechanism to identify and fill gaps in the locality-based policies and interventions of each campus, to ensure there is reasonably comprehensive provision both geographically and by underrepresented group, and to monitor performance. There could be 3 parts to national coordination:

- (a) a national directory of social inclusion interventions to show which underrepresented groups are being targeted by each intervention and the targets that have been set, to identify any gap in social inclusion programs for underrepresented groups;
- (b) an atlas of social inclusion interventions to identify any geographic gap in social inclusion programs; and
- (c) a monitoring of targets, both of each intervention and of the national targets for proportionate participation of each segment of society in each segment and level of education. Performance on these targets should inform the allocation of targeted funding for social inclusion.

**7 Targeted funding** To achieve successful outcomes in increasing participation for disadvantaged Australians in higher education, universities will need to enter into separate long-term partnerships with individual targeted communities and other local service providers. Programs of this nature will be very expensive, as they are labour intensive and require the provision of resources and support at multiple layers and within multiple contexts. They also require a guaranteed commitment of funds over long periods of time.

Under current funding arrangements, the government allocates very modest funds to support institutional performance in equity, being only 1.5% of total funds allocated for institutional performance. Extensive targeted funds will be needed to improve the static performance in higher education participation for disadvantaged Australians experienced over the last 17 years: to fill gaps in current provision and to reward performance in meeting targets.

## 2.6 Response to the review's questions

Griffith did not find that the review's questions related well to the text of the discussion paper, and in particular, did not accept the Australian Government's invitation in the review's terms of reference to reconsider established higher education equity policy and practice in the light of the Government's commitment to social inclusion.

Griffith University answers the review's questions in section 3.2 on opportunities to participate in higher education in this way.

8 *Should there be a national approach to improving Indigenous and low SES participation and success in higher education?*

No. There should be a national policy supported by national targets and national funding, but each region should develop its own approach most effective for its circumstances.

9 *If you support a national approach to improving Indigenous and low SES participation and success how do you see it being structured, resourced, monitored and evaluated?*

Each region should develop a proposal which should include milestones, targets and an evaluation process. Continued funding would depend on achievement of the milestones, performance against the targets and the results of the evaluation.

10 *What institutional initiatives have proved successful in increasing low SES or Indigenous participation and success? (Please provide information about outcomes as well as activities.)*

Earlier the submission gave these examples of apparently successful early intervention programs: San Diego State University, the Clinton administration's GEAR UP – Gaining Early Awareness and Readiness for Undergraduate Programs; the Blair Government's Excellence Challenge, now Aimhigher; and Griffith University's pathways to prevention program.

### **Evaluation of Griffith's pathways to prevention program**

'Quantitative analysis of the quasi-experimental research design that underpins the child-focused programs shows that participation in the preschool intervention program improved the level of children's communication skill and reduced their level of difficult behaviour, over and above the effect of the regular preschool curriculum. The cost of producing these outcomes compared favourably with remedial behaviour management programs implemented through the Queensland Department of Education.

'Data on the family program show that the project succeeded in engaging many of the most vulnerable families in the area in a range of programs, and case studies, interviews and other data demonstrate a range of positive outcomes for parents and caregivers, and for the children in their care. A consistent theme is how Pathways helped build connectedness within families by promoting attachment between parent and child and by encouraging a greater degree of parental involvement in and understanding of their children's development. Pathways also helped build the connectedness of families to agencies and institutions beyond their ethnic communities, opening up doors to participation in a wider world that held resources that many of the families desperately needed.

'A particularly important finding of the quantitative analyses was that the combined effect of the family independence program and the preschool intervention program on children's behaviour was greater than either program on its own. This indicates that indirect effects on children through improving the family environment can be as great as the effects of programs directed specifically at children. This demonstrates empirically a fundamental assumption of the pathways project.'

(Homel et al, 2006b: vii)

11 *What evidence is available from institutions about the impact on individuals or groups of either failure to gain income support or the inadequacy of income support?*

Griffith has extensive anecdotal information on the effect of the inadequacy income support on students' progress and retention.

### 3 A differentiated tertiary education system

This chapter addresses the sixth term of reference of the review of Australian higher education –

The Review Panel will advise Government on possible key objectives for higher education in Australia, starting with the themes below, and how these could be achieved through reform of the sector and changes to regulation and funding arrangements.

\* \* \*

#### **A broad tertiary education and training sector**

Establishing the place of higher education in the broader tertiary education sector, especially in building an integrated relationship with vocational education and training.

(DEEWR, 2008c)

These are the main points of this chapter.

- 1 While there is no necessary distinction between vocational and higher education, the distinction is deeply embedded in Australia's (and most other countries') economic, educational and social relations.
- 2 The relations between vocational and higher education in 2008 are strikingly similar to the relations between advanced and higher education in 1986, the time of the Commonwealth Tertiary Education Commission's (1986) *Review of the efficiency and effectiveness of higher education*.
- 3 The options in 1986, and the options now are basically:
  - (a) maintain sharp divisions between the sectors;
  - (b) merge the sectors; or
  - (c) admit some overlap of the sectors while maintaining broad sectoral distinctions.
- 4 The *Review of the efficiency and effectiveness of higher education* (CTEC, 1986) tried to maintain sharp divisions between the sectors but was overtaken by the White Paper which merged the sectors by dismantling the binary divide. While the White Paper may have achieved its aim of increasing diversity in higher education, it has been widely perceived as having brought uniformity to the unified national system. This is possibly because the differences between institutions aren't obvious to external observers.
- 5 Griffith proposes option (c) of admitting some overlap of the sectors while maintaining broad sectoral distinctions. Griffith further proposes that the diversity within tertiary education be highlighted by describing different types of tertiary education institutions.

- 6 More progress can be made to improve student transfer between the sectors and to reduce organisational differences between the sectors, many of which are constructed and maintained by the Australian, State and Territory governments.

The chapter is in these parts:

- 3.1 Contingent construction of tertiary education sectors
- 3.2 Patterns of sectoral organisation
- 3.3 Erosion of institutional segmentation of the sectors
- 3.4 Options for structuring the relations between the sectors
  - 3.4.1 Segregate the sectors
  - 3.4.2 Merge the sectors
  - 3.4.3 Admit some overlap of the sectors
- 3.5 Describe some distinctive institutional types
- 3.6 Encourage transfer of students
- 3.7 Transfer of credit
- 3.8 Remove unnecessary differences between the sectors
- 3.9 Gradual adaptation of current arrangements
- 3.10 Response to the review's questions

### 3.1 Contingent construction of tertiary education sectors

The distinction between vocational and general or disciplinary education is deeply embedded in western thought, arguably traceable to Aristotle's distinction between 'five ways in which the soul arrives at truth' – pure science (episteme), art or applied science (techne), prudence or practical wisdom (phronesis), intelligence or intuition (nous), and wisdom (sophia) (Moodie, 2002a: 250). However, the construction of vocational education as a separate sector from disciplinary education is relatively recent. In Australia all post secondary or tertiary education institutions offered programs in what would be understood now as multiple sectors until at least 1965. Table 9 shows that 26% of enrolments in universities and university colleges in 1939 were below bachelor level.

Table 9: Australian university student enrolments by program level, 1939

University	Post graduate	Bachelor	Diploma	Certificate	Miscellaneous	% below bachelor
Sydney	58	3,206	273		234	13
Melbourne	5	3,387	544	119	414	24
Queensland		1,319	141	30	220	23
Adelaide	79	1,238	479		831	50
WA	49	775	78	88		17
Tasmania		329	28		100	28
New England		58	1		6	11
Canberra (now ANU)		42	46		59	71
<b>Total</b>	<b>191</b>	<b>10,354</b>	<b>1,590</b>	<b>237</b>	<b>1,864</b>	<b>26</b>

Source: Commonwealth of Australia (1942) *Year book*, p 158, cited in DEET (1993: 5) table 1.1 Australian universities: students enrolled, 1939

Until 1965 the concept of tertiary education sectors was inchoate in Australia – there were simply universities and disparate other, non-university tertiary institutions which served a variety of purposes: agricultural, commercial, domestic, health, military, mining, technical, teacher training at various levels, and trades training for apprentices. Then vocational education and training institutions were very diverse, ranging from single purpose to comprehensive institutions offering qualifications ranging from certificates to diplomas (Partridge, 1968: 163). Of those the older central technical colleges, which were the antecedents of the Australian technology network universities amongst others, had plural roles which included offering highly respected and high level conceptually based qualifications accessed by qualified tradespersons such as diplomas of mechanical and electrical engineering (Stevenson 1988: 132; 2003).

In 1965 the Australian Government accepted the recommendations of the Martin committee to establish colleges of advanced education as a distinct sector of higher education ‘different from but equal to’ universities, although importantly funded at a lower rate. To be eligible for Commonwealth matching grants States were required to reconstitute their institutions to give them some independence as educational institutions rather than continue as the training arms of departments responsible for agriculture, industry, mines, school education, etc, and to separate the higher education that would be partly supported by the Australian Government from the technical and secondary education that would remain the sole responsibility of the States. Most States separated the advanced programs of their technical colleges to form new institutions. Key Victorian technical colleges were able to resist institutional fragmentation because they were more independent of the State Government, having been founded by powerful philanthropists and industrialists who remained influential both on the colleges’ councils and in the State’s politics. Victoria therefore met the Australian Government’s requirement by reconstituting the advanced programs of its technical colleges as higher education divisions within the same institution, thus forming the foundation of its dual sector universities.

The Martin committee specified the diploma as the highest and distinctive qualification of colleges of advanced education (Davis, 1989). Universities were enjoined to relinquish their diplomas and concentrate on higher level study and research training, which was to be their distinctive role. With some exceptions or anomalies in Sydney and Western Australia, the vocational colleges were restricted to sub diploma programs (Davis, 1989; Goozee, 2001: 7; ACOTAFE, 1975: para 5.69; CTEC, 1986: para 6.113). By 1977 diplomas were only 0.7% of vocational education’s enrolments, 3% of university enrolments, but were 44.6% of advanced education enrolments, and diplomas were overwhelmingly offered by advanced education, as table 10 shows.

Table 10: proportion of enrolments in diploma level programs in universities, colleges of advanced education and vocational education and training institutions, 1977

<b>Vocational education and training</b>	<b>Advanced education</b>	<b>Universities</b>
2.6%	90.4%	7.1%

Source: Williams (1979, p 20) tables 1.1 and 1.7.

Until 1975 there were two sectors of higher education, and disparate other colleges, institutes and schools that offered a range of post compulsory education, some at secondary level and some post-secondary. In 1975 the Australian Government accepted the recommendations of the Kangan committee which first established technical and further education as a distinct sector of education with a distinct role (Kangan, 1974; Chappell, 1999: 6) and set of qualifications. Again, the Australian Government required States to delineate their technical and further education operations separately from secondary level operations to be eligible for the capital grants and other funding available only for TAFE activities.

From 1975 until the dismantling of the binary divide in 1988 Australia had 3 sectors of tertiary education, and from 1988 until the introduction of Fee-help in 2005 Australia had 2 sectors of tertiary education that were remarkably divided by role, level of government responsibility, institution, financing, student fees, program, curriculum, quality assurance and industrial representation (Wheelahan, 2000). The sectoral divide has been unusually deep in Australia compared to other wealthy English speaking jurisdictions such as many US States exemplified by California, many English-speaking Canadian provinces, England and New Zealand. While tuition fees and funding levels for vocational education and training programs are lower than for higher education programs, they are set within the same financing framework in these other jurisdictions. This is partly because the sectors are now the responsibility of the same level of government. In the US State governments gradually took over more responsibility for financing 2-year colleges from local government districts from the 1980s and they are now within the same financing framework as 4-year colleges. The national government has been mainly responsible for all of tertiary education in the UK since 1992 when it took over responsibility for financing colleges of further education from local government. The national government is responsible for coordinating and financing all tertiary education sectors in New Zealand. Greatest variability remains in curriculum frameworks.

Table 11: sectoral divide in Australia and selected overseas jurisdictions

<b>Jurisdiction/ administration</b>	<b>Vocational education and training</b>	<b>Higher education</b>
<b>AUSTRALIA</b>		
Providers	Registered Training Organisations	Higher education providers
Financing	States	Commonwealth
Fees	Up front	Income contingent loans
Curriculum	Exclusively competency-based	Content
<b>CALIFORNIA</b>		
Providers	2-year colleges	2-year and 4-year colleges
Financing	State Government	State Government
Fees	Up front and loans	Up front and loans
Curriculum	Mandated core	Mandated core at junior level
<b>CANADA</b>		
Providers	2-year colleges	2-year and 4-year colleges
Financing	Provinces	Provinces
Fees	Up front and loans	Up front and loans
Curriculum	Mandated in some provinces; unregulated in others	Mandated in some provinces; unregulated in others

<b>Jurisdiction/ administration</b>	<b>Vocational education and training</b>	<b>Higher education</b>
<b>ENGLAND</b>		
Providers	FE colleges	FE colleges and universities
Financing	National	National
Fees	Up front and loans	Income contingent loans
Curriculum	Largely competency-based	Content
<b>NEW ZEALAND</b>		
Providers	All tertiary education institutions	Most tertiary education institutions
Financing	National	National
Fees	Up front and loans	Income contingent loans
Curriculum	Outcomes	Content

Source: updated from Moodie (2003) Table 7: sectoral divide in Australia and selected overseas jurisdictions.

The alignment of vocational education and training's role with its separate organisational arrangements leads the sector's champions to resist harmonising organisational arrangements between the sectors despite obvious advantages. Thus in its submission to the 'Crossroads' review of higher education in 2002 the Canberra Institute of Technology (2002: 6) argued for 'the need to preserve different management and funding arrangements as the means to preserve essential differences based on government objectives, industry input, educational philosophy and industrial relations realities as outlined above'. And several submissions to the same review from other vocational education and training interests rejected the extension of income contingent loans to vocational education and training despite their obvious equity benefit. (See, for example, the submission from the Australian Education Union (2002) and the equivocal submission from TAFE Directors Australia, 2002.)

We have seen that since 1965 Australian governments have sought to align programmatic and institutional designations of the sectors (Moodie, 2003): all higher education programs should be offered by only higher education institutions and all vocational education programs should be offered only by vocational education institutions. But this coincidence is unnecessary, and indeed is unusual in English speaking countries. In Canada (Usher, 2008), New Zealand (Ministry of Education, 2006: 15), the UK (Parry, 2005) and the US (American Association of Community Colleges, 2003) vocational education institutions offer higher education programs in addition to vocational education programs. And we will note below that recently in Australia both vocational and higher education institutions have started offering programs from the other sector.

### 3.2 Patterns of sectoral organisation

There are 2 broad patterns or tendencies in structuring tertiary education. Some countries meet the different needs of different students, employers and of society generally by structuring sectors and institutions to serve specific needs, most commonly to establish vocational institutes to specialise in developing skills for employment, and higher education institutions to provide disciplinary education and education for the high status-high paying occupations. This tendency, which is most associated with Germany and other countries of northern continental Europe, sharply differentiates and separates vocational education from higher education in organisation, curriculum and student groups. In these systems students enter a vocational or academic education track towards the upper level of secondary education

and proceed along that track to a vocational or higher education tertiary institution and thence to an occupation specific to their vocational or higher education track. These systems are therefore often known as ‘tracked’ systems (Moodie, 2008b: 4).

Another tendency has been to seek to accommodate more diverse needs by giving institutions and sectors broader, more general roles. Institutions are structured into sectors that have different emphases and orientations, but this is within a generalist framework. Students in the generalist systems may defer their choice between vocational and academic routes later than in the tracked systems, often until after compulsory schooling. Even after embarking on a vocational or academic route students in the generalist systems often can transfer readily between routes without a big loss of progress. As we have seen, this is the pattern in many Anglophone countries – Anglophone Canada, New Zealand, the UK and the US. In these countries the vocational and higher education sectors and institutions merge and overlap considerably. As Furth (1992: 1217) argued, both strategies accommodate diversity, but in structurally different ways.

These patterns in tertiary education provision coincide with 2 patterns for structuring economies and their relationship with tertiary education, described by Hall & Soskice (2001) as the contrast between coordinated market economies and liberal market economies. Northern continental Europe tends to have market economies which are coordinated by their social partners: governments at national and regional levels, business and labour. Vocational and higher education students might be placed on quite separate post compulsory education tracks, but the coordinated market economy matches graduates and job vacancies for most. These systems have a sufficiently stable labour market to encourage enterprises and employees to invest heavily in vocationally specific skills.

The market economies of the Anglophone countries are rather more fluid, relying more on the market to sort and match graduates and employment. In liberal market economies formal vocational education concentrates more on general skills because companies are loath to invest in apprenticeships that impart skills valuable throughout an industry since they have no guarantee that other firms will not poach their apprentices without investing in training themselves. Liberal market economies also place more responsibility on students and workers to suit themselves to the needs of current and prospective employers. Workers facing short job tenures and fluid and unpredictable labour markets therefore prefer general vocational education since career success depends on acquiring the general skills that can be used in many different firms. Greater mobility between vocational and higher education give students more flexibility to match their education with employment opportunities as they arise (Moodie, 2008b: 5).

Australia is distinctive in formally distinguishing its tertiary education and training sectors as deeply as many continental European countries, but it does so within a liberal market economy which in other Anglophone countries is associated with merged vocational and higher education sectors (Wheelahan & Moodie, 2005: 19). This inconsistency in Australia’s organisation of its economy and tertiary education is illustrated in figure 3.

Figure 3: patterns of organisation of the economy and tertiary education

		Tertiary education sectors	
		Merged	Separate
Market economy	Liberal	Anglo	Australia
	Coordinated		Euro

Source: adapted from Wheelahan & Moodie (2005: 19) table 1: patterns of organisation of the economy and post-compulsory education

Australia's attempt to maintain a 'bright line' distinguishing vocational from higher education within a liberal market economy is anomalous. In all other liberal market economies discussed above institutions are structured into sectors that have different emphases and orientations, but within a generalist framework where the boundaries between the sectors are fuzzy and there is overlap between sectors. Australia's inconsistent or at least different pattern of economic and educational organisation causes tensions which generates informal practices that do not comply with formal policy, and it has also generated a number of experiments or anomalies (depending on one's perspective), some of which are noted in the next section. As will be argued further below, Australia should admit some overlap and the fuzzy boundary between vocational and higher education, gradually making its tertiary education structure more consistent with its economic organisation. However, this should be within an overall policy of maintaining the distinctions between the sectors.

### 3.3 Erosion of institutional segmentation of the sectors

The segmentation of vocational and higher education institutions is being eroded from the top by universities' vertical integration and from the bottom by vocational education institutions following their students into higher level qualifications. There seems to be general agreement on 'the apparent convergence of purpose and role of the higher education and vocational education sectors' (DEST, 2002: para 9), that 'the boundaries between all sectors of education have become increasingly blurred' (ANTA, 2002: 4), that 'there is an increasing overlap in what each of the educational sectors does' (TDA, 2002: 5) or at least that 'The line between which occupations require university-based teaching and which do not will continue to shift' (AVCC, 2002: 21). The institutional distinctions between the sectors have been further confused by vocational education and training institutions increasingly offering the hitherto distinctively higher education qualifications of bachelor degrees and graduate certificates and diplomas (ANTA, 2002: 6).

Many Australian universities offer programs that are vocational education in level. Some offerings are vestiges of history. Thus, the University of Adelaide offers 3 vocational education diplomas and 4 certificates in music through the Elder Conservatorium of Music which was established by a bequest in 1898. Many dual sector offerings are the result of amalgamations with previously single sector institutions. For example, the University of

Queensland offers the Queensland certificate of agriculture at its Gatton College, which was formed as a result of the university's amalgamation in 1990 with the Queensland Agricultural College. Curtin University has 320 equivalent full time students or 1% of its total student load enrolled in vocational education programs at its Kalgoorlie and Esperance campuses. Edith Cowan University has 400 equivalent full time students or 3% of its student load enrolled in vocational education programs in music and theatre.

An institution is vertically integrated to the extent to which it owns its upstream suppliers and its downstream buyers. Thus, a university is more vertically integrated if it offers vocational education or year 12, since these programs supply its students. Chipman (2002) argued that higher education may be made more affordable by vertical segmentation – by having research done by one part of a university system, scholarship and curriculum design by another part, and delivery by yet another part of the system. But the trend seems to be in the opposite direction towards vertical integration of tertiary education, often by pragmatic extensions of existing programs or integrations of programs or services that had previously been offered by other organisations.

For example, the University of Sydney and most other Australian universities offer English language programs which are secondary or vocational education in level and had hitherto been offered by English language institutes. The University of Adelaide offers a certificate IV in teaching English to speakers of other languages and Flinders University offers a certificate in disability studies off shore. The Australian Catholic University is a registered training organisation and offers vocational education certificates and diplomas in education, exercise science, frontline management and nursing.

Some Australian universities have vertically integrated programs and services systematically, most often for international students. One of the earliest and most successful vertical integrations was the University of Technology, Sydney's offering of secondary, vocational education and other sub bachelor programs and services through Insearch, which it established as a wholly owned for-profit subsidiary in 1987. At its Sydney centre Insearch offers academic pathway programs to the university, a range of English pathway and language programs, and one of the world's largest international English language testing system centres. In China Insearch has offered diplomas in English and business as well as the university's bachelor of business in partnership with Shanghai University since 1994. Insearch established a centre at the University of Essex in 2004 where it offers English language preparation programs and academic and English pathway programs that lead to direct access to Essex University (Insearch, 2006).

Several other Australian universities have followed the University of Technology, Sydney's example in offering vocational education and secondary level programs mainly although not exclusively for international students. The University of Wollongong established Wollongong College Australia (2008) in 1988 to offer English language, university preparation and diploma programs to international and domestic students. Monash University established Monash College as a wholly owned for-profit subsidiary in the 1990s and it now teaches diplomas at the university's Clayton, Caulfield and Peninsula campuses and also in Singapore, Guangzhou (China), Jakarta, and Colombo (Monash College, 2007). Monash University's English language centre mounts intensive language programs and the Monash University foundation year is an equivalent Australian year 12 program offered by Taylors College in Australia and other partners in Laos, Jakarta and Malaysia (Kuala Lumpur and Johor Bahru). The Australian National University (2008) has established ANU College as a registered training organisation which offers a foundation studies program, an ANU access English program, English language instruction for overseas students, extended university English, an

advanced secondary studies program, maths bridging courses and group study tours. Charles Sturt University (2008) has established CSU Training as a registered training organisation to offer programs for its staff, industry and professionals in niche areas and to embed vocational qualifications within higher education programs. The University of Canberra College (2007) offers a variety of preparatory, transition and transfer programs for Australian and international students.

Karmel & Nguyen (2003: 2) report data from the Australian Bureau of Statistics' survey of education and work in 2001 that shows that even then Tafe institutes enrolled some 22,000 students in bachelor level programs or higher and that higher education institutions enrolled some 23,000 students in certificates. Karmel & Nguyen reported that according to the Australian Qualifications Framework 22 universities including 7 of the Group of Eight offer vocational programs while a small number of Tafe institutes currently offer degrees.

Table 12: level of education of current study, by type of institution attending ('000), 2001

AQF qualification		Type of institution		
Higher education award	VET award	Higher education	Tafe	Other institution
Post-graduate degree		104.0	1.0*	5.0*
Grad diploma or certificate		52.6	11.5	13.5
Bachelor degree		574.7	9.6	14.9
Advanced diploma or diploma	Advanced diploma or diploma	52.3	118.8	41.8
	Certificate III or IV	11.1	172.0	26.7
	Certificate I or II	4.1*	36.6	11.3
	Certificate not further defined	8.8	92.9	41.5

\* Estimate has a relative standard error of being 25% and 50% and should be used with caution.

Source: Karmel & Nguyen (2003: 2), from the Australian Bureau of Statistics, 6227.0: *Education and Work*, May 2001

While many universities now offer vocational programs, most are small in size, confined to 1 campus (Australian universities have an average of 3.4 campuses), comprise 1 or 2 disciplines, and many are offered through separate organisational units. At the same time private providers that had previously offered only vocational education programs because of their lower cost of establishment have started offering higher education programs. The Victorian Government permitted Tafe institutes to seek accreditation to offer bachelor degrees, initially supposedly in 'niche' areas not adequately served by higher education institutions, but now more generally. Tafe institutes in other States are also starting to offer degrees. The expansion of vocational education providers into higher education has been encouraged greatly by the introduction of fee-help in 2005. Comparable data are not readily available, but it seems that fee-help enrolments in institutions other than universities increased by 60% from 2005 to 2006.

Vocational education's role in national innovation will also become better recognised in future (Moodie, 2006). All learning, even the most rudimentary, changes practice. A person who learns another feature of a computer package or a piece of equipment changes their practice to some extent. To that extent all learning involves innovation. There is a continuum of learning-innovation from modest incremental changes to major learning-innovations such as

the introduction of an entirely new process. While it is convenient to label one end of the continuum 'learning' and the other 'innovation', this should not disguise the fact that all innovations involve an element of learning and all learning involves an element of innovation. To adopt jargon from another context, all educators and educational institutions are 'change agents'.

Thus vocational education is inevitably involved in innovation. This raises 2 questions. First, how appropriate and useful is it for vocational education's role in innovation to be made explicit and focussed? Secondly, how much up the learning-innovation continuum should vocational education proceed towards innovation? The UK's Council for Industry and Higher Education argues that further education colleges have 'a really big role to play' in national innovation (Fearn, 2008). Arguably Tafe institutes should have an explicit role in providing innovation extension services, in transferring to small enterprises recent innovations elsewhere in Australia and overseas. While this role could be undertaken by universities, this may distract them from their emphasis on pure research. Tafe institutions are much better placed to undertake this extension role because it is much more widely dispersed throughout the community and because it has a much stronger practice of enterprise-based learning-innovation.

### 3.4 Options for structuring the relations between the sectors

The erosion of the institutional segmentation of vocational and higher education opens the possibility of restructuring the relations between the sectors. Broadly, there are 3 options for structuring the relations between the sectors.

#### 3.4.1 *Segregate the sectors*

One option would be to separate vocational and higher education completely, but build opportunities for arms length exchange between them. Institutions are quite separate in most jurisdictions and qualifications are segregated between community colleges and 4 year institutions in many tightly regulated Canadian provinces and US States. Segregating the sectors has several advantages. Institutions and their staff are able to specialise in their distinctive functions. The roles of the sectors are clearly delineated not only in the minds of experts who are daily involved in tertiary education, but also in the minds of employers who mostly engage with tertiary education episodically and in the minds of prospective students and their parents who might encounter tertiary education twice in their lifetime: once as a student and secondly as a parent.

Segregating vocational and higher education is also mostly simpler for legislators to determine and managers to implement. Just 3 sets of policies and principles need to be determined, implemented and monitored: one for higher education, one for vocational education, and one for the exchange between them. However, this policy simplicity comes at the expense of a sophisticated response to the complexities of life. Not all tertiary education needs arise and are pre defined as exclusively vocational or higher education. Some needs are at the boundary between the sectors. This raises difficult and to some extent arbitrary decisions about the location of an activity in a sector. Other needs emerge as being most appropriately met by one sector but develop aspects more appropriately handled by the other sector. None of these difficulties is necessarily fatal to the segregation of the sectors. However, as a rule one may expect that the stricter the segregation of vocational and higher education the more difficult the boundary problems.

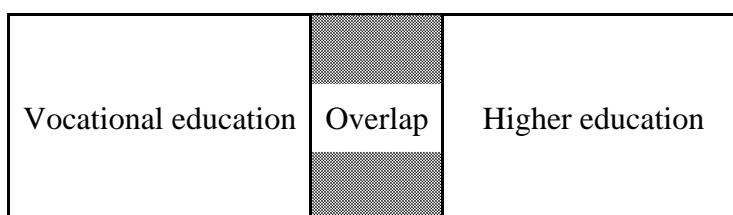
### 3.4.2 Merge the sectors

At the other extreme Australia could merge vocational and higher education. Arguably there is no fundamental distinction between vocational and higher education (Moodie, 2002): the sectors are just labels for different points along a continuum of applied and general education. However, the distinctions between vocational and higher education are deeply entrenched in most jurisdictions and are related to big occupational, social and economic distinctions within most societies. The sectors also operate with different dynamics. Vocational education is closely engaged with industry and the economy and changes as industries change. Higher education is engaged more closely with academic disciplines and changes as the disciplines change. These different dynamics mean that the sectors are changing continuously, but in different ways (Moodie, 2008b: 172). Even if the sectors could be merged at one time, their different dynamics would over time take them in different directions and thus re-establish the sectoral divide in fact if not in policy.

### 3.4.3 Admit some overlap of the sectors

The option proposed by Griffith is to maintain the distinction between vocational and higher education programs, but admit some overlap of the sectors within broad sectoral distinctions. This is illustrated in figure 4.

Figure 4: broad sectoral distinctions with some overlap



This would require Australia to decouple the institutional and programmatic designations of the sectors (Moodie 2002b, 2003) by admitting that some vocational education institutions will offer some higher education programs, as some higher education institutions offer some vocational education programs. As has been noted above, other jurisdictions are able to maintain sectorally distinctive curriculum and programs within variously integrated organisational arrangements. Karmel and Nguyen (2003: 2) argue that this is already effectively the case in Australia, while commenting on their table reproduced above –

However, the point of the table is that it shows clearly that there is no clear distinction between the sectors in terms of providers. Numerous (22 according to the Australian Quality Framework), including seven out of the GO8 research universities, run VET programs while a small number of TAFEs currently offer degrees. Thus the level of the award defines the sectors rather than the provider<sup>2</sup>. As an aside, they are certainly not defined by vocational content – medicine is as vocational as plumbing and the VET sector provides considerable general education.

(Karmel and Nguyen, 2003: 2)

<sup>2</sup>But even here things are not straightforward because of the dual sector diploma and advanced diploma awards. A dual sector award is one with the same title but different descriptors and accreditation arrangements within each sector.

### 3.5 Describe some distinctive institutional types

The relations between vocational and higher education in 2008 are strikingly similar to the relations between advanced and higher education in 1986, the time of the Commonwealth Tertiary Education Commission's (1986) *Review of the efficiency and effectiveness of higher education*. Then the distinctions between the sectors was starting to blur: colleges of advanced education were increasingly promoting their research, a role formally restricted to universities; some colleges started awarding doctorates, a qualification formally restricted to universities; the Victorian and Australian Government had established Deakin as a 'new' university largely out of the advanced education parts of the Gordon Institute of Technology and the State College of Victoria at Geelong; and many colleges argued that there was no substantial differences between them and the most recently established universities.

The Commonwealth Tertiary Commission could possibly have preserved the binary divide had it conceded the increased autonomy and broader role sought by the central institutes of technology (whose members later formed the Australian Technology Network). However, the Commission argued for the retention of the binary divide with only modest changes. Whatever the intellectual merit of that position, it did not survive subsequent developments and within 2 years the binary divide was dismantled. The Australian Government insisted throughout the White Paper (Dawkins, 1988) that it intended the unified national system of higher education to increase diversity in higher education. In one sense the Government achieved its aim since there is a broad spectrum of institutions on different dimensions – age, size, location, study mode, research intensity, etc, as many within the sector point out.

However, many analysts (eg Meek et al, 1996) and most outside the sector perceive a uniformity in the unified national system. This is possibly because the differences between institutions aren't obvious from a categorisation of institutions or even expressed in common descriptors of different types of institutions. The admission of some overlap and a fuzzy boundary between vocational and higher education may give the appearance of a merging of the sectors and a loss of sectoral distinction. Griffith therefore suggests that different types of tertiary education institutions be described so that the admission of overlap of the sectors doesn't seem to result in the creation of an undifferentiated mass of institutions, all apparently aspiring to be 'Harvard downunder'.

Institutions might first be designated by the **highest qualification they mainly award**:

*vocational education and training institution* – an institution with at least 61% of its student load enrolled in advanced diplomas or below;

*higher education institution* – an institution with at least 40% of its student load enrolled in bachelors or above; and

*university* – a higher education institution that meets the requirements of the national protocols for higher education approval processes for designation as a university.

Institutions might secondly be categorised by their **mix of sectoral programs**:

*specialist or single sector institutions* – those with more than 97% of their student load enrolled in 1 sector;

*mixed sector institutions* – those with at least 3% but no more than 20% of their student load enrolled in their minority sector (Wheelahan & Moodie, 2008: 2); and

*dual sector institutions* – those with at least 20% but less than 80% of their student load enrolled in each sector. Dual sector institutions first identified themselves as being distinctive in having to manage dual systems and processes to report to 2 levels of government. Where a sector is a small part of an institution’s operations it can be handled as an exception to the structures, systems and processes established for the institution’s majority sector. But where the minority sector is a substantial part of the institution’s operations a separate system has to be established to handle it. For a description of the origin of the term ‘dual sector’ institution and a justification of the 20% threshold see Moodie (2008a).

This typology is illustrated in figure 5.

Figure 5: types of institutions in an integrated tertiary education system

Sector mix	Sector designation		
	Vocational education	Higher education	University
Single sector			
Mixed sector			
Dual sector			

### 3.6 Encourage transfer of students

Australia has a lower rate of transfer of students from vocational to higher education than many US States, some Canadian provinces and Scotland. However, it has a higher rate of upward student transfer than most continental European countries. As the discussion paper observes, a low rate of upward student transfer could reflect several aspects of the relations between vocational and higher education, some of them contradictory:

- 1 the sectors might be clearly differentiated for prospective students and each sector’s selection procedures might sort students into the sector most suitable for them, thus reducing students’ need to transfer;
- 2 higher education may have sufficient capacity and sufficiently open admissions procedures to admit directly all students who wish to study in higher education, thus reducing students’ demand for transfer;
- 3 there may be obstacles to students transferring from vocational to higher education, thus reducing students’ ability to transfer;
- 4 the data on student transfer may not be accurate, thus under or overstating the extent of student transfer.

But consistent with all these possible explanations for a low rate of upward student transfer is a lack of integration of vocational and higher education: a low transfer rate indicates that the sectors are separate, not complementary. It also seems that the rates of upward student transfer differ markedly by university group. The data aren't good (Ramsay, Tranter, Kain & Sumner, 1997; Moodie, 2005: 20-2), but they range from a high of 18% of bachelor students admitted on the basis of a Tafe qualification at dual sector universities to a low of 3% at the Group of Eight universities. This indicates that the opportunities for upward student transfer are most uneven between universities, and probably also between fields of education. The table below shows the proportions of commencing bachelor students admitted on the basis of a Tafe qualification for mutually exclusive university groups. For example, RMIT is included amongst dual sector universities but not in the Australian Technological Network for the purposes of this analysis.

Table 13: students admitted on the basis of a Tafe program and all students commencing a bachelor program by university group, 2005

<b>University group</b>	<b>All</b>	<b>Tafe</b>	<b>% Tafe</b>
Dual sector universities	16,188	2,930	18
Metropolitan new generation universities	28,291	4,466	16
Rural universities	33,285	4171	13
Australian Technological Network	26,140	2583	10
Innovative Research Universities Australia	34,831	3,053	9
Group of Eight	44,022	1,390	3
All universities	183,329	18,593	10

Source: DEST (2006) *Students 2005 [full year]: selected higher education statistics*, table 3.1.11: domestic students commencing a course at bachelor level or below by State, higher education provider and basis for admission to current course, full year 2005.

According to researchers in the US, where 2-year colleges have a strong transfer role, student transfer not only advantages students, but also increases the standing of 2-year institutions. Grubb (1991: 195-6) notes that –

A strong transfer program is a confirmation of the academic purposes of community colleges and strengthens their claims to being colleges . . . the ability of students to transfer to four year colleges and then compete as equals against students who begin in four year colleges is one test of the acceptability of community colleges within higher education.

(Grubb, 1991: 195-6)

Student transfer also has implications for institutional prestige. Institutions and sectors that provide direct access to high-paying and high status occupations have highest prestige. Institutions and sectors that offer intermediate access through transfer to higher tiers have less prestige, but according to Clark (1983: 63-4) institutions and sectors that do not even offer the possibility of transfer to higher tiers have more sharply defined lower status (Moodie, 2008b: 139).

### 3.7 Transfer of credit

The discussion paper (Commonwealth of Australia, 2008c: 42) notes that only 3.4% of higher education students received credit in 2006 for prior vocational education study, which seems low since almost 3 times as many students were admitted to bachelor degrees or below on the basis of Tafe study. However, again the data are poor and it is not clear that the apparently small amount of credit granted for prior vocational education study is a problem.

Ramsay, Tranter, Kain & Sumner (1997) surveyed students who commenced study at the University of South Australia in 1996 who had previously undertaken Tafe studies. Of the 546 respondents only half reported that they had applied for credit in their university program for their Tafe studies. Respondents said that they did not apply for credit primarily because they did not believe that their previous Tafe studies had any relevance to their university program. This is consistent with Golding's (1995: 19) finding. A few students said that they did not believe credit should be granted in university programs for previous Tafe studies and Golding (1995: 10, 19) found that credit transfer wasn't an important issue for some students. Some 40% of the students who applied for credit for their previous Tafe studies were granted credit, with the most usual amount being the equivalent of one full year of university study, although this varied widely between faculties. Some respondents reported that some faculties were reluctant to grant credit for previous Tafe studies.

Nonetheless, credit transfer has been the subject of national policy (DEEWR, 2008b) and the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA, no date) has adopted credit transfer principles and commissioned reports on credit transfer. Overcoming the resistance of some in higher education to grant credit for vocational education is not helped by training packages. This is because Australian vocational education's training packages are based on workplace competences (NSOC, 2008) while higher education in Australia and the rest of the world is based on a curriculum of largely disciplinary knowledge.

While Australian vocational education is incapacitated by its formal lack of a curriculum, a bigger problem is its single-minded focus on immediate and short term job skills. All education is a continuum from vocational to disciplinary knowledge. Likewise all education should have a balance between preparing students for immediate application to work or general life and preparing students for further study. Higher education programs range from those in engineering and medicine which emphasise vocational preparation to arts and science programs which focus more on developing disciplinary knowledge for more advanced study. But even higher education's vocational or professional programs include substantial amounts of disciplinary knowledge and the liberal arts and sciences develop vocational skills. Likewise the Australian and State governments should recognise that preparing students for further study is an important role for vocational education, although still less important than preparing graduates for employment.

### 3.8 Remove unnecessary differences between the sectors

The discussion paper notes the several different policy, financing, fees, quality assurance and other arrangements between the sectors. In their paper 'R4: Demand for VET – moving towards an integrated tertiary sector' the National Senior Officials Committee (NSOC, 2008) argues that 'There is a need for a fundamental examination of the education, administrative and funding barriers that act against smooth transitions between sectors, and generally for harmonisation of the sector.' In particular, it proposes 'consistent approaches to quality

assurance . . . , shared use of infrastructure and contributions to innovation and productivity'. These are laudable goals, but face considerable obstacles in Australian and State government policies which continue to construct vocational education as an extension of employers' internal training rather than as a distinctive sector of tertiary education. This is longstanding and bipartisan and will need considerable time and effort to change.

### 3.9 Gradual adaptation of current arrangements

Australian vocational education continues to be weakened by Australian and State governments imposing big changes on the sector without adequate time to consider and implement the changes. Although to a lesser extent, Australian higher education has also suffered and lost diversity by Australian government seeking to remake the whole sector in the image of a new policy. If changes are to be made to vocational or higher education they should be implemented gradually over a reasonable time and should build on existing strengths.

### 3.10 Response to the review's questions

Griffith University therefore answers the review's questions in section 3.4 Connecting with other education and training sectors in this way.

*15 To what extent should vocational education and training and higher education continue to have distinctive missions and how should these missions be defined?*

Vocational and higher education should retain their distinctive missions. These should be defined primarily by program, and in particular, by level of program. In addition, most vocational education programs will continue to be more vocational than many school and higher education programs, but this is a matter of degree and there will continue to be exceptions.

*16 Does the movement between the sectors of students with credit need to be improved? If so, in what ways?*

There is no evidence that the transfer of students or credit between the sectors is less than desirable. This is partly because the quality of the data are poor, but also because the wrong data are collected. Even less suitable data are now collected as a result of the changes to the higher education student data collection introduced by the Australian Government in 2006 and the different changes introduced in 2008 in response to MCEETYA's policy (Griffith University, 2006: 6-9). A more fundamental problem is the lack of a general policy about relations between the sectors. The Australian and State Governments continue to construct vocational and higher education as quite separate activities and do not locate credit transfer within a broader policy on relations between the sectors.

*17 To what extent should relative provision between the sectors be planned or demand driven. What are the effects of current differences on funding, governance and regulation in limiting planning or influencing choice between the sectors?*

The relative provision of vocational and higher education and of disciplines within the sectors should be determined mostly by student demand, with a few exceptions for special programs, because this would be more consistent with the liberal market economy within which the

sectors work and which the sectors serve. This would require a radical change to current Australian and State Government policies for vocational education which seek to direct provision to powerful employers. The effects of the current differences in the sectors' funding, governance, regulation and other arrangements are described extensively in Wheelahan (2000) *Bridging the divide: developing the institutional structures that most effectively deliver cross-sectoral education and training*.

18 *Can institutions provide examples of good practices which have led to movement between the sectors with high levels of credit and good learning outcomes?*

#### **Case study: combined Tafe diploma of nursing/university bachelor of nursing**

Griffith University and the Metropolitan South Institute of Tafe offer a combined Tafe diploma of nursing and a university bachelor of nursing. Students enrol simultaneously in the diploma and degree program for the first 18 months. Diploma modules are credited towards the university degree and degree subjects are credited towards the Tafe diploma. After 18 months students qualify to practice as an enrolled or division 2 nurse and may practice while completing their university degree. Students complete another 2.5 years equivalent full time at Griffith University, qualifying them for registration as a registered or division 1 nurse and giving them a diploma and degree in 4 years.

*More information:*

[http://www17.griffith.edu.au/cis/p\\_cat/require.asp?ProgCode=1165&Type=structure#tafe](http://www17.griffith.edu.au/cis/p_cat/require.asp?ProgCode=1165&Type=structure#tafe)



## 4 Research for the national interest

This chapter addresses these questions asked in the discussion paper –

19. By what mechanisms should research activities in Australian universities be supported?
20. On what principles and for what purposes should research activity be concentrated in particular universities or types of universities?

(Commonwealth of Australia, 2008c: 50)

This is Griffith's argument in brief.

- 1 As a relatively small producer of research Australia cannot compete with the larger nations on size. However, Australia can reasonably aspire to be amongst the top 10 nations by research output and by the quality of its output measured, for example, by citations per paper.
- 2 Neither can Australia be uniformly strong in all major fields. But Australia can aspire to be top 5 in the world in specific fields for both output and quality. This may be achieved by building networks of excellence or research pooling as described in the submission.
- 3 Research should not be planned, funded, evaluated and concentrated just by field of research, but also by research problem (eg global warming), regional need (eg desert knowledge), major facility (eg Australian synchrotron) or specialised technique (eg gene sequencing).
- 4 To achieve these goals Australia will have to invest more heavily in research.
- 5 As a smaller research nation, Australia will also need to support excellent research wherever it is found. Australia cannot afford to let excellent research wither because it happens to be conducted outside one of a few favoured institutions in which research funding is concentrated. Therefore Australia should not try to concentrate research funding in a few favoured institutions.
- 6 The Australian Government should support research not just to make an appropriate contribution to world research and to contribute to national pride, but also to contribute to national cultural, social and economic development.
- 7 Australia should continue to support a balanced development of research capacity across the country because:
  - (a) each major region should have ready access to internationally connected research expertise directed towards the region's needs;

- (b) regionally focussed research is needed to solve regionally focussed problems;
- (c) research transfer and take-up is strengthened by local and interpersonal interactions.

This chapter is in these parts:

- 4.1 The scientific wealth of nations (1981-1994)
- 4.2 Australia's research performance (1996-2007)
- 4.3 National strategies
- 4.4 Diversity of institutional function
- 4.5 Cooperative concentrations of research effort: research pooling
- 4.6 Planning and co-ordination of research not just by field of research
- 4.7 Investment
- 4.8 Freedom to take risks
- 4.9 Conclusion and response to the review's questions

Attachment 1 – country rank, leading nations, total outputs, Elsevier Scopus, 1996-2007

Attachment 2 – country rank, leading nations, citations per paper by field, Elsevier Scopus, 1996-2007

Attachment 3 – Research outputs, Scopus 1996 – 2007 sorted by citations per document (minimum 25,000 documents)

Attachment 4 – China 985 project.

#### 4.1 The scientific wealth of nations (1981-1994)

Robert May (1997), who was then the UK's chief scientific officer, conducted groundbreaking work on the scientific wealth of nations in the late 1970s. May analysed papers and citations for 15 nations from 1981 to 1994. He calculated for each country its relative citation impact, which is the number of citations divided by the number of publications. The relative citation impact is a measure of the quality of the average paper.

May found that the smaller developed nations included in his sample outranked most of the G7 nations on relative citation impact. Although the United States headed the relative citation impact rankings, Switzerland followed closely in second position and Sweden in third. Small nations led the relative citation impact in 10 out of 20 research fields. Small nations also occupied 59 out of the 100 top 5 positions. May pointed out that consideration of a country's share of the world's total papers or total citations alone tended to focus attention on larger countries. On measures of relative performance such as papers per person or citations per person, the smaller countries including Switzerland, Israel, Sweden, Denmark, Netherlands, Finland, New Zealand, Norway and Australia outranked all of the G7 apart from the UK and US. In May's analysis Australia was ranked ninth in the world for share of papers (2.1%) and eighth in the world for relative citation impact (2.1% of world citations).

## 4.2 Australia's research performance (1996-2007)

For this submission we have replicated Robert May's analysis using the Scopus database (SCImago, 2007) to examine Australia's performance for the period 1996 – 2007 (Sheil, 2008). Details of this analysis are provided in attachments 1 and 2:

- attachment 1 – country rank, leading nations, total outputs, Elsevier Scopus, 1996-2007; and
- attachment 2 – country rank, leading nations, citations per paper by field, Elsevier Scopus, 1996-2007.

In summary, the new analysis shows that small nations are now even more dominant on measures of relative performance. Small nations now lead in 23 of the 27 Scopus fields on citations per paper and occupy 103 out of 135 top 5 positions in the same 27 fields. This means that their dominance has increased over a 15 years period from 59% to 76% in top 5 positions.

In the period since May's landmark analysis Australia's share of world scientific output has also increased and so has its share of world citations. However, Australia's rank in share of papers, citations and citations per paper has fallen. The largest fall has been in citations per paper where Australia's rank has dropped from 8 to 14. Butler (2003) explored the reasons for Australia's decline on the relative citation index and argued that the most likely reason is increased performance evaluation with a focus on publication output rather than publication quality.

Australia achieved 11.14 citations per paper over the period which is only just behind Israel at #10 with 11.75 and therefore the gap can be bridged. The situation improved slightly in 2007 in which Australia produced 2.5% of world scientific output. It was ranked 11 in 2007 for total outputs, a position it has held for nine of the last 12 years. No other small nation except the Netherlands draws close to Australia in total research output.

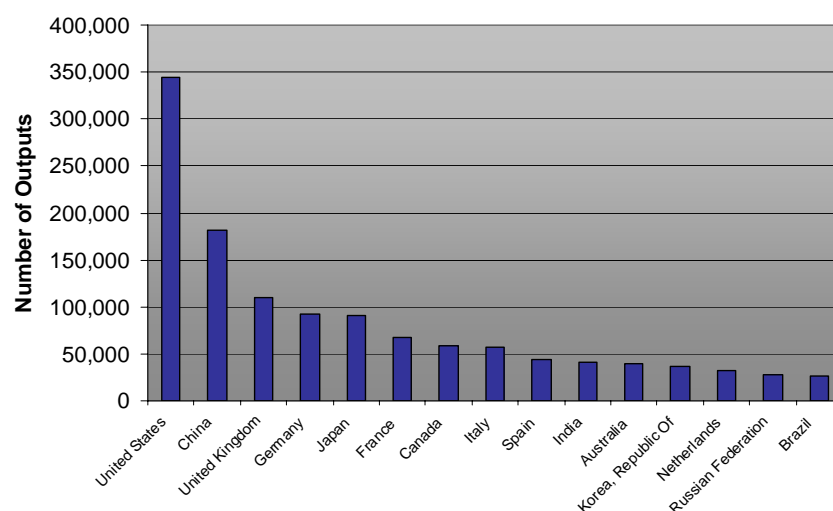
Table 14: shares of world research papers and citations, USA and Australia, 1981-94, 1996-2007

	1981-1994		1996-2007	
	%	World rank	%	World rank
USA – share of world papers	34.6	1	25.3	1
USA – share of world citations	49.0	1	36.7	1
Australia - share of world papers	2.1	9	2.2	11
Australia - share of world citations	2.1	8	2.3	9
Australia - world rank citations per paper		8		14

Source: SCImago (2007) SJR — *SCImago Journal & Country Rank*

Australia can realistically aspire to be a top 10 producer of world scientific output but top 5 is unattainable (Sheil, 2007). This is clear from inspecting the graph below which shows a very big gap between France at 6 and Japan as the fifth biggest producer of scholarly output in the world.

### Leading 15 Producers of Scholarly Output 2007



The following table shows that Australia is already a top 10 performer for the overall number of citations its research attracts – ranking at 9 or 10 in 10 out of the last 12 years. Australia however lags in citations per paper (see attachment 2) where its national ranking has fallen from 11 in 1996 to 14 in 2007 (as low as 16 in 2006). This indicates that Australia has a larger proportion of uncited papers now than 10 years ago which suggests that a research quality assessment such as the ERA is timely provided it addresses research quality throughout the sector.

Table 15: Australia – world rank by research output, total citations and citations per paper (1996-2007)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Total output	12	11	11	11	11	11	11	11	10	10	11	11
Total citations	9	10	9	9	9	9	9	10	10	11	11	10
Citations per paper	11	12	10	14	14	14	14	15	14	15	16	14

Source: SCImago (2007) SJR — *SCImago Journal & Country Rank*

**Australia can realistically aspire to be a top 10 nation in: total research outputs; total citations; and citations per paper.**

At the field level the picture is a little more positive (attachment 1) with Australia being placed in the top 10 in 15 of the 27 Scopus fields and no lower than 18 in any single field for total outputs. Australia ranks in the top 10 for citations per paper in 9 of the 27 Scopus fields and is top five in two fields: energy and engineering (attachment 2). Australia achieves top 5 status in several areas but its performance is overshadowed by small nations such as Switzerland, the Netherlands, Denmark and Sweden which clearly strive to produce research in niche areas of

the highest quality and academic impact. This suggests that Australia can maximise its impact by concentrating its research in high priority fields. Such areas are not confined to the big universities but are found in abundance in the top half of Australian universities. Every top 20 Australian university has the capability to develop several world leading centres of excellence.

Policies to concentrate research funding in particular institutions are not appropriate for small nations which typically harbour excellence deeper within their university sectors than larger nations. Griffith University supports the IRU Australia's opposition to a shift of government policies away from the current suite of research support mechanisms to deliberately concentrate support and funding in particular universities. An alternative and far preferable approach is research pooling, which is cooperative concentrations of research effort. This is described later in this submission.

### 4.3 National strategies

Cheng and Liu (2006) recently compared the performance of universities in a range of nations including Australia, Belgium, Ireland and Norway, which exhibit a 'balanced' disciplinary orientation, with those in Austria, Denmark, the Netherlands, Singapore and Sweden, which tend to be more 'focused' in their disciplinary orientation. Cheng and Liu found that institutions can thrive equally well in the research rankings whether they are comprehensive (balanced) or focused (specialised) in their disciplinary orientation.

Dr Henk Moed from Leiden University has investigated differences in the structure of national academic systems in a bibliometric ranking of the 386 most frequently publishing world universities and 529 European universities. Moed (2006) found that in Europe there is no tendency for national academic systems which concentrate their research in a few universities to generate a higher citation impact per paper than national systems in which article output is more evenly distributed. This suggests that the availability of accessible and competitive research funding backed up by research quality assurance is more important as a funding principle than one of concentration.

Several countries have recently established systematic and long term programs to build their nation's research. Some of these include:

- Germany Excellence Initiative;
- Brain Korea 21 program;
- Japan top 30 centres of excellence for 21<sup>st</sup> century plan;
- China 985 project;
- UK Research Assessment Exercise.

The China 985 project is discussed further in [Attachment 4](#).

Policies of research excellence in large nations mainly centre on mergers, sectoral differentiation across a massive system and, without exception, concentration of funding. China concentrates on 34 universities out of more than 1,700 universities and higher education institutions, and one could argue that the United Kingdom's research assessment exercise concentrates research funding on approximately 25-50 institutions out of 168 higher education institutions, while the German initiative focuses additional investment of US\$2.3 billion on 10 universities.

Large economies have more options given they have the financial capacity to fund world leading universities, attract world leading researchers (i.e. top 1%), and have access to far larger talent pools of researchers and research students which enables the leading research institutions to be far more selective in recruitment. Small nations have more limited options and therefore have no choice but to invest in areas of niche excellence.

#### 4.4 Diversity of institutional function

While Australia and individual institutions need to focus research efforts, there is little evidence to suggest that concentrating resources among elite research universities or creating highly specialised universities will produce better results than a more balanced approach. This position is supported by the League of European Research Universities (2002:4) which represents 20 of the top European universities. In a 2002 paper on research areas and the role of research-intensive universities the League wrote –

A rigid institutionalised system of selectivity runs a severe danger of fossilising the system at a particular point in time. It is essential for research universities to be dynamic and to enable new centres of expertise to develop, possibly at the expense of more established ones that have lost their edge.

(League of European Research Universities, 2002:4)

It does not therefore follow that all universities should pursue the same research mission. The League of European Research Universities' (2005:6) argues –

Governments worldwide recognise the value of universities in satisfying a great diversity of social needs:

- as providers of trained personnel and credible credentials;
- as creators of useful knowledge;
- as attractors of international talent;
- as sources of entrepreneurialism;
- as powerful attractors of business investment into a region;
- as sources of expertise and innovative thinking;
- in promoting social justice and social mobility; and
- in supporting cultural engagement.

This diversity of function has now become so great that no one institution can effectively discharge them all. An efficient university system demands diversity of function. However the research ethos is so strong, that in the absence of other drivers, universities tend to gravitate towards a single mode of operation.

(League of European Research Universities, 2005:6)

LERU's (2005:6) position paper promotes 'competitive functional diversity' to maximise the benefits of different types of institutions. Competitive functional diversity is consistent with the Government's policy of establishing mission-based compacts and cooperative concentrations of research effort.

Diversity of universities' research missions may be achieved by requiring all universities to designate their areas of research strength and have strategies to develop them. The number of areas of research strength at each university should reflect its research profile. They should take into account the university's location and the needs of its region. Universities should choose areas that either complement or are different from the strengths of competitor universities. All universities should develop strong collaborations with others with similar strengths and complementary capabilities through networks of excellence or research pooling supported by government.

#### 4.5 Cooperative concentrations of research effort: research pooling

In August 2003 the Scottish Higher Education Funding Council (2004a) considered 2 mechanisms for strengthening Scotland's research base: 'further concentration of resources in key institutions; and pooling academic expertise and physical resources across institutions'. The Council (2004b) chose pooling because of its support in the sector, and it funded the first research pooling plans in 2004. Research pooling combines the research resources of geographically proximate institutions in a research field, problem or technique while maintaining institutional autonomy (O'Shea, no date). All institutions within a specified region are invited to participate in a pool 'provided they possess relevant researchers of an international calibre' (Scottish Higher Education Funding Council, 2004b: 1).

Key features of pooling are (a) agreement and coordination of a pan-Scottish research strategy within defined individual research areas, (b) sharing of major facilities and equipment, and (c) joint doctoral training programs that will attract PhD students from across the UK and around the world. Scottish research pools have been established in physics, chemistry, geosciences and environmental sciences, economics, engineering, life sciences, medical imaging and policing (University of St Andrews, no date; Gani, 2008).

Scottish research pooling has made an encouraging start. The Scottish Funding Council's director of research policy and strategy recently wrote –

Whether research pools are succeeding is no longer a question that keeps me awake at night. I have many letters from VCs crediting pools for the enhanced magnetism of Scottish research. Directors of pools tell me that the number and quality of applicants for PhD courses have increased significantly.

(Gani, 2008: 16)

#### 4.6 Plan and co-ordinate research not just by field of research

It will be noted that while some of Scotland's research pools are defined by field of research or discipline (eg physics, chemistry, economics), one is multidisciplinary (policing) and another is based on a specialised technique or facility (medical imaging). Griffith is concerned that all recent proposals to evaluate and plan research – the Research Quality Framework, Excellence in Research for Australia and hubs and spokes (Healy, 2008: 21) – have been based on disciplines defined in the Australian and New Zealand standard research classification. Yet the national research priorities for research funded by the Australian Government are multi disciplinary –

- 1: an environmentally sustainable Australia;
- 2: promoting and maintaining good health;
- 3: frontier technologies for building and transforming Australian industries;
- 4: safeguarding Australia.

This is borne out by the Australian Research Council's centres of excellence, special research centres and co funded centres of excellence, few of which are based on fields of research. Some are explicitly multi disciplinary (policing and security, ore deposits, antimatter studies, cultural and media industries), many are based on a problem (eg quantum computer technology, solar energy systems, ultrahigh-bandwidth devices for optical systems, vision science, advanced silicon photovoltaics and photonics, plant energy biology), some are based on a technique or facility (eg microbial genomics, kangaroo genome, coherent x-ray science, free radical chemistry and biotechnology), and at least one is based on a regional characteristic (eg coral reef studies). Likewise a review of universities' web sites shows that existing research concentrations tend to be cross disciplinary and based on problems, and many university research centres are related directly to their region.

Attempting to plan, fund, evaluate and concentrate research just by field of research would (1) undermine much of the planning and concentration which has been achieved so far, and (2) attenuate the relationship between the planning and coordination of research and the research problems that inform the national research priorities for research funded by the Australian Government. Research should be planned, funded, evaluated and concentrated not just by field of research but also by research problem (eg global warming), regional need (eg desert knowledge), major facility (eg Australian synchrotron) or specialised technique (eg gene sequencing).

#### 4.7 Investment

Higher education leaders in Australia have increasingly expressed the aspiration for the nation to develop a world class university sector instead of concentrating resources in the unrealistic hope of developing 1 world leading research university. Australia can be justifiably proud that 24 of its 39 universities are now positioned on the Shanghai Jiao Tong or Times HE-QS world university rankings. This is an extremely strong position for Australia as a whole and compares favourably with other small nations. Australia should do all it can to preserve and build upon this strong achievement.

Current Australian Government research policies appear to be headed in the right direction. These include provision of better research infrastructure, support for larger numbers of research trainees, increased opportunities for early and mid-career researchers, a focus on internationalisation of Australia's research, and better means to assess research performance. However, Australia will need to invest more heavily in research to maintain its strong position and to realise its potential for further advancement. The most severe limitations on Australia's research potential are currently:

- weak demand for research higher degree candidates, probably due to both very low stipends and strong competition from other employment;
- the low value of Australian postgraduate research awards; and

- the significant reduction of untied institutional block grants as a proportion of competitive project and program grants, many of which require substantial matching funding from the diminishing proportion of untied institutional block grants.

Funding the full economic cost of research is appealing at face value provided the compliance burden on universities is kept to a minimum and the benefits extend beyond initial funding increases. Griffith University recommends that the dual funding arrangements for research continue in much the same form but that significant additional block research funding is required and that a stable ratio between competitive and block research funding be maintained over the long-term (e.g. 1:1). Griffith also recommends that the competitive research grant success rates should be maintained at a world standard (such as 30%). The low success rate for research grant applications not only means that much potentially excellent research is not funded, but it also increases Australia's difficulty in attracting top international researchers who are astonished that Australia's peer evaluated research grants are so extremely competitive.

#### 4.8 Freedom to take risks

Universities also need the freedom to plan their own destiny and this implies a degree of risk taking not always understood by those outside the sector. As expressed recently by Professor Alison Richard (2008), vice chancellor of Cambridge University –

. . . great universities must allow their researchers the freedom to experiment, succeed, and sometimes fail. They must be able to make grand mistakes as well as grand discoveries. It is often through making those mistakes that the grand discoveries are made.

This implies a degree of inefficiency, but it is a necessary inefficiency and a corollary of greatness. A university operating with a completely utilitarian mindset will forego the opportunities that a more open-ended system allows.  
(Richard, 2008)

#### 4.9 Conclusion and response to the review's questions

Griffith responds to the review's questions on research this way.

*19 By what mechanisms should research activities in Australian universities be supported?*

Griffith University recommends that Australia continues to support research with both institutional block funding and project grants, but that it increase significantly block research funding and maintain a stable ratio between competitive and block research funding over the long-term (e.g. 1:1). Griffith also recommends that the competitive research grant success rates should be maintained at a world standard (such as 30%).

Research should not be planned, funded, evaluated and concentrated just by field of research, but also by research problem (eg global warming), regional need (eg desert knowledge), major facility (eg Australian synchrotron) or specialised technique (eg gene sequencing).

20 *On what principles and for what purposes should research activity be concentrated in particular universities or types of universities?*

Small nations such as Australia should avoid the temptation to try create a top 20 elite comprehensive research university – the gap is simply too big and the cost too prohibitive for the benefits derived. Neither should Australia seek to concentrate research funding in just a few favoured universities since this would leave significant research potential unsupported and would leave most of Australia without important research expertise relevant to the region.

In small developed nations the main strategic alternative to funding an elite university is to systematically develop world-class higher education and research deep within the sector. World-class sectors can take two forms, both of which are well represented in rankings:

- the ‘balanced’ disciplinary or comprehensive approach; or
- the ‘focused’ approach of developing world-class expertise in targeted areas.

Australia should adopt the focussed approach. An important strategy for small research nations is to promote high levels of international research cooperation since internationally co-authored papers are cited more than ‘single-country’ papers. Strategies and policies aimed at maximising the production of high quality research outputs are likely to yield a better results than those aimed at attracting a small number of elite researchers. Small nations have difficulty operating at the elite end (top 1%) of the market for leading researchers. This is not to say that there should not be national and institutional strategies and programs aimed at achieving gains in this regard, but these should not be seen as the cornerstone to remaining competitive.

Australia should concentrate research by building networks of excellence or research pooling as described in this chapter.

21 *Do you believe there is a place in Australia’s higher education system for universities that are predominantly ‘teaching only’ universities? If so, why?*

Griffith agrees with the review’s discussion paper (Commonwealth of Australia, 2008c: 46) that ‘there is little support for “teaching only” universities in Australia’ and that there is ‘a broad consensus within the sector’ that ‘The term “university” should only be applied to institutions that can demonstrate a research capability.’

Field	Leading five nations					Australia
	1	2	3	4	5	
Agricultural and Biological Sciences	USA	UK	Japan	Germany	Canada	7
Arts and Humanities	USA	UK	Canada	France	Germany	6
Biochemistry, Genetics and Molecular Biology	USA	Japan	UK	Germany	France	10
Business, Management and Accounting	USA	UK	China	Germany	Canada	6
Chemical Engineering	USA	China	Japan	Germany	UK	16
Chemistry	USA	Japan	China	Germany	UK	16
Computer Science	USA	China	Japan	UK	Germany	12
Decision Sciences	USA	UK	Canada	China	Germany	12
Dentistry	USA	UK	Japan	Brazil	Germany	12
Earth and Planetary Sciences	USA	China	UK	Germany	France	10
Economics, Econometrics and Finance	USA	UK	Germany	Canada	Netherlands	6
Energy	USA	China	Japan	Germany	UK	15
Engineering	USA	China	Japan	UK	Germany	14
Environmental Sciences	USA	UK	Germany	Canada	China	8
Health Professions	USA	UK	Germany	Japan	Canada	8
Immunology and Microbiology	USA	UK	Japan	Germany	France	10
Materials Science	USA	China	Japan	Germany	France	15
Mathematics	USA	China	Germany	France	UK	13
Medicine	USA	UK	Germany	Japan	France	9
Multidisciplinary	USA	China	UK	India	Germany	12
Neuroscience	USA	UK	Germany	Japan	Canada	9
Nursing	USA	UK	Canada	Australia	Germany	4
Pharmacology, Toxicology and Pharmaceutics	USA	Japan	Germany	UK	France	13
Physics and Astronomy	USA	Japan	Germany	China	Russian Fed.	18
Psychology	USA	UK	Canada	Germany	Australia	5
Social Sciences	USA	UK	Canada	Australia	Germany	4
Veterinary Sciences	USA	UK	Germany	India	Japan	9
All Fields	USA	UK	Japan	Germany	China	11

SCImago. (2007). SJR — SCImago Journal & Country Rank, retrieved July 04, 2008, from <http://www.scimagojr.com>

Field (>1,000 outputs)	Leading five nations					Australia
	1	2	3	4	5	
Agricultural and Biological Sciences	Switzerland	Netherlands	Panama	UK	Sweden	15
Arts and Humanities	Netherlands	Italy	USA	Canada	Germany	7
Biochemistry, Genetics and Molecular Biology	Switzerland	USA	UK	Netherlands	Denmark	15
Business, Management and Accounting	USA	Netherlands	France	Hong Kong	Singapore	16
Chemical Engineering	Switzerland	Denmark	Netherlands	Sweden	Belgium	10
Chemistry	Switzerland	USA	Netherlands	Denmark	Sweden	15
Computer Science	Switzerland	Israel	USA	Sweden	Netherlands	8
Decision Sciences	Belgium	USA	Hong Kong	UK	Singapore	12
Dentistry	Switzerland	Sweden	Germany	Italy	Netherlands	10
Earth and Planetary Sciences	Chile	Switzerland	Netherlands	Denmark	USA	11
Economics, Econometrics and Finance	USA	Switzerland	UK	Sweden	China	17
Energy	Denmark	Sweden	Switzerland	Australia	Israel	4
Engineering	Switzerland	Denmark	Netherlands	Israel	Australia	5
Environmental Sciences	Panama	Denmark	Sweden	Switzerland	N Zealand	13
Health Professions	Switzerland	Denmark	Netherlands	Canada	Finland	13
Immunology and Microbiology	Switzerland	USA	Ireland	Netherlands	Canada	9
Materials Science	Netherlands	Denmark	Switzerland	USA	Ireland	7
Mathematics	Switzerland	Denmark	USA	UK	Belgium	16
Medicine	Iceland	Puerto Rico	Finland	Uganda	Netherlands	17
Multidisciplinary	Netherlands	Sweden	Japan	Switzerland	Germany	12
Neuroscience	USA	Switzerland	UK	Canada	Denmark	15
Nursing	Italy	Japan	Netherlands	Germany	Switzerland	16
Pharmacology, Toxicology and Pharmaceutics	Switzerland	N Zealand	Sweden	Denmark	Ireland	20
Physics and Astronomy	Switzerland	Denmark	Netherlands	USA	Austria	15
Psychology	Denmark	Netherlands	USA	UK	Canada	12
Social Sciences	Netherlands	USA	Sweden	Canada	Denmark	13
Veterinary Sciences	Denmark	Sweden	Netherlands	N Zealand	Canada	8
All Fields (Minimum 25,000 outputs)	Switzerland	USA	Denmark	Netherlands	Sweden	14

SCImago. (2007). SJR — SCImago Journal & Country Rank, retrieved July 04, 2008, from <http://www.scimagojr.com>

Research outputs, Scopus 1996 – 2007  
Sorted by citations per document (minimum 25,000 documents)

<b>Country</b>	<b>Documents</b>	<b>Citable Documents</b>	<b>Cites</b>	<b>Cites per doc.</b>	<b>H index</b>
1 Switzerland	218.119	206.995	3.110.161	15,67	364
2 United States	3.872.452	3.639.512	54.818.003	14,45	889
3 Denmark	115.065	109.926	1.533.619	14,30	256
4 Netherlands	305.743	289.938	3.939.223	14,06	362
5 Sweden	223.304	214.550	2.857.495	13,50	323
6 Finland	109.056	106.173	1.278.292	12,70	234
7 Canada	548.280	521.763	6.149.815	12,39	416
8 United Kingdom	1.101.302	1.003.630	12.762.128	12,34	535
9 Belgium	164.545	156.774	1.790.036	11,94	275
10 Israel	137.096	131.312	1.516.982	11,75	273
11 Norway	82.173	78.799	844.966	11,41	203
12 Austria	113.877	107.804	1.161.736	11,32	240
13 Germany	1.009.736	959.527	10.782.310	11,27	468
14 Australia	345.194	323.965	3.397.958	11,14	315
15 Ireland	49.164	46.312	441.505	11,03	163
16 France	729.133	692.100	7.461.900	10,75	431
17 Italy	532.598	507.022	4.999.602	10,25	374
18 New Zealand	69.670	65.835	635.439	10,21	176
19 Spain	387.279	365.466	3.115.441	9,12	283
20 Chile	30.866	30.169	233.060	8,98	119

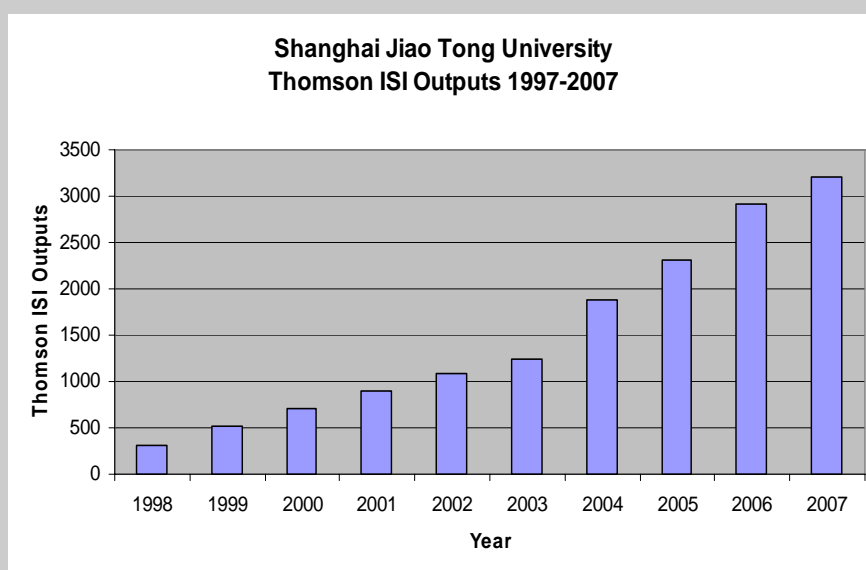
### China 985 project

The China 985 project has provided additional funding to 34 leading universities of Yuan 28.3 billion (Liu, 2006) (approximately US\$4.1 billion, but of course with approximately 10 times the purchasing power in China). Of this, the allocation to the top 9 universities was Yuan 11.5 billion with the greatest share going to Peking University and Tsinghua University. The Chinese government has set the target for Peking University to attain world-class status (top 100) in 2016 and Tsinghua University in 2020. Tsinghua is the highest ranked of the Chinese universities on the Shanghai Jiao Tong university list at 190 while Peking is at 237.

Data show that 431 ‘consolidations’ have occurred between Chinese universities between 1990 and 2006 with 60 per cent of these occurring in the last 7 years. This has seen many specialised institutions merged into multi-disciplinary universities such as Beijing Medical University being merged into Peking University. The number of graduates at all levels in China has quadrupled in the last six years. It is estimated that by 2010 there will be more engineers and scientists in China than in the USA. In 2001 China produced 5.1% of the world’s scientific output and was ranked fifth. By 2007 this increased to 10.5% and China is now a clear second.

The focus of the policies is to create a small number of world class universities using a number of means such as consolidation backed up by a range of staff incentives. High priority is placed on international rankings taken as publications in leading journals, citations and agreements for international cooperation. It is common for annual targets, such as 3 international publications to be set for faculty members with termination of employment to occur on non-fulfillment. In 2004, Peking University reformed its staff policies so that only full professors were offered tenure. Associate professors are offered contracts up to 12 years. If they fail to win promotion within the contract period then they are dismissed Yao, Whalley, Zhang & Zhao (2008).

The outcomes of such policies are clearly illustrated below in the research outputs (Thomson ISI) for Shanghai Jiao Tong University which has seen Thomson ISI outputs grow from 254 in 1998 to 3215 in 2007. Shanghai Jiao Tong University is one of only 3 universities ranked in the SJTU top 500 that are there solely on the basis of Thomson ISI indexed outputs and Nature and Science articles – the other 2 also come from China.



## 5 Funding: level, mechanism and consistency

This chapter considers 3 issues about funding higher education: the level of funding, funding mechanisms, and consistency in funding treatment.

### 5.1 Funding level

The amount of funding available to public institutions is inadequate, too low a proportion is provided by government, and too much of what is provided by government is allocated by short term grants provided for narrow purposes. Unfortunately there is no stark measure of inadequate funding. But the remorseless deterioration in funding of public higher education institutions is steadily eroding their capacity to meet the country's needs. It is hard to anticipate where the gap in meeting expectations will be manifest. A fall in international student fee income may drive many institutions to the choice between severe cuts or technical bankruptcy, a revival of student demand consequent upon a change in the economy may leave many institutions without the capacity to expand, the impending retirement of baby boomer academics may leave many institutions without enough funds to recruit replacements from a shrinking pool of available staff, or several universities may fall out of the international rankings. All or any of these circumstances are both unpredictable and rely on capacity developed over decades. Planning against the expected difficulties will leave institutions vulnerable to the unexpected. An impoverished sector will take a decade to restore to optimum capacity and performance. The only effective protection is to maintain the capacity of the sector with adequate funding.

### 5.2 Funding mechanism

The current mechanism for allocating places supported by the Australian Government is broadly satisfactory, or at least any alternative proposed thus far would not be better. A voucher, which may be achieved by collapsing the distinction between Fee-help and Hecs-help, would not make institutions more responsive to students because the current equilibrium between the supply and demand for places already encourages institutions to compete for well prepared students. Increasing the control the Government or employers have over the allocation of places would not reduce claimed skill shortages because of the notorious unreliability of predictions of workforce demand over the periods needed to prepare graduates, and because if a place isn't available in their desired field prospective students decide not to proceed to higher education rather than study an unpreferred program (James et al, 1999; see also Harvey-Beavis et al, 1998).

That is not to say that the current mechanism can't be improved considerably. There are far too many funding clusters and combinations of Australian Government funding rates and Hecs rates. The UK's funding method is much more coherent. The Higher Education Funding Council for England's (2007:9) formula for funding institutions for teaching is based on subject-related factors, institution-related factors and student-related factors. The Scottish Funding Council (2006) has a similar method, which was broadly supported in its consultations for its review of its teaching funding method. Applying the English approach to Australian circumstances and terminology would have the Commonwealth grant scheme allocations based on 3 factors:

- 1 discipline group;
- 2 campus location; and
- 3 students with special needs.

Discipline groups will be considered later in this submission. The Australian Government already funds student load by campus location with its regional loading, which was \$29.9 million in 2007. The Australian Government also supports institutions that enrol students with special needs through the Indigenous support program (\$31.7 m in 2007), the higher education equity support program for students from low socio economic status backgrounds with a weighting to low socio economic status students from rural and isolated backgrounds (\$11.3 m in 2007) and through the higher education disability support program (\$6.7 million in 2007). While the Australian Government's institutional funding for students with special needs is determined by institutions' performance, it still could be incorporated readily within a 3-part teaching funding formula based on the English approach.

If this approach were adopted an institution's Commonwealth grant scheme amount would be based on the institution's student load:

- 1 in each discipline group;
- 2 at each campus that attracts the rural loading; and
- 3 in each designated equity group according to the institution's performance in designated equity students' progress and retention.

This would consolidate the Commonwealth's various funding programs and apply them more consistently. The Higher Education Funding Council for England has only 4 funding clusters, or what it calls price groups. This gives institutions greater flexibility to change student load and resources in response to changing student demand and need.

Table 16: cost weights for subject-related factors in the Higher Education Funding Council for England's calculation of funds for teaching

<b>Price group</b>	<b>Description</b>	<b>Cost weight</b>
A	The clinical stages of medicine and dentistry courses and veterinary science	4
B	Laboratory-based subjects (science, pre-clinical stages of medicine and dentistry, engineering and technology)	1.7
C	Subjects with a studio, laboratory or fieldwork element	1.3
D	All other subjects	1

Source: Higher Education Funding Council for England (2007:11)

### 5.3 Fee caps: Hecs-help

Removing the cap on Hecs would be bad public policy, either because it would be regressive or because it would lead to a blow-out in Hecs fees. If students are price sensitive uncapped Hecs would allow high demand institutions and programs to charge much higher fees while lower demand institutions and programs would have to charge lower fees. This would

increase the resources at the high demand institutions and programs, making them even more attractive, allowing them to charge even higher fees. Lower demand institutions and programs would be set on a downward spiral. They would have fewer resources which would make them even less attractive, requiring them to set even lower fees to attract students.

If students are price sensitive low socio economic status students would be much more price sensitive than high socio economic status students. Low socio economic status students would therefore enrol in cheaper programs, reducing even further their representation in high demand programs. Low socio economic students would graduate from programs with lower positional value (Hirsch, 1976) and thus have less opportunity for upward social and economic mobility. The small number of scholarships that could be afforded by high demand institutions or even the Australian Government would have a negligible effect on such a broad social trend. The end result would be a system that is much more highly stratified by resources and class than at present.

If students are not price sensitive uncapped Hecs would have no price discipline, allowing all institutions to charge higher fees and increase them at will. The dynamics are complicated in the US (Glater & Finder, 2006), but at least substantial groups of students seek to enrol in high and medium-high demand institutions regardless of the fees they charge since they are at least partly protected by government and private loans. The result is high fees which increase much faster than inflation, and much political concern as a result (Hauptman, 2008; Callan, 2007; Huffman, 2007). Uncapped Hecs would quickly see the return of ‘\$100,000 degrees’.

#### 5.4 Fee caps: Fee-help

The Australian Government currently caps Hecs-help fees by program band. That, combined with the Commonwealth grant scheme amount for each discipline cluster, sets the maximum revenue for each Hecs place in each discipline cluster. However, the Australian Government currently does not cap Fee-help fees by program, but sets a lifetime borrowing limit for each student. The result is that institutions’ revenue for Fee-help places can be much higher than their revenue for Hecs-help places, and that students may be stranded in a full fee-paying place without enough funds or borrowing capacity to pay the fees needed to complete the program.

The Australian Government should change the Fee-help cap from the student’s lifetime borrowing limit to a cap for each year’s enrolment in a program. The Fee-help cap for a program should equal to the sum of the Commonwealth grant scheme amount and maximum Hec chargeable for that program so that a Fee-help place would never be funded at a higher rate than a Hecs-help place. This would allow the Australian Government to remove the prohibition on public institutions offering Fee-help places to domestic undergraduate students since there would be no ‘\$100,000 degrees’ and no financial incentive to shift from Hecs to Fee-help places.

#### 5.5 Consistency in Hecs rates

For Commonwealth supported students starting in 2009 the Australian Government has established 8 Commonwealth Grant Scheme (CGS) funding clusters for the Australian Government’s contribution to the cost of students’ education. Commonwealth grant scheme amounts range from \$18,610 per equivalent full time student load for agriculture, dentistry, medicine and veterinary science in funding cluster 7 to \$1,709 for accounting, administration, economics, commerce and law in funding cluster 1. The Australian Government’s

contribution for funding cluster 7 is 10.9 times that of its contribution to disciplines in funding cluster 1, and 2.8 that of its contribution to humanities in funding cluster 2. Is there any rationale for these relativities? Is the Australian Government indicating that the disciplines in funding cluster 7 have almost 11 times the social value as disciplines in funding cluster 1 but almost 3 times the value of humanities?

Table 17: Commonwealth Grants Scheme (CGS) amounts and maximum student contributions (max HeCs) for students starting in 2009

Disciplines	Funding cluster	CGS (\$)	HeCs band	Max HeCs (\$)	Total	HeCs % of total
Accounting, administration, economics, commerce, law	1	1,709	3	8,677	10,386	84
Humanities	2	4,743	1	5,201	9,944	52
Computing, built environment, other health	3	8,389	2	7,412	15,801	47
Allied health	4	10,317	2	7,412	17,729	42
Behavioural science, social studies	3	8,389	1	5,201	13,590	38
Clinical psychology, foreign languages, visual and performing arts	4	10,317	1	5,201	15,518	34
Engineering, surveying	6	14,664	2	7,412	22,076	34
Education	3	8,389	NP	4,162	12,551	33
Dentistry, medicine, veterinary science	7	18,610	3	8,677	27,287	32
Agriculture	7	18,610	2	7,412	26,022	28
Nursing	5	11,517	NP	4,162	15,679	27
Mathematics, statistics	3a	11,639	NP	4,162	15,801	26
Science	6a	14,664	NP	4,162	18,826	22

Source: Commonwealth of Australia (2008a) *Indexed amounts for 2009*.

The Australian Government has established 4 HeCs bands for maximum student contributions, ranging from \$8,677 for 1 equivalent full time student load in accounting, administration, dentistry, economics, commerce, law, medicine and veterinary science in HeCs band 3 to \$4,162 for the so called ‘national priority’ (NP) disciplines of mathematics, nursing, science and statistics. Maximum HeCs for band 3 is 2.1 times maximum HeCs for national priority disciplines. What rationale is there for these relativities? It certainly doesn’t reflect salary relativities which might indicate the private benefits from higher education. Table 18 compares the relativities of maximum HeCs for 2009 with the relativities of median starting salaries in 2007 for bachelor degree graduates aged less than 25 in first full-time employment by field of education. It will be noted that there is little relation between HeCs relativities and salary relativities (correlation = 0.2). Table 18 compares somewhat different concepts – HeCs is calculated on subjects’ disciplines while graduates’ starting salaries are reported for programs’ field of education. Furthermore, a full comparison would consider graduates’ rates of return from their higher education calculated from their lifetime earnings rather than just their starting salary. Nonetheless, it is clear that HeCs rates do not reflect students’ relative benefit from higher education.

Table 18: relativities for maximum Hecs in 2009 and for the median starting salaries for bachelor degree graduates aged less than 25 in first full-time employment by field of education, 2007

<b>Field</b>	<b>Salary</b>	<b>Salary relativity</b>	<b>Hecs relativity</b>
Dentistry	68,000	2.0	2.1
Optometry	56,500	1.7	1.8
Medicine	51,000	1.5	2.1
Earth sciences	50,000	1.5	1.0
Engineering	50,000	1.5	1.8
Mathematics	46,000	1.4	1.0
Education	46,000	1.4	1.0
Law	45,000	1.3	2.1
Social work	44,000	1.3	1.2
Computer science	43,200	1.3	1.8
Paramedical studies	43,000	1.3	1.8
Physical science	42,900	1.3	1.0
Psychology	42,000	1.2	1.2
Biological sciences	41,000	1.2	1.0
Accounting	40,000	1.2	2.1
Agricultural science	40,000	1.2	1.8
Architecture & building	40,000	1.2	1.8
Economics, business	40,000	1.2	2.1
Veterinary science	40,000	1.2	2.1
Social sciences	39,400	1.2	1.2
Humanities	38,000	1.1	1.2
Art & design	35,000	1.0	1.2
Pharmacy	34,000	1.0	1.8

Sources: Graduate Careers Australia (2008:27) table 12: fields of education ranked according to median starting salary for bachelor degree graduates aged less than 25 in first full-time employment, 2007; Commonwealth of Australia (2008a) *Indexed amounts for 2009*.

The combination of the 8 Commonwealth grant scheme funding clusters and 4 Hecs bands generates 12 funding rates, ranging from \$27,287 per equivalent full time student load for dentistry, medicine and veterinary science which is in funding cluster 7 and Hecs band 3, to \$9,944 for humanities, which is in funding cluster 2 and Hecs band 1. The best funded disciplines are funded 2.1 times higher than the lowest funded disciplines. It will also be noted from table 17 that students pay widely different proportions of the funding for their study. Hecs is 84% of the total funding for accounting, administration, economics, commerce and law but only 22% of the total funding for science. The distribution is erratic. Business and law are clear outliers, paying 32% or 2 standard deviations higher proportion of their discipline funding than the discipline that pays the next highest proportion of funding, humanities at 52%. Whatever original rationale there may have been for Hecs being different proportions of the total funding for disciplines has long since been lost is a sequence of ad hoc changes to Commonwealth grants scheme amounts and Hecs rates. A consistent principle should now be established.

The most economically rational policy would be to set the Commonwealth grant scheme amount by the amount the public benefits from each graduate and let Hecs vary up to a cap to reflect the price that students put on their expected private benefits. But of course there is as yet no way of knowing by how much the public benefits from graduates, so another principle must be found to determine Hecs levels. There are basically 3 possibilities.

#### 1 Flat Hecs, variable Commonwealth grant scheme amount

One possibility would be to set Hecs at the same rate for all students and vary the Commonwealth grant scheme amount to fund disciplines at the different rates the Australian Government considers desirable. This was of course the principle upon which Hecs was originally based and operated from 1989 to 1996. It makes the Australian Government responsible for all the variation in the funding for disciplines.

#### 2 Flat Commonwealth grant scheme amount, variable Hecs

Another possibility would be to set the Commonwealth grant scheme amount at the same rate for all disciplines and let Hecs vary up to a cap to reflect different funding rates for disciplines. This option would make students responsible for all the variation in the funding for disciplines.

#### 3 Hecs as a fixed proportion of total funding

The third possibility would be to set Hecs as a fixed proportion of the total funding for each discipline. This is the option that was recommended by the Committee on higher education funding (1988:54) that recommended the introduction of Hecs. The committee recommended that Hecs be 20% of total Australian Government funding for each discipline. Griffith recommends this option because it:

- (a) shares the responsibility for the variation in the funding for disciplines between students and the Australian Government; and
- (b) signals to students the relative funding levels of disciplines.

## 5.6 Responses to questions

Griffith responds to the review's questions in section 3.8 on resourcing the system in this way.

### 29 *To what extent are the current funding models adequate to secure the future of Australia's higher education sector? If there are better models, what are they?*

The amount of funding available to public institutions is inadequate, too low a proportion is provided by government, and too much of what is provided by government is allocated by short term grants provided for narrow purposes.

The current mechanism for allocating places supported by the Australian Government is broadly satisfactory, or at least any alternative proposed thus far would not be better. However, substantial improvements can and should be made to the current mechanism. An institution's Commonwealth grant scheme amount should be based on the institution's student load:

- 1 in each of 4 broad discipline groups;
- 2 at each campus that attracts the rural loading; and
- 3 in each designated equity group according to the institution's performance in designated equity students' progress and retention (section 6.2 of this paper).

Removing the cap on Hecs would be bad public policy, either because it would be regressive or because it would lead to a blow-out in Hecs fees.

The Australian Government should change the Fee-help cap from the student's lifetime borrowing limit to a cap for each year's enrolment in a program. The Fee-help cap for a program should equal to the sum of the Commonwealth grant scheme amount and maximum Hec chargeable for that program so that a Fee-help place would never be funded at a higher rate than a Hecs-help place. This would allow the Australian Government to remove the prohibition on public institutions offering Fee-help places to domestic undergraduate students since there would be no '\$100,000 degrees' and no financial incentive to shift from Hecs to Fee-help places.

Hecs should be the same proportion of the total funding for all disciplines (section 6.5 of this paper).



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