

# Diversity and the New Binary System in Australian Higher Education

---

***Eric Skuja, John Clarke and Damien Birney***

## Abstract

*The paper examines the nature of diversity in Australian higher education using a set of 68 diversity indicators published by DEETYA. Based on these measures, a cluster analysis of the 36 universities in the Unified National System revealed, firstly, that there is limited diversity in the composition of Australian universities and, secondly, that a binary system is evident in the sector comprising eight elite and 28 mass education universities. The paper explores the nature of the new binary system which is characterised by the persistence of elements of an older elite system of higher education, while a gradual shift towards institutional uniformity has occurred in the rest of the sector. Particular attention is focused on the mechanisms for maintaining elitism in a small number of universities while the remaining institutions carry the responsibility for mass higher education in this country. The paper concludes with a general discussion of the nature of diversity in Australian higher education and questions the preoccupation with measuring inter-institutional diversity, while similar benefits might be derived by focusing on the growing diversity within universities and discipline groups.*

## Introduction

Diversity is generally considered to be a critical feature of higher education systems worldwide. It is argued that diversity allows higher education to meet better the varied needs of complex societies, to be more responsive to changing demands, and to be more robust as aspects of the operating environment change over time (Goedegebuure *et al*, 1993). Diversity is usually defined in terms of observable differences between universities regarding the programs they offer, their range of activities, funding bases, organisational and governance structures and the constituents they serve (Bradley, 1993; DEET, 1996a; Goedegebuure *et al*, 1993). Diversity frequently emerges as a topic of discussion in situations where external forces, such as government policy, are perceived to be encouraging uniformity between institutions. Considerable debate persists about the extent to which diversity is a characteristic of Australian higher education. Some observers perceive a tendency towards uniformity in the sector (Karmel, 1992); others do not (DEET, 1996a). There are at least three consistent viewpoints in the debate.

From the first perspective, there are concerns that diversity in Australian higher education diminished following the institutional amalgamations which resulted from *The White Paper* reforms (Dawkins, 1988). The government's reform agenda was based on dismantling the binary system of universities and colleges, that had existed since the mid 1960s, by creating a smaller number of more broadly based institutions. Through a series of redesignations and forced amalgamations, 19 universities and 44 colleges were eventually reduced to just 36 higher education institutions, all with the designation of 'university'.

As was the case with the removal of the higher education binary system in the United Kingdom (Brennan and Shah, 1993), and the institutional amalgamations which were promoted in the Dutch non-university higher education sector during the 1980s (Goedegebuure and Meek, 1991), improved efficiency and effectiveness were key goals of the restructuring of the higher education sector in Australia. *The White Paper* (Dawkins, 1988) had argued for institutional consolidation in terms of educational benefits but, in practice, had concentrated mainly on the administrative efficiencies to be derived from larger organisational units (Meek, 1993). However, in the usual push and pull that accompanies major changes in policies affecting complex systems, efficiency and effectiveness were not the only aspects of higher education that were affected.

A logical consequence of abolishing the binary system and establishing the Unified National System (UNS) of Australian universities was a lessening of diversity among universities. By amalgamating small specialised institutions with larger more broadly based organisations, and by encouraging the resulting smaller number of institutions to broaden their base of operations, it seems natural that institutions would begin to more closely resemble each other. For example, there are clear signs that the newly created universities have mimicked the 'old' universities by shifting the balance of their activities from teaching to research, from undergraduate to postgraduate levels of study, from a restricted range of course offerings to much broader academic profiles (Bradley, 1993). There is little doubt that to international observers, the dismantling of the binary system in Australia, as in the United Kingdom, would lead to a decrease in diversity. In fact, Goedegebuure *et al* (1993) noted that: "What will be interesting to observe in the future is whether (and if so, how) the newly established unitary systems in these two countries [Australia and the UK] begin to diversify" (p. 319).

The second perspective simply insists that diversity has remained a characteristic of the sector. Despite the government's awareness of the impact that its reforms could have on diversity between institutions, significant political capital has been invested in supporting assertions that diversity is still a feature of the higher education sector. One of a number of attempts by the Federal government to illustrate diversity in our universities, is a document entitled *Diversity in Australian Higher Education Institutions* (DEET, 1996a). It contrasts the composition of the 36 universities in the UNS across 68 carefully selected 'diversity' indicators. To the authors of the document, diversity is self-evident in the differences among universities over a wide range of salient characteristics. The argument, in official circles, is that the Australian higher education system is naturally diverse because differences among institutions are clearly observable (Higher Education Council, 1992). Stanley and Reynolds (1994) provided statistical evidence to support these claims. Following a cluster analysis, they concluded that: "the universities within the Unified National System differ from each other on so many characteristics that it is not possible to obtain consistent simple clusterings for the majority of universities" (p. 366).<sup>1</sup>

The third perspective seems to assume that a more moderate level of diversity exists in the sector. For example, policy analysts often distinguish between types of institution on the basis of age, size, mission, geographical location and teaching mode. Formal classifications often extend from four to seven distinct types of institution that include the older traditional institutions, the newer research universities, the post-60's universities, the metropolitan institutes of technology and the ex-colleges of advanced education (Maslen, 1997; Wilmoth, 1995).

These competing viewpoints present a contradictory picture of diversity in Australian higher education as either highly restricted, ubiquitously self-evident, or somewhere in between. The principal aim of the study, therefore, is to examine the extent to which diversity is a feature of Australian universities.

## Method

To avoid the substantial difficulties in developing an acceptable operational definition of diversity in the Australian context, diversity in this study was measured from a systemic perspective using 68 'diversity' indicators published by DEET (1996a). The indicators were selected by the Joint Working Party on Higher Education which comprised members of the Australian Research Council, the Australian Vice-Chancellors' Committee, the Higher Education Council and the government. The indicators take into account the historical development of the sector and the current policy context, but essentially measure the composition of the 36 universities in the UNS in four discrete categories: students (21 items), staff (20 items), resources (12 items) and research (15 items).

The indicators were subjected to cluster analysis techniques which enable the universities to be placed into groups based on the similarity of their profiles. The application of cluster analysis is especially useful in identifying natural groupings in apparently heterogeneous groups and for constructing a conceptual

---

<sup>1</sup> A more conventional interpretation of the Stanley and Reynolds (1994) data might have insisted on the viability of a two cluster solution to describe Australian universities. In particular, the dendrogram presented in Figure 4 of that article shows a clear separation of the larger elite universities, known then as the "big seven", from the remaining UNS institutions.

schema for their classification. Typically, however, any subsequent 'meaning' attached to the clusters depends on an external validation of the various clusters.

Considerable care also needs to be taken when applying statistical methods like cluster analysis to entities such, as universities. Aldenderfer and Blashfield (1984) suggested that certain descriptions are required in cluster analysis studies: an unambiguous description of the clustering method, the choice of similarity method (method used to combine institutions), computer programs used, the way the number of clusters was chosen, and evidence of the validity of the clusters.

Two clustering procedures are generally used to provide initial evidence of the validity of the clusters. This usually involves subjecting the data, initially, to an agglomerative hierarchical clustering method and then to a non-hierarchical iterative procedure (for example, K-Means). This strategy was used in the analysis of the DEET data, using the clustering methods available in SPSS (Norusis, 1993): CLUSTER and QUICK CLUSTER.

The clustering procedures utilised the 68 indicators reported by DEET (1996a) and the analyses were restricted to the 36 universities in the UNS. The analyses were carried out using standardised (Z-scores) rather than raw indicator values. A very small number of missing values were replaced with regression-based estimates.

While the 68 indicators represent a comprehensive and carefully selected set of diversity measures, independent evidence of the existence of any identifiable clusters would be highly desirable. Accordingly, a small number of additional indicators were included in the study to provide a formal external validation of our interpretation of the clustering solution. These included data on the outcome of the 1994 Quality Assurance round, an estimate of operating grants per weighted EFTSU, the distribution of enrolments by socio-economic status and a number of graduate-related indicators (see Appendix, p. 34).

## Results

Based on the coefficients in the agglomeration schedule of the hierarchical method (the place where the largest jump occurs), two clusters are needed to represent differences between the universities among the 68 indicators. The first cluster comprises eight large, older universities (The Universities of Sydney, Melbourne, Adelaide, Queensland, New South Wales and Western Australia; the Australian National University and Monash University). The second cluster comprises the remaining 28 universities, including all the post 1960's universities, the old Institutes of Technology, the ex-CAEs and the University of Tasmania.

The initial results from the hierarchical clustering method were used as starting values for the K-Means method. Two, three and four-cluster solutions (as well as others) were cross-checked on several levels of the K-Means method. The results of the two-cluster solution were identical to those obtained in the hierarchical procedure (the same eight older universities and the remaining 28 institutions). A three-cluster solution identified the Australian Catholic University as a possible outlier from the larger group of 28 newer universities. A four-cluster solution isolated only the Australian National University from the smaller group of older universities. Given the unique characteristics of these institutions (the Australian Catholic University is the only multistate university in Australia and ANU has special status as a research university), it is not surprising that the statistical procedure identified these two institutions as unique clusters. What was surprising was the extent to which it was difficult to separate the larger group of newer universities. Statistically, they display a considerable degree of uniformity.

To test the robustness of the two-cluster solution, the analyses were conducted in the absence of the 15 research indicators reported by DEET (1996a). The additional test was carried out simply to account for the strong possibility that the two-cluster solution simply reflected the emphasis that the older traditional universities had on research prior to the dissolution of the binary system. The results were virtually identical without the research indicators. The K-Means method yielded the same eight older and 28 newer universities. The hierarchical method, however, excluded Adelaide University from the group of eight.

In all, the very high degree of correspondence between the two clustering methods very clearly confirmed a two-cluster solution as the most parsimonious and defensible way of describing Australian universities. The two-cluster solution describes two types of institution: the eight large, long established universities listed above and the 'rest' - in short, a binary system. Additional evidence of the validity of the two-cluster solution is presented in Table 1 which compares the mean scores for the two clusters on each of the 68 indicators published in DEET (1996a).

Table 1: Comparison of Cluster Means for all Diversity Indicators

Indicator	Cluster Means <sup>2</sup>		t-Value
	1	2	
<b>Students</b>			
1 Year established as a university	1906	1979	6.67 ***
2 No of broad fields of study - undergraduate	8.4	6.9	2.92 **
3 No of broad fields of study - postgraduate	8.6	6.3	3.84 ***
4 Student load for all students in EFTSU	19162	10612	3.82 ***
5 Total number of students	23086	14190	3.03 **
6 No of full-time students as % of all students	70%	55%	3.34 **
7 No of part-time students as % of all students	26%	29%	0.70
8 No of external students as % of all students	4%	15%	1.51
9 No of overseas students	2083	1055	2.73 **
10 No of overseas students as % of all students	9%	7%	1.25
11 No of female students as % of all students	50%	55%	1.86
12 % of Aboriginal and Torres Strait Islander students	0.7%	1.4%	1.79
13 % of non-overseas NESB students	18%	11%	2.04 *
14 % of commencing UG students admitted on basis of secondary schooling	63%	47%	3.76 ***
15 Median age of all students	21	23	2.29 *
16 Median age of full-time students	20	20	0.53
17 Median age of part-time students	29	28	0.29
18 Median age of external students	32	34	0.61
19 % of recent UG graduates in FT employment in Australia	37%	51%	4.21 ***
20 % of recent UG graduates in FT study in Australia	39%	16%	8.77 ***
21 % of recent UG graduates seeking FT work in Australia	12%	19%	4.59 ***
<b>Staff</b>			
22 No of FT and FFT staff (incl TAFE)	4220	1516	8.50 ***
23 FTE of FT, FFT and casual staff (incl TAFE)	4283	1628	8.02 ***
24 No of FT & FFT academic staff - TO and T&R	1306	597	5.11 ***
25 No of FT & FFT academic staff - RO	399	31	9.67 ***
26 FTE of academic FT, FFT and casual staff	1822	745	6.55 ***
27 FTE of FT academic staff as % of total academic staff - 1994	80%	79%	0.43
28 FTE of FFT academic staff as % of total academic staff - 1994	7%	5%	2.67 *
29 FTE of casual academic staff as % of total academic staff - 1993	13%	16%	1.40
30 FTE of academic staff with tenure as % of total academic staff	48%	57%	3.08 **
31 % FTE of academic staff with TO and T&R functions with tenure	58%	60%	0.70
32 FTE of female academic staff as % of total academic staff	30%	37%	2.54 *
33 FTE of female FT academic staff as % of all FT academic staff	26%	32%	2.26 *
34 FTE of female FFT academic staff as % of all FFT academic staff	52%	58%	2.00
35 FTE of female casual academic staff as % of all casual academic staff	42%	52%	2.98 **
36 % of FT and FFT senior lecturer and above female academic staff	14%	20%	2.45 *
37 % FTE of female TO and T&R academic staff with tenure	20%	28%	3.02 **
38 % FTE of FT and FFT academic staff <35 years of age	22%	14%	5.16 ***
39 % FTE of FT and FFT academic staff 35-44 years of age	32%	34%	1.69
40 % FTE of FT and FFT academic staff 45-54 years of age	30%	38%	4.95 ***
41 % FTE of FT and FFT academic staff >54 years of age	16%	13%	2.39 *
<b>Resources</b>			
42 Operating grants - 1994	\$202M	\$85M	6.73 ***
43 Total income - 1993	\$362M	\$126M	8.21 ***
44 Income from C'wealth Govt as % of total income - 1993	56%	57%	0.14

<sup>2</sup> Cluster 1 (N=8) comprises the Universities of Sydney, NSW, Monash, Melbourne, Queensland, WA, Adelaide, and the ANU. Cluster 2 (N=28) comprises all of the remaining universities. For t-tests (df=34): \* p<.05, \*\* p<.01, \*\*\* p<.001.

45	Income from HECS as % of total income - 1993	10%	15%	6.73 ***
46	Income from State Govt as % of total income - 1993	2%	7%	2.66 *
47	Income from fee-paying overseas students as % of total income- 1993	5%	5%	0.14
48	Income from fee-paying PG students as % of total income - 1993	0.6%	0.8%	0.54
49	Income from investments and bequests as % of total income - 1993	8%	2%	4.72 ***
50	Income from other sources as % of total income - 1993	17%	13%	1.88
51	Student:staff ratio (EFTSU:FTE) - 1994	14.2	16.2	2.49 *
52	Student:staff ratio in physical sciences (EFTSU:FTE) - 1994	12.6	13.9	1.73
53	Student:staff ratio in arts, humanities (EFTSU:FTE) - 1994	16.3	18.1	1.63
<b>Research</b>				
54	Student load in EFTSU for all higher degree research students	1637	374	9.96 ***
55	No of higher degree research students	2044	519	9.03 ***
56	No of higher degree research students as % of total students	9%	4%	7.21 ***
57	Research quantum for 1995 - Component of operating grant	\$18.1M	\$2.5M	10.29 ***
58	Value of national competitive grants -CI	\$28.4M	\$3.4M	11.60 ***
59	Other public sector research funding - CI	\$7.2M	\$1.3M	5.06 ***
60	Industry and other funding for research - CI	\$11.9M	\$1.2M	14.04 ***
61	Weighted Publication Index - CI	3386	615	10.67 ***
62	Total research income per FTE of RO and T&R staff	\$29.5k	\$9.7k	8.31 ***
63	Total expenditure on research	\$106M	\$18M	11.26 ***
64	Total research expenditure per FTE of RO and T&R staff	\$67k	\$26k	5.21 ***
65	No of books published	181	38	7.46 ***
66	No of journal articles published	1814	305	11.05 ***
67	No of research masters completions - CI	83	24	5.97 ***
68	No of research PhD completions - CI	154	22	9.80 ***

The Cluster 1 universities are very much older (1), larger (4, 5, 6, 9) and have broader teaching profiles (2, 3), which are largely restricted to full-time study (6). They also tend to attract younger students (14, 15), who pursue higher degrees after completing undergraduate study (20). The Cluster 1 universities have more staff (22-26), although fewer are female (32, 33, 35-37) or tenured (30), and they tend to employ more young (38) and fewer older academics (40). The Cluster 1 universities also have more money (42, 43, 49) and they attract students who can afford to pay HECS upfront (45). As might be expected, they have very much better inputs and outcomes on all of the research indices (54-68).

This is clearly not a picture of diversity. Superficially, the figures in Table 1 simply confirm that the older universities have more students, staff, money and do more research than the newer institutions. However, as the Cluster 2 universities were very difficult to separate statistically into more than one group, the analysis provides compelling evidence that the Australian higher education sector is still a binary system, characterised more by uniformity than diversity. Nevertheless, statistically, a cluster analysis methodology requires independent evidence that a binary system is being actively fostered, or at least maintained in Australian higher education.

## External Validation

With Australia's long history of elitism in higher education (Charlesworth, 1993), we would expect a binary system to favour Cluster 1 institutions in fairly predictable ways. Firstly, Cluster 1 universities would be expected to receive a disproportionate amount of the 1994 Quality Assurance funding. Secondly, one might expect average funding per *weighted* EFTSU to be higher among the Cluster 1 universities - even after efforts had been made, through the Relative Funding Model (DEET, 1990), to ensure that funding to institutions was more equitable. Thirdly, it might be expected that Cluster 1 universities would continue to attract a disproportionate number of students from advantaged backgrounds. Finally, it seems likely that Cluster 1 universities would produce more graduates, but at a much higher average cost and less cost efficiently than Cluster 2 universities (Beasley, 1993).

Table 2: Cluster Validation Using Alternative Indicators

Indicator <sup>4</sup>	Cluster means <sup>3</sup>		
	1	2	t-Value
1 Quality assurance outcome: % of Operating Grant - 1994	2.9%	1.2%	8.06 ***
2 Quality assurance outcome: Actual funding in \$k - 1994	5775	1097	11.66 ***
3 Weighted EFTSU (Corrected for variations from op. grant load targets)	29866	14560	4.66 ***
4 Operating grant per weighted EFTSU	\$6286	\$5930	2.13 *
5 % of Australian students from high SES backgrounds	53%	34%	2.82 **
6 % of Australian students from low SES backgrounds	10%	17%	2.09 *
7 Number of Australian graduates	5103	3016	3.00 **
8 Operating grant per Australian graduate (\$)	38432	29788	3.46 **
9 All graduates per FTE teaching staff (TO and T&R)	4.11	5.00	2.77 **

Table 2 supports each of these claims. In the 1994 government Quality round, Cluster 1 universities all received near the maximum supplementary funding (3%) for quality assurance. Bearing in mind that Cluster 1 universities received 2.9% of very large operating grants (resulting in Quality funding averaging \$5.8 million), while Cluster 2 universities received 1.2% of significantly smaller grants (yielding average Quality grants of only \$1.1 million), one might conclude that the Quality Assurance process favoured the former, as a matter of policy rather than performance.

Table 2 also shows that Cluster 1 universities (excluding ANU) received significantly more funding per weighted EFTSU than Cluster 2 universities. The variation excludes funding for research and takes into account the different disciplines and levels of course taught in the universities. To put the matter tangibly, on average, the Cluster 1 universities each received a \$10.6 million bonus for teaching purposes (29,866 multiplied by \$356 per weighted EFTSU). Given that a number of Cluster 1 universities appeared to be under-funded before the Relative Funding Model exercise, these figures raise some interesting questions about the implementation of a policy initiative designed to ensure the equal participation of universities in the UNS.

The omission of socio-economic status (SES) from the small group of equity indicators reported in DEET (1996a) is defensible to some extent, given the difficulties in measuring SES in the higher education context. However, the magnitude of the variation in the participation rates of students from high SES backgrounds attending Cluster 1 and 2 universities (53% versus 34%) is difficult to ignore. From a social justice perspective, these figures suggest that an elitist sector of Australia's higher education system is still being nurtured in the old traditional universities. On average, less than 10% of students attending Cluster 1 universities come from low socio-economic backgrounds. It is extremely unlikely that measurement error could account for all the variation.

The other measures in Table 2 are simple output indices. As expected, Cluster 1 universities produce significantly more graduates than do Cluster 2 universities. However, they do so at significantly greater cost and far less efficiently, in terms of staffing resources. These are logical outcomes of the funding discrepancies that distinguish Cluster 1 from Cluster 2 universities.

## Discussion

The results of the study indicate that diversity is not a salient characteristic of Australian universities. At best, the sector can be described as a binary system. Despite DEET's (1996) claims about diversity in the sector, systemically, there is strong evidence that *The White Paper* reforms have resulted in the maintenance of a binary system which should have been dismantled with the introduction of the UNS (Baldwin, 1991). The chief characteristics of the sector are the retention of elements of an older elite system of higher

<sup>3</sup> Cluster 1 (N=8) comprises the Universities of Sydney, NSW, Monash, Melbourne, Queensland, WA, Adelaide, and the ANU. Cluster 2 (N=28) comprises all the remaining universities. For t-tests (df=34): \* p<.05, \*\* p < .01, \*\*\* p <.001. Note that indicators involving Operating Grants (4 and 8) exclude ANU from the calculations due to the distorting effects of DEET's special funding arrangement with this university.

<sup>4</sup> Sources: see Appendix.

education in eight large universities (Cluster 1) and a high degree of uniformity among the other 28 institutions, which might be described as mass higher education universities (Cluster 2). Similar conclusions have been reached by others. For example, when comparing the discipline breadth, qualifications offered and the non-specialised nature of Australian universities with classification schemes used in the United States, Wilmoth (1995) suggested that a simple binary classification would probably be sufficient to characterise universities in the UNS. He argued that the Australian system has neither the scope for diversity nor the number of institutions of the USA.

Of particular topical interest, our findings also suggest that the claims of the Cluster 1 universities for the maintenance of a special status within the UNS have been surreptitiously supported by government in recent years. Not surprisingly, the so-called 'Group of Eight', making up the Cluster 1 universities, has made moves to have their elite status recognised formally by government. Several commentators have suggested that this will lead to an even more privileged funding situation for these institutions than they currently enjoy (Johnston & Juddery, 1996; Lewis, 1996; Osmond, 1996). More significantly perhaps, the study shows a high degree of uniformity among the 28 Cluster 2 universities. By itself, this finding suggests that diversity has probably diminished substantially since the creation of the UNS. Elaborating on these findings, we examine the results of the study from three perspectives: the persistence of elitism in Australian higher education, the nature of diversity in the sector and alternative ways of assessing diversity.

## Elitism in Australian Higher Education

From the data presented in Table 1, an institution must have the following characteristics in order to qualify as a Cluster 1 ('elite') university. It must be a mainland, urban university, established prior to 1960. It would normally be very large and attract younger, more able students, from higher socio-economic status backgrounds. It must have a broad teaching profile, at both undergraduate and postgraduate levels, which includes all of the traditional professions (Medicine, Law, Veterinary Science and so on). To some extent, its academic staff are younger, better qualified and untenured. The elite institution is more resistant to the 'feminisation' of higher education; it has fewer female students and female academic staff. It also generates sizable income from investments and donations. An elite university would normally have a well-developed infrastructure capable of attracting research funds and supporting large numbers of higher degree research students. However, at least statistically, the elite university does not require research activity to distinguish it from other types of institution.

Cluster 2 ('mass higher education') universities comprise the two smaller pre-1960 universities, UNE and Tasmania, and all universities formed from higher education institutions, regardless of type, established after 1960. While such institutions can be quite large through amalgamations, they have a much more diverse student body. They certainly attract a greater proportion of mature age students, and students from a wider range of socio-economic and geographical backgrounds. The majority of external students are enrolled in these universities. They employ considerably more senior female academic staff and the academics tend to be older and are more likely to be tenured. Many mass higher education universities lack a well-developed comprehensive research infrastructure.

The creation of the UNS appears to have been motivated, in part, by an antagonism to the elitism implied by the distinction between universities and colleges. It seems doubtful, therefore, that the maintenance of an elitist divide within the UNS was ever intended by *The White Paper* reforms. The reformist Hawke/Keating Labor government was even quite explicit about removing the inequities from the existing system. For instance, on the subject of resource allocation, the government introduced the Relative Funding Model to ensure that future funding would reflect relative teaching costs rather than historical, patterns of funding (DEET, 1990). Dawkins (1988) stated that: "*To ensure that institutions are able to participate equally in the unified national system and to provide an equitable basis on which institutions could compete for funds, the Government also proposed to remove the funding inequities that had arisen over time and are still reflected in current funding allocations*" (p. 79).

Our data do not support the contention that the universities in the UNS are competing on a 'level playing field'. In fact, government funding decisions after *The White Paper* reforms appear to favour Cluster 1 universities and to support the maintenance of elitist distinctions. This has occurred through the implementation of at least two government initiated processes: the Relative Funding Model and the Quality Assessment processes.

Firstly, during DEET's attempts to make funding to institutions more equitable, seven of the largest research universities sought special status within the UNS (Stanley & Reynolds, 1994). That status was not accorded. Not surprisingly, the seven universities in question can be found in Cluster 1; the eighth institution (ANU) already had this special status by virtue of its creation as a research university in postwar Australia. Nevertheless, we speculate that through a process of negotiation, and adjustments to operating grant load that selectively affected institutions' marginal, rather than true funding levels, Cluster 1 universities each managed, on average, to gain a \$10.6 million funding advantage after the Relative Funding Model had been phased-in.

Secondly, from the data presented in Table 2, it seems reasonable to deduce that the government-supported Quality Assurance process gave assent to the Cluster 1 universities' request for special status in the form of an average \$4.7 million funding advantage. Such claims were vehemently denied by the Council for Quality Assurance in Higher Education (CQAHE). Nevertheless, in discussing the outcome of the first Quality round, the Chair of the Council noted that: *"...it would have been rather surprising if the results had been very different. These institutions have been funded for many years to do research; and, consequently, they continue to do rather better at it in national competitions. With research an equal measure with teaching and rather easier to discriminate through outcomes, the overall balance could have been seen (and I'm sure was expected) as inevitable in round 1"* (Wilson & Irwin, 1994, p. 10).

Taken together, it is tempting to arrive at the conclusion that elitism in Australia's higher education sector has been maintained, at least in part, through the implementation of government funding mechanisms. Our findings show that, on average, the Cluster 1 universities each received an additional \$15.3 million annually (\$10.6 million from the funding model plus \$4.7 million for Quality). These figures raise intriguing questions about the manner in which government policy concerning higher education was implemented. Certainly, two useful undertakings for future research include documenting the manner in which the Relative Funding Model was phased-in during the period 1992-94 and developing quantitative performance indicators to assess the validity of the 'qualitative' methods used by the CQAHE to assess quality.

These funding anomalies are just two of many symptoms of the difficult transition from elite to mass higher education in Australia - a transition somewhat hindered by the emergence of the new binary system. Other initiatives, seemingly designed to maintain elitism in the sector, include the threatened introduction of a 'voucher system' in the early 1990s, which would have favoured the elite universities. The redefinition of 'research higher degrees' undoubtedly benefited the elite institutions through the composite research index, by excluding courses containing more than 40% of coursework. The removal of the post-1987 universities' supplementation for the Research Infrastructure Block Grant in 1996, will inevitably strengthen the competitive position of the Cluster 1 universities in research (Reid, 1996). The Liberal government's latest round of cuts to operating grants will almost certainly favour the elite universities (Maslen, 1997). Added to these, is the spectacle of the elite universities' ongoing demands for government to extend an already privileged funding base (Johnston & Juddery, 1996). Perhaps the symptom most easily overlooked, however, is the threat posed by the new binary system to diversity in the sector.

## Diversity in Australian Higher Education

There is a tendency for elitism to be a feature of higher education sectors worldwide. In most countries, the older established, typically research focused, institutions still tend to be those for which competition for places is highest and for which graduation holds the highest prestige (Goedegebuure *et al*, 1993; Mauch & Sabloff, 1995). The emergence of the 'Group of Eight' would come as no surprise to anyone with even a rudimentary knowledge of the Australian higher education sector and the differences in its development



before and after 1960. There has also been a strong tendency for countries to exploit such elitism as a means of securing inter-institutional diversity within the sector. This, after all, was the basis for the establishment of the binary systems in the United Kingdom and Australia from the mid-1960s (Meek, 1993) and is a feature of systems such as that in California which makes strong claims to assure diversity through a formally constituted trinary system consisting of three distinct types of institution - Community Colleges, the State University, and the University of California - each with a well-defined structure and role (Fox, 1993).

Promoting diversity through such mechanisms can come at considerable cost. For example, Californian higher education makes claims to ensure equity through a system where there is nothing to prevent someone from entering through a Community College and exiting with a PhD from the University of California, Berkeley. However, very few people are able to achieve this in practice (Fox, 1993). Other studies have indicated that the Cluster 1 institutions tend to be poor performers in the provision of higher education opportunities to recognised disadvantaged groups (Postle *et al*, unpublished) tending instead to do what they have always done, namely to reinforce and duplicate privilege within society (Anderson & Vervoorn, 1983).

True diversity also requires institutions to have the wherewithal to pursue individual missions and directions. As Gilbert (1995, p. 27) noted: *"They [universities] must be diverse in purpose, roles and function. Policy directions and/or funding regimes whose aim or tendency is to produce 37 Australian universities all attempting to meet the same functions, achieve the same kinds of educational profiles or serve more or less identical educational constituencies are bound to be destructive."* However, reinforcing elitism through the provision of funding advantages to a small group at the expense of the many, as has often been suggested in Australia (Johnston & Juddery, 1996; Osmond, 1996), would only serve to place greater restrictions on the non-elite universities in seeking individual specialisations and niches. The sector needs to question whether a binary system, supported on this basis, would allow for the development of a desirable degree of diversity throughout the sector.

One should certainly question whether diversity, restricted to a binary system, poses a threat to the stability of the sector itself as aspects of the operating environment change over time. New policies recently introduced by the Liberal government, such as cuts to operating grants, differential HECS charges and the ability to charge fees for undergraduate enrolments, will soon put diversity in Australian higher education to test. One predicted effect of the policy changes is to strengthen the competitive position of the Cluster 1 institutions at the expense of the Cluster 2 universities. Some of the anticipated effects for the Cluster 2 universities are declining student numbers, downsizing, a loss of income, the loss of high performing staff, restrictions to the range and quality of courses and services offered, and even the closure of some institutions (Maslen, 1997). These outcomes would be devastating testimony to the mythology of diversity promulgated by government (DEET, 1996a; Higher Education Council, 1992).

## Assessing Diversity

The obvious objection to many of the inferences drawn in this study is that diversity can be defined and measured in a number of ways. We examine three different perspectives here. Firstly, the vast majority of studies use differences between institutions as the focus for analysis.

Within this framework, Goedegebuure *et al* (1993) distinguish between three types of diversity:

- *Systemic diversity* refers to differences between institutions regarding their general functions, composition and control. The operational definition of diversity used in this study assumed that control of the higher education sector rests largely with the Federal government, that the broad functions of the universities within the UNS are essentially similar, but that considerable diversity exists in the composition of Australian universities. Using the government's own data, this narrow conception of diversity led us to characterise Australian universities as a simple binary system comprising a small number of elite and a large number of mass higher education institutions.

- *Programmatic diversity* refers to differences between institutions in their educational, research, and community service activities. There is certainly evidence of diminishing diversity in the sector due to 'upward academic drift' in the types and level of courses offered by the universities since *The White Paper* reforms. For example, the proportion of students enrolled in sub-degree level courses dropped from 15% in 1988 to less than 3% in 1995 (DEET, 1996b). However, the extent to which universities differ in their curricula, research emphases and service activities has not been studied. It is doubtful that a simple binary system would adequately describe the sector from this standpoint.
- *Structural diversity* refers to differences between institutions in terms of their legal foundations and governance. In Australia, higher education is the direct legislative responsibility of the States, but little structural diversity is evident in the sector because the Federal government controls the funding and therefore makes most of the important decisions. Privately funded universities offer the sector a source of structural diversity, but these are not prominent in Australia. Most of the potential for structural diversity in Australian higher education lies in the drift towards competition, deregulation and entrepreneurialism. The extent to which Australian universities differ in their responses to market-like forces has not been articulated and remains an important avenue for future research. Indications, since *The White Paper* reforms, suggest that existing funding arrangements and reward structures have increased institutional imitation rather than diversity.

The second perspective insists that *disciplines* rather than *universities* are the basic organisational and political units within the higher education sector. According to Goedegebuure *et al* (1993), discipline groups describe the division of labour within higher education based on areas of knowledge and expertise. Discipline groups present the sector with their own idiosyncratic characteristics and management problems at both institutional and systemic levels. From this perspective, it is obvious that Australian higher education is not a single purpose enterprise, but a series of loosely connected, specialised organisational units which are subject to a variety of internal and external influences. This expanded perspective encourages an examination of diversity within institutions, at a departmental level, to see if their activities are providing some of the benefits of diversity (increased student choice, widened access, meeting labour market needs, etc.) which are very difficult to assess directly through global cross-institutional comparisons. It also allows discipline groups, as the basic unit of analysis, to be used to examine diversity across the sector from a fresh perspective. By looking at differences among similar departments in different universities, considerable scope exists for institutional researchers to develop new ways of conceptualising and measuring diversity. The premise here is that diversity is more likely to be observed from the 'bottom-up', rather than from the 'top-down'.

The third perspective assumes that diversity is not an end in itself but is considered desirable to provide a sector which is more flexible, adaptive and responsive to society's needs. This suggests that, rather than attempting to measure diversity between institutions or within disciplines, effort might more fruitfully be directed towards measuring the outcomes which diversity is expected to generate. For example, Stadtman (1980) lists six benefits of diversity for higher education:

- diversity increases the range of choices available to learners;
- it makes higher education available to virtually everyone;
- it matches education to the needs and abilities of individual students;
- it enables institutions to select their own mission and confine their activities;
- it responds to the pressures of a society (complex and diversified in itself);
- it becomes a precondition of college and university freedom and autonomy.

Using these as a basis, it may be possible to create indicators which are far more useful in assessing the status of diversity in Australian higher education.

## Conclusion

The important questions about diversity appear to relate to how much of it is present, whether this constitutes sufficient diversity to realise the benefits which it is meant to bring, and how the level of diversity is changing over time. Critical to such issues are the means by which diversity is defined,

measured and monitored in the sector. It is quite clear that improved methods of assessing diversity and its impact on the sector are needed. The general issue of the shape and nature of Australia's higher education sector warrants much closer attention from institutional researchers than the analysis presented here. There is little doubt that appropriate time-series analyses will confirm that institutional diversity has diminished substantially since 1988 in the wake of institutional amalgamations. The more challenging and important task, especially in the light of the Liberal government's recent policy initiatives, is to construct some models of what the sector might look like a decade from now if current trends continue, and to decide whether these represent desirable futures for the sector and for Australian society as a whole.

## References

- Aldenderfer, M and Blashfield, R (1984) *Cluster Analysis*. Beverly Hills, CA: Sage.
- Anderson, DS and Vervoorn, AE (1983) *Access to Privilege: Patterns of Participation in Australian Post-Secondary Education*. Canberra: ANU Press.
- Baldwin, P (1991) *Higher Education: Quality and Diversity in the 1990s. Policy statement by the Minister for Higher Education and Employment Services*. Canberra: AGPS.
- Beasley, K (1993) "Where Do We Go From Here? Some Principles for Allocating Public Resources To Meet Australia's Higher Education Needs". Spring Series of Lectures, Centre for the Study of Higher Education, University of Melbourne.
- Bradley, D (1993) "Illusion or Reality? Diversity in the Unified National System". *Journal of Tertiary Education Administration*, vol. 15, pp. 117-139.
- Brennan, J and Shah, T (1993) "Higher Education Policy in the United Kingdom", in Goedegebuure, LCJ, Kaiser, F, Maassen, P, Meek, VL, van Vught, F and de Weert, E (eds) *Higher Education Policy: An International Comparative Perspective*. Oxford: Pergamon Press.
- Charlesworth, M (1993) "From Dawkins To Where?" *Journal of Tertiary Education Administration*, vol. 15, pp. 7-17.
- Dawkins, JS (1988) *Higher Education: A Policy Statement*. Canberra: AGPS.
- Department of Employment, Education and Training (DEET) (1990) *Assessment of the Relative Funding Position of Australia's Higher Education Institutions*. Canberra: AGPS.
- Department of Employment, Education and Training (DEET) (1994) *Supplementary Higher Education Funding Report for the 1994-96 Triennium*. Canberra: AGPS.
- Department of Employment, Education and Training (DEET) (1996a) *Diversity in Australian Higher Education Institutions*. Higher Education Series, Report no. 26. Canberra: AGPS.
- Department of Employment, Education and Training (DEET) (1996b) *Selected Higher Education Student Statistics: 1995*. Canberra: AGPS.
- Fox, W (1993) "Higher Education Policy in California", in Goedegebuure, LCJ, Kaiser, F, Maassen, P, Meek, VL, van Vught, F and de Weert, E (eds) *Higher Education Policy: An International Comparative Perspective*. Oxford: Pergamon Press.
- Gilbert, A (1995) "The Modern University: Let 37 Flowers Bloom In Pursuit of Different Qualities". *The Australian Higher Education Supplement*, 22 February, pp. 26-27.
- Goedegebuure, LCJ, Kaiser, F, Maassen, P, Meek, VL, van Vught, F and de Weert, E (1993) "International Perspectives on Trends and Issues in Higher Education Policy". Chapter 13, in Goedegebuure, LCJ, Kaiser,

- F, Maassen, P, Meek, L, van Vught, F & de Weert, E (eds) *Higher Education Policy: An International Comparative Perspective*. Oxford: Pergamon Press.
- Goedegebuure, LCJ & Meek, VL (1991) "Restructuring Higher Education. A Comparative Analysis Between Australia and The Netherlands". *Comparative Education*, vol. 27, pp. 7-22.
- Higher Education Council (1992) *Higher Education: Achieving Quality*. Canberra: AGPS.
- Johnston, C and Juddery, B (1996) "Elite Vice-Chancellors Push Split". *Campus Review*, 17 April, pp. 1-2.
- Karmel, P (1992) "The Australian University Into the Twenty-First Century". *Journal of Tertiary Education Administration*, vol. 14, pp. 65-75.
- Lewis, B (1996) "Osborne Lashes 'Elitism' of Self-Proclaimed Eight". *Campus Review*, 10 July, p. 3.
- Martin, L (1994) *Equity and General Performance Indicators in Higher Education, vol. 1: Equity Indicators*. Canberra: AGPS
- Maslen, G (1997) "Cuts separate Sandstones from the Wannabees". *Campus Review*, 29 January, p.3.
- Mauch, JE and Sabloff, PLW (eds) (1995) *Reform and Change in Higher Education: International Perspectives*. New York: Garland Publishing.
- Meek, L (1993) "Higher Education Policy in Australia", in Goedegebuure, LCJ, Kaiser, F, Maassen, P, Meek, L, van Vught, F and de Weert, E (eds) *Higher Education Policy: An International Comparative Perspective*. Oxford: Pergamon Press.
- Norusis, J (1993) *SPSS for UNIX: Professional Statistics, Release 5.0*. Chicago: SPSS Inc.
- Osmond, W (1996) "Group of Eight Upstages AVCC". *Campus Review*, 12 June, pp. 1-2.
- Postle, G, Batorowicz, K, Bull, D, Clarke, J, McCann, H and Skuja, E (1996) Research and data analysis supporting the development of Higher Education Council, *Equality, Diversity and Excellence: Advancing the Higher Education Equity Framework*. Advice to the Minister for Employment, Education and Training. Data unpublished.
- Reid, J (1996) "Partisan Voices Speak of Sector's Disadvantage". *Campus Review*, 24 April, p. 8.
- Stanley, G, and Reynolds, P (1994) "Similarity Grouping of Australian Universities". *Higher Education*, vol. 27, pp. 359-366.
- Stadtman (1980) cited in Goedegebuure, L, Kaiser, F, Maassen, P, Meek, L, van Vught, F and de Weert, E (eds) (1994) "International Perspectives on Trends and Issues in Higher Education Policy", Chapter 13, in *Higher Education Policy: An International Comparative Perspective*. Oxford: Pergamon Press. p. 317.
- Wilmoth, D (1995) "University Classification Systems for Quality and their Relevance to Australian Universities". Report to the AVCC Standing Committee on Education.
- Wilson, B and Irwin, B (1994) "Quality", in *Proceedings of the Ninth State Conference of the Australasian Institute of Tertiary Education Administrators (Queensland Branch): "The Consequences of Change - Beyond the Year 2000"* Surfers Paradise, 28-29 April.

## Appendix: Sources of information shown in Table 2

1. Source: DEET (1994, Table 2.2). Figures are the percentage of 1994 operating grants allocated for quality assurance based on performance in three major areas of university activity - teaching and learning, research and community service.
2. Source: DEET (1994, Table 2.2). Figures are actual funds allocated for quality assurance in 1994.
3. Source: DEET aggregated dataset HALI4O derived from the 1994 Higher Education Student Statistics Collection and DEET (1994, Table 3.3) which contains operating grant load targets for each university in 1994. The indicator represents an estimate of weighted EFTSU for each institution, adjusted for variations from operating grant load targets.
4. Source: DEET (1996a, Indicator 42) and Item 3 above. The indicator shows operating grants divided by weighted EFTSU for each institution.
5. Source: DEET aggregated dataset HASI6O derived from the 1994 Higher Education Student Statistics Collection. The indicator shows the proportion of Australian students from high socio-economic status backgrounds, using the definition of SES provided by Martin (1994).
6. Source: DEET aggregated dataset HASI6O derived from the 1994 Higher Education Student Statistics Collection. The indicator shows the proportion of Australian students from low socio-economic status backgrounds, using the definition of SES provided by Martin (1994).
7. Source: DEET aggregated dataset HACC2O derived from the 1995 Higher Education Student Statistics Collection. The indicator shows the number of Australian students who completed Award requirements in 1994.
8. Source: DEET (1996a, Indicator 42) and Item 7 above. The indicator shows the operating grant for each institution divided by the number of Australian students who completed Award requirements in 1994.
9. Source: DEET (1996b, Table 52) and aggregated dataset HAWI3O derived from the 1994 Higher Education Staff Statistics Collection. The indicator shows the total number of students who completed the requirements of their Awards in 1994, divided by the number of full-time equivalent academic staff in Academic Organisational Units (AOUs).