CHAPTER 6

OTHER PERFORMANCE DIMENSIONS OF UNIVERSITIES

1.1 Introduction

There are numerous other avenues for research on this topic. While this analysis has focused predominantly on financial based indicators for universities, it is acknowledged that universities are not purely profit-making organisations. Bok (1982) discusses the social responsibilities of universities, noting that universities must be responsive to social needs as they have a near monopoly of intellectual resources in society and are also, by virtue of receiving funding from public sources, accountable to the public. Caves (1984), in writing on Harry Johnson's ideas about universities, comments on the notion of the university as a socioeconomic institution producing multiple outputs, some of which are public goods that are priced incorrectly. According to Johnson, the economic function of universities is to create human capital with discernable market values but there are other functions, such as to foster the maturation of students and to filter students to the jobs society has to offer. This chapter looks briefly at some of the other possible indicators for these institutions. It is not intended to be exhaustive, but to merely illustrate some of the different bases available for comparing universities. Other bases not looked at include the ranking of universities by *The Good Universities Guide* (Ashenden and Milligan, 2004) and the recent quality audits of Australian universities by the Australian Universities Quality Agency (Australian Universities Quality Agency, 2003).

1.2 World Ranking of Universities

Shanghai Jiao Tong University produces a ranking of the world's best 500 universities annually. Universities are ranked on several indicators of academic or research performance, including alumni and staff winning Nobel Prizes and Fields Medals (the equivalent to a Nobel Prize in mathematics), highly cited researchers, articles published in *Nature* and *Science*, articles in the Science Citation Index-expanded and Social Science Citation Index and academic performance with respect to the size of the institution. For each indicator, the highest scoring institution is assigned a score of 100 and other institutions are calculated as a percentage of the top score. Scores are then weighted to arrive at a final overall score. The highest scoring

institution is then assigned a score of 100 and others are calculated as a percentage of the top score before being placed in descending order. An institution's rank reflects the number of institutions that sit above it (Shanghai Jiao Tong University, 2004). The rankings of Australian universities included in the top 500 are shown in Table 1.1. The table shows that only 14 of the 39 universities in Australia (36 percent) rank within the top 500 in the world, with the members of the Group of Eight ranking the highest among the Australian institutions.

Table 1.1
AUSTRALIAN UNIVERSITIES IN THE TOP 500
RANKINGS OF WORLD UNIVERSITIES

University	Rank
ANU	53
University of Melbourne	82
University of Queensland	101-152
University of Sydney	101-152
UNSW	153-201
University of Western Australia	153-201
Monash University	202-301
University of Adelaide	202-301
Macquarie University	302-403
University of Newcastle	302-403
University of Tasmania	302-403
Flinders University	404-502
La Trobe University	404-502
Murdoch University	404-502

Source: Shanghai Jiao Tong University (2004).

Although this ranking of universities seems to have had a short history, it has generated a considerable amount of interest. Shanghai University notes that their rankings fill a gap in the sector as there is no similar ranking of world universities using multiple criteria (Shanghai Jiao Tong University, 2004). Perhaps these rankings will become more important in the future for marketing purposes as the market for students becomes more competitive and these institutions attempt to differentiate themselves internationally.

1.3 Revenue versus Earnings Maximisation

In Section 4.4 on Earnings Quality, it became apparent that there was a negative relationship between accruals and cash flow from operations, where there was evidence

that universities were engaging in earnings smoothing to avoid reporting losses. However, focusing only on earnings may miss another possibly important aspect, revenues, given that government funding to universities has fallen over time. Is there a relationship between revenue and earnings for universities? If so, then the case may resemble some sort of constrained optimisation problem similar to Baumol (1958, 1959), where firms operating in imperfectly competitive markets seek to maximise revenue subject to a profit constraint (here, reporting earnings equal to or greater than zero). Certainly, universities have some market power, holding near-monopolies in the provision of higher education.

Table 1.2 reports average revenue and earnings per enrolment for institutions. There is a significant correlation between revenue and earnings; the Pearson correlation coefficient is .65 while the Spearman rank correlation coefficient is .70. Both are significant at 1 percent.[1] This suggests that there is some evidence that revenue and earnings maximisation for these institutions are related. While revenue per enrolment varies from between $5,000 and $46,000 per enrolment, earnings vary from between $40 to $3,000; relatively flat figures in comparison to revenues. The standard error of revenue per enrolment is 1.31 versus .10 for earnings per enrolment. This supports the earnings smoothing hypothesis discussed in Chapter 4 on Dimensions of Earnings Quality. Perhaps the higher dispersion in revenue reflects the differential success institutions have in obtaining non-traditional sources of funding. The larger institutions (such as the members of the Group of Eight) tend to have higher revenue/earnings per enrolment. This size effect is likely to manifest itself in economies of scale for the larger institutions, given the low marginal cost of an additional enrolment (as staff salaries and overheads can be considered more or less fixed in the short run). Additionally, larger institutions may also benefit from positive network externalities which may drive revenue per enrolment.

[1] One tailed test.

Table 1.2

REVENUE AND EARNINGS PER ENROLMENT

Revenue/Enrolment ($'000/Enrolment)		Earnings/Enrolment ($'000/Enrolment)	
Institution		Institution	
1. Victoria University	5.10	1. RMIT	.04
2. University of Southern Queensland	5.41	2. University of Southern Queensland	.05
3. Swinburne University of Technology	5.46	3. University of Canberra	.10
4. Charles Sturt University	5.80	4. University of New England	.14
5. University of Ballarat	6.57	5. University of South Australia	.15
6. Northern Territory University	6.75	6. Australian Catholic University	.16
7. Australian Catholic University	7.85	7. Victoria University	.18
8. University of New England	8.14	8. Edith Cowan University	.27
9. Southern Cross University	8.27	9. Charles Sturt University	.29
10. Central Queensland University	8.36	10. University of Wollongong	.32
11. Edith Cowan University	8.38	11. Swinburne University of Technology	.34
12. RMIT	8.82	12. University of Newcastle	.38
13. University of Western Sydney	9.24	13. University of Western Sydney	.38
14. Deakin University	9.50	14. Northern Territory University	.41
15. University of South Australia	9.63	15. Griffith University	.49
16. Queensland University of Technology	9.63	16. Southern Cross University	.49
17. University of Canberra	10.04	17. Queensland University of Technology	.52
18. University of the Sunshine Coast	10.23	18. Macquarie University	.55
19. University of Technology Sydney	10.31	19. University of Ballarat	.56
20. Macquarie University	10.60	20. Deakin University	.57
21. Curtin University of Technology	10.90	21. Curtin University of Technology	.60
22. Murdoch University	11.11	22. Murdoch University	.60
23. University of Newcastle	11.85	23. University of Tasmania	.64
24. Griffith University	12.01	24. University of Technology Sydney	.64
25. University of Tasmania	13.37	25. University of Adelaide	.65

Continued on next page…

Table 1.2

REVENUE AND EARNINGS PER ENROLMENT (continued)

Revenue/Enrolment ($'000/Enrolment)		Earnings/Enrolment ($'000/Enrolment)	
Institution		Institution	
26. James Cook University	13.56	26. Central Queensland University	.72
27. University of Wollongong	14.97	27. James Cook University	.74
28. University of Sydney	18.18	28. University of New South Wales	1.01
29. University of New South Wales	19.69	29. University of Sydney	1.04
30. University of Melbourne	19.86	30. University of Queensland	1.07
31. University of Queensland	20.63	31. University of the Sunshine Coast	1.17
32. University of Adelaide	21.83	32. Australian National University	1.58
33. University of Western Australia	21.94	33. University of Western Australia	2.08
34. Australian National University	45.78	34. University of Melbourne	2.81

Source: University Annual Reports.

1.4 Student: Staff Ratios

Another metric that institutions may focus on is the student: staff ratio. Data on student: staff ratios was obtained from the AVCC for the period 2001-2003. The ratios were averaged over the three years and are shown in Table 1.3.[2] This ratio is analogous to the ratio of customer to employee base for firms.

There are several ways of interpreting this ratio. The more productive the staff at the institution, the higher the ratio. If the ratio is affected by the ability of the institution to earn revenues, then the higher the institution's ability to raise revenue, the greater the ability to hire staff and the lower the ratio. This would also suggest that the correlation between revenue per enrolment and student: staff ratio is negative, although the different measurement bases used to calculate the two ratios (enrolments versus EFTSU) may distort the relationship somewhat. If

$$\frac{\text{Revenue}}{\text{Enrolment}} \times \frac{\text{Enrolments}}{\text{Staff}} = \frac{\text{Revenue}}{\text{Staff}},$$

and if this ratio is approximately constant, then we would expect revenue per enrolment to be highly negatively correlated with enrolments per member of staff.[3] However, this is not the case, as the Pearson correlation coefficient is significant[4] at -.46 while the Spearman rank coefficient is also significant[4] and has a value of -.59. This indicates that institutions with higher revenue per enrolment are also likely to have lower student: staff ratios, on average. As the absolute value of the correlation is less than one, it indicates that the marginal cost of staff with each additional dollar of revenue is less than one. What drives this cost? It is possible that the cost of academic staff is fixed in the short run as capacity is also fixed in the short run; so long as there is room in the lecture theatre, an additional student does not require hiring of an additional member of academic staff. However, non-academic staff are likely to vary with the number of enrolments due to the administrative burden of handling extra students. The ratio of academic to non-academic full-time and fractional full-time equivalent staff is shown in Table 1.4. It is unclear whether a high or low ratio is desirable. On one hand, a high

[2] The AVCC data is drawn from DEST. The AVCC notes that a number of institutions do not report all teaching staff to DEST, as they are not directly employed by the university and therefore are outside the scope of the Staff Collection.

[3] This may not be expected to hold for the data set used due to the different time periods used for grouping the two ratios.

[4] 1 percent, one-tail test.

ratio indicates that there are relatively more staff available for the provision of education, which is the function of the university. However, a high ratio may also imply that academic staff have to undertake more administrative duties, which may detract from their academic duties. As they are also likely to be relatively more expensive, a low ratio may provide leverage in order to allow academic staff to devote more time to academic duties.

The student: staff ratio may also reflect differences in culture or specialisation across institutions; some courses may be constrained in their capacity for students, leading to a lower ratio, all else equal. The lower student: staff ratio may also reflect institutions increasing their staff base in order to cope with the increased complexity of more students. Perhaps in order to attract more students these institutions are increasing the number of courses offered, leading to a greater staff base and lower student: staff ratios or perhaps a lower student: staff ratio signals a better quality education, as there is more opportunity for interaction with staff. It is interesting to note that the Group of Eight universities are all clustered within the lower half of the table and all have ratios below the average. Perhaps institutions with higher revenues per head have more resources available and are able to justify hiring more staff.

Table 1.3

STUDENT: STAFF RATIO

Institution	Student: Staff Ratio
1. The University of Western Australia	16.18
2. The University of Adelaide	16.24
3. The University of Sydney	16.37
4. The University of New South Wales	16.95
5. The Flinders University of South Australia	17.21
6. The Australian National University	17.65
7. The University of Melbourne	17.88
8. Australian Catholic University	18.00
9. Victoria University of Technology	18.00
10. Griffith University	18.40
11. Monash University	18.62
12. La Trobe University	18.94
13. University of Technology, Sydney	19.10
14. Murdoch University	19.32
15. The University of Queensland	19.36
16. The University of Newcastle	19.49
17. University of Tasmania	19.84
18. University of Southern Queensland	20.54
19. James Cook University	20.85
20. Curtin University of Technology	20.87
21. University of Canberra	21.16
22. Northern Territory University	21.25
23. University of Wollongong	21.32
24. The University of New England	21.34
25. Edith Cowan University	21.73
26. University of Western Sydney	22.37
27. Southern Cross University	22.40
28. Macquarie University	22.62
29. University of Ballarat	22.63
30. Royal Melbourne Institute of Technology	22.71
31. University of South Australia	22.80
32. Swinburne University of Technology	22.88
33. University of the Sunshine Coast	23.49
34. Queensland University of Technology	24.02
35. Deakin University	24.45
36. Charles Sturt University	33.00
37. Central Queensland University	35.21
Average	20.95

Source: AVCC.

Table 1.4

RATIO OF ACADEMIC TO NON-ACADEMIC STAFF

	Institution	Academic: Non-academic Staff Ratio
1.	Central Queensland University	.47
2.	University of the Sunshine Coast	.50
3.	Queensland University of Technology	.56
4.	Charles Sturt University	.57
5.	Edith Cowan University	.58
6.	The University of Newcastle	.60
7.	University of Southern Queensland	.60
8.	Griffith University	.61
9.	University of Ballarat	.64
10.	James Cook University	.64
11.	Australian National University	.64
12.	University of New England	.65
13.	University of Technology, Sydney	.67
14.	Deakin University	.67
15.	University of Canberra	.68
16.	Murdoch University	.69
17.	University of Queensland	.69
18.	University of Western Australia	.70
19.	Royal Melbourne Institute of Technology	.70
20.	Flinders University of South Australia	.70
21.	Southern Cross University	.72
22.	Curtin University of Technology	.73
23.	University of Sydney	.73
24.	University of Notre Dame Australia	.73
25.	University of South Australia	.75
26.	University of Tasmania	.77
27.	University of New South Wales	.78
28.	University of Western Sydney	.81
29.	University of Adelaide	.83
30.	La Trobe University	.84
31.	Victoria University of Technology	.84
32.	University of Melbourne	.86
33.	Australian Catholic University	.88
34.	University of Wollongong	.91
35.	Monash University	.95
36.	Northern Territory University	.97
37.	Macquarie University	.97
38.	Swinburne University of Technology	1.01
	Average	.73

Source: DEST.

1.5 Equity in Australian Universities

Part of the social responsibility of universities is to provide access to this public good to disadvantaged groups (Senate Employment, Workplace Relations, Small Business and Education Committee, 2001). DEST identifies six target equity groups based on their history of relative disadvantage of accessing higher education (Nelson, 2004). These are Indigenous Australians; people from a non-English speaking background who arrived in Australia within the last ten years; people with disabilities; people from rural and isolated areas; women in non-traditional areas of study,[5] and people from socio-economically disadvantaged backgrounds. Table 1.5 shows the proportion of domestic students in the target equity groups by institution. Note that it is possible for institutions to have greater than 100 percent due to an individual student being placed in more than one equity group. The results show that there is substantial dispersion in equity group participation across universities. Queensland as a state appears to do well overall, with the top three ranking universities on this measure located in Queensland. In addition, of the Group of Eight institutions, the University of Queensland has the highest proportion of domestic students in equity groups. However, Bond University, also located in Queensland, is the lowest ranking of all institutions.

Looking to staff, three measures are looked at. The first is the proportion of Indigenous to total staff. The second measure looks at the proportion of female staff. The final measure looks at the qualifications of academic staff by comparing the proportion of academic staff who hold a doctorate by research or coursework.[6] This is shown in Table 1.6.

[5] Areas that are identified as non-traditional are agriculture and animal husbandry; architecture and building; business, administration and economics; engineering and surveying; and science (Nelson, 2004).

[6] All data refers to full-time equivalent staff; comparable statistics are obtained when using the number of staff.

Table 1.5

STUDENT EQUITY PARTICIPATION BY INSTITUTION

	Institution	Percentage (%)
1.	Bond University	28
2.	Macquarie University	38
3.	Australian Catholic University	41
4.	University of Sydney	42
5.	Australian National University	45
6.	University of Western Sydney	45
7.	University of Melbourne	46
8.	University of Notre Dame Australia	46
9.	University of Technology, Sydney	46
10.	University of New South Wales	47
11.	University of Canberra	48
12.	University of Adelaide	49
13.	Swinburne University of Technology	50
14.	University of Western Australia	52
15.	Griffith University	52
16.	Edith Cowan University	53
17.	Northern Territory University	54
18.	Flinders University of South Australia	54
19.	University of Newcastle	54
20.	Royal Melbourne Institute of Technology	55
21.	Queensland University of Technology	55
22.	Curtin University of Technology	57
23.	Deakin University	58
24.	University of Wollongong	58
25.	Monash University	58
26.	Victoria University of Technology	64
27.	University of South Australia	65
28.	Murdoch University	65
29.	University of Queensland	66
30.	La Trobe University	67
31.	Charles Sturt University	79
32.	University of New England	85
33.	James Cook University	96
34.	University of Tasmania	98
35.	Southern Cross University	103
36.	University of Ballarat	110
37.	University of Southern Queensland	115
38.	Central Queensland University	146
39.	University of the Sunshine Coast	158
	Average	61

Source: DEST.

Table 1.6

STAFF EQUITY MEASURES BY INSTITUTION

(Percentages)

	Institution	Indigenous	Female	Doctorate
	(1)	(2)	(3)	(4)
1.	Swinburne University of Technology	.00	37.60	40.09
2.	University of the Sunshine Coast	.00	51.03	59.38
3.	RMIT	.11	42.21	39.56
4.	University of Ballarat	.17	41.71	44.25
5.	Monash University	.18	42.26	60.34
6.	University of Melbourne	.19	44.77	60.63
7.	La Trobe University	.26	47.28	32.81
8.	Queensland University of Technology	.27	43.03	53.62
9.	University of Queensland	.27	42.32	58.39
10.	Australian National University	.29	40.40	79.86
11.	University of New South Wales	.33	38.84	50.03
12.	Victoria University of Technology	.33	41.05	25.91
13.	Macquarie University	.35	39.70	62.27
14.	University of Sydney	.40	41.56	61.81
15.	University of Canberra	.42	44.13	37.99
16.	Deakin University	.49	49.00	51.14
17.	Griffith University	.50	39.18	62.23
18.	University of Western Sydney	.51	43.06	43.40
19.	University of Adelaide	.52	40.05	70.22
20.	University of Tasmania	.56	41.84	63.02
21.	University of Southern Queensland	.58	45.49	39.06
22.	Central Queensland University	.76	46.57	16.67
23.	University of Western Australia	.83	44.72	67.44
24.	Australian Catholic University	.88	50.84	39.02
25.	Charles Sturt University	.89	46.54	39.70
26.	University of South Australia	.93	45.56	42.89
27.	Flinders University of South Australia	.94	49.03	58.18
28.	University of Technology, Sydney	.97	37.17	52.86
29.	University of Wollongong	1.20	38.50	64.54
30.	Curtin University of Technology	1.21	42.79	47.96
31.	Murdoch University	1.33	42.11	57.45
32.	University of New England	1.65	45.59	65.79
33.	James Cook University	1.67	47.04	56.36
34.	Edith Cowan University	2.01	46.57	47.33
35.	University of Newcastle	2.12	48.73	59.61
36.	University of Notre Dame Australia	2.54	55.84	27.54
37.	Northern Territory University	2.89	47.37	33.55
38.	Southern Cross University	3.13	39.52	36.92
	Average	.63	43.03	54.39

Source: DEST.

From column 2 of Table 1.6, it can be seen that Indigenous staff are in the minority at all institutions. This is reflected in student equity statistics, where Indigenous students are also the minority, although the representation of Indigenous students is greater than that of Indigenous staff. Looking to the gender balance across institutions in column 3, for the majority of institutions, females are in the minority with the exception of the University of the Sunshine Coast and University of Notre Dame where the majority of staff are female. However, the gender balance is not overly biased toward males; with institutions on average with an approximate 57: 43 split between males and females. Finally, the majority of academic staff in Australian universities hold doctorates (column 4), with 17 of the 38 institutions (45 percent) with less than 50 percent of academic staff holding doctorates. ANU has the highest proportion of doctorates (80 percent) while Central Queensland University has the lowest proportion of doctorates (17 percent). UNSW is evenly balanced with 50 percent of all academic staff holding doctorates. If the academic qualifications of academic staff are an indicator of the quality of staff and teaching, there appears to be high variability across institutions.

1.6 Future Changes to University Governance

The Commonwealth Department of Education, Science and Training (DEST) released the National Governance Protocols in 2004. They set out requirements that higher education providers have to meet in order to qualify for grants under the Commonwealth Grant Scheme. The protocols are of interest as they include changes to university governance, many of which align universities to their private sector counterparts.

Members of university councils owe fiduciary duties to the university under employment and common law by virtue of their appointment. The protocols are, in many respects, merely formalising these duties in express terms. It is widely acknowledged that universities have multiple stakeholder interests; so whose interests do council members represent? In other words, just as asked by the *Universities in Crisis* report (Senate Employment, Workplace Relations, Small Business and Education Committee, 2001), what is a university? Interviews with Vice-Chancellors have identified the main stakeholders of a university as the students, the government, the community, staff and graduates. Most Australian universities have representation from these different stakeholder groups on the university governing body.

Of particular interest are protocols 2, 3, 4 and 5. Protocol 2 requires that the governing body of a higher education provider must appoint the Vice-Chancellor as the Chief Executive Officer and monitor his/her performance. During the course of interviews with Vice-Chancellors it became apparent that they already consider themselves as the CEOs of these institutions, so this requirement appears to merely formalise this role.

Protocol 3 details the duties of members of the governing body (commonly known as the University Council). In particular, duties of members must include the requirements to:

> "(a) act always in the best interests of the higher education provider as a whole, with this obligation to be observed in priority to any duty a member may owe to those electing or appointing him or her;
> (b) act in good faith, honestly and for a proper purpose;
> (c) exercise appropriate care and diligence;
> (d) not improperly use their position to gain an advantage for themselves or someone else; and
> (e) disclose and avoid conflicts of interest (with appropriate procedures for that purpose similar to those for public companies)."

What is apparent is the similarity between these requirements and those under the *Corporations Act* governing companies. Requirements (a) and (b) are similar to s181, requiring directors of companies to act in good faith in the best interests of the corporation and for a proper purpose. Requirement (c) is the embodiment of s180, requiring directors to exercise their powers and discharge their duties with reasonable care and diligence. Requirement (d) resembles s182, where directors must not improperly use their position to gain an advantage for themselves or someone else. Requirement (e) is similar to the fiduciary duties of directors to avoid conflict of interest situations as well as their duty under statute in s191, where directors with a material personal interest must give notice to other directors. It is clear that these requirements are formalising the duties of university councils, leading to greater alignment between universities and companies and greater accountability of these higher education providers to their stakeholders. However, company directors are paid; outside members of council are not, typically. What motivates council members to act in the interests of the university? Public spiritedness? Altruism? While this is not completely far

fetched, it is in stark contrast to the corporate world where self-interest dominates.

In addition, protocol 3 goes further than the *Corporations Act* on the issue of removal of members of the governing body. Under s203C and s203D, companies are only required to pass an ordinary resolution to remove a director (simple majority), while the requirement for removal of university council members requires a two-thirds majority. Perhaps this is to ensure greater stability in universities or to prevent stakeholder groups from using their power of representation in undesirable ways.

Protocol 4 requires the governing body to provide professional development for members to build the expertise of the body and ensure that members are aware of the nature of their duties and responsibilities. There is no express provision in the *Corporations Act* requiring the same of corporate directors, however self improvement is implied under the common law duty to exercise care and to be familiar with the affairs of the company.

Protocol 5 addresses the size of the governing body, specifying that it must not exceed 22 members, with at least two members having financial expertise and at least one member having commercial expertise. In addition, there must be a majority of external independent members. Protocol 6 recommends that the term of council members should not generally exceed 12 years. The requirement for independent directors is similar to principle 2 of the ASX Corporate Governance Council *Principles of Good Corporate Governance and Best Practice Recommendations* (2003), that companies should structure boards to add value. The recommendations state that in order to achieve best practice, a majority of the board should be independent directors and that the tenure of independent directors should be monitored, as independence declines over time, but stop short of specifying a recommended time period of tenure.[7] While the recommendations are not compulsory in a strict sense, ASX Listing Rule 4.10.3 requires that listed companies must disclose the extent to which the best practice recommendations have been followed and if they have not been followed, the reasons for failing to do so.

[7] The United Kingdom *Review of the Role and Effectiveness of Non-Executive Directors* (Higgs, 2003) suggests a term of 10 years for director tenure.

Looking at the size of Boards prior to the protocols,[8] data from the AVCC as at May 2003 shows that the average size of the council falls within the 22 member limit at 21 members. Thirty-four of the thirty-eight institutions (89 percent) have 22 members or less, with four institutions (11 percent) having more than 22 members. Remarkably, 21 out of 38 universities (55 percent) have 21 or 22 members on council. This indicates that the majority of universities will have little difficulty or find it necessary to downsize the council in order to comply with the protocol regarding university council size. The size of university councils as at May 2003 is shown in Table 1.7.

Comparing the size of the governing body in universities to that in the private sector, Stapledon and Lawrence (1997) look at the top 100 companies by market capitalisation listed on the Australian Stock Exchange in 1995 and find that the average size of the Board is 8.89 members. This is substantially less than the 22 member limit for universities and the average size of university councils. Breaking down board composition, they find that there is an average of 6.52 non-executive directors on the Board, or equivalently, the average proportion of non-executive directors on the board is 73 percent. In addition, 95 percent of companies have a majority of non-executive directors. This is consistent with the protocol for higher education providers stipulating a majority of independent members. However, neither the *Corporations Act*, ASX Recommendations nor the ASX Listing Rules specify that members on corporate boards must have financial or commercial expertise. In this sense, the protocols for higher education providers impose a higher duty of care on university Councils than that on corporate Boards of Directors, however in others the standard for members of the Board of Directors is higher than that for Council members. In particular, in relation to one issue close to the heart of this dissertation, remuneration, the disclosure rules are more stringent for companies than public sector entities. Introduction of International Accounting Standards in 2005 will require disclosure of salaries, other benefits (such as bonuses and allowances) and equity compensation (such as options and shares) for each director as well as the top five executives, replacing the disclosure of executive remuneration in bands (also the current requirement for public sector entities) (Australian Accounting Standards Board, 2004). In addition, ASX recommendation 9 requires companies to explain their remuneration policy and the link between top executive remuneration and performance. There is no similar recommendation

[8] The date to meet the protocols for a higher education provider to receive a 2.5 percent increase in the basic grant amount for the 2005 grant year under the Commonwealth Grant Scheme is 31 August 2004 (DEST, 2004b).

applicable to universities.

Table 1.7

SIZE OF UNIVERSITY COUNCILS

	Institution	Number of Members
1.	Bond University	13
2.	Australian Catholic University	16
3.	University of Tasmania	17
4.	Southern Cross University	18
5.	University of Western Sydney	18
6.	University of Wollongong	18
7.	Charles Sturt University	19
8.	Macquarie University	19
9.	University of New England	19
10.	University of Newcastle	19
11.	Curtin University	20
12.	Northern Territory University	20
13.	University of the Sunshine Coast	20
14.	Deakin University	21
15.	Edith Cowan University	21
16.	Flinders University	21
17.	La Trobe University	21
18.	Monash University	21
19.	University of Adelaide	21
20.	University of Western Australia	21
21.	University of Melbourne	21
22.	University of New South Wales	21
23.	University of South Australia	21
24.	University of Technology Sydney	21
25.	Central Queensland University	22
26.	Queensland University of Technology	22
27.	RMIT	22
28.	Swinburne University of Technology	22
29.	Australian National University	22
30.	University of Ballarat	22
31.	University of Canberra	22
32.	University of Southern Queensland	22
33.	University of Sydney	22
34.	Victoria University	22
35.	Griffith University	25
36.	Murdoch University	25
37.	James Cook University	26
38.	University of Queensland	35
	Average	21

Source: AVCC.

Overall, it appears that the future for university governance is moving toward alignment with that of corporations, with a focus on greater accountability and

responsibility. However, it appears that there are still fundamental differences between the operations of universities and councils, requiring greater representation on the governing bodies of universities. Perhaps this reflects the relationships between universities and their multiple stakeholders, as opposed to the single onus of corporations to maximise shareholder wealth.

1.7 Pressures at the Top

One possible explanation for the remuneration discount to Vice-Chancellors relative to CEOs[9] may be that the position of a Vice-Chancellor is not risky. This section looks at four instances where Vice-Chancellor turnover has been associated with universities in crisis; namely the turnover of Vice-Chancellors at RMIT, the University of New South Wales (UNSW), Monash and the University of Adelaide.

Lieu (2003) found in his study of Australian company CEOs that external appointments tended to occur where firms were in crisis, marked by poor performance. In the case of universities, it is not clear that they appoint externals when in crisis; while University of Adelaide appointed an external, Monash, UNSW and RMIT appointed internal successors.[10]

Vice-Chancellors face the same public pressures as CEOs to produce results or resign. The latest resignation of Professor Ruth Dunkin at RMIT appears to have been imminent for some time. The implementation of a new computer system in late 2001 was a disaster, leading to Victorian Education Minister Lynne Kosky calling for an improvement in university finances or the Vice-Chancellor's resignation (Tomazin and Guy, 2003). An inquiry by the Victorian Auditor General into the affairs of RMIT found significant deficiencies in the financial management of the institution (Auditor General Victoria, 2003). Also in 2003, the Chancellor resigned from his post, along with seven members of the Council. Matters appeared to improve in 2004, with the 2003 audited accounts showing a surplus of $15 million, however in August 2004 just prior to Professor Dunkin's resignation, the university announced a $20-30 million shortfall in budgeted revenue. It is clear that the role of a Vice-Chancellor is in the public eye, however it took approximately two years for Professor Dunkin's turnover to

[9] Discussed in Section 5.7: Comparing Remuneration: The Case of Vice-Chancellors versus CEOs.

[10] Professor Peter Darvall, an internal candidate, was appointed Vice-Chancellor of Monash University to serve for the time required to select a longer term replacement Vice-Chancellor (Monash University, 2002b). The successor, Professor Richard Larkins, was an external appointment.

occur following poor financial performance. This may reflect the finding that there appears to be little evidence of performance related turnover in universities. The resignation of several council members may reflect frustration at the inability of council to remove a poorly performing Vice-Chancellor expediently, leading to greater losses for the institution. Given RMIT's financial troubles, it is perhaps not surprising that the new Vice-Chancellor has a background in commercial business, suggesting that the university made a conscious decision to appoint a candidate who was likely to possess the skills necessary to turn the institution around.

UNSW has experienced three Vice-Chancellors in two years. The first was that of Professor John Niland who served two five-year terms before his turnover in 2002, eighteen months before his term was due to end. The reason behind his departure was attributed to a lack of council support. The second (and latest) turnover was that of his successor, Professor Rory Hume in 2004, who left with three years of his term remaining after a breakdown in relations with the university council. In addition, Professor Hume also faced pressure regarding a case of scientific misconduct regarding a medical researcher member of staff (Cooper, 2004). What appears to differ in this case and that of RMIT is that the university council here appears to have substantial power to remove the Vice-Chancellor. However, rather than being a good thing, in this case the council does not appear to be effective, being faction ridden with members acting in their own interests rather than those of the institution. UNSW Council member Catherine Rossi is of the opinion that 11 of the 21 members (elected by the graduates, staff and students) are unsuited to the task of leading the organisation due to a lack of skills (Dodd and Marshall, 2004).

In August 2001, the Vice-Chancellor at the University of Adelaide, Professor Mary O'Kane, resigned following loss of support from senior management. Following her resignation, decision making powers were restored from a small executive to the council, improving accountability and transparency measures at the University (Crewther, 2003). These three cases highlight the importance of good governance in universities, illustrating how a bad or ineffective governing body can inflict costs on an institution.

Finally, turnover at Monash University of Vice-Chancellor Professor David Robinson occurred in July 2002, after it was discovered he had plagiarised text in books

published earlier in his career as a researcher in the United Kingdom in the 1970s and 1980s. A month prior to his resignation, the council unanimously passed a vote of confidence in Professor Robinson. Following the plagiarism allegations, the situation did an about-turn, as students and staff called for his resignation. Despite occurring twenty years ago, the council and Vice-Chancellor reached a consensus over his resignation, acknowledging the need to mitigate the negative reputation effects of the incident on the university (Monash University, 2002a).

Despite these case studies being restrictive in only analysing specific instances of intense pressure, interviews with Vice-Chancellors have also found that the role is regarded as complex. Vice-Chancellors believe that the demands on the institution have increased over time and that there is now more accountability to governments and stakeholders, with the implication that there is more risk borne by the Vice-Chancellor. There is also a belief that the role has become more competitive, with more pressure to perform and differentiate oneself as being an effective Vice-Chancellor. The nature of the role has also changed, so that there is more of an emphasis on professional administration and management due to an increasing proportion of funding coming from non-traditional sources.

At a minimum, the above case studies call into question the view that the role of a Vice-Chancellor is not risky. Vice-Chancellors are in the public domain with their activities and performance monitored and calls made for improvement or resignation when judged sub-standard. Despite performance being an ill-defined concept for universities, the public does appear to be able to differentiate between actions perceived as good or bad and are vocal in voicing their disapproval. In contrast to CEOs who are accountable predominantly to their shareholders, Vice-Chancellors are accountable and must answer to a wider group incorporating the different stakeholder interests in the university.

1.8 Summary

Due to the multi-faceted nature of universities, there are many different measures, both financial and non-financial, on which they may be evaluated. As performance is not clearly defined for universities, this is an important consideration. The future of the university sector appears to be moving toward alignment with the corporate sector and the regulations governing companies. This is consistent with the

view that universities are moving away from the nonprofit end of the spectrum toward more commercial practices.

For those who view the role of the Vice-Chancellor as relatively safe from pressure, an analysis of four instances of pressure suggests otherwise. Universities are in the public spotlight and as a result, so too is the role of the Vice-Chancellor. What is apparent is the importance of good, effective corporate governance in these institutions. Perhaps the alignment of university practices to those of corporations is a result of policymakers recognising this and attempting to minimise the losses inflicted on these institutions from bad governance.

CHAPTER 7

CONCLUSION

2.1 Summary of Dissertation

The earliest university still in operation originated in the year 258, meaning that universities have been part of society for at least 1,750 years (wordiQ.com, 2004). In contrast, many of the earliest equivalents to modern day corporations, the European guilds, were formed in the middle ages (circa 1100), making companies only about half as old as universities, at 900 years (Wikipedia, 2004). Family companies appear to have more longevity, the oldest still in operation being approximately 1,400 years old, however, of the still operating listed companies, the oldest is only approximately 225 years old (O'Hara and Mandel, 2004). Comparing universities and corporations, the two models of organisation are very distinct. In the corporate model, organisations exist for efficiency reasons; it is the profit motive that drives companies to use resources efficiently. Accordingly, firms exist as they are the least costly way to organise transactions, rather than relying on the market system (Coase, 1937). An efficient organisation acts to maximise total value, in other words, to maximise profits (Milgrom and Roberts, 1992). In contrast, the traditional view is that universities act in the public interest, are not under the same pressures as firms to perform or perish and are not subject to discipline from capital markets or the market for corporate control. Due to the shifting balance between their different social interests and lack of a single objective, universities have, in effect, an indefinite lifespan.

What is so special about a university? Summers (2003) argues that part of the answer is that the most valuable assets of a university are not its physical capital, but the people in the community and the knowledge they possess. Another is the less formal, decentralised environment of the university where guidelines and resources are provided in order to create environments where individuals can do their best work. Summers comments that the nurturing of the development and flow of ideas is what the success of today's firms is dependent upon and that they could benefit by adopting some aspects of this culture. The ability of universities to encourage and reward creativity and novel thinking is partly how universities add value to society. By allowing ideas to reign supreme, universities position themselves to be able and ready to respond to new

challenges. Perhaps it is in this that universities have stood the test of time.

What are the forces driving the corporate and university models to converge? Firstly, there is funding pressure on universities as public funding declines as a proportion of total revenue. The mechanism of funding allocation also creates pressure to attract students, analogous to firms looking to increase revenue by increasing their customer base. Universities are now finding that they have to take charge of their finances in order to ensure that they remain financially viable. For firms, as corporate governance and social responsibility becomes an increasing focus, they have had to consider the interests of non-owner stakeholders. As a result, the two models are moving away from the extremes of the distribution toward one another.

Vice-Chancellors are the heads of these institutions, analogous to the Chief Executive Officers of firms. However, there is a disparity in the amount of knowledge about the two markets. This dissertation set out to address this imbalance.

This dissertation finds that universities are displaying some of the same behaviours as companies, as seen by their reluctance to report losses and the use of accruals to smooth earnings. However, they differ somewhat in that accruals do not seem to be used opportunistically for earnings management purposes but seem to be used to improve earnings quality. Earnings quality measured by accruals appears to be improving over time for universities and the earnings persistence of accruals and cash flows are not significantly different. This is in contrast to the corporate experience, where accruals have lower persistence than cash flows, due to earnings management. Perhaps one manifestation of how universities are responding to the increasing corporatisation of the sector is by becoming more accountable, as the financial health of these institutions becomes an increasing focus.

Focusing on earnings themselves, there appears to be evidence of earnings smoothing occurring in universities, with an almost one for one negative relationship between the accrual and cash flow components of earnings. These institutions appear to be using accruals to report flat or low positive earnings, reigning in high positive cash flows (saving earnings for “rainy days”) and pushing negative cash flows upward (borrowing earnings from the future). The distribution of earnings for these institutions shows that earnings are clustered around low positive values, with few instances of

negative earnings results.

The other measure of earnings quality examined was the incidence of audit qualifications. These do not appear to give a good indication of the quality of earnings due to the majority of qualifications a result of inconsistency between the treatment of items as required by the Commonwealth Department of Education, Science and Training and Australian Accounting Standards. However, as these inconsistencies are resolved over time, the expectation is that audit qualifications in the future will be more reflective of poor earnings quality and reflect a more serious flaw in the underlying accounts of the institution.

Over time, earnings quality appears to be driven more by general, rather than local factors and there has been convergence in earnings quality between the Group of Eight and non-Group of Eight institutions, with the latest data showing that the non-Group of Eight institutions have higher earnings quality than the Group of Eight. This shows that the pressure on universities has been sector-wide, with the possibility that there has been slightly less pressure on Group of Eight institutions relative to non-Group of Eight as they are insulated to an extent from these pressures due to the prestige afforded by membership of the Group of Eight.

Looking to the market for Vice-Chancellors, it appears that there is an over-representation of Vice-Chancellors in Australia from natural and physical science and society and culture backgrounds and an under-representation of Vice-Chancellors from management and commerce and information technology backgrounds. This may reflect the opportunity cost of postgraduate study in each respective area, given that the Vice-Chancellors in the sample all have postgraduate qualifications.

Regarding where Vice-Chancellors studied to obtain their qualifications, it appears that the majority of Vice-Chancellors obtained their undergraduate qualification in Australia before choosing to go overseas for their postgraduate qualification. This situation holds regardless of whether the sample is split into internally versus externally appointed Vice-Chancellors. However, Vice-Chancellors who obtained their undergraduate qualification in Australia are almost equally as likely to go overseas as to remain in Australia for their postgraduate study, while those who obtained their Bachelors qualification from a foreign institution are three times as likely to also

undertake postgraduate study overseas than in Australia.

Australian Vice-Chancellors tend to be appointed later in life relative to Australian CEOs and do not have shorter tenures. The relationship between tenure and age of appointment is roughly the same between Vice-Chancellors and CEOs, with an additional year in age of appointment leading to a four to five month reduction in average tenure. These similarities may reflect the common elements between the two roles; Vice-Chancellors interviewed are of the belief that their role is no less difficult than that of a CEO and just as complex, if not more so, due to the management of multiple stakeholder interests and the juggling of the role of a university to provide a public good against the need to remain financially viable. A more formal model of Vice-Chancellor tenure and turnover also confirms that age has a negative relationship to average tenure and also that the average length of tenure appears to be increasing over time, which may indicate greater complexity of the role or a move toward implementation of more long-term performance measures over time. One Vice-Chancellor interviewed commented that the length of tenure in the role would tend to be long, due to the time needed to implement strategic objectives and then monitor and evaluate performance toward those goals.

Vice-Chancellor appointment differs from the corporate process, where there is evidence of outsider handicapping in order to encourage greater productivity from insiders. In the case of Vice-Chancellors, there is little evidence of handicapping, with institutions equally as likely to appoint an internal as an external candidate. There is no evidence of a Group of Eight effect in Vice-Chancellor appointment, which suggests a lack of culture effects in these institutions. For Australian CEO appointments, the majority of appointees are internals, with externals generally appointed when the company is going through a period of poor performance, while for universities, the majority of appointees are externals. Perhaps the search costs regarding external candidates for firms is higher than that for universities, which may reflect greater heterogeneity in applicant quality for CEOs relative to Vice-Chancellors. Certainly, when comparing the academic qualifications of the two groups, while all Vice-Chancellors have some postgraduate qualification, only six percent of CEOs have a postgraduate qualification. In addition, 17 percent of CEOs have no tertiary qualification. This may reflect differences in the culture of the two roles; while it is possible for an entrepreneur to start a firm and be its CEO, for universities, academic

credibility is important, given their role as institutions of higher education.

Modelling Vice-Chancellor remuneration, there is a positive relationship between tenure and remuneration, which may reflect rewards to the accumulation of valuable institution-specific human capital. Interviews with Vice-Chancellors highlighted an appreciation for the differences between the role of Vice-Chancellor across institutions, due to perceived differences in the culture and objectives of each university. There is also a weak relationship between size and remuneration, with larger institutions having higher remuneration, with the marginal effect evaluated at the means being a 7 cent increase in remuneration for every one thousand dollar increase in the asset base. This relationship is also found in studies conducted on the remuneration of university Presidents in the United States. Although the magnitude of the size effect is small, it is important for measuring the discount to Vice-Chancellors relative to CEOs and also the relative over- and under-payment of Vice-Chancellors, as both of these controlled for differences in size. In addition, the market for Vice-Chancellors appears to be national rather than local, with no significant regional effects in remuneration setting.

Comparing Australian Vice-Chancellors to their counterparts in the United States and United Kingdom, Australian Vice-Chancellors clearly top the stakes. Not only is the real purchasing power of their remuneration higher by 43 percent measured according to the Big Mac index, the tax considerations are more favourable and the quality of life in Australia exceeds that of the United States and United Kingdom. Vice-Chancellors in the United Kingdom, on the other hand, appear to be the losers in the international comparison, with lower real remuneration and a less favourable tax situation. This may be an important consideration for potential future Australian university Vice-Chancellors currently residing overseas. It may also reflect that Australian Vice-Chancellors are better, on average, than their international counterparts, although it must be emphasised that the comparisons are made purely on the basis of remuneration only, with no controls for size differences between institutions.

Finally, comparing the remuneration of Australian Vice-Chancellors to Australian CEOs, while the sensitivity of remuneration to size is similar, those individuals accepting the role of Vice-Chancellor receive on average, a discount of 60 percent relative to the private sector. This is consistent with the disparity found

between United States Presidents and CEOs. It appears that the market for Vice-Chancellors is separate from the market for CEOs, despite the belief of Vice-Chancellors that their roles are equally, if not more so, demanding and complex.

Overall, it appears that while there is considerable convergence between universities and corporations and the role of Vice-Chancellors relative to CEOs, the labour market does not appear to be pricing Vice-Chancellors on the same basis as CEOs. Perhaps this dates back to the roots of universities as public nonprofit institutions, although the evidence would suggest that Australian universities have in reality moved away from this traditional view.

2.2 Implications for Universities

Firstly, it is apparent that universities have significant catching up to do in terms of the disclosure of remuneration of the Vice-Chancellor and senior management. Companies disclose more information at a finer level of detail than universities and are set to increase the extent of disclosure in future. If universities are becoming more like corporations, then it is sensible to expect that there will be greater pressure on them to be at least as transparent as corporations, given that they are accountable to the public and society as a whole, as opposed to the firm's responsibility only to its shareholders. The downside to increased disclosure is that it may lead to a ratcheting up of remuneration. The Financial Reporting Council believes that disclosure leads to compensation increases as firms are under pressure to ensure top management is not underpaid (Mellish, 2004). However, given that the current quality of disclosure is so poor and the increasing importance of corporate governance in universities, it is possible that state Auditor-Generals or even public sector accounting standards may increase the disclosure requirements for these institutions. The private sector has and will experience an overhaul of its accounting standards as convergence to International Accounting Standards goes through in 2005. With the Public Sector Committee of the International Federation of Accountants undertaking to develop a set of International Public Sector Accounting Standards based on International Accounting Standards, it is possible that in the future, universities (and other public sector organisations) will be forced to provide finer detailed disclosure regarding remuneration.

Secondly, given that performance is an ill-defined concept for universities, how will their role as a social institution be affected as they move toward more corporate-

style practices? Financial data is relatively easy to compare between institutions and across time, while non-financial measures are more subjective and difficult to quantify – how, for example, can universities effectively compare their contribution to the community? It is possible that there will be a move to standardise the non-financial indicators these institutions use to evaluate themselves and it is also possible that universities will be required to disclose these measures and have them audited. Currently, only universities in Western Australia are required to have these indicators audited and reported in their annual reports. As universities face pressure to maintain the quality of their services in the face of greater funding pressures, this is one method that may be used to provide some level of assurance to their stakeholders.

Finally, as university councils become more accountable for their actions, how will this affect the remuneration of council members? In particular, how will this affect the remuneration of the Chancellor? University Chancellors today are the face of the university council and are seen as the individuals ultimately responsible for the monitoring of the Vice-Chancellor's performance. We have seen the detrimental effect of poor governance on these institutions. As changes (such as the National Governance Protocols) impose greater accountability on council members, will Chancellors and other external independent members of council be better monitors if they take on more risk and are remunerated for this? Although it is difficult to imagine that members of council (or the Vice-Chancellor) take their positions purely for pecuniary gain, it is also implausible to expect these individuals to accept the greater onus placed on them without some sort of corresponding compensation. Supposing that the non-pecuniary benefits associated with the role are unlikely to change with such magnitude so as to offset this added risk, the other option is to increase the remuneration of council members for taking on this added responsibility. Currently, most universities do not remunerate the majority of council members in their capacity as a member of council. Whether this will change as the responsibilities and roles of council members becomes more complex remains to be seen.

2.3 Suggestions for Future Research

Firms provide disclosure to mitigate the information and incentive problems due to moral hazard and agency (Jensen and Meckling, 1976; Watts and Zimmerman, 1986). Of the common hypotheses explaining voluntary disclosure, the only ones that are applicable to universities are the management talent signalling and proprietary cost

hypotheses, as the remainder are capital markets related.

Atmadja and Tarca (2004) discuss the factors influencing the extent of disclosure. Size has consistently been found to be positively associated with disclosure, however there is confusion as to what size represents (Foster, 1986). McBride (1996) argues that larger firms have lower information production costs and lower proprietary costs associated with disclosures (Lang and Lundholm, 1993).

Related to the proprietary cost hypothesis, different industries may differ in their levels of disclosure (Verrecchia, 1983; Cooke, 1989, 1991; Dye and Sridhar, 1995; Haven et al., 2002; Kasznik and Lev, 1995; Raffournier, 1995). Chow et al. (2004) and Chen and Jaggi (2000) find that independent boards have greater disclosure. Mak and Li (2001) find an inverse relationship between board size and voluntary disclosure, consistent with Jensen (1993). Finally, Fama and Jensen (1983) argue that a unitary leadership structure where one person holds the offices of both Chair and CEO result in decreased disclosure; Forker (1992) finds support for this. Eng and Mak (2003) find a positive relationship between government ownership and disclosure. A summary of the factors and their relationship to disclosure is detailed in Table 2.1.

Table 2.1
FACTORS AFFECTING DISCLOSURE

	Factor	Relationship to the Level of Disclosure
1.	Government ownership	Positive
2.	Independent Directors	Positive
3.	Size	Positive
4.	Board size	Negative
5.	Unitary leadership structure	Negative
6.	Industry	Uncertain

Given the relatively poor level of disclosure for universities, an interesting area for future research is to investigate the determinants of disclosure. Has commercialisation resulted in university disclosure being driven by capital markets considerations relating to corporate governance and board structure, as is the case for firms?

In addition, related to earnings persistence, does the annual report help us understand earnings persistence? Do universities reporting losses or earnings decreases

provide more disclosures to justify the loss or decrease? Do universities with positive earnings or earnings increases disclose the likelihood of performance reoccurring in the future? How do disclosures differ between universities reporting a loss or decrease in earnings and those reporting a surplus or increase in earnings? How does the incidence of losses in Australian universities compare with universities worldwide and with Australian companies?

Related to this, another possible avenue for future research is to look at university reporting practices in more depth. For example, how do universities differ in their approach to valuation of non-current assets? What basis is used to value inventory? How do these institutions differ in their choice of depreciation policy and useful life? On what basis do they provide for doubtful debts relating to student debtors? An informal analysis of annual report data gathered reveals that most universities use straight line depreciation although the estimation of useful life differs across institutions: does this reflect differences in the productivity of these assets? How does heterogeneity across institutions compare to that across companies? From casual observation, it also appears that there is considerable variation in the way universities provide for doubtful debts with some institutions leaving the provision relatively unchanged (or even decreasing this provision) when receivables increase by a relatively large amount. This may be indicative of earnings management, however from the analysis of earnings quality this does not appear to be occurring in Australian universities. Are universities becoming more aggressive in their revenue policies or are they targeting lower credit risk groups? How does the structure of the council affect accounting policy choice?

A further area for future research in light of the corporatisation pressures on universities is to explore how universities are encouraging entrepreneurship and innovation. Often, universities create companies for specific ventures. What repercussions are there for the university as owner and residual claimant of these firms? Similarly, what structures are universities likely to adopt in the future to address these concerns?

Finally, focusing more on Vice-Chancellors, two possible areas for future research are outlined here. The first is to look at whether instrumental traits are important in Vice-Chancellor appointment. Currently, 29 of the 39 Vice-Chancellors in

Australia (74 percent) are male, however, gender may not be a good proxy for instrumental traits of masculinity and femininity (Newby, 2004; Deaux and LaFrance, 1998; Eagly et al., 2000; Hoffman, 2001). For example, institution characteristics such as student: staff ratios may reflect more expressive (feminine) traits (as this statistic may proxy for the strength of relationships at the institution) and hence the institution may be biased toward a female Vice-Chancellor. How do these institutional characteristics affect the choice of Vice-Chancellor appointment?

The second line of research is related to the comparison between Vice-Chancellors and CEOs. Why have there have been so few cases of cross over between Vice-Chancellors and CEOs (in either direction)? Possibly, this could be due to a lack of general transferable managerial skill between the two sectors, as suggested in the theory by Murphy and Zabojnik (2004) or different leadership styles at firms and universities. Bass (1997) argues that transactional leaders are more likely than transformational leaders (Burns, 1978; Bass, 1987) to engage in unethical practices. Bass (1997) highlights the role of the transformational leader in increasing awareness of what is right, helping to elevate followers' needs for achievement and encouraging followers to go beyond own self-interest for the good of the organisation. In contrast, the transactional leader motivates followers through promises, rewards or threats of punishment, using manipulation, deception and contingent reinforcement for utilitarian purposes (Lichtenstein et al., 1995). Do Vice-Chancellors tend to be transformational leaders and CEOs transactional leaders? If so, does the recent incidence of corporate fraud in companies reflect this bias toward transactional leaders? As firms become more concerned with non-financial performance measures, will there be a shift toward transformational leaders and if so, what are the implications for the convergence between the market for CEOs and the market for Vice-Chancellors?

Universities are large organisations and have important roles in society. As they move away from the nonprofit end of the spectrum, it is hoped that future research will look in finer detail at the workings of these institutions to improve transparency and accountability to the public.