Towards a Level Playing Field for Australian Universities and Students


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1. Introduction

Internationally there is considerable diversity in the structures of higher education. The structure in the United States is the most diverse, encompassing both private and public institutions of disparate size and mission. At the other extreme lies the centralized ‘Scandinavian model’ where “policy is based on the assumption that institutions are homogeneous, and therefore treats them equally and regards all programmes as equal”\(^1\). In the past decade or so there has been a worldwide movement away from very centralised models. The trend away from centralisation is being driven by the growing complexity of the demand for higher education.

Within Australia, government policy has followed this worldwide trend. Over the period 1973 to 1990 Australian universities received virtually all their funds from the Commonwealth government who, in turn, largely directed how these funds were to be spent. The Dawkins reforms of the late nineteen eighties reintroduced private contributions towards university education in recognition of the fact that full government funding conferred considerable private benefits on those attending universities. The introduction of fees was accompanied by the innovative Higher Education Contribution Scheme (HECS) which provided for income contingent loans paid back through the taxation system. In the 1990s universities were permitted to charge full-fees for coursework students, although the number of places was capped for undergraduates. Further stimulus to freeing up the revenue base was given by the West Report (1998). The Kemp (1999) reforms were aimed at rewarding performance in research and research training. The Nelson (2003) reforms permitted universities to levy surcharges on the HECS fees and extended the availability of income contingent loans to fee-paying undergraduate students. Universities responded positively to all these various initiatives (see section 2.1 for details).

\(^1\) Barr (2005, p.442).
Decentralisation of the Australian university sector is an ongoing process. The reforms made to date are moving Australian higher education in the right direction, but some distortions and tensions remain. If universities and students are to make optimal decisions in a decentralised system, the regulatory and funding arrangements should be as neutral as possible between institutions and between students. In other words, a level playing field is required. Within Australia, the following examples of non-neutrality remain:

- government subsidies vary greatly across disciplines
- government subsidies vary across students of equal ability
- strong financial incentives exist to continued expansion of each public institution
- private universities are freer to choose their mix of students from each revenue earning category
- volume rather than quality of research is rewarded
- all universities have to undertake substantial research

In this paper we evaluate these distortions and suggest improvements which would result in a more level playing field. A more level playing field is a precondition for greater diversity in Australian higher education. Greater diversity ensures a greater match between course offerings and student demands.

We commence in section 2 by looking in more detail at how universities have responded to changes in government policy over recent years and evaluate their current international standing. In section 3 we explore the long-term implications of the Nelson reforms introduced in 2005. In section 4 we set out further changes which would promote a more level playing field and thus facilitate greater diversity in higher education in Australia. A summary of our proposals is given in section 5.

2. Trends and Positioning of Australian Universities

2.1 How have Australian universities responded to changes in funding arrangements?

By what financial criteria do universities operate? As with other not-for-profit institutions this question is not easily answered. We postulate that over the last two decades Australian public universities, once a minimum scale has been reached, have attempted to maximize revenue per student, with appropriate weighting for discipline mix.

Australian universities have expanded into each area where regulatory changes have permitted an increase in average revenue per student. The sequence of events is as follows:

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2 Within Australia, the right of an institution to call itself a university is determined by state and federal governments operating under nationally agreed protocols. Criteria that must be met by an institution calling itself a university include “a culture of sustained scholarship extending from that which informs inquiry and basic teaching and learning, to the creation of new knowledge through research, and original creative endeavour”. The protocol limits the diversity of universities, although it proclaims that public and private institutions should be treated equally.

3 For a history of changes in governance of Australian universities see Meek and Hayden (2005).
• In 1989 universities were permitted to charge full-fees for international students. The number of international students increased from 24,998 in 1990 to 95,607 in 2000 and 186,432 in 2004. Australia now has the largest percentage of foreign students of any OECD country and is fourth largest provider in absolute terms.  

• In 1994 universities were permitted to charge full-fees for postgraduate coursework programs and from 2002 these students had access to an income-contingent loan scheme. Masters by coursework enrolments increase from 46,187 in 1995 to 95,607 in 2000 and 186,432 in 2004. In addition there has been a proliferation of postgraduate coursework programs of varying standards, which to some extent have come at the expense of innovation in undergraduate programs. 

• From 1998 universities were permitted to enroll full-fee paying undergraduate Australian students – the numbers totalled 12,305 by 2004 and can be expected to increase from 2005 with the introduction of income-contingent loans for this class of student.

The class of students for which universities receive the lowest funding are commonwealth subsidized coursework students. In law and business the commonwealth subsidy for undergraduates in 2005 was only $1472 and $2420 p.a. respectively; with HECS fees the revenue increases to nearly $7,900 in both cases. By 2004 the number of HECS-liable students had fallen to 63 per cent of total university enrolments in coursework programs. The comparable figure in 1990 was 95 per cent.  

Because the number of commonwealth subsidized undergraduate places is determined by the federal government, there has been little scope for a university to reduce the numbers of these low revenue earning students. Universities have only been able to improve their revenue per student by an expansion in total numbers. In contrast, Oxford is planning to expand international fee-paying student numbers but plans to cap total numbers by reducing enrolments of subsidized local undergraduates by 10 per cent.

The research intensive comprehensive universities in Australia are now very large by world standards for research intensive universities. Cambridge, Harvard, Oxford and Yale all have fewer than 20,000 students. Of the Group of Eight Universities only Adelaide, ANU and Western Australia have fewer than 20,000 students; the other G08 universities each have about twice the enrolments of the four prestigious overseas universities.

Optimal size of universities is a difficult concept to measure. The cost functions estimated by Lloyd, Morgan and Williams (1993) found no diseconomies of scale existed within the size ranges they considered of up to 15,000 students, although they did find diseconomies of scope arising from the amalgamation of institutions with quite different profiles. The US private universities enjoy the greatest freedom to achieve optimality. The twenty-six private universities that are members of the American University Association have a median enrolment of 13,000 students and enrolments have remained

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5 In 2004 HECS-liable students numbered 506,424 out of total enrolments of 844,480 of whom 42,589 were in research higher degrees. In 1990 total enrolments were 485,066 of whom 24,998 were international students; 8347 domestic students and 2098 international students were enrolled in research higher degrees. All data taken from the DEST data files at www.dest.gov.au/highered/statistics/students.
relatively static over the last decade or so. By contrast the median size of the Group of Eight universities in Australia is 35,500 students, an increase from 24,500 students in 1991. This provides some evidence that the growth in the size of universities in Australia has been artificially fertilized by government policy.

A further effect of the incentives to expansion for all types of institutions (including the research intensive) is that in the long run the less prestigious universities may struggle to attract domestic students. Over the past decade this effect has been masked in Australia by the rapid expansion in total student enrolments but enrolments are now plateauing.

2.2 The international standing of Australian universities

How do Australian universities rate internationally? Are any in the top 100 in the world? How many are in the top 500? In recent years a number of international ranking exercises have provided some answers to these questions.

In 2003, Shanghai Jiao Tong University (SJTU) used publicly available information on research performance to develop a ranking of the top 500 universities in the world. The result were updated in 2004 and ranked 15 Australian universities as being in the top 500 in the world (see table 1); two were rated in the top 100 (ANU was ranked 53rd and Melbourne 82nd) and six in the top 200. In November 2004, the Times Higher Education Supplement (THES) published a ranking of universities and listed 15 Australian universities in the top 200.

In a major study undertaken at the Melbourne Institute, Williams and Van Dyke (2004) evaluated all Australian universities on the basis of international standing using data on the following six attributes (weights in parentheses):

- quality/international standing of academic staff (40%)
- quality of graduate programs (16%)
- quality of undergraduate intake (11%)
- quality of undergraduate programs (14%)
- resource levels (11%)
- peer opinion (8%)

A feature of the Melbourne Institute work was that heads of the world’s highest ranking universities were surveyed as well as deans of Australian universities. Survey respondents were asked not only to rate Australian universities but to place weights on the attributes that contribute to international standing. The weights given above are the average weights taken from the survey.

In table 1 some results from the three sets of rankings (SJTU, THES and Melbourne Institute) are given. An interesting feature of the results is that the top 15 Australian universities in the SJTU study and in the Melbourne Institute study are the same, although there are some differences in the ordering. The fact that two studies using quite different methodologies give similar results shows that the findings are relatively robust.

In table 2 we give the full results for the Melbourne Institute Index of the International Standing of Australian Universities. For the purposes of this paper the most insightful finding is that the groupings match exactly the four groupings of Australian universities:
### Table 1: Comparison of Rankings: THES, SJTU and Melbourne Institute

<table>
<thead>
<tr>
<th>THES World Rank</th>
<th>THES Australian Rank</th>
<th>SJTU World Rank</th>
<th>SJTU Australian Rank</th>
<th>Melbourne Institute</th>
<th>Australian Rank</th>
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<tr>
<td>16</td>
<td>1</td>
<td>53</td>
<td>1</td>
<td>Australian National University</td>
<td>1</td>
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<tr>
<td>22</td>
<td>2</td>
<td>82</td>
<td>2</td>
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<td>1</td>
</tr>
<tr>
<td>33</td>
<td>3</td>
<td>101-152</td>
<td>3</td>
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<tr>
<td>36</td>
<td>4</td>
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<td>101-152</td>
<td>University of Queensland</td>
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</tr>
<tr>
<td>40</td>
<td>5</td>
<td>University of New South Wales</td>
<td>153-201</td>
<td>University of New South Wales</td>
<td>5</td>
</tr>
<tr>
<td>49</td>
<td>6</td>
<td>University of Western Australia</td>
<td>153-201</td>
<td>Monash University</td>
<td>6</td>
</tr>
<tr>
<td>55</td>
<td>7</td>
<td>Monash University</td>
<td>202-301</td>
<td>University of Western Australia</td>
<td>6</td>
</tr>
<tr>
<td>56</td>
<td>8</td>
<td>University of Adelaide</td>
<td>202-301</td>
<td>University of Adelaide</td>
<td>8</td>
</tr>
<tr>
<td>68</td>
<td>9</td>
<td>Macquarie University</td>
<td>302-403</td>
<td>Flinders University of South Australia</td>
<td>9</td>
</tr>
<tr>
<td>76</td>
<td>10</td>
<td>University of Newcastle</td>
<td>302-403</td>
<td>La Trobe University</td>
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</tr>
<tr>
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<td>113</td>
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<td>12</td>
</tr>
<tr>
<td>142</td>
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<td>University of Newcastle</td>
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</tr>
<tr>
<td>161</td>
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<td>Murdoch University</td>
<td>404-502</td>
<td>Murdoch University</td>
<td>14</td>
</tr>
</tbody>
</table>

**Sources**
- Times Higher Education Supplement (THES): www.thes.co.uk
- Shanghai Jiao Tong University (SJTU): http://ed.sjtu.edu.cn/ranking.htm
- Williams and Van Dyke (2004), Table 8: www.melbourneinstitute.com
Table 2: Melbourne Institute Index of the International Standing of Australian Universities

<table>
<thead>
<tr>
<th>Group</th>
<th>University</th>
<th>Index</th>
<th>Ranking</th>
</tr>
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<tbody>
<tr>
<td>Go8</td>
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<tr>
<td>Go8</td>
<td>University of Melbourne</td>
<td>100</td>
<td>1</td>
</tr>
<tr>
<td>Go8</td>
<td>University of Sydney</td>
<td>95</td>
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</tr>
<tr>
<td>Go8</td>
<td>University of Queensland</td>
<td>87</td>
<td>4</td>
</tr>
<tr>
<td>Go8</td>
<td>University of New South Wales</td>
<td>85</td>
<td>5</td>
</tr>
<tr>
<td>Go8</td>
<td>Monash University</td>
<td>76</td>
<td>6</td>
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<td>University of Western Australia</td>
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</tr>
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<td>Go8</td>
<td>University of Adelaide</td>
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<td>8</td>
</tr>
<tr>
<td>IRUA</td>
<td>Flinders University of South Australia</td>
<td>56</td>
<td>9</td>
</tr>
<tr>
<td>IRUA</td>
<td>LaTrobe University</td>
<td>55</td>
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<td>Macquarie University</td>
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<td>Murdoch University</td>
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<td>University of Wollongong</td>
<td>50</td>
<td>15</td>
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<tr>
<td>ATN</td>
<td>Curtin University of Technology</td>
<td>49</td>
<td>16</td>
</tr>
<tr>
<td>IRUA</td>
<td>Griffith University</td>
<td>49</td>
<td>16</td>
</tr>
<tr>
<td>ATN</td>
<td>Queensland University of Technology</td>
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<td>16</td>
</tr>
<tr>
<td>ATN</td>
<td>Deakin University</td>
<td>47</td>
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<tr>
<td>ATN</td>
<td>University of New England</td>
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<td>19</td>
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<td>University of Technology, Sydney</td>
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<td>ATN</td>
<td>James Cook University</td>
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<td>ATN</td>
<td>RMIT University</td>
<td>43</td>
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<tr>
<td>NGU</td>
<td>University of Canberra</td>
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<tr>
<td>NGU</td>
<td>Charles Darwin University</td>
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<td>Edith Cowan University</td>
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<td>Victoria University</td>
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<td>Charles Sturt University</td>
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<td>Central Queensland University</td>
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<td>NGU</td>
<td>University of Southern Queensland</td>
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</tr>
<tr>
<td>NGU</td>
<td>University of Notre Dame, Australia</td>
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<td>37</td>
</tr>
<tr>
<td>NGU</td>
<td>University of the Sunshine Coast</td>
<td>32</td>
<td>37</td>
</tr>
</tbody>
</table>

Go8 = Group of Eight; IRUA = Innovative Research Universities; ATN = Australian Technology Network; NGU = New Generation Universities

Source: Williams and Van Dyke (2004, Table 8)
the Group of Eight universities (Go8) at the top, followed by the Innovative Research Universities Australia (IRUA), the Australian Technology Network (ATN) and the New Generation Universities (NGU). The move to deregulation has encouraged groups of different universities with different missions. Evaluation of standing or performance by criteria other than international standing, such as contribution to local community, might be expected to produce similarly groupings of institutions but with the order between groups possibly altered.

3. Long-term Implications of the Current Nelson Model

The key features of the funding model for public universities introduced in 2005 for undergraduate teaching are:

- The government allocates commonwealth subsidised places to individual public universities and negotiates the discipline mix.
- Severe penalties exist for under or over enrolments (margins are -1 per cent to +5 per cent).
- Universities are permitted to levy a top-up student charge on Commonwealth subsidised students which is capped at 25 per cent of the HECS charge for a course.
- Universities are free to set the price to Australian students of fee-paying places.
- The maximum number of fee-paying Australian students is capped at 35 per cent of total Australian enrolments in a course (previously 25 per cent).
- Fee-paying students in both public and private universities (and other approved private providers) now have access to an income-contingent loans scheme (FEE-HELP); these loans incur a real rate of interest of 3 per cent and are capped at $50,000.

Do these reforms put any break on the incentives that all institutions have to expand undergraduate student numbers? So long as government sets minimum enrolments for subsidised students, the incentives to expansion are reduced by narrowing the gaps between the net revenue obtained from different classes of student. By allowing universities to levy top-up HECS fees the revenue obtained from subsidised students moves closer to that obtained from fee-paying students. Of itself this provides a break on expansion. A countervailing force is the increase in the permitted ratio of Australian fee-paying to subsidised students which will encourage institutional expansion.

The reforms will provide an incentive for institutions to seek to move subsidised places into disciplines in high demand, such as law, in order to increase fee-paying enrolments in the institution as a whole. It is an open question as to how much movement of subsidised students across disciplines will be permitted by government.

The extension of income-contingent loans to Australian fee-paying students will increase the demand for such places, increase the supply of university places, but will increase
total demand only by the extent to which some people choose between a fee-paying place, presumably in a boutique or prestigious course, and not going to university.7

In the short run the net effect of an expansion in Australian fee-paying students will be to reduce the number of unsuccessful applicants to universities. In the long run it will put enrolment pressures on the less prestigious universities and encourage them to introduce specialised courses and/or to establish branch campuses in new locations, either within Australia or internationally.

The reforms will act in the long run to reduce occupational income differentials for graduates. Disciplines in high demand at the undergraduate level are often those which are perceived to yield high life-time incomes; the increase in supply of graduates, through the pressure to increase places (both HECS and full-fee) in these areas, will eventually lower those rewards.

The reforms redress some of the imbalance between revenue that universities earn from postgraduate programs relative to undergraduate coursework programs. This has been achieved by extending eligibility for income-contingent loans from postgraduate to undergraduate fee-paying students and by permitting universities to levy a HECS surcharge. Some shift of emphasis from postgraduate to undergraduate programs will follow -- both in the range of courses and resource intensity of courses.

For disciplines in strong demand, the cap on enrolments is set by a combination of three factors: the number of subsidised places allowed, the 35 per cent cap on full-fee places, and decisions about the ratio of international to domestic students.8 For example, assuming the maximum allowable number of full-fee domestic students and assuming an institution caps international students at 50% of total enrolments, the total student load would be 3.1 times the subsidised load.9

The financial incentives remain strong for a public university to expand in size. In table 1 we present average revenue per student as a ratio of the revenue for commonwealth subsidised places (CSPs) in the accounting, administration, economics and commerce cluster. To return to our illustrative numerical example, if we assume the average fee for full-fee students (both domestic and international) is twice the base revenue for a CSP, then average revenue per student is 70 per cent greater than that of the revenue for the base CSP 10.

The conditions under which public universities are required to take Commonwealth subsidised students acts as a significant brake on revenue per student, a brake that does not apply to private universities.11

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7 Milway (2005) discusses the general point that when price is controlled supply is reduced. He illustrates this with Canadian data where there is a direct positive relationship ($R^2=0.40$) between average tuition fees in each province and university participation rates.
8 The restriction does not apply to those private universities that also receive CSPs.
9 The cap on full-fee-paying Australian students relates to total Australian enrolments. Thus the 35 per cent cap means that fee-paying enrolments must not exceed 54 per cent of subsidised enrolments.
10 In 2005, the commonwealth subsidy for the cluster is $2420 and the base HECS charge is $5479. A 25 per cent surcharge on HECS therefore raises revenue per student by 17.3 per cent.
11 In addition, students at 24 ‘eligible private higher education providers’ can also access FEE-HELP. These institutions offer degrees but are not permitted to use the title ‘university’.
Table 1: Average revenue per student as a ratio of revenue for base CSPs under alternative assumptions.

<table>
<thead>
<tr>
<th>International students as per cent of total</th>
<th>No full-fee domestic students</th>
<th>35% of domestic students are domestic full-fee paying</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Base CSP</td>
<td>CSP with 25% HECS top-up</td>
</tr>
<tr>
<td>0</td>
<td>1.00</td>
<td>1.17</td>
</tr>
<tr>
<td>25%</td>
<td>1.25</td>
<td>1.38</td>
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<tr>
<td>50%</td>
<td>1.50</td>
<td>1.59</td>
</tr>
</tbody>
</table>

The new funding mechanism makes explicit the very different subsidies paid to students in different disciplines. If an institution sets prices at the maximum allowable, the direct government subsidy varies from 16 per cent for law to 65 per cent for medicine. Insofar as these differential subsidies are not based on social benefits, they will lead to distortions in the demand for places in different disciplines.

The allocation of commonwealth subsidised places to individual states and universities militates against developing a national market for educational services. If CSPs in each state are based on state population data, then its residents are penalized if institutions in that state provide courses which attract students from other states.

4. Government Subsidies: How Much and to Whom?

The case for governments contributing to the cost of university education is strong. What is less clear is what should be the extent of these subsidies and how they should be allocated. Should they go to institutions or to students or a combination thereof? Should subsidies be discipline specific? To what extent should institutions be allowed to set the private contribution?

4.1 The rationale for subsidising higher education

Evidence suggests that students themselves gain considerable private benefit from a university education in the form of higher earnings. Why then should the government subsidise higher education?

The rationale for subsidising higher education is essentially that it leads to “external benefits” to society that go beyond the private benefits that accrue to the individual who receives the education. These external benefits can be of various kinds. Thus, for example, more educated people may provide more voluntary work in the community than less educated people; a more educated society might be a more cultured society giving rise to societal benefits that are not adequately reflected in wages paid to more educated people; an educated work-force might be more adaptive to new technology and stimulate economic growth in a way that goes beyond the private benefits to the more educated.

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12 Borland (2002) estimates the average private returns to a person with a bachelor’s degree as between 9 and 15 per cent. The private returns vary across disciplines: Borland’s results range from 11 per cent for science graduates to 19 per cent for engineering graduates. See also Borland, Dawkins, Johnson and Williams (2001).
Riddell (2005) in surveying the North American literature finds that estimates of the social returns to education over and above the private returns are of the order of 7 to 10 per cent. These social returns comprise those due to dynamic externalities associated with economic growth and knowledge spillovers (2-4 per cent), non-market external benefits such as reduced crime and reduced reliance on welfare (3-4 per cent), and additional taxation revenue (2 per cent). Using Australian data, Borland et al (2001) estimate the net additional social return from government spending and taxation to be of the order of 2 per cent.

4.2 What should be the level of subsidy and how it should vary across students and fields of study?

Government subsidies to undergraduate students vary from zero for students enrolled as full-fee paying students to 16 per cent for law students and 65 per cent for medicine. The model has been described as a “marble cake” one, with fee-paying students scattered through the distribution of abilities. For the system as a whole, there is no clear relationship between government subsidy and student ability. Putting it another way, if students were selected into an institution rather than a course of studies (as is common internationally), those selected would be a mix of students who currently enter as HECs and those who enter as fee-paying. As with secondary education in Australia, the lines between fee-paying and government subsidised students is a blurred one: commonwealth subsidised places are provided to private universities; full-fee paying students are enrolled in public universities.

There are a number of different ways that subsidies could vary between students. These include:

- basing subsidies on average historical costs (approximately the current system)
- basing subsidies on the prices charged for courses
- providing a fixed subsidy per student

There is very little data on how the external benefits vary by discipline. Data do not exist which would permit different social rates of return to be attached to different individuals or discipline areas with any degree of confidence. Deviations from fixed subsidy per student should therefore be limited. This would be particularly so if the two outliers, Law and Medicine, became solely postgraduate courses.

The idea of providing higher subsidies to courses in areas that have historically been more costly can be criticised on two grounds. First, historical costs are really historical expenditures, which in turn have depended largely on the public subsidies. There is a certain circularity in this which tends to make the historical costs adopted in such a funding approach self-fulfilling. Under this arrangement, cost effectiveness is not really tested. The second criticism is that there is no obvious reason why the externalities associated with a students education (the theoretical basis for subsidies) is correlated with the costs of providing that education.

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13 In a higher education system with a well developed private sector, such as the US, the “cost of a course” in a given discipline varies greatly across institutions. The resources devoted to say an undergraduate Arts course at an Ivy League university can exceed the resources devoted to Science courses at some public universities. In other words, each discipline can be taught at various levels of resourcing and the “cost of a course” is not a well defined concept.
In a regime with greater fee flexibility an argument might be mounted for relating the subsidies to the price of a course. For example the subsidy could be a fixed proportion of the price charged. Again, there are a number of criticisms of this approach. First, if prices are allowed to vary widely, it is hard to forecast the budgetary implications of this approach. If some very high prices are charged, some very high subsidies will need to be paid. Thus there is a potential funding problem associated with setting subsidies in proportion to prices, in that the total value of the subsidies is very "open ended" unless the prices are capped. Even if they are capped the total size of the subsidies would be quite uncertain.

Second, there is an equity argument that students who choose to enter high-price courses should not necessarily receive a higher subsidy simply for that reason.

Third, it could be argued that higher subsidies for higher priced courses would provide an incentive to providers to raise prices above what is in the public interest. As universities would increase the subsidy paid to them by raising their prices, arguably, it would not pose sufficient discipline on them to provide students with value for money.

Fourth, it is not obvious that the externalities associated with high price courses are necessarily higher than for low price courses While the market can be expected to reflect private benefits, the prices set in the market do not necessarily reflect the external public benefits.

In an Australian survey by Round and Siegfried (1998) of a sample of people who could perhaps be described as “experts” (attendees at a higher education conference) the respondents were asked what kind of disciplines they believed to generate the greatest external benefits (benefits that exceed those returned to the individual). Subjects like Nursing, Music, Education, Performing Arts, English, and History came near the top of the poll. Subjects like Accounting, Commerce, Management, Law and Veterinary Science came near the bottom. While that was not a scientific ranking of actual external benefits, it does add some doubt on the idea that the highest priced or highest costs courses would have the highest external benefits. Some of those courses that were thought to have the highest external benefits would probably be amongst the lower priced courses and lower cost courses, e.g History, while some with lower perceived externalities such Veterinary Science, would be amongst the higher priced and higher cost courses.

4.3 How much price flexibility should universities be allowed in setting prices over and above the subsidies?

In a well-informed competitive market it is normal to allow complete price flexibility to suppliers of a good or service. Flexibility in the setting of prices for courses encourages greater diversity of offerings and more competition between providers. It also allows those courses that consumers are willing to pay more for to receive a higher price. Price flexibility is supported by West (1998), Karmel (2001,2002) and Barr (1998, 2005).

Are there any reasons to constrain high education providers? One reason that has been put forward by Chapman (2001,2002) is that some universities (with long-standing
traditions and highly valued assets such as land that has been given to them\textsuperscript{14}) have some monopoly power that would enable them to charge higher prices and therefore get higher subsidies in a world in which prices and subsidies are directly linked. This could lead to some extent to "monopoly rents" rather than to higher quality education. Their degree of monopoly power should not be exaggerated, however, as there are a large number of suppliers of higher education. Further, the reputations of the universities of long-standing may be genuinely related to their quality, which is an asset that arguably should be rewarded and encouraged in the market place.

Nonetheless, Chapman’s point needs to be treated seriously. Along with price flexibility may need to come an associated accountability whereby providers charging higher prices need to demonstrate the value associated with that and are not just using this price flexibility to extract monopoly rents. Furthermore, it may also be an argument for limiting price flexibility.

Another argument for restricting flexibility is an equity one. It could be argued that students from disadvantaged backgrounds would be prevented from entering high-price courses because of the cost. However, this argument loses much of its weight when income contingent loans are available to all students.\textsuperscript{15} An additional policy instrument to deal with this issue might be the provision of “equity scholarships” for students from disadvantaged backgrounds if income-contingent loans are not regarded as sufficient.

While the provision of income contingent loans largely deals with the equity concerns, it needs to be recognised that there may be a short-run government funding problem in relation to such loans if complete price flexibility is allowed. If the average prices of courses increase substantially, the size of these loans may be a large short run-burden on the government budget. In the long run, the loans should be paid back and, arguably, in a proper accrual accounting framework this should not deter the government even in the short run. However, in practice, the cash position of the budget is always a concern to government. Also, there will be some degree of default on the loans, which might increase with complete price flexibility.

Thus there are a number of arguments for restricting price flexibility, particularly when rule changes are introduced.

4.4 The relationship between funding for research, research training and teaching

Precise quantification of the returns to research and development funding is difficult, but social rates of return are much higher than for undergraduate study.\textsuperscript{16} Research training

\textsuperscript{14} The West Report discussed the issue of the advantage that some universities have in the form of high value assets such as real estate in central city locations. They recommended that “the Government should work jointly with State and Territory Governments: to develop a process for rationalising the ownership and control of assets used by universities to leverage these assets to finance structural change; and once this is complete to ensure that the capital assets of universities are liable to the same taxes and charges that apply to private higher education providers, (West 1998,p.104)

\textsuperscript{15} A greater deterrent to students from low socioeconomic backgrounds from entering university is the opportunity cost of the time spent away from full-time employment. This can to some extent be offset by either taking part-time employment or by enrolling as a part-time student. Nevertheless public subsidies towards living costs are likely to be a more effective way of increasing participation rates for disadvantaged groups.

\textsuperscript{16} A fuller discussion of the issues relating to the funding of research and research training is contained in Dawkins and Williams (2005).
fulfils a dual purpose: to train the next generation of researchers and to train the next generation of teachers and scholars. Social rates of return are therefore difficult to quantify, but a clear result from empirical work is that the social rate of return is well above the (low) private rates of return.

The case for subsidising research and research training is strong, but how should this be done? In the laboratory sciences the high costs of infrastructure suggests the need for specialization across institutions. Specialisation should relate to both research and research degrees, and even to advanced undergraduate work. Specialisation can be achieved either by regulation or by funding mechanisms. A desirable characteristic of funding mechanisms is that they reward good performance but with some allowance for new institutions and new discipline areas.

In Australia, public funds are allocated explicitly for research and research training on the basis of external research income earned, publications, and student completions and load. Caps are built in to limit the movement of funds between institutions and this mitigates against specialization. By contrast, the model used by the Higher Education Funding Council for England evaluates research performance in a more holistic manner and does not fund all institutions. This acts as a strong inducement to specialization which may take the form, for example, of some institutions not undertaking any research or research training in high-cost disciplines.

Public funds are implicitly allocated to research through the research component built in to the funding for Commonwealth subsidised undergraduate places, at least for places in the laboratory sciences. (The subsidy of $1,472 p.a. for Law students can hardly be said to include a subsidy for either research or scholarship.) The subsidy contributes to both infrastructure costs (equipment and accommodation) and staff time for research.

It is clear, however, that the quantity and quality of research varies considerably between different staff and different fields of study in different universities. This presents an a priori reason for moving part of the operating grant that supports research into the existing contestable funds for research and research training.

Research costs are linked to the cost of undergraduate training through the cost of infrastructure. Infrastructure costs comprise a significant component of the government subsidy for undergraduate teaching in the laboratory-based disciplines. A model where infrastructure in the laboratory-based sciences is funded separately from contestable public funds would make it very feasible for the additional teaching subsidy for undergraduate students to be constant across disciplines. It would also do much to encourage specialisation across universities.

4.5 Should subsidies be paid to universities or to students directly?

In the options discussed above, subsidies could be paid either to universities, as at present, or directly to students. One of the higher education funding schemes canvassed in *Higher Education at the Crossroads*, released at the beginning of the higher education review in 2002, was to “provide a time or cash limited tuition subsidy to students who purchase places directly from higher education institutions (learning entitlements, rationed scholarships or vouchers)”, (Nelson 2002, p.34). These various schemes can be summarised as “portable tuition subsidies”.
The idea of portable tuition subsidies has considerable merit. It is also an idea that has received endorsement from a number of authoritative sources in Australia, such as the West Report (West 1998) and the writings of Peter Karmel (Karmel 2001, 2002), as well as receiving endorsement by important international authorities on the economics of education, such as Nicholas Barr (Barr 1998).

Barr (1998) has argued that the provision of higher education has become too complex for it to be efficiently handled through central planning. In addition he argued that theory supports market allocation as being more effective than central planning for higher education. The question to be asked is whether students are sufficiently well informed to make efficient choices. Barr (1998) argued that

“consumer sovereignty is more useful (i) the better is consumer information, (ii) the more cheaply and effectively it can be improved, (iii) the easier it is for consumers to understand available information, (iv) the lower are the costs of choosing badly, and (v) the more diverse are consumer tastes.” (Barr, 1998, p180)

He went on to argue that

“Higher Education does well in terms of these criteria. First, information is available, and more can be made available. There are already ‘good university guides’; and universities increasingly publish detailed information on the internet. Second, the information, for the most part, is sufficiently simple for the student to understand and evaluate. The process is easier because going to university can be anticipated (contrast finding a doctor to deal with injury after a road accident) so that the student has time to acquire the information he/she needs, and time to seek advice. Third, though it is true that the costs of mistaken choice can be significant, it is not clear that a central planner would make fewer mistakes; moreover the move towards modular degrees, allowing students to change subjects and increasingly institutions, reduces these costs. It should be noted, fourth, that students make choices already. Though the matter is controversial, it can be argued that the assumption of well-informed (or potentially well informed) consumers holds for higher education.

Finally, ((v) above), consumer tastes are diverse, degrees are becoming more diverse, and change is increasingly rapid, and global. For all these reasons, students are more capable than central planners of making the choices which conform with their own needs and those of the economy. In contrast, attempts at manpower planning are even more likely than in the past to be wrong.” (Barr, 1998, p.181)

To these arguments can be added that within the Australian system funding of students would encourage the development of a national market for higher education, with students moving to the best courses offered nationally.

At present, subsidies to higher education are paid largely to the education providers, i.e. the universities. The post-2005 funding model continues the earlier “relative funding formula” where fields of study that have traditionally been more expensive to provide, receive larger subsidies. The government liaises with each university to determine how many commonwealth subsidised places each institution should have in the various fields
of study. Thus the size of the subsidy for each university depends on its negotiated profile. We have outlined the basis of the argument that rather than this approach of providing the subsidies directly to the universities, they should be paid to the students. There are, however, a number of other choices that need to be made in designing a higher education subsidy system.

If subsidies are provided directly to students, arguably the simplest way to proceed with such student subsidies would be to grant an equal amount to all students as they enter the higher education system. This has a strong equity basis. It can also be defended on efficiency grounds on the basis that it is not possible to identify the variations in the size of the externalities associated with higher education.

One way of providing learning entitlements would be as “learning accounts” that are “opened” for potential students after they reach the minimum age of entry into higher education, and drawn down when they wish to make use of the funds. Mature-age students could be credited with learning entitlements when they secure a higher education place.

It would, of course, be possible to have a rationed voucher scheme for all students (including school leavers). This is the idea proposed by Karmel (2001, 2002), who called these direct student subsidies “scholarships” and proposed three tranches – merit, mature age and special entries at the institutions discretion. This scheme has a budgetary advantage in that it can be costed more accurately than one that does not have a finite number of recipients. Karmel (2001, 2002) also argued for some variation in their value, with higher cost disciplines attracting higher value scholarships. This would introduce some degree of budgetary uncertainty, unless the numbers in each category of value was pre-determined.

If the learning entitlements/voucher approach is adopted, there seems no reason why students should not be able to use them at any legally established provider of higher education services, including universities and also for those courses in the TAFE sector for which credit can be received in a bachelors degree.

A potential problem with models that fund students directly is that they may cause substantial short and medium term swings in applications for different institutions. There is a fear expressed by some that the more prestigious institutions would increase in size, leaving other institutions unable to meet their desired student load. We have noted in section 3, however, that the current funding model in Australia already encourages the more prestigious universities to grow in size. If all Australian students brought in the same income to a university, at least in each broad discipline group, then universities would be much freer to decide on an optimum size. We have seen from the US private universities that this is likely to lead to smaller universities than that provided by the incentives in the current model.

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17 This is not to say that the current system does not respond to shifts in student demand. See Li, Maclachlan and Karmel (2000) which analyses the extent to which universities do respond to shifts in demand.

18 In the long run, a “post-secondary education and training entitlement” scheme could be envisaged, with a broader focus.
We accept, however, that for an interim period some constraints may be needed to prevent large movements of students. The abandonment of quotas of funded places to each Australian university in the unified system could lead to substantial shifts in the distribution students across the system. It could result in the closure of some departments in various universities and could cause serious financial problems for a number of universities. It could be argued that this should be expected and may be desirable and that the current quota system may be propping up departments and universities in a way that is not in the public interest. While this may be the case, it can be equally argued that the university system needs time to adjust to a more consumer-led approach. Universities need time to allow resources to move around in a way that enables them to successfully meet the challenges and for departments and universities to demonstrate that they are able to provide the quality of education that provides a basis for their sustainability.

A further argument for allowing a process of adjustment towards a consumer-led approach is that there may be fields of study, in some or all universities, whose existence may become threatened, where arguments may exist that their survival is in the public interest. In other words, there would be a level of “external benefit” from their survival that justifies a subsidy higher than the standard subsidy. However, it may not be until the more consumer-led system has been operating for a while that it becomes clear what the endangered fields of study are and which departments become vulnerable. As this information becomes available and the case can be made for special consideration, so subsidies for such external benefits could be allocated.

4.6 The long-run case for retaining some direct funding to providers

There are a number of possible reasons for the retention of some direct funding to universities in the long run.

First, there may be particular types of courses that the government concludes would be under-provided in a consumer-led system, especially if tuition subsidies to students were of equal value and considerable price flexibility is allowed. High-cost courses with low private rates of return (e.g. nursing) might be under-subscribed from a public interest point of view. In other words, this is a situation where the external benefits of a course require larger than average subsidies. One solution here would be to provide a large tuition subsidy directly to the student choosing to undertake a course of this kind. This is similar, however, to providing a direct subsidy to a provider of such course, contingent on them filling the place.

In a system in which direct subsidies to universities are largely withdrawn, the survival of regional universities or parts of them may be jeopardized. If government deems it appropriate for such subsidies to exist for regional universities, that is another reason why direct subsidies to providers might be retained, even in the long run.

A third argument for direct subsidies to providers is for the provision of equity scholarships for students from disadvantaged backgrounds, although it could be argued that this is dealt with adequately by the provision of income contingent loans.

If equity scholarships are adopted, they could in principle be top-ups to portable learning entitlements. However, there might be arguments that all universities should have some proportion of their places devoted to students from disadvantaged backgrounds, which would be an argument for putting these scholarships in the hands of universities to fill.
4.7 A mixed funding model

If the arguments outlined above accepted, in the long run direct student subsidies should be the dominant form of subsidy. Let us say for the sake of argument that eighty per cent of higher education funding is to be distributed in this way, in the long run.

The figures outlined below are illustrative. The proposal could be implemented in a cost-neutral way if that was required, or of course it could accommodate additional public funding.

A “learning entitlement” of say $5000 per annum could be given to all individuals. The remaining twenty per cent of the teaching part of the higher education budget would be distributed to the universities, to be issued as university specific tuition scholarships to be awarded to some of the students who are successful in applying for entry to their institution. A proportion of the tuition scholarships could be tied to specific courses that the government considers it should promote on public interest grounds. A further proportion might be allocated as equity scholarships for students from disadvantaged backgrounds.

In addition to the Commonwealth government funded university scholarships, universities might provide their own scholarships (a kind of discount) on the basis of merit or equity.

Further, state governments and industry might also provide scholarships for designated courses, where they have a vested interest in attracting students into those fields.

Each university would then charge a fee for each of its courses, with some monitoring or cap on fees to limit universities extracting monopoly rents and to limit government commitments under the income contingent loans scheme. Students could combine their $5,000 learning entitlement with any university-specific scholarship obtained, to help them pay the price for the course. For the residual amount they would have access to an income contingent loan.

If they did not obtain a scholarship in the university of their choice, their subsidy would be entirely in the form of the learning account, and the remainder could be covered by an income contingent loan. In this system universities would be free to determine the courses that they offer, the number of places on those courses and the prices charged.

One feature of a model of this kind is that the full price of each course would be much more transparent to students than under the current system. Students might be forgiven for believing that under the current system the full price of their course is their HECS contribution. In some case this is closer to the truth than in other cases, depending upon the size of the subsidy that the university is effectively receiving for that student in its operating grant.

Under the mixed funding model, each course offered by each provider would have a price attached to it. This might be called the “full price”. Students would then pay for the course by a combination of the learning entitlement, any scholarship received, plus a fee for which an income contingent loan would be available.

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19 The budget would have funds taken out to fund research infrastructure in the laboratory-based sciences.
5. Conclusions: Towards a More Level Playing Field and Greater Diversity

Since the Dawkins reforms, the principle that students should make a contribution towards the cost of their university education has become embedded in the system. Now, with the Nelson reforms, the idea that universities should have more freedom to determine the prices that they set even for government supported students has now been incorporated into the system. It seems very unlikely that either of these principles will be reversed. Indeed we have argued in this paper that both principles are sound.

However, there remain some tensions in the system that should be resolved. The first of these relates to the variety of prices that different students pay for the same courses. Another relates to the fact that the only way that universities can increase revenue per student involves increasing the number of students by taking extra full-fee paying students. A third relates to the degree of regulation that remains in determining the discipline mixes of universities.

To summarise, we put forward a number of long-run funding principles. If they were adopted then universities would be freer to choose their size and discipline mix and student preferences would be more closely met. They may need to be modified, but we put them in their simplest form. Further there may need to be transitional arrangements, including, for example, caps on prices that might be gradually relaxed. The principles are as follows:

- government subsidies for infrastructure in the laboratory-based disciplines based on performance and in a manner which ensures specialisation across institutions
- learning entitlements of equal value granted to qualified students
- additional government subsidies at the undergraduate level could be made directly to universities in areas of supply shortages (including supply of research students)
- universities free to set their own fee levels
- income contingent loans available for all students, perhaps with a modest rate of interest

Under the above model universities in Australia would become much more diverse in their missions. Greater specialisation would need to be accompanied by making it easier for students to change institutions as they progressed through their studies. A necessary condition for the creation of liberal arts colleges is that research-intensive universities recognize quality preparation for postgraduate study wherever it occurs.
References


