

How Should Higher Education Be Funded?

Andrew Norton

During the 2001 election campaign support for extra higher education funding came not just from the predictable higher education interest groups, but also from Rupert Murdoch and the Business Council of Australia's President, John Schubert. Including universities in their arguments about education spending, the two business leaders made similar points, with Mr Murdoch saying that 'the brains, skills and entrepreneurial spirit of its citizens are a country's most precious and powerful asset' (Murdoch, 2001:2) and Dr Schubert that 'the skills, ingenuity and know-how of our people will be the primary determinant of social, political and economic success' (Schubert, 2001:5). Added educational investment is needed to ensure we achieve these human capital goals.

While, as will be explained, a good case can be made for additional expenditure, both men missed several steps of the argument. In education as in other investments, more inputs do not lead inexorably to commensurately greater outputs. We need to consider questions of allocative efficiency. Even if more money became available, are we able to direct the right levels of investment, to the right people, at the right time and in the right place?

The reasons why the answer to these questions is 'no' are outlined in this article. There is evidence that the current system both systematically under-invests in higher education and mis-invests too much of the capital it does possess. Replacing the current system of centralised control with improved market mechanisms would enhance Australia's higher education performance.

The Status Quo

At present, we have a top-down approach to spending on higher education. The Commonwealth sets the total number of Australian undergraduate student places it will fund, and divides these places between the existing universities, except for Bond, which enrolls only private full-fee paying undergraduate students. The main factor driving the total number of places is the Commonwealth's budget situation, and the main factor driving the division of places between universities is history, though political factors, unmet demand, and tendering have also played a role over recent years. The Commonwealth lets universities enrol extra students above the number it sets, either as Higher Education Contribution Scheme (HECS) students or as full-fee paying students. However, this does not dramatically affect total student numbers, as the 'over-enrolled' HECS students are financed at only about

Andrew Norton is a Research Fellow at The Centre for Independent Studies, and was Higher Education Adviser to Dr David Kemp when he was the federal Minister for Education.

a quarter of average full-funding, and the Australian full-fee paying students are capped in number and cannot access government loans. Considerations of allocative efficiency, as an economist may think of them, are relevant only at the margins of Commonwealth policy, sometimes affecting the small number of new places, but not existing positions.

The Commonwealth can influence the distribution of students between faculties through the annual 'profiles' process of discussions between it and the universities. In practice, however, universities are generally given freedom to decide place distribution for themselves. Students are also free to apply for whichever university and course they choose; the Commonwealth has no power in this regard. Consequently, while heavily constrained by Commonwealth parameters, universities and students determine the final allocation of places.

Commonwealth control is greatest over how much is invested in each student. It sets a subsidy per student, but the actual average subsidy is less, because most universities have some so called 'over-enrolments' that push down the average, because they are funded at a low rate. On Australian Vice-Chancellors' Committee (AVCC, 2001a) figures, in 2000 average 'full' funding was \$12,003 per student, and the actual average \$11,460. While universities are free to spend more than their subsidy on these students, they are forbidden from charging them fees (HECS goes to the government, not the universities). Information on actual per student spending, as opposed to subsidy, is impossible to obtain, but given the limited financial resources available to Australia's universities it is unlikely to be significantly higher than average Commonwealth funding levels.

Identifying Allocative Efficiency

We cannot comprehensively and conclusively say what allocative efficiency looks like in higher education. There is no community agreement on the goals of higher education; in particular there is a divide between the pursuit of knowledge for its own sake and an instrumental view of universities as training centres for the professions. Both views are found in university applicant surveys, with interest in exploring the field of knowledge and opportunities for interesting and rewarding careers both rated as strong or very strong influences on course choice by 85 per cent or more of respondents (James, Baldwin and McInnis, 1999:19). Universities are also commonly expected to provide community service through academic advice and comment on matters of public interest, to support local regions, and advance 'equity'. Neither the need for these public benefit activities nor universities' success in providing them are easy to quantify. However, in areas such as maximising financial returns to education, satisfying student study preferences, and meeting labour force requirements, there is data suggesting under- and mis-investment in higher education.

Research consistently shows that there are good private returns to higher education, with a recent study showing an average private rate of return of 14.5 per cent, and some disciplines with average returns of around 19 per cent (Borland, 2001:Table 4). Prospective students ought to be attracted to these high

returns and invest strongly in university education. In the largely unregulated area of overseas students, that prediction is confirmed, with full-fee paying overseas students revenue increasing by around 75 per cent between 1996 and 2000 (Nelson, 2001:Figure 1.22). In the highly regulated area of educating Australian undergraduate students, however, investment (as measured by the university operating grant) increased by only 1.6 per cent in the same time period (AVCC, 2001a).

This low figure is due partly to fewer people attending university than probably would have been the case without government restrictions. Throughout this period there has been 'unmet demand' — that is people who had applied to attend university but did not receive an offer. For 2001, the Australian Vice-Chancellors' Committee estimated that there were between 9,400 and 15,250 such persons (AVCC, 2001b). This is a conservative estimate, removing from the applications data students who had applied in more than one state or did not realistically satisfy entry requirements. If it were not for the Commonwealth's limits on the number of places is likely that universities would have enrolled some or all of these students.

Aside from those missing out entirely, we can hypothesise that students who did enrol would, if given the option, invest more to fix acknowledged problems in the current system, such as a lack of individual attention. The Course Experience Questionnaire (CEQ) asks completing students whether they agree that staff put a lot of time into commenting on their work. Only nine per cent strongly agree, and a further 25 per cent agree, though less strongly. The rest ranged from a neutral response to strongly disagreeing (Graduate Careers Council of Australia, 2001:7). These low levels of satisfaction raise educational quality issues. A major literature survey on developing intellectual ability found that 'substantial evidence exists to suggest that interactions with major socialising agents (faculty and peers) are, in fact, significantly linked to development of general cognitive skills during college' (Pascarella and Terenzini, 1991:149). This suggests that student-staff ratios should be reduced. In fact over the last decade student-staff ratios escalated from an average of around 13 to one in 1990 to about 19 to one in 2000 (AVCC, 2001c). A greater investment in higher education could remedy these problems, but current regulation forbids students from making this investment.

There is also evidence of false starts in higher education, with students enrolling in the 'wrong' course. Nearly a third of first year undergraduates in a 1999 survey were not enrolled in their first preference course (McInnis, James and Hartley, 2000a:15). Persistence of the original preference contributes to around 17 per cent of students changing faculty or course in their first or second year (McInnis et al., 2000b:30). Taking 17 per cent of the commencing students and multiplying that by the average government subsidy (net of HECS) arrives at a taxpayer cost of around \$365,000,000 a year from course changes. The figure should be discounted for people who retain credit in their new course for work they have done in their old course, but enlarged for those who drop out entirely for course related reasons. A precise figure for course change costs is difficult to calculate, but it is almost certainly in the hundreds of millions of dollars annually.

Though students switching to their preferred courses are better off in the long term, they incur additional HECS liabilities, direct expenses, and for full-time students opportunity costs from being out of the workforce while studying.

We also see very high rates of non-completion in some disciplines. In 1999, less than 60 per cent of students who had enrolled in Arts, Engineering and Science in 1992 had completed their degrees, compared to over 70 per cent in Education, Health, and Law (Martin, Maclachlan and Karmel, 2001:8). While non-completion does not mean no benefit was derived from enrolment, high attrition does suggest the investment in these students could have earned better returns elsewhere. A study of the responsiveness of universities to student demand found that there was evidence of it, but there was oversupply in Agriculture, Engineering and Science (two of the poor completers) and excess demand in Architecture, Health, Law, and Veterinary Science (Li, Karmel and Maclachlan, 2001:21). Correcting these imbalances may reduce the number of weakly committed students, and improve completion rates.

To some extent, these allocative problems spill over into the labour market. According to 2001 skills shortages data, there are wide ranging shortages of health professionals, with national shortages in fifteen specialities. In engineering, there is a national shortage of electronics engineers and regional shortages of civil and electrical engineers (Department of Employment, Workplace Relations, and Small Business, 2001). While the labour market is difficult to predict, the co-existence of excess demand amongst prospective students wanting to enter health professions, and shortages of such people in the labour market, suggests a failure to allocate educational resources efficiently. One reason for this is that health courses are relatively expensive to run, but universities have discretion about how they reach their government target number of students. It makes sense for the universities to meet their target with cheap courses, such as humanities and business, rather than health, even though this is sub-optimal for the students, society and the economy.

A Market Alternative

Overall, then, there is considerable evidence of allocative inefficiency in the current centrally controlled system. A market system, such as that unsuccessfully proposed by the then Education Minister, Dr David Kemp, in 1999 would, in theory, do a much better job. Kemp proposed to abolish limits on place numbers; all students accepted by a university would be entitled to a subsidy and a loan. He also proposed abolishing the Commonwealth's role in allocating student places between universities; instead universities would be paid for the number of students they enrolled, through a mix of Commonwealth subsidy and student fees, deferrable with an income contingent loan. In order to fill their places, universities would need to be more responsive to student demand. In effect, students would have the role the Commonwealth has now (Kemp, 1999).

Information Problems?

Rather than directly defend the current system, commentators tend to focus on the perceived deficiencies of the market alternative, and in particular the information problems of a large percentage of prospective university students, recent school leavers. Clive Hamilton (2001:12) observes that eighteen year olds 'frequently have no good idea of what is in their own interests, let alone how their education can contribute to society's interests'. Gabrielle Baldwin and Richard James (2000:142) note that much of what occurs in a university education is intangible and non-observable, and outcomes are long-term. Harry Clarke (2000) argues that higher education involves an 'information asymmetry', as academic producers know more than student consumers. This is particularly serious for new courses without alumni or market reputation. Empirical evidence supports the view that prospective students experience a knowledge problem. A survey of school leavers showed that many do not class themselves as very well-informed, even about important matters such as academic services for students or employment outcomes (James, Baldwin and McInnis, 1999:27).

On these commentators' view, a market system would not improve things greatly. Students' ignorance contributes to the existing misallocation of resources and would exacerbate it if they were given more influence. This, however, reflects an overly pessimistic view of the state of student knowledge, and what can be done to improve it.

Studies of Year 12 students show that they often display consistent fields of interest. People with artistic interests tend to apply for visual arts and music courses; people with social interests apply for child care, community service, and health studies; people with investigative interests apply for engineering, computing, and applied science; and so on (Harvey-Beavis and Elsworth, 1998:79). These consistent interests are displayed in the way they fill in their application preferences, with applicants in many fields putting down multiple similar courses rather than applying for a variety of different types of courses (Harvey-Beavis and Elsworth, 1998:51). There is no evidence that forcing students into courses that do not interest them will produce a public benefit, as seems to be presumed by those sceptical of eighteen-year olds' ability to make higher education choices. It is more likely that ignoring student preferences will, as described above, end in course changes or dropping out. Under a market system of higher education, in which no university was guaranteed its student numbers and new universities could enter the market, there would be stronger incentive to match student demand.

While students typically know their general interests, this does not straightforwardly lead them to a particular course. They need to know more about the content and outcomes of courses. A considerable amount of information about outcomes is produced, and it is becoming increasingly accessible. All Australian universities participate in the Graduate Careers Council of Australia's Graduate Destination Survey (GDS), which reports on employability and starting salaries, useful information for students enrolling for vocational reasons. This information

is now available free in an easy to understand format from the Graduate Careers Council's *Gradsonline* website (<http://www.gradlink.edu.au>) and from the Commonwealth Education Department's website in its *Which Course? Which University?* section (<http://www.detya.gov.au/tenfields/>), and via a starring system in the commercial *Good Universities Guide*. The GDS is conducted around four months after completion, and while longer-term information is more difficult to obtain, the Australian Bureau of Statistics (ABS) publishes data on unemployment by field of study (ABS, 1999:41), and some statistics on proportions of graduates working in jobs unrelated to their original field of study (ABS, 2001:112). Academic studies provide information on the average long-term returns graduates received on their higher education investment (Borland, 2001).

While in a flexible labour market there is no guarantee that historical experience is an accurate guide to the future, the available information on labour market performance is nevertheless useful for prospective students. The fact that some fields of study have for many years had poor employment rates, poor salaries, and high proportions of graduates in jobs working in areas unrelated to their degrees, is information that ought to be better known than it is. It would be useful if publications such as the *Good Universities Guide* included more details on these matters.

All Australian universities also participate in the CEQ, which gives prospective students useful information about how very recent students rate their educational experience. There are considerable differences between universities, and these are also reported via a starring system in the *Good Universities Guide*. The research intensive universities tend to do particularly badly, while small and regional campuses do better than average — important information for those unsure of their academic abilities.

While information is available, there are obstacles to its effective use. The universities themselves use it only sparingly, perhaps because the results tend to be mediocre. Only the commercial *Good Universities Guide* has a strong incentive to publicise the information. While the *Good Universities Guide* can assist prospective students in narrowing their options, it still leaves an information asymmetry on the detail of particular courses. While it is true that producers know more about their own courses than student-consumers, this does not mean that they should decide how educational resources should be distributed. They are ignorant of prospective students' fields of interest. They are also likely to be under-informed about what other universities have to offer, and have a vested interest in promoting their own course.

We need people who can get around the information problems prospective students face, and avoid the producers' conflict of interest. An education broker would put the interests of the prospective student first, but bring to the task knowledge of courses usually only held by the university. Existing research on what influences school leavers in their higher education choice shows that personal sources of information, such as material given to them by careers teachers, and what they learn at university open days, rank highly among the strong influences (James, Baldwin and McInnis, 1999:15). A broker should

replicate this interpersonal element, helping to win trust. The difference between an education broker and a school careers adviser is that the broker would specialise in one or a small number of fields, so as to maintain the requisite levels of expertise. Sophisticated broker services could use aptitude testing to help determine what kind of course and institution would be best, and advise on various pitfalls of first year life, such as not adapting to new learning styles, social isolation, and time allocation. In relatively recent times broker services have developed for the vocational training market, and have generally been successful. One study of their operation in regional Australia endorsed public support of them, on equity grounds for their value in bringing low income people to education, and for their role in promoting efficiency through better matching training and provision (Kilpatrick and Bound, 2001:66). In the training sector, there are a mix of profit and not-for-profit broking services. Whatever their funding source, brokers are likely to be money well spent through reducing costs to students and the taxpayer from wrong choices

Where Should the Money Come From?

As suggested at the start, it is common ground that more money ought to be invested in higher education. There is evidence that added investment translates into improved financial returns. In the United States, one recent study found that each \$1,000 increase in tuition expenditure was associated with increases in male earnings of about two per cent (Fitzgerald and Burns, 2000:33). There is not a single theory explaining this, but improved cognitive development from employing better staff and increasing interaction between staff and students fits with the educational research (Pascarella and Terenzini, 1991). In the Australian context, research is finding good returns to cognitive skill (Pappas, 2001), so education that develops such skill is likely to be rewarded in the labour market.

The point of dispute is which mechanisms ought to be used for increasing investment. Most lobby groups and commentators call for increased public investment, distributed through the current system (either expressly, or by implication in not specifying any alternative). Even if the current system was adapted to improve use of student course preferences, such as introducing a voucher system, this strategy is still likely to produce sub-optimal results. The most immediate problem is that public investment is unlikely to be forthcoming, as there are strong electoral reasons why the Commonwealth is not going to give higher education funding priority (Norton, 2001). But even supposing that the money was forthcoming, the existing incentive structure does not encourage investment in student learning.

With the current system, there is an incentive for universities to invest in research and not teaching. For example, the Australian Research Council (ARC) awards its grants on the basis of excellence, and success in ARC grants in turn affects the general research subsidy each university receives. In teaching, there are flat subsidies, neither rewarding excellence nor penalising mediocrity. The effects of this incentive system are very evident in university practices. A 1999

survey of academics found that only 44 per cent of early career academics had received training at the start of their career, and that figure dropped to around 30 per cent for mid and late career academics (McInnis, 1999:32). Instead the standard qualification needed for a career as a university teacher is a research degree, the PhD. The survey also asked academics about their time use, and compared its results with a 1993 survey. It found that—despite the intervening increase in student-staff ratios—the amount of time spent weekly on teaching and teaching related activities went down by 1.3 hours and the amount of time spent on research went up by 1.1 hours (McInnis, 1999:26). This is the opposite of what you would expect if universities gave students first priority, but exactly what you would expect if you believe that universities respond to incentives. On this theory of incentives, gains from additional public investment in the existing higher education system would be lower than the same amount coming from private student investors in a market system. US research finds that greater reliance on private sources of income has a positive impact on teaching quality, which is consistent with my Australian analysis (Brown, 2001).

The Commonwealth could try to create incentives within the existing system by rewarding performance. It is already developing the Graduate Skills Assessment (GSA) test, a measure of generic skills, such as written communication, critical thinking, problem solving and interpersonal understandings (Australian Council for Educational Research, 2001). This could be conducted at entry and exit level to find some measure of value adding performance. But while these generic skills are good in themselves, such performance measures risk perverse incentives. Universities may excessively teach to the test, rather than focusing on other skills or specific content. It may discourage forms of innovation that have unknown effects on the testable skills. The GSA is likely to provide valuable information, but it is better given to prospective students as part of the information used to make a rounded decision.

A system of Commonwealth control of university finance also prevents students making sensible trade-offs. It makes sense for highly intelligent and ambitious people to invest more in their education than those who are less able or less committed to the labour market. Yet the current system forces everyone into an average funding model, investing too little in some people, and possibly too much in others. There is currently no price differentiation between those who want the full campus experience, and those content with minimal interaction. Mature age students, particularly, may have neither the time nor the desire to mix with other students, while for younger students this can be important for socialising and learning. Letting universities control prices would increase capacity to offer different types of experiences to different groups. We already see this in the deregulated postgraduate student market, with bargain Internet MBAs available for as little as \$10,800 a year, ranging up to \$42,000 at a high service, high prestige institution (Ashenden and Milligan, 2001:156-169).

Conclusion

The current education federal Education Minister, Dr Brendan Nelson, has said that the status quo 'is not sustainable'. He has also said that further significant public funding increases will not be forthcoming (Nelson, 2002). There is little room for allocative inefficiency in this financially constrained environment. Introducing a more market oriented system would create new incentives to allocate limited resources in an efficient manner.

References

Ashenden, D. and S. Milligan (2001), *The Good Universities Guide to Postgraduate and Career Upgrade Courses*, 2002 Edition, Hobsons Australia, Melbourne.

Australian Bureau of Statistics (1999), *Education and Training in Australia*, Catalogue 4224.0, ABS, Canberra.

Australian Bureau of Statistics (2001), *Australian Social Trends 2001*, Catalogue 4102.0, ABS, Canberra.

Australian Council for Educational Research (2001), 'Summary report: GSA Exit 2000', ACER, Melbourne.

Australian Vice-Chancellors' Committee (2001a), 'AVCC Funding Table 3: Commonwealth Resources (base operating grant) Available to Higher Education Institutions per Planned and Actual EFTSU, 1983-2003', available www.avcc.edu.au

Australian Vice-Chancellors' Committee (2001b), 'AVCC Table C.4: Unsuccessful Applicants for Undergraduate Places by State, 2000-2001', available www.avcc.edu.au

Australian Vice-Chancellors' Committee (2001c), 'Actual Student:Staff Ratios by AVCC Institution and Academic Organisational Unit', available www.avcc.edu.au

Baldwin, G. and R. James (2000), 'The Market in Australian Higher Education and the Concept of the Student as Informed Consumer', *Journal of Higher Education Policy and Management* 22(2):139-148.

Borland, J. (2001) 'New Estimates of the Private Rate of Return to University Education in Australia', Department of Economics, University of Melbourne, <http://www.ecom.unimelb.edu.au/iaesrwww/mipub/mied2.pdf>

Brown, W. (2001), 'Source of Funds and Quality Effects in Higher Education', *Economics of Education Review* 20:289-295.

Clarke, H. (2000), 'Asymmetric Information, Public Goods and Central Control: A Critique of the West Review's Education Policy', *Australian Journal of Education* 44(1):76-90.

Department of Employment, Workplace Relations, and Small Business (2001), <http://165.12.249.82/WP/CDA/Files/WP/SkillshortageLists.pdf>

Fitzgerald, R. and S. Burns (2000), *College Quality and the Earnings of Recent College Graduates*, National Center for Education Statistics, Washington DC.

Graduate Careers Council of Australia (2001), '2000 Course Experience Questionnaire', GCCA, Melbourne.

Hamilton, C. (2001), 'The University and the Marketplace', pp. 9-15 in P. Kinnear (ed.) *The Idea of a University: Enterprise or Academy?*, The Australia Institute, Canberra.

Harvey-Beavis, A. and G. Elsworth (1998), *Individual Demand for Tertiary Education: Interests and Fields of Study*, Department of Education, Training and Youth Affairs, Canberra

James, R., G. Baldwin and C. McInnis (1999), *Which University?: The Factors Influencing the Choices of Prospective Undergraduates*, Department of Education, Training and Youth Affairs, Canberra.

Kemp, D. (1999), 'Proposals for Reform in Higher Education', http://www.apf.gov.au/senate/committee/eet_ctte/public%20uni/report/e04app4.pdf

Kilpatrick, S. and H. Bound (2001), 'Training Brokers: Networks and Outcomes in Regional Australia', *Australian and New Zealand Journal of Vocational Educational Research* 9(1):41-67.

Li, J., T. Karmel and M. Maclachlan (2001), *Responsiveness: Do Universities Respond to Student Demand?*, Department of Education, Training and Youth Affairs, Canberra.

Martin, Y., M. Maclachlan and T. Karmel (2001), 'Undergraduate Completion Rates: An Update', Department of Education, Science and Training, Canberra (Internet only, www.dest.gov.au).

McInnis, C. (1999), *The Work Roles of Academics in Australian Universities*, Department of Education, Training and Youth Affairs, Canberra.

McInnis, C., R. James, and R. Hartley (2000a), *Trends in the First Year Experience in Australian Universities*, Department of Education, Training and Youth Affairs, Canberra.

McInnis, C., R. Hartley, J. Polesel and R. Tees (2000b), *Non-Completion in Vocational Education and Training and Higher Education*, Department of Education, Training and Youth Affairs/AusInfo, Canberra.

Murdoch, R. (2001), 'The Human Wealth of Nations', Inaugural Keith Murdoch Oration, 11 October 2001, State Library of Victoria.

Nelson, B. (2001), *Higher Education Report for the 2002 to 2004 Triennium*, Department of Education, Science and Training, Canberra.

Nelson, B. (2002), Transcript of radio interview on 2CN, 16 January 2002, available www.dest.gov.au.

Norton, A. (2001), 'Australian Higher Education: Budgetary and Political Realities', *The Australian Economic Review* 34(2):216-221.

Pappas, N. (2001), 'Earnings Inequality and Skill', pp. 196-218 in J. Borland, B. Gregory and P. Sheehan (eds), *Work Rich, Work Poor: Inequality and Economic Change in Australia*, Centre for Strategic Economic Studies, Victoria University, Melbourne.

Pascarella, E. and P. Terenzini (1991), *How College Affects Students*, Jossey-Bass Publishers, San Francisco.

Schubert, J. (2001), 'Towards a Fair, Clean, Safe and Prosperous Australia', Speech to Business Council of Australia Annual Dinner, 11 October.

The arguments in this article are elaborated in a forthcoming CIS book. The author is grateful for helpful comments received from two anonymous referees on an earlier version of this paper.