



THE UNIVERSITY OF
MELBOURNE

Review of Australian Higher Education **The Bradley Review**

The University of Melbourne Submission: July 2008



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Overview

The new Commonwealth Government came to office promising an 'education revolution', and the Bradley Review of higher education policy is intended to give it advice on how to implement that revolution. This submission details the many problems in or flowing from higher education—from the crisis in the medical workforce to student poverty to lost research opportunities—that justify significant change. In response, this submission proposes radical structural changes in how university places are distributed and paid for, and major improvements to student income support and to research funding policy.

The largest suggested change is to how student places are distributed between higher education institutions. Currently, the Commonwealth allocates these places. This system has shown itself to be inflexible in the face of both student and labour market demand. The health workforce has been desperate for extra staff while applicants for health courses are turned away in their thousands. The system needs automatic adjustment mechanisms, and this submission shows how letting universities respond to student demand would have avoided or alleviated current labour market shortages.

Just as the distribution of student places has stayed the same while circumstances change, funding per student place has drifted, mostly down, as costs have risen. In some fields of study this is mainly the upward pressure of salary costs, as universities compete to retain highly-skilled academic and professional staff. In other cases, technological change has rendered cost assumptions of the past irrelevant. The funding system needs to be responsive, and this submission proposes that base funding be reassessed, with universities able to charge additional amounts on top of that figure. Higher education needs to avoid the risks to educational quality and diversity of government budget constraint.

The social inclusion goals of the past need to be kept, but the methods rethought. As a percentage of the university population, enrolments of students from low socioeconomic backgrounds have remained unchanged over many years. While the fundamental causes are educational aspirations and school results, there is more that can be done in post-secondary school policy. The submission's proposal to drop limits on the number of Commonwealth-supported places will provide immediate additional opportunities. It also calls for greater integration of the vocational and higher education sectors, to smooth pathways between the two.

Redesign of the student income support system will support social inclusion goals. Three different income support programs target overlapping groups, making the system very complex. Some students receive nothing or benefits with earning limits that cut in before the poverty line, while others can live at home in relative affluence. These anomalies need attention.

Though research is not a formal part of this review's terms of reference, it is so integral to what universities do that it cannot be omitted from consideration. Problems with research funding, for example, undermine the career prospects of staff who are also needed for teaching. Universities face a serious problem with replacing their workforce over the long term.

So the Bradley Review is an important one. Higher education in Australia does have huge potential. With the right regulatory framework for international students, universities helped create Australia's third largest export industry in just 20 years. But realising that potential does indeed require an 'education revolution'.

An outline of a new system

Accreditation

- A national accreditation system, covering all public and private post-secondary education, run by a national regulator
- Greater external review of self-accrediting institutions

Diversity

- Policy neutrality between different types of tertiary education institutions
 - access to tuition subsidy based on objective criteria rather than institutional history
 - integrate diploma/advanced diploma funding
- Allow funding levels to vary between institutions
- Funds for community engagement, knowledge transfer

Student-centred funding

- Seven-year learning entitlement
 - applying to all coursework
- No fixed limit on student numbers
- A higher maximum student co-investment
- Single income-contingent loans scheme
 - consistent charges and rules for all types of students
- Improved information available to students to inform their choices

Student income support

- Through benefits and reasonable work hours, students living away from home need to be able to earn at least poverty line incomes
- Income support system needs to be simplified

Research policy and funding

- Broad system design to remain a mix of competitive project grants and performance-driven block grants
- Project grants need to be fully funded, at project level and through institutional grants
- Higher project application success rates needed to realise research potential
- Improved career pathways needed for younger researchers
- Restrict research training places to institutions with research capacity in field

Community engagement/knowledge transfer/other special funding

- Separate funding needed to encourage performance
- Heterogeneous nature of activities makes funding system complex
- Compacts with government can be used to fund
 - regional campuses with too little student demand
 - courses of national significance but insufficient student demand

Independent regulator

- Tertiary education commission responsible for system regulation, including accreditation, quality assurance and international students
- Regulator also responsible for data collection and distribution

Executive summary

The distribution of student places

- Long-term misalignments exist between labour force demand for university graduates in some disciplines and the places universities actually provide
- Student demand data shows that it was strong for all the areas of recent graduate labour market shortage
- A student-demand driven funding system would encourage universities to adapt quickly to changing demand from employers and students
- Responsiveness would be further improved by integrating vocational and private higher education providers into a common funding system
- Compacts between the Commonwealth and universities could be used to preserve courses or campuses with low demand but high significance

Funding of student places

- Funding per student place is unrelated to current costs, quality standards or student preferences
- Universities have lost the competition for public funds to schools and hospitals
- On the basis of a new analysis of what it costs to deliver courses at an acceptable standard, the maximum permitted student co-investment should increase
- The separate student loans schemes should be merged into a single scheme with common charges and rules applying to all

Social inclusion

- Major differences in university attendance rates by socioeconomic status persist
- Education aspirations and school results are the major cause; research has repeatedly failed to find a link with course costs
- Low socioeconomic status access levels could be improved by making more student places available and improving pathways between diploma programs and degrees

- The student income support system contains many anomalies and makes it difficult for some students to avoid poverty
- A further specialised review of student income support is needed

Research

- There is a large gap between research costs and research funding.
- Grants from the Australian Research Council and National Health and Medical Research Council need to be fully funded.
- The academic career path, from research training through early academic jobs needs to be improved to maintain research and teaching skills in Australian universities

Knowledge transfer and community engagement

- Universities provide many public services for which they receive no direct funding
- Under-funding of teaching and research is undermining the capacity to provide these services
- Devising a separate funding stream would be complex, but would create incentives to improve knowledge transfer and community engagement activities

Regulation

- Post-secondary education regulation is currently spread between the Commonwealth and the States, and between vocational and higher education
- A new single national regulator, the Australian Tertiary Education Commission, is proposed
- It would be independent, and responsible for accreditation and quality assurance
- It would also have a significant data collection, analysis and distribution role to inform student choices and guide the decision-making of institutions and government.

1. The opportunity: what higher education could do for Australia

1.1 Purposes and public benefits of higher education

The Australian higher education system has three main purposes: learning and teaching, research, and community engagement, which at the University of Melbourne we organise under the concept of knowledge transfer. Knowledge transfer is recognised as an important part of the mission of many universities. Knowledge transfer can be defined as the direct, two-way interactions between the University and its external communities, involving the development, exchange and application of knowledge and expertise for mutual benefit.

The University of Melbourne is deeply engaged in all three of these purposes. Looking at the system more broadly, including the private sector and the TAFEs now offering degree courses, not all institutions engage in all three purposes; rather there is a spectrum of missions. All institutions teach, but involvement in research and knowledge transfer varies significantly.

Many Australians enjoy the intellectual and economic benefits of having studied at a higher education institution. But all Australians benefit indirectly from higher education. The skills of university-educated managers and professionals are essential to the high quality of life in Australia. University research contributes to better health and to solving a wide range of social, environmental and economic problems. University-educated people have high levels of activity in political and civic life, and university academics are important contributors to public debate.

2. A long list of problems

Though Australian higher education has a proud history, its policy framework is in a state of disrepair. It fails basic tests of effectiveness and fairness.

The system of distributing student places to universities leaves the graduate labour market desperately short of health professionals, while graduates from other disciplines cannot find professional work. The Government offers subsidised and price-controlled places in elite degrees that are near-sure pathways to high earnings, while students classified as from low socioeconomic backgrounds attend for-profit feeder colleges at twice the fees, in the hope that they can articulate into a university course. We use international student fees to finance the education of Australian undergraduates, with no mechanism for making up the difference should Australia lose international market share. Innovation and diversity is discouraged, by only funding tuition at a limited number of institutions, capping fees, and restricting competition.

Students seeking income support for their study face a confusing array of different government programs, sometimes requiring complex choices between them. Students from high-income families can live with their parents on full Youth Allowance after satisfying an easy 'independence' test, while students who must move to study receive nothing unless they take a gap year to establish their independence. Students who do receive Youth Allowance lose their benefits at 50 cents in the dollar well before earned income reaches the poverty line.

Though the income-contingent student loan program is a successful Australian innovation, it too has anomalies. It charges undergraduates but not postgraduates for borrowing money, and lets graduates who work overseas delay repayment, while those who stay in Australia repay their debt.

The research funding system makes academia an unattractive career: postgraduate scholarships at much lower rates than our most able graduates can earn elsewhere, with uncertain fellowships and research contracts on completion of their degrees. Only one in five Australian Research Council grant applications is funded, and then at much less than the project cost. Research infrastructure has been run down over many years, threatening the base on which all research depends.

Trying to solve problems without systemic reform will no longer work. The ad hoc reforms of recent years have created new inconsistencies and distortions rather than resolved structural problems. Short-term funding boosts give temporary relief before costs again start running ahead of revenues. We cannot assume that international student fees will indefinitely sustain Australian universities. The time has come to rethink higher education policy from first principles, and start again with coherent system design based on the best evidence available.

3. The financing and market design of coursework education

3.1 A centralised funding system

Though competitive markets in postgraduate and international student education now exist, the majority of Australian students—those in Commonwealth-supported places—operate in a command economy. University places are allocated to public universities, and a few other institutions, through funding agreements with the Commonwealth. These specify in which disciplines the student places will be provided; for new places particular courses and campuses are also mandated. Maximum student charges are also set by the Commonwealth—while universities can in theory charge less than the maximum legal fee level, lengthy periods of real cuts to per-student income mean that none can afford to do so. The centralised system’s record in meeting student and labour market demand is the main focus of this section.

3.2 Meeting student and labour market demand

In the early 1990s, Australian medical schools enrolled about 1,400 commencing students each year. The Commonwealth’s medical workforce advisers decided that this was too many. On their analysis, growth in doctor numbers was leading to ‘supply-induced demand’, with doctors seeing patients, arranging tests and writing referrals more often than was medically necessary. With Medicare paying the bills, this was expensive for government. The Commonwealth’s solution was to reduce the number of medical graduates. Between 1990 and 1995, the number of commencing students fell by more than 500 (table A1).¹

This is now a case study in workforce planning gone badly wrong. The reduced medical workforce of the late 1990s faced still-rising demand for their services. Australia became highly reliant on migrating medical professionals. The 2006 census found that more than 5,000 GPs and specialists

had arrived in Australia during the preceding five years, a 70% boost to the 7,000 new graduates in medicine from Australian universities (table A2). Early 1990s workforce planning errors exposed Australians to severe doctor shortages.

Though predicting future labour force needs is inherently difficult, there are fewer uncertainties involved for medical practitioners than other professionals. Major drivers of medical demand, such as population size and the proportion who are elderly, can be forecast well in advance. The long-term size of the medical practitioner workforce can also be predicted more accurately than other occupations, as it enjoys unusually high levels of retention. The vast majority of people qualified in medicine work as medical practitioners (table A3). Yet medical workforce planning was badly miscalculated.

Outside health, little long-term steering of university places occurs to meet labour force needs. Though it could be done through the funding agreements universities and the Commonwealth sign, in practice allocating new Commonwealth-supported places, rather than reallocating existing places, is the main policy instrument used to guide the system. Labour market factors are among the criteria now used to allocate these places, but no systematic planning of enrolment patterns to meet labour market demand takes place.

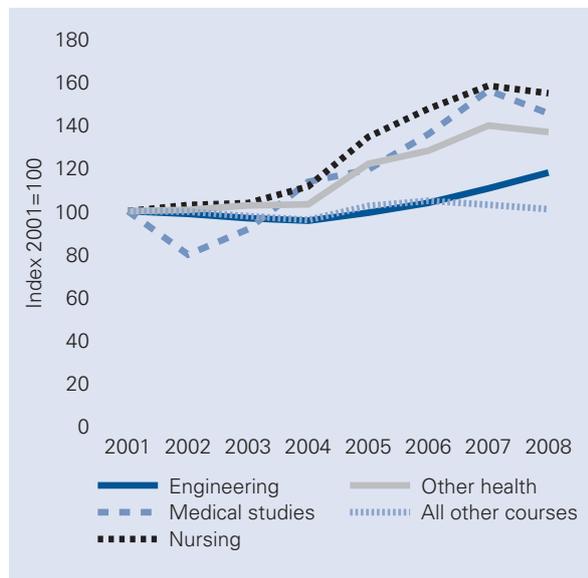
In most professional and managerial occupations, the positions to which most graduates aspire, this system has not led to labour market shortages. The large overall supply of student places ensures that the graduate labour market is in balance or over-supplied for most occupations. Nearly half a million graduates work in jobs that normally require non-higher education qualifications, or around 25% of all employed graduates (about 20% for the Australia-born) (table A4).

¹ To improve readability, statistical tables not critical to the argument include the letter ‘A’ in their number, and can be found in the appendix.

Despite this general over-supply, several dozen managerial and professional occupations appear in government skills shortages lists (table A5). However, recruitment difficulties are often due to inadequate salaries or requirements for experience or specialisations universities cannot provide. Only where persistent tight labour markets exist for recent graduates is the shortage clearly due to few graduates. For health and engineering occupations, but not for others, we see a consistent pattern of 5% or fewer new graduates still looking for full-time work when surveyed a few months after completing their courses (table A6). All these occupations also appear in national skills shortage lists.

A key question for this review is whether a different funding and regulatory system would avoid or alleviate these shortages more effectively than the current system. As can be seen in Figure 1, university offers have now increased in all the courses related to areas of high labour force demand. In the same period, offers for all other courses have been stable. With the exception of dental studies (not shown), for which offers grew rapidly from a low base, significant growth did not occur before 2005, which saw a 14% increase on 2004 in offers for places in health and engineering.

Figure 1: Offers for places in areas of skills shortage

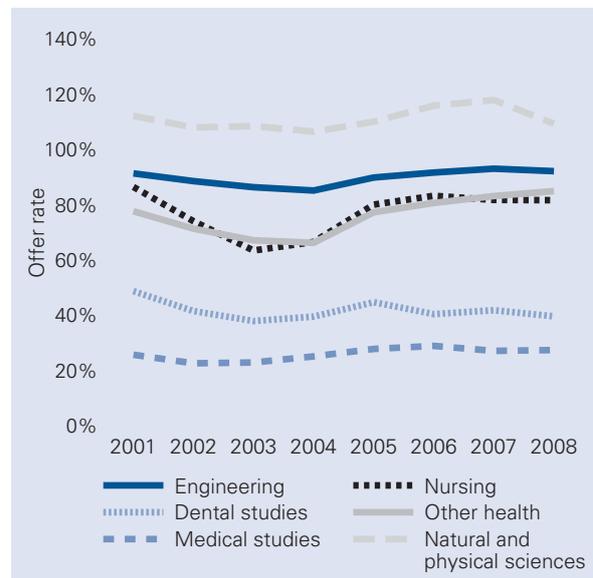


Source: DEEWR, *Undergraduate Applications, Offers and Acceptances 2008*

Note: Dental studies removed to make movements in other disciplines more readable, but it shows rapid increase to an index of 363 by 2008.

This slow response to health labour market pressures was not due to weak student demand. Figure 2 shows what percentage of eligible applicants were offered a place in their preferred course. In the two years before 2005, a third of applicants for nursing and other health courses (which includes pharmacy, physiotherapy, and other allied health professions) received no offer. Around 60% of applicants for dental courses and 75% of applicants to medical courses were also rejected. Despite these Australian applicants missing out, throughout this period significant numbers of full-fee international students commenced health courses (table A7). In theory, universities could have reorganised existing domestic enrolments to meet local demand. The offer rate for natural and physical sciences consistently exceeds 100%, meaning that some offers go to applicants with first preferences in other courses. However, this redistribution of places did not happen. One reason is that faculty research budgets are in practice linked to enrolment numbers, and universities did not want to reduce science research. Instead, universities waited on new places from government, which arrived in significant numbers from 2005.

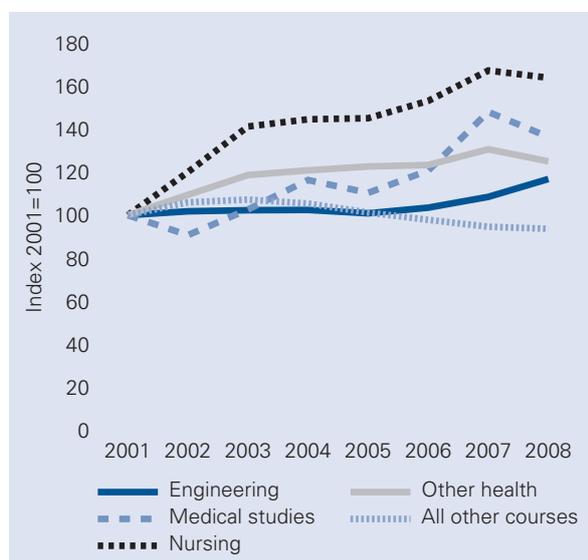
Figure 2: Offer rates for selected disciplines



Source: DEEWR, *Undergraduate Applications, Offers and Acceptances 2008*

Before the mid-2000s the need to increase student numbers was less apparent in engineering than health. National skills shortages started only in 2003, and graduate shortages the following year. The boom and bust cycles in engineering—as recently as 2001, new engineering graduates experienced double-digit unemployment rates—counted against rapid reactions to market shifts. As can be seen in Figure 3, demand for engineering places was flat in the first half of this decade. Only for the 2006 academic year did it start to grow, as the mining boom’s durability moved beyond doubt. As with health, however, it is new places, especially the nearly 1,100 new places allocated by the Commonwealth since 2006, driving offers upward.

Figure 3: Applications for places in areas of skills shortage



Source: DEEWR, *Undergraduate Applications, Offers and Acceptances 2008*

Note: Dental studies removed to make movements in other disciplines more readable, but it shows rapid increase to an index of 400 by 2008.

The system’s capacity to respond to student and labour market demand depends on two conditions that have not been consistently met: new places being available and distributed according to demand criteria. In many years since the mid-1990s, few or no new places have been made available. As recently as 2004, the first principle for distributing new places was equalising university participation rates between the States, not demand. A legacy of this approach is that States with strong demand for university education, such as Victoria, have high rates of applicants receiving no offers or offers for second or lower preference courses.

We can therefore have little confidence that the higher education system will respond adequately to student and employer demand. The system of centrally allocating student places lacks automatic adjustment mechanisms, relying instead on ad hoc changes through new places.² The two main contenders for alternative policy frameworks are the compacts model proposed in Labor’s 2006 policy white paper *Australia’s Universities: Building our Future in the World*, and a student-demand driven system with partially-deregulated student contributions, as suggested by the Group of Eight in their 2007 policy paper *Seizing the Opportunities*.

3.3 The compact model for funding student places

The compact model put forward in the 2006 white paper is a variation on the existing funding agreement system. The main differences are that the minimum number of student places per university would be removed, each university would have to engage in formal consultation processes to determine student and labour market demand, and the Commonwealth would monitor actively the overall trend of university enrolment decisions.

Under this system, the Commonwealth remains the main client of universities. Its funding to each university would drive the system. Compacts would determine which institutions could offer Commonwealth-supported places, and roughly how many. Consultations would make universities better informed about student and labour market demand than now. But with the supply of places largely fixed by the initial funding decision, the capacity to respond to this knowledge would be limited. The fixed funding envelope would prevent significant increases in student numbers, particularly in high cost courses—such as engineering and health. With competitors limited in this way, institutions would face little pressure to alter their enrolment profile to match student and labour market demand.

2 In 2008, an improved system of dealing with ‘over-enrolments’ was introduced, giving universities better rates of funding for students enrolled above their target number, with additional Commonwealth funding capped at 5% of their total student funding grant. There is no evidence in the offers data for 2008 that universities have responded to this incentive. This may be due to soft demand overall, still-inadequate funding rates, or a decision to see this change as helping to manage the normal variability in student numbers, but not providing the basis for any strategic increase in enrolments. The abolition of full-fee domestic undergraduate places from 2009 will reduce flexibility.

The compact model's dynamism would, as under the status quo, depend on a proactive funding agency. An independent funding body with a statutory responsibility to steer the system may perform this task more effectively than the departmental structure in place over the last 20 years. This would mean trusting a central planner to make the right judgments. As the medical workforce debacle demonstrates, an over-active central planner, like an under-active department, has major risks.

Compacts are more suited for policy problems that are not characterised by high levels of uncertainty and the need to coordinate in a flexible way the decision-making of large numbers of individuals. These are considered below at section 3.4.1.

3.4 Student-demand driven model

Under student-demand driven models, government funding for higher education institutions is driven mainly by student choices. Governments regulate this market through accreditation and quality control, facilitate it through income-contingent student loans, shape it through the tuition subsidies they offer, and use compacts to fix remaining market failures. But the micro-level decisions are left with higher education institutions and students. Ultimately, students decide which higher education providers receive public funding through the course choices that they make.

An important market design decision is which students get access to tuition subsidies. The main distinctions in the current system are between bachelor-degree students and other types of qualifications, and between public and private institutions. A more seamless tertiary education system would be created if a public funding entitlement applied to diploma and postgraduate courses. Incorporating diploma students would encourage smoother articulation between diploma and bachelor programs, an important access measure (see section 5.2). This reform would involve state governments, which currently fund diploma courses in the vocational sector. Extending the entitlement to postgraduate courses would remove the bias in favour of double undergraduate degrees as against a bachelor plus masters configuration, fostering diversity. It would also be fairer. Under the current system, some undergraduates will receive seven years of subsidised undergraduate education, while others receive only three years for a bachelor-level

course and then must pay full fees to complete a postgraduate qualification. In the case of students with a generalist undergraduate qualification, the postgraduate degree may be necessary to improve their labour market prospects. As now, a seven-year learning entitlement would limit the amount of subsidy that any one individual could receive.

In most student-demand driven funding systems, properly-accredited new institutions, public or private, are allowed to compete with established institutions, with students of both enjoying equal access to public tuition funding and student loans. This would be desirable in Australia, as we try to foster institutional diversity after an era of regulation and funding policy pressing Australian higher education towards a common comprehensive research university model. Universities and other higher education institutions could differ and compete on a wide variety of factors: disciplines offered, course levels, campus experience, location, student type (eg adult/school leaver), teaching methods and price are important variables.

Without places tied to particular institutions, institutions would have more capacity and stronger incentives to match their courses with student demand. This would enhance the 'effective and efficient investment' (terms of reference) of public and private funds in higher education. Dissatisfaction at not receiving a suitable offer partly explains why a quarter of school leavers reject their opportunity to enrol in university. Many others switch courses after enrolling. Though it is impossible to calculate the public and private cost of thwarted or delayed study, it is likely to be high.

Based on past patterns, student choices in a student-demand driven system are effective intermediaries between labour market demand and supply of student places. As Figure 3 shows, applications for all the courses in areas of high labour market demand have increased in recent years, while applications for other courses have declined. Where universities had the capacity to respond to increased demand, through new places, they have done so. The international student market also shows that universities are willing to respond to demand when freed from funding and regulatory constraints.

3.4.1 Fixing market failure through compacts

Student-demand driven systems can cause difficulties for disciplines that cannot achieve the necessary enrolment or fee levels to make them financially sustainable on student revenues. These might include some foreign languages or enabling maths and science courses. Under the current system, these disciplines are preserved by university funding agreements limiting their closure. However, this requires universities to sustain low-demand but essential courses out of their own revenues. The incentive is never to start courses that may fall into this category, in case they turn into long-term financial burdens. Instead, low-demand disciplines should be directly funded by government, creating a positive incentive to enter the field. Through a compact process, universities would agree to maintain disciplines in exchange for additional resources.

Similar issues arise for campuses that meet enrolment targets through students accepting second or lower preference course offers. While preserving campuses can be a legitimate social or economic development goal, the current system sustains them through inequitable means. It imposes heavy costs on students missing out on their higher-preference course, and on other students as funding for their education is diverted to sustain uneconomic campuses. The solution is for loss-making campuses to be financed from a central fund, on transparent criteria. Compacts with the universities involved would set out the services to be provided at each centrally-funded campus.

3.4.2 Limited or unlimited student places?

Some student-demand centred funding models, such as the scholarship scheme proposed by the Group of Eight, limit the number of publicly-supported places (where there are caps on full-fee places, these limits also restrict overall enrolment numbers). In 2007, the Group of Eight suggested academic merit as the criterion for distributing places. Open systems impose no express limits on student numbers, effectively leaving this matter to potential applicants, who must assess the value of further study against its time and financial commitments, and higher education institutions, which must assess the suitability of applicants.

If student places are limited, governments must determine who receives scholarships, without detailed knowledge of courses or individual applicants. At the margins of suitability for higher education, selection criteria that take no account of particular circumstances will appear arbitrary and unfair. National selection criteria that are set too high will inevitably affect applicants from low socioeconomic backgrounds the most. They have weaker average prior academic achievement than other students. National selection criteria could also be a major deterrent to institutions offering diploma courses aimed at preparing students for university study, one of the more promising pathways for improving low socioeconomic status (SES) access to higher education (see also section 5 on social inclusion).

3.4.3 Controlling costs

The principal advantage of limiting student numbers is that government can control its total expenditure more easily, by moving the selection criteria up when it wishes to contain expenditure. While it would be possible to impose this criterion on all education institutions should budget circumstances require it, we should not start with this position. Several factors will help moderate the costs of an open system.

Recent increases in the number of places have helped reduce unmet demand—the number of ‘eligible’ applicants not receiving an offer of a place—to low levels. Unmet demand statistics are upper estimates of the number of additional places needed for supply and demand to be in balance. All school leaver applicants with an ENTER of 56.2 or more, and all applicants without Year 12 scores, are deemed ‘eligible’ applicants for the purposes of calculating ‘unmet demand’. In reality, many of these applicants are unlikely to receive offers for their preferred courses under any system.

Demographic factors will moderate future demand for first-degree higher education courses. As the discussion paper shows (figure 8 at page 18), the school leaver population will decline from 2010. Mature-age enrolments for bachelor-degree courses are already in medium term decline, as younger cohorts are more likely to have acquired university qualifications after leaving school.

Not all domestic students would be eligible for subsidies. The seven-year learning entitlement introduced in 2005 will from 2012 remove 'perpetual students' from the subsidy system. Also, the price capping provisions associated with Commonwealth-supported places (see section 4.3) will leave some high-cost courses as entirely full fee, with no Commonwealth-supported places available.

Greater system efficiency is also possible. Micro-managed incentive programs such as the Learning and Teaching Performance Fund could be abolished as unnecessary where the market, informed of performance (see the proposal at section 8.2), already provides incentives for universities to focus on student satisfaction and positive labour market outcomes. Better matching of supply with initial demand could reduce the number of people switching courses. Currently, more than 20% of commencing bachelor-degree students are admitted to university on the basis of prior higher education study. Incorrect initial course choices could be reduced through more informed students making better choices and institutions being more responsive to those choices (more detail in section 8.2). Differential funding rates depending on institutional functions could also reduce costs (more detail in section 4). Growth in diploma enrolments, and in non-university providers which would not receive subsidies for research or knowledge transfer, would be cheaper for taxpayers than expanding through public university providers.

It is difficult to cost an open system precisely. We have not attempted to calculate how much incorporating diplomas would cost, as this would involve negotiations with the states. If all 2008 unsuccessful applicants for undergraduate places had received and accepted an offer, in the same pattern of disciplines as actual acceptances, this would have cost approximately \$100 million. For the reason noted above, this is an upper estimate. It would cost approximately \$125 million to convert full-fee students at private higher education providers to Commonwealth-supported status. If all full-fee postgraduate places at public universities became Commonwealth-supported, it would cost approximately \$200 million. It is not

possible to estimate how much these conversions would be reduced because of students reaching the limit of their seven-year learning entitlement or institutions only offering full-fee places. The government already has around \$105 million in the forward estimates to convert existing full-fee undergraduates at public universities to Commonwealth-supported places. There would also be an offsetting cost saving in the Learning and Teaching Performance Fund (\$90 million for 2008–09).³

Recommendations:

Lift quantity constraints on student numbers, and allow seven-year learning entitlement to be used from diploma to postgraduate coursework level.

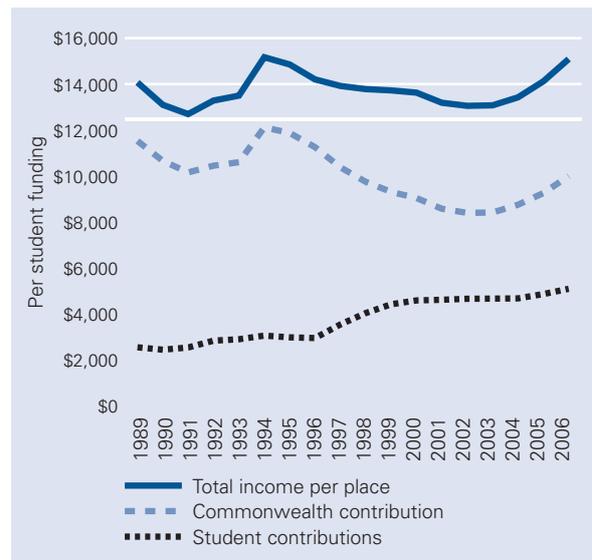
Use compacts to sustain rural campuses and low-demand disciplines.

3 Due to data limitations, all calculations involve assumptions and should be taken as indicative only. The funding rates, budget numbers, applications numbers, and existing Commonwealth-supported places are all 2008. Other student numbers are from 2007 or projections for 2007.

4. Funding of student places

The current system of setting funding per place is unsatisfactory. The discussion paper correctly described funding arrangements for students as ‘anomalous, inconsistent and irrational’. The same applies to the Commonwealth-controlled component of university funding. Figure 4 shows how funding per Commonwealth-supported place has changed since 1989. From 1994 to 2002 real cuts to per student funding were applied every year. A below-inflation indexation system was the main cause of this trend. At no point in this period was the capacity of universities to deliver quality higher education on this level of funding examined. Indeed, no such exercise has ever been undertaken. Twice—in the late 1980s and 2007—existing spending patterns have been investigated. However, this reflects what universities can spend, rather than what it costs to meet standards appropriate to each course. Though the increase in funding since 2003 is welcome, it was primarily based on funding increments and programs without any direct relationship to current costs, quality standards, or student preferences. From 2008, universities return to the below-inflation indexation of their core per student funding, partly offset with a once-off \$500 million payment for campus infrastructure renewal. In subsequent years, the Education Investment Fund will provide some additional capital funding.

Figure 4: Per student funding for Commonwealth-supported coursework and research training places



Source: DEEWR. Constant \$2006.

Note: Excludes research except for research training. Includes programs aimed at assisting students as well as direct per student funding.

Figure 4 reflects funding for Commonwealth-supported students, not how much was actually spent on them. Because universities have other revenue sources, particularly from full-fee students, per student spending has generally been maintained at levels above what would be possible on Commonwealth and student contributions alone. Calculations on the extent of under-funding of Commonwealth-supported students have some inherent difficulties, due to universities co-producing teaching, research and knowledge transfer. With shared staff, infrastructure and overhead costs estimates are required to distribute costs.⁴ On the revenue side, all Commonwealth Grant Scheme and student contribution amount income is included, but not Learning and Teaching Performance Fund income. Though this has supplemented per student income in recent years, the variables of changing funding criteria and relative performance against other institutions,

⁴ Staff activity codes in the University financial system have been used to attribute salary costs by function, and indirect costs have been allocated according to the share of University revenue derived from teaching and research activities.

and announced cuts to the program, make it of uncertain future financial significance. With these qualifications, we estimate that at the University of Melbourne income per Commonwealth-supported student is approximately \$2,000 less than average per student spending across the University.

Though it does not examine the adequacy of base funding, the only multi-university study of spending by discipline was carried out by Access Economics and published in 2007.⁵ It looked at the 'relative funding model' (RFM) that is the basis of the current funding system, under which disciplines are funded on a multiple of a base amount. In the six universities examined, covering 22 disciplines, it found that in half spending exceeded what the RFM allowed for, in six the RFM was approximately correct, and in the remaining five the RFM allowed for more funding than current spending. To the extent the RFM was ever accurate, it was by 2007 out of alignment with spending realities. Some changes in the 2007–08 federal budget left most of these issues unresolved.⁶

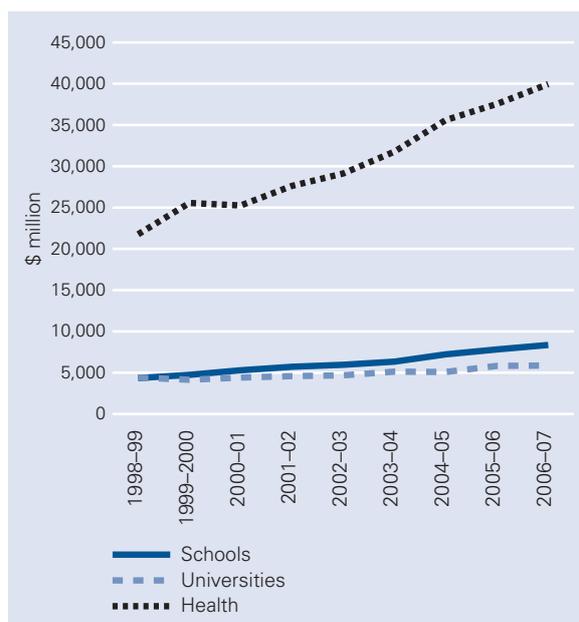
4.1 The politics of funding

The inevitable issue this funding history raises is whether the public can have confidence in the Commonwealth's capacity to fund higher education in an appropriate manner. The problems have been chronic and bipartisan. They are not just the result of particular governments or ministers not being sufficiently committed to higher education. Universities lack the political strength to push their case against other demands on government spending with much higher political salience. Schools, for example, have an electoral constituency many times the size of that available to higher education. They have secured an indexation system which awards them real increases rather than real cuts. Health spending, which potentially affects almost every Australian, has increased at a very rapid rate. Figure 5 shows the funding trends since 1998.

5 Access Economics, *Higher Education: Cost Relativities and Pipeline*, report to the Department of Education, Science and Training, March 2007.

6 The 2007–08 Budget provided funding increases for the following disciplines that are under-funded according to the Access Economics report: mathematics and statistics, allied health, visual and performing arts, nursing, medicine, dentistry and veterinary science. It also provided funding increases for behavioural science, social studies, foreign languages, engineering, science and agriculture that did not need it, based on the Access Economics report. Averaged across the sector, the increases amount to about 3% per Commonwealth-supported student.

Figure 5: Commonwealth spending on schools, universities and health



Source: ABS, *Government Finance Statistics*, Cat. 5512.0

Note: ABS university data does not include research funding.

If there can be no confidence in adequate public funding of higher education, alternative private sources are needed as insurance against the forced cost-cutting that has occurred since 1989, such as increased student:staff ratios and the rundown of university facilities. While universities are actively seeking increased philanthropy, the only realistic option is to allow students to increase their co-investment in higher education. We know from past experience with HECS contributions, and from the booming full-fee market, that students are willing to make this investment in their education. Easing regulation on maximum fees would also protect would-be Australian students from policies that encourage universities to enrol international students instead, even when—as occurred in the health professions—an urgent need exists for more Australian graduates.

4.2 Student co-investment

In the past, HECS increases have required students to pay more for the same education. However, fewer restrictions on student co-investment can benefit students by giving them more choices between types of institution and the option to vary the educational services they receive. While public funding can help engineer institutional diversity and improved student choice, it will emerge only slowly through institution-by-institution compact negotiation on unique funding

rates or mixes of funding programs (such as knowledge transfer). Changes requiring public investment will stall each time macroeconomic policy dictates spending constraint. If institutions are free to offer more expensive courses, this diversity will emerge more quickly. This is already happening in the private higher education sector since FEE-HELP was made available to its students.

Less control on student co-investment assumes that most students, as intelligent adults, are able to make decisions about the costs and benefits of different educational options. Government has a role in making available information to increase the quality of decision-making (see section 8.2), but otherwise students can decide whether it is worth paying more to purchase different teaching methods, class sizes, campus experiences or other factors that they think are relevant. These choices will allow students to maximise their individual potential, and through that the contribution they can make to society as a whole. Fewer restrictions on student co-investment will also allow universities to restore services lost as a result of the voluntary student unionism legislation.

4.3 Fee regulation

As in other markets, the main factor regulating price would be market competition. We can see from student reaction to full-fee places that students resist paying prices they see as too expensive. For example, though Victoria has very high rates of students receiving offers for second or lower preference courses, of over 40% in 2007, only 14% of applicants put a full-fee course on their preference list, and only 4% enrolled in a full-fee course. This indicates a high willingness to take cheaper substitutes. University concerns about access and equity would also moderate prices or see higher fees offset with scholarships for disadvantaged students.

Though fears of unaffordable fees are overstated, retaining some fee regulation would assure the public that fees would not escalate excessively in Commonwealth-supported places. Careful initial analysis of costs by an independent regulator with the necessary economic expertise is necessary for this to be done without compromising the benefits of reduced constraints on student co-investment (see section 8.2). The approach of utility regulators like the Victorian Essential Services Commission,

which in setting maximum retail prices has to take into account both preventing misuse of market power and industry viability, may provide some guidance here.

The regulator's main task would be to estimate the minimum per student spending necessary to achieve the graduate outcomes expected for diploma, bachelor and postgraduate courses in each discipline area. It would be expected to look at the requirements of accreditation authorities, professional bodies, expert views on class sizes and teaching methods, and technological requirements. Veterinary science, for example, cannot be taught on current Commonwealth-supported student rates partly because the technological requirements have changed dramatically since the RFM was conducted. Ultrasonic imaging, computed radiography, and a large number of other diagnostic facilities were simply not envisaged 20 years ago. The University of Melbourne is responding to a sector-wide problem of too little classroom experience during teacher education courses through the creation of a new Masters of Teaching on a clinical model, but this adds significantly to the costs of provision. Given the large number of international students enrolled in Australian universities, and the plans many Australian students have to work overseas, this exercise requires an international dimension.

The results of these studies would set the baseline price for Commonwealth-supported places. Universities and other higher education institutions would then be permitted to vary the price up to a specified percentage, perhaps 30%, more than the baseline. This would allow more expensive options to be added, and also serve as a safety margin to insulate standards from the consequences of reductions in Commonwealth spending. The balance between Commonwealth and student contributions within the base amount would be a political decision, made in the context of the overall macroeconomic situation, the evidence in support of added subsidy, and the Commonwealth's other spending priorities. The base and the cap would be indexed to inflation and periodically reviewed by the regulator.

Price regulation would apply only to Commonwealth-supported places. Institutions would be able to offer full-fee courses at prices they set for international students and for courses they decide to keep outside the Commonwealth-supported system. This would permit current high-fee courses to continue to be offered.

Recommendations:

Make student co-investment flexible to improve institutional diversity, quality and student choice.

Set, by an independent regulator, base cost amount by field of study, on which the maximum student co-investment can be calculated.

4.4 Commonwealth financial assistance

In traditional economic analysis, tuition subsidies are used to remedy market failures—where the prices set by the market are (or would be) too high to attract enough demand or too low to induce sufficient supply. Though there are significant private benefits from acquiring higher education, there are also public benefits from an educated workforce and citizenry, and the direct contribution of university academics through knowledge transfer. In a pure market, these may be undersupplied, particularly for courses that do not offer high salaries on completion or which would have very high fees without tuition subsidies. Particular groups within society may also react more adversely to prices than others, and many countries have offered lower fees to people from low-income backgrounds to encourage their participation in higher education.

The current tuition subsidy system is primarily driven by historical factors. For most disciplines, the amount they receive is based on the RFM less 1997 HECS rates. Since the starting point is not a sound cost assessment, and the 1997 HECS rates were rough estimates of capacity to pay more than a decade ago, clearly there is cause for tuition subsidy rates to be reviewed. This review would need to be conducted in the context of the costing exercise discussed above, taking account also of recent labour market and student demand data. Where student demand appears soft for disciplines of strategic importance this may be a case for increasing tuition subsidy levels.

However, policymakers need to keep in mind that discounting costs to students may not always be the most effective way of achieving their policy objective. The discussion paper notes the very limited success fee reductions have had in attracting more students. With income-contingent loans (see section 4.5 below), the financial benefit of lower fees is postponed for many years for the 80% of students who defer their student charges. It is taken in the form of HELP debts being repaid at an earlier time than would otherwise have been the case.

More immediate benefits such as improved student income support schemes (see section 5.3) or bursaries aimed at particular disciplines may be more effective financial incentives. In recent times, direct marketing of particular disciplines has also been used more frequently. For example, NSW Health's 'There's More to Nursing' campaign was launched in late 2006. NSW applications for nursing places were about 9% higher in 2007 and 2008 than they had been in 2006. Responding to shortages in its profession, the Institute of Chartered Accountants has this year been actively marketing accounting as a career. These campaigns recognise the vital role of career interests in shaping university applications.

For higher education institutions, a surer way of maintaining strategic disciplines than reducing costs to students, with their often limited price sensitivity, is the direct funding discussed at section 3.4.1. This can be designed to intersect with the tuition subsidy system, so that as student numbers increase the discipline loses some but not all of the compact funding. This guarantees the discipline's survival while preserving incentives to improve enrolment levels.

There is considerable scope for more sophisticated use of public funds to improve higher education and labour market outcomes.

Recommendation: Revise government tuition subsidy levels in light of new empirical evidence.

4.5 Student loans

The Australian policy innovation of income-contingent loans has been an internationally copied success. However, as the discussion paper notes, as the idea has expanded anomalies have developed. With three separate schemes—HECS-HELP, OS-HELP and FEE-HELP (with VET FEE-HELP within FEE-HELP)—a student taking each to their maximum could borrow more than \$170,000 (table A8). This would only be possible by taking both full-fee and Commonwealth-supported courses. Students taking only one or the other would be entitled to borrow far less. Undergraduate students pay a FEE-HELP loan fee, adding 20% to their debt to cover some of the cost of a real-interest-free loan. But for no apparent logical reason, postgraduate students enjoy borrowing funded entirely by taxpayers. Students enrolled at Open Universities Australia can borrow under FEE-HELP to fund a single unit of study, but students at other institutions must enrol in a course or pay up-front. All the HELP schemes should be replaced with a single Tertiary Education Loans Scheme (TELS), with common conditions that do not distort student preferences with inconsistent rules and charges.

The current lifetime HELP borrowing limit ought to be replaced with a limit at any one time. Graduates who have repaid debt are likely to be low credit risks.

Given the cost to the Commonwealth of holding the HELP debt, HELP debtors working overseas should be required to continue repaying while away. Given the high movement between England, Australia and New Zealand, all of which have income-contingent loans schemes for students, there is scope for international cooperation to ensure debt repayment.

Recommendations:

Replace all HELP schemes with a single Tertiary Education Loans Scheme, with consistent rules and charges.

Apply student debt maximums at any one time, not a lifetime.

Continue student debtors repayment while working overseas.

5. Social inclusion

5.1 Causes of differences in university attendance rates

Major socioeconomic differences remain in the rate at which young Australians attend university. Despite decades of access and equity policies, the son or daughter of a professional is more than twice as likely as the son or daughter of a tradesperson to go to university after leaving school. Though the children of blue-collar workers are much more likely to attend university than they were in the 1970s or 1980s, their share of all enrolments is stable (table A9). A simultaneous large increase in university attendance among young people in higher socioeconomic groups left the relativities unchanged.

It is now well-understood that this issue is far more complex than the cost of education to students. The effect of HECS charges and debts on low SES groups has been investigated many times since 1989. Anecdotal reports exist of costs and debts deterring potential low SES students, but researchers have been unable to find evidence showing this to be the case.⁷ If low SES students were particularly sensitive to cost and debt, their commencing numbers should drop in years when HECS charges increase. Instead, their numbers rose in 1997 and 2005, despite substantial increases in student charges starting in those years (table A10).

The major factor affecting who goes on to university from school is school completion and school results (and these in turn are affected by outcomes earlier in the education lifecycle). Research by Buly Cardak of La Trobe University and Chris Ryan of the ANU, drawing on data that included both socioeconomic background and school results, found that school results were the only significant factor that correlated with university attendance. For a given Year 12 result,

rates of going on to university were the same for low and high SES students.⁸

In the long term, only improving educational aspirations and achievement at school will make a significant difference to SES differences in university attendance.

5.2 Role of higher education policy

In the short to medium term, higher education policy can assist social inclusion in limited ways. Removing limits on higher education student numbers, as proposed in section 3, would most benefit students with weaker Year 12 results, who are disproportionately represented in this group. The decline in their numbers in 2003 and 2004 was due to universities cutting back on so-called 'over-enrolments', which in an academic merit-based admissions system hits hardest those with weak school results. The strong increase in 2006 low SES commencing enrolments was due in part to a substantial increase in Commonwealth-supported places. This policy change would produce small but immediate enrolment increases among those low SES applicants who cannot find an institution willing to accept them.

The reforms proposed in this submission would enhance medium-term low SES access in other ways. The abolition of current quantity constraints and admission of non-university providers to the tuition-subsidised market would create new recruitment incentives. Currently, it is TAFEs and private higher education providers who are putting most effort into targeting the below-bachelor undergraduate market as a transition point into bachelor-degree education. In 2006, they had 20% of enrolments in these courses compared to less than 3% of bachelor-degree enrolments. They need new students, while most public universities can fill all their places on existing demand.

7 There is a literature survey to 2003 in Bruce Chapman and Chris Ryan, 'The Access Implications of Income Contingent Charges for Higher Education: Lessons from Australia'. Centre for Economic Policy Research, Australian National University, Discussion Paper No. 463, April 2003.

8 Buly Cardak and Chris Ryan, 'Why are high ability individuals from poor backgrounds under-represented at university?' Discussion paper A06.04, La Trobe University School of Business.

Treating the upper levels of VET and higher education as one 'post-secondary' system, including extending the funding system to cover diplomas and advanced diplomas, would offer more opportunities to design courses attractive to this market, allowing easier transitions from a vocational to a higher education course when people are ready. Particularly for young men from low SES backgrounds, who are more under-represented than women, those who go on to further education tend to enter the vocational rather than the higher education sector. These may also be suitable pathways for some of the several million Australian workers who lack any non-school qualifications. Importantly, this system provides exit points with credentials, minimising the risk that students will leave with nothing to show for their efforts.

Low SES students are also under-represented in high-prestige courses such as law and medicine, at least partly because of their very high academic entry requirements for these degrees. This advantages applicants from professional families who went to private or government selective schools. Graduate entry to professional qualifications, such as the Melbourne Model, replaces school performance with university performance as the academic selection criterion. This broadens the pool of applicants with realistic prospects of selection.

Beyond these issues, we need a more sophisticated understanding of who goes to university and why or why not, and of the long-term consequences of these decisions. This is an important role for a new regulatory body (section 8).

5.3 Student income support

Though education aspiration and school results are the most important factors explaining socioeconomic differentials in higher education enrolment, we should remain alert to other factors. For example, the availability and level of income support may affect not just whether or not people attend university, but also their course choices (eg shorter courses or courses that let them live at home over the otherwise most appropriate choice) and the amount of time they can devote to study while also working to support themselves.

The financial difficulties many students face while studying has been extensively documented in the Universities Australia report *Australian Student Finances Survey 2006*. It reported that 15% of undergraduate students had gone without food

or other necessities because they could not afford them. These difficulties have become more severe since, especially for students living away from home as tight rental markets push up accommodation costs. In metropolitan Melbourne, rents rose by an average of 12.5% in 2007, and rental properties at any price have become very scarce in the suburbs close to the University of Melbourne.

Most students (67%) do not receive any direct income support from the Commonwealth through Youth Allowance, Austudy and Abstudy. Low benefits and strict conditions, including rapid loss of support if personal or parental earnings exceed modest amounts, mean that average benefit paid is low. A student living away from home receiving Youth Allowance and rent assistance is permitted to earn \$35 a week less than the Henderson poverty line of \$378 a week before losing benefits. Because 50 cents in the dollar is lost above the earnings threshold, this requires students to double their work time to reach the poverty line.

Youth Allowance treats very differently those students living at home and subject to the parental income test, and those living at home but classified as 'independent', mainly by meeting various work or earnings requirements. The latter can receive Youth Allowance of \$233.90 a fortnight no matter how much their parents earn, while the former start losing their entitlements when their parents earn more than about \$670 a week (the precise amount varies according to other household factors). Census data on 18 and 19 year olds living at home show much larger increases in university attendance between 18 and 19 among higher income families, consistent with delays in commencing university study to qualify as 'independent' (table A11).

It is anomalous that students from high-income families can qualify as 'independent' while living at home and avoid the parental income test, while it catches students from much poorer families who must move to study. This is the situation of students from rural areas in particular, who have no or limited study choices close to home. In these cases, genuinely independent students are forced into severe financial stress because they are either not eligible at all, or because Youth Allowance payments plus maximum earnings from work are not enough to live on. It is notable that retention and success rates at university vary more by urban/regional/remote differences than by SES (table A12).

The overall student income support system is also very complex. Students from families in the lower-income brackets have three potential sources of Commonwealth support: Youth Allowance, Family Tax Benefit A (FTB A) and Commonwealth Scholarships.

Youth Allowance and FTB A interact in a particularly confusing way. Households can receive one or the other for a dependent full-time student aged 24 or under. Though students earning less than \$236 a fortnight are entitled to some Youth Allowance until their parents' income reaches about \$1,140 a week, beyond about \$1,016 a week the household is better off forfeiting Youth Allowance and taking the FTB A payment instead (the precise cut-offs vary depending on other family circumstances). If the student earns more than \$236 a fortnight, the calculation is more complicated still. Under FTB A, a dependent student can earn up to \$472 a fortnight before payments are affected. Families would need to use a spreadsheet to work out which option is better for them.

Commonwealth Scholarships are not counted towards income tests, but they are limited in number and students must apply for them separately, to the university they want to attend, rather than through Centrelink.

Though the student income support system is very poorly designed, it is difficult to remove all the anomalies without causing hardships and injustices in individual cases. Significantly extending eligibility and increasing payment rates would, however, lead to expenditure increases that are unlikely to be acceptable to government. Priorities need to be set.

The most urgent situation is students living away from home, particularly those students needing to move to study because of limited options near their home. They need to be able, through a mix of benefits and reasonable work hours, to earn enough to live on. The various existing poverty line measures may be helpful in determining this amount.

After them, students from low and middle-income groups living at home are the next most urgent priority. A relaxation of both the parental and personal income tests would significantly improve their situation even without changing the base rate of Youth Allowance.

These reforms could be financed by abolishing FTB A for parents of students and the Commonwealth Scholarships, and by tightening the test for independent living-at-home Youth Allowance. Under the current system, students working only 15 hours a week for two years—only slightly above the average paid work hours for full-time undergraduates—can be classed as 'independent' of their parents. The test should be revised so that only those with work records that could make them genuinely independent of their parents qualify for benefits.

This entitlement-based income support scheme would be superior to the Commonwealth Scholarships. It would be fairer, because students in similar circumstances would receive the same benefits. It would have stronger influence on low SES young people considering study, because it would be an entitlement to income support, not just a possibility. And it would greatly simplify their income support calculations, making all the information easily accessible at a single place on the Centrelink website.

Fully sorting out student income support requires detailed analysis of current beneficiaries and those not receiving support, along with cross-portfolio negotiations on FTB A. This is likely to be too large a task for this current review. The review panel could helpfully recommend that another, more specialised review be set up to investigate the options.

Recommendations:

Establish a further specialist review to devise a new income support scheme.

Simplify the income support scheme for students to understand, give highest priority to those in most financial need, and allow students to reach at least poverty line incomes through reasonable work and benefits.

6. Research and research training

Australia's knowledge base, economy, health outcomes and workforce are all influenced by the strength of the research sector. In Australia, the higher education sector provides 27% of research and development (R&D) activity, well above the OECD average of 18%. However, this reflects low Australian business R&D more than high Australian university R&D. Australia's investment in R&D as a proportion of GDP is substantially lower than in other OECD countries.

Dedicated public research funding for Australian universities into two main categories, direct project funding and institutional block grants. Competitive grants, such as those from the Australian Research Council (ARC) and National Health and Medical Research Council (NHMRC), fund applications for specific research projects. For these grants, quality is measured directly by peer review. Block grants on the other hand are formula driven, based on 'performance' as measured on various criteria. The Research Infrastructure Block Grants scheme (RIBG), the Institutional Grants Scheme (IGS) and the Research Training Scheme (RTS) are all formula driven. Larger-scale research infrastructure is funded through the Linkage Infrastructure Equipment and Facilities fund (LIEF) scheme and the National Collaborative Research Infrastructure Strategy (NCRIS).

From 2009, the Education Investment Fund will support a limited number of major research infrastructure projects. Some infrastructure is funded outside these schemes on an ad hoc basis.

6.1 Policy issues in research

6.1.1 Partial funding of competitive grants

The research funding architecture could work well, with block and infrastructure grants supporting the delivery of project grants and providing scope for institutions to develop their own research priorities. In practice, however, resources are spread too thinly for the system to operate effectively. For the funded projects to be successfully delivered, universities are drawing on revenue from other sources to sustain their research output.

In its submission to the innovation review, the ARC states that in 2007 it funded on average 65.4%

of the requested amount in approved Discovery Project applications, without reducing project scale or outcome requirements. In previous years, the figure was lower. For 2006, the gap between requested and approved funding for Discovery and Linkage projects would alone consume nearly all the money allocated sector-wide for the IGS, leaving almost nothing for the general research fabric that the IGS is intended to support.

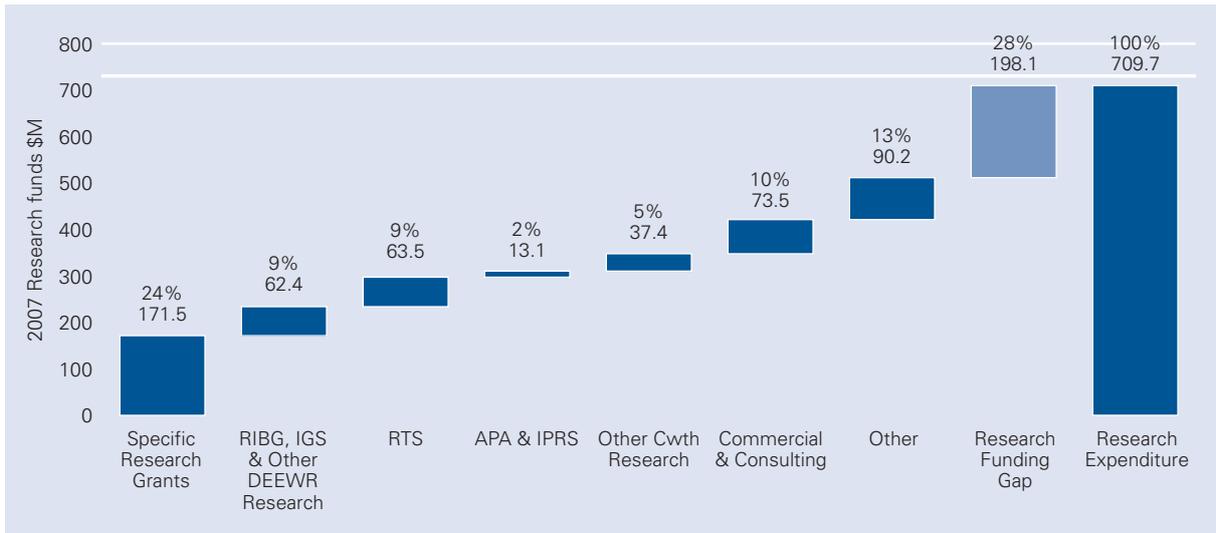
In addition to the individual project gaps, there is a more general funding problem for research. Collectively, direct project funding, RIBG and IGS do not fully support the cost of research programs. Even when other government research funding and additional sources (such as commercial revenue) are included, a substantial shortfall remains.

The consequence of this research funding gap is that research-intensive institutions must support their research activities from other sources. Indeed, the more successful an institution is in obtaining national competitive research grants, the more it must subsidise such research from other revenue sources. This creates a perverse incentive. Figure 6 shows the University of Melbourne's estimated research expenditure and compares it with research funding sources. Over a quarter of research expenditure is supported by revenue not earmarked for research, principally from the University's investment earnings and from fees paid by full-fee students. This puts the University's research output at risk from fluctuations in these revenue sources.

Under-funding of competitive grant research projects leaves too few university resources to fund other research activities, maintain staff continuity, or keep infrastructure up-to-date.

In the UK, the Government has embraced a full economic cost model for research. Like Australia, the UK allocates block grants to universities and provides specific project funding through a variety of research councils. The block grants are distributed according to an institution's ability to demonstrate 'the quality of their research by reference to national and international standards' and are designed to support salaries of permanent

Figure 6: University of Melbourne research funding sources



Note: Because the same staff and infrastructure are used for both research and teaching, and overheads are shared, some research expenditure can only be estimated. Staff activity codes in the University financial system have been used to attribute salary costs by function, and indirect costs have been allocated according to the share of University revenue derived from teaching and research activities. 'Other' includes Victorian Government and miscellaneous other sources of research income.

academic staff, buildings, libraries and other central costs such as IT. UK competitive grants, like Australia's, fund specific projects and programs. Most importantly, in contrast to the Australian system, these grants are required to fund 80% of the full economic cost of the work performed. The full economic cost model requires costs to be determined using a transparent approach to costing (TRAC), developed by the UK Government in 1999 as part of its Transparency Review. Institutions have TRAC trained staff who determine the full costing of research.

The Australian system must move towards a full economic cost model. It has been suggested that enhancing the RIBG funding levels will resolve Australia's current research funding problems. In overseas jurisdictions, such as the United States, which have avoided the rundown in university infrastructure seen in Australia, the equivalent block grant percentage is much higher. Examination of the RIBG contribution in Figure 6 indicates that even a large increase in this scheme will only partially fill the research funding gap. For research to be fully funded, the individual grant value, the RIBG, and the IGS contributions all need to be enhanced.

The percentage of requested funds provided to successful applicants should be increased beyond the current two-thirds for ARC Discovery Projects. This value should not necessarily be 100%, because this might prevent the ARC and NHMRC from managing grant applications that request more funding than is reasonably required for project success. The ARC may need additional

audit capacity to determine whether or not funding requests are excessive.

RIBG and IGS funding needs to be augmented in a progressive fashion until a full economic cost value of infrastructure is reached. The existence of both schemes promotes a variety of University activities, rewarding success in competitive grant programs as well as institutional ability to attract non-government resources. Additionally, both depth and breadth of research are supported by having the two schemes.

An appropriate method of determining the full cost of research in the Australian context should be developed by an independent and expert body, such as the Productivity Commission, in consultation with higher education institutions and trialled prior to full implementation.

Once a method of calculating the full economic cost of research has been determined, the existing project and institutional block grant schemes can be reconfigured to implement this principle. A variety of policy design approaches will need to be considered.

Recommendations:

Engage an independent expert body to determine a mechanism for calculating the full economic cost of research in Australia.

Progressively enhance direct project funding, RIBG and IGS until the full economic cost of research is reached.

6.1.2 Low competitive grant and fellowship success rates

The under-funding of project costs has increased despite a reduction in the number of grants approved for any funding by the ARC. In 2007 the ARC received a total of 4112 Discovery Project proposals, of which 878 were funded, representing a success rate of 21.4%. The success rate has dropped from a recent peak of 30.9% in 2005, with the number of funded projects dropping 177 over the same period. Though the success rate for Linkage Project grants is much higher, it has dropped from 51.8% in 2001 to as low as 36.2% in 2005. Many high-quality research project applications are rejected on grounds of insufficient ARC funds, not insufficient quality. The one in five ARC application success rate needs to be increased to somewhere between 30% and 40%; a balance between healthy competition on quality and not losing important research projects and researchers through a low chance of project funding.

Currently applications for ARC early career researcher fellowships have a success rate below that of project grants of 17.8%—less than 1 in 5 supported (2008 ARC figures). As researchers move beyond this band into the mid-career range, the success rate drops to 13.7%—approximately 1 in 7 supported. If candidates are successful in winning such fellowships, they then face the difficult task of entering the permanent academic workforce. Unable to offer career paths, Australian universities lose talented researchers to other professions and to overseas institutions, which can offer greater career stability, better pay, and superior infrastructure. The 2007 Changing Nature of the Academic Profession survey found that three-quarters of respondents had considered changing jobs, including 38% to outside the higher education sector, and 25% to a position overseas. The long-term consequences of this will only become fully apparent as current senior staff retire, without a sufficiently large number of successors already working in the Australian university system.

Recommendation: Increase competitive grant success rate to fund research potential and maintain the academic workforce.

6.1.3 Research higher degree students

The standard of Australia's R&D sector as a whole—not just in universities—depends heavily on providing internationally competitive research training environments. The current Research Training Scheme does not closely link research excellence and research places. Competitive grants are the main excellence-driven element of the research funding system, but these are only one component of the 40% research income element of the RTS funding formula. As a result, funding for RHD students is disproportionately directed towards institutions with poor competitive grant performance and low research outputs. Within their funding allocation, institutions are also free to put research higher degree students in areas where the institution does not have research strength.

RHD students, and their future employers, are disadvantaged if they cannot acquire competitive research training in locations that demonstrate a high-performance research culture. RHD students should only be funded where a quality research training environment is available.

The scholarship levels for RHD students also need to be enhanced to attract high-quality PhD candidates. Stipend rates of around \$20,000 a year for Australian Postgraduate Awards, and \$26,000 a year for Australian Postgraduate Award (Industry), are well below what recipients could earn by directly entering the workforce. The median starting salary for bachelor-degree holders in 2007 was \$43,000 a year.

Recommendations:

Locate research higher degree students in high-performance research locations.

Increase scholarship levels for research higher degree students.

7. Knowledge transfer

All public universities provide public benefits in addition to their teaching and research activities. These activities go under different titles at different institutions. At the University of Melbourne we organise them around the concept of 'knowledge transfer'. At other institutions it is called community or regional engagement.

The University of Melbourne contributes its expertise to the community, government, business and the not-for-profit sector through many paths: commercialisation, policy advice, public debate, and partnership and exchange, and cultural leadership. Since 2006, the University has pursued a strategy of explicitly incorporating 'knowledge transfer' components in all its activities, including its new degrees and staff promotion criteria. Knowledge transfer is an important part of how the University delivers public benefit.

The University of Melbourne, like other universities, is not separately funded for most knowledge transfer activities. The previous Minister, Julie Bishop, stated in 2006 that these university functions were funded through block grant programs. However, on our analysis these block grants significantly fall short of the funding required to support existing teaching and research responsibilities. With the funding drivers being student load or research performance, there is no direct incentive to engage in knowledge transfer or community engagement activities. As other financial demands on the sector grow, capacity to fund these activities shrinks.

In a competitive and financially-constrained environment, this puts knowledge transfer at a disadvantage compared to teaching and research. If a practical funding scheme could be found, it would be desirable to create a national scheme or schemes that funded universities for their knowledge transfer function. This would continue the long-term trend of funding specifically the different functions of universities, while avoiding the expense of paying implicit subsidies for knowledge transfer activities to institutions that, in a more diverse system, make no claim to knowledge transfer or community engagement. Students at for-profit higher education providers should not lose tuition subsidies because of their choice of institution, but the institution itself should not be paid for knowledge transfer activities.

Clearly, measuring knowledge transfer output and devising performance incentives and accountability mechanisms are major policy challenges. Knowledge transfer outputs and activities are very diverse, with no ready-made common metric for quantifying output or assessing impact. The costs of knowledge transfer can be difficult to calculate precisely when it is co-produced with scholarship or research. The University is working on measures of impact and is happy to share the results, when they become available, with the review panel. The alternatives are to use compacts to support particular knowledge transfer projects, or to nominally earmark a proportion of teaching or research grants for knowledge transfer activities.

Recommendation: Devise a funding scheme for knowledge transfer, separate from teaching and research funding streams.

8. Regulation

Over the last 20 years, regulation has been divided between the Commonwealth and State education authorities. Under the system we are proposing, a new agency set up on a cooperative basis by the Commonwealth and the States, but with operational independence from both, would be the main regulatory body. It would take over existing regulatory functions including registration of institutions, accreditation of courses, quality assurance, adherence to funding conditions, and compliance with rules relating to the provision of education to international students, here and overseas. It would also have significant data collection, analysis and dissemination functions. It would be broadly similar to the Australian Tertiary Education Commission (ATEC) proposed by the Group of Eight in 2007.

An independent body would be desirable for several reasons. ATEC would have significant regulatory functions, being responsible for the accreditation and quality assurance of all higher education institutions, and deciding whether institutions met these and other criteria necessary for access to the funding system. These decisions need to be made, and be seen to be made, impartially according to the law. The history of institutions gaining access to federal funding via lobbying, especially in the case of national priority places and Carnegie Mellon University's access to FEE-HELP, means that there is doubt over the fairness of these processes that needs to be removed.

ATEC would have significant data collection and dissemination functions, so its status should in this regard be equivalent to that of the independent Australian Bureau of Statistics. This would avoid any suspicion of manipulating the timing of releases.

With the States being asked to give up existing accreditation roles and part of their funding for vocational education, an independent body would limit perceptions of a Commonwealth takeover. This could be constituted by both Commonwealth and State legislation to help preserve stability and the independence of institutions.

It would not be the job of ATEC to make or comment upon decisions that are properly reserved to the government of the day, unless it received a specific request from the Minister to do so. For example, ATEC would not directly advise the Government on public funding for higher education. That is a political decision that the Government needs to make in the context of the overall macroeconomic situation and competing budget priorities. Similarly, the content of compacts, such as decisions about which campuses to keep open through specific funding support, support for knowledge transfer, and whether to support particular disciplines, would be matters for the Minister.

8.1 Quality assurance

Effective quality assurance should be based on substantive quality rather than process. This implies that accreditation and review should not be process-based. Successful outcomes are an excellent proxy for processes that work, and unsuccessful outcomes will not fare well with students who can choose to go elsewhere: a choice-driven system is in itself an accountability mechanism.

Self-accrediting institutions should continue to self-accredit, but also be willing to subject their curriculum, teaching, and assessment of courses to periodic external review carried out by an expert panel including at least one overseas member.

Accreditation and quality assurance of new institutions should be carried out against a set of minimum standards to prevent sub-standard offerings entering the market. Non self-accrediting institutions should become self-accrediting following a strong track record of continually being accredited, e.g. after three cycles.

These arrangements will entail bringing the current responsibilities of AUQA, and of State accrediting bodies, within ATEC, which would have authority over vocational and higher education. This would also remove the duplication and expense of current state-based registration arrangements.

8.2 Data-collection and analysis

A TEC should take on the role of routine higher education data collection, from applications through to completions, currently carried out by the Commonwealth Department.

It would also maintain the existing goingtouni.gov.au website, but significantly expand its functions so that it was an integrated source of advice to potential students. It should include general career information, including options for entering various occupations, with links to the relevant courses. Labour market information, such as the job trends data and typical starting salaries already provided by the Department's labour force section, should be available here. Student satisfaction data, such as that long collected in the Course Experience Questionnaire, and in the new Australian Survey of Student Engagement, would also help inform student choices. Much of this data already exists; A TEC would make it easily accessible to potential students.

In addition to this student-oriented data function, government and the sector need far more comprehensive and sophisticated data collection and analysis. As noted in section 4.3, A TEC would be responsible for tracking cost trends in the sector, something that has never been done before. Though A TEC would not give advice on tuition subsidy levels, it is difficult for government to make decisions about the appropriate mix of Commonwealth and student contributions without this information. A TEC should also be responsible for longitudinal studies that could provide a much better understanding of the characteristics of those people who enrol in higher education compared to those who do not, and the consequences of these decisions for these people. The Longitudinal Survey of Australian Youth (LSAY) has been a very valuable source of information for school policymakers. In the United States, the College and Beyond survey has been a rich source of data about the long-term outcomes of American college graduates.

Recommendations:

Create an independent and national regulator responsible for accreditation, quality assurance and access to funding system.

Improve data collection and analysis for the benefit of students, the sector, and government.

9. Conclusion

Major reform of the Australian higher education system has occurred at regular intervals over the past 35 years. This is in itself a sign of weakness in the policy framework: that the system cannot adapt to changed circumstances. In the United States, the basic 'rules of the game' have been stable over decades. Because these incorporate a high degree of flexibility, American higher education has adapted more quickly and easily to changing demographic, economic and political change. Because the rules do not change fundamentally, universities can set long-term plans, confident that basic assumptions will not be overturned. Stability in the 'rules of the game' is needed for our institutions to settle on their mission and excel in its delivery.

The Bradley Review of higher education represents a significant opportunity to set the Australian higher education system on a much better track, to the benefit of all Australians. A student-driven, flexible system set free of ineffective central control and funded by a combination of public and student co-investment will deliver choice, diversity and better outcomes for all those wishing to embark on higher learning, whatever their objective.

Summary of recommendations

Lift quantity constraints on student numbers, and allow the seven-year learning entitlement to be used from diploma to postgraduate coursework level.

Use compacts to sustain rural campuses and low-demand disciplines.

Make student co-investment flexible to improve institutional diversity, quality and student choice.

Set, by an independent regulator, a base cost amount by field of study, on which the maximum student co-investment can be calculated.

Revise government tuition subsidy levels in light of new empirical evidence.

Replace all HELP schemes with a single Tertiary Education Loans Scheme, with consistent rules and charges.

Apply student debt maximums at any one time, not a lifetime.

Continue student debtors repayment while working overseas.

Establish a further specialist review to devise a new income support scheme.

Simplify the income support scheme for students to understand, give highest priority to those in most financial need, and allow students to reach at least poverty line incomes through reasonable work and benefits.

Engage an independent expert body to determine a mechanism for the calculating the full economic cost of research in Australia.

Progressively enhance direct project funding, RIBG and IGS until the full economic cost of research is reached.

Increase competitive grant success rate to fund research potential and maintain the academic workforce.

Locate research higher degree students in high-performance research locations.

Increase scholarship levels for research higher degree students.

Devise a funding scheme for knowledge transfer, separate from teaching and research funding streams.

Create an independent and national regulator responsible for accreditation, quality assurance and access to funding system.

Improve data collection and analysis for the benefit of students, the sector, and government.

Appendix: Supplementary statistics

Table A1 Commencing medical students

1989	1371
1990	1405
1991	1384
1992	1323
1993	1293
1994	1205
1995	856
1996	958
1997	1211

Source: Australian Medical Workforce Advisory Committee

Table A2 Medical practitioners arrived in the last five years

Year	General practitioners	Specialists	Total
1986	639	317	956
1996	1429	819	2248
2006	3586	1566	5152

Source: ABS, *Selected Health Occupations Australia, 2006*

Table A3 Labour market destinations for medical graduates

Sex	Age	Highest qualification— Field of study	Medical practitioners	Medical practitioners— of those working	Other health occupations	Other health occupations— of those working	Academic and research jobs	Academic and research jobs— of those working
Male	25–29 years	0601 Medical Studies	83.52%	90.28%	1.91%	2.06%	1.47%	1.59%
Male	30–34 years	0601 Medical Studies	85.11%	90.15%	1.29%	1.36%	1.57%	1.66%
Male	35–44 years	0601 Medical Studies	84.88%	88.22%	1.93%	2.01%	2.39%	2.48%
Male	45–54 years	0601 Medical Studies	83.83%	86.82%	1.89%	1.95%	2.76%	2.85%
Male	55–64 years	0601 Medical Studies	79.74%	87.78%	1.12%	1.23%	2.48%	2.73%
Female	25–29 years	0601 Medical Studies	77.85%	89.93%	2.17%	2.51%	1.64%	1.89%
Female	30–34 years	0601 Medical Studies	72.48%	86.03%	2.40%	2.84%	2.74%	3.25%
Female	35–44 years	0601 Medical Studies	71.39%	82.55%	2.52%	2.91%	3.02%	3.49%
Female	45–54 years	0601 Medical Studies	72.99%	79.55%	3.91%	4.26%	3.38%	3.69%
Female	55–64 years	0601 Medical Studies	62.08%	76.46%	3.66%	4.50%	2.87%	3.54%

Source: ABS, census 2006 data supplied to University of Melbourne

Table A4(a) Graduate labour market outcomes, all graduates

	Managers	Professionals	Technicians and trade workers	Community and personal service workers	Clerical and administrative workers	Sales workers	Machinery operators and drivers	Labourers	Not stated/ Inadequately described	Not applicable (not employed)	Non-graduate
All graduates	12.73%	47.92%	2.65%	3.57%	7.98%	2.84%	0.79%	1.47%	0.86%	19.18%	19.30%
Graduates in work	15.92%	59.93%	3.32%	4.47%	9.98%	3.55%	0.98%	1.84%	1.08%		75.86%

Source: ABS, census 2006 data supplied to University of Melbourne

Note: In the ABS ANZSCO occupational qualifications, managers and professionals are classified as requiring a bachelor-degree qualification or relevant experience.

Table A4(b) Graduate labour market outcomes, recent migrants and Australian born 2006

Place of birth	Managers	Professionals	Technicians & trade workers	Community & personal service, clerical, sales	Machine operator, labourers	Inadequately described	Unemployed	Not in labour force	Total	Managerial and professional
MESC	8,797	26,713	1,695	8,156	871	565	1,848	7,194	55,839	35,510
NESC	5,474	36,828	6,220	31,653	13,121	1,555	13,121	41,047	149,020	42,302
Australia	205,776	759,426	32,510	205,242	17,952	14,558	17,952	146,562	1,399,977	965,202
Total	220,047	822,967	40,425	245,051	31,944	16,678	32,922	194,802	1,604,836	1,043,014
Of all persons										
MESC	15.75%	47.84%	3.04%	14.61%	1.56%	1.01%	3.31%	12.88%	100.00%	63.59%
NESC	3.67%	24.71%	4.17%	21.24%	8.81%	1.04%	8.81%	27.54%	100.00%	28.39%
Australia	14.70%	54.25%	2.32%	14.66%	1.28%	1.04%	1.28%	10.47%	100.00%	68.94%
Total	13.71%	51.28%	2.52%	15.27%	1.99%	1.04%	2.05%	12.14%	100.00%	64.99%
Of those in workforce										
MESC	18.08%	54.91%	3.49%	16.77%	1.79%	1.16%	3.80%			73.00%
NESC	5.07%	34.11%	5.76%	29.32%	12.15%	1.44%	12.15%			39.18%
Australia	16.42%	60.59%	2.59%	16.37%	1.43%	1.16%	1.43%			77.01%
Total	15.61%	58.37%	2.87%	17.38%	2.27%	1.18%	2.33%			73.97%

Source: 2006 census data from: Bob Birrell and Ernest Healy, 'How are skilled migrants doing?', *People and Place*, vol. 16 no.1 (2008)

MESC: main English speaking countries NESC: non-English speaking countries

Arrived between 2001 and 2006.

Table A5 National labour market shortages

	2002	2003	2004	2005	2006	2007
Accountant	N	W	N	N	N	N
Registered nurse	N	N	N	N	N	N
Pharmacist	N	N	N	W	N	W
Physiotherapist	N	N	N	N	N	N
Dentist		N	N	W	N	W
Secondary teacher	N	N	W	N	N	N
Engineer	W	N	N	N	N	N
Lawyer	W	W	W	W	W	L

N = National shortage, all states

W = Widespread shortage, most states

L = limited shortage

Note: secondary teacher shortages only for teachers of some subjects

Source: Department of Employment and Workplace Relations, Skills in Demand Lists, various years

Table A6 Graduate un/under employment less than 5%

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Civil engineering	N	N	N	N	N	Y	Y	Y	Y
Mining engineering	N	N	N	N	N	Y	Y	Y	Y
Dentistry	N	Y	N	Y	N	Y	Y	Y	Y
Nursing	N	Y	Y	Y	Y	Y	Y	Y	Y
Pharmacy	Y	Y	Y	Y	Y	Y	Y	Y	Y
Medicine	Y	Y	Y	Y	Y	Y	Y	Y	Y
Veterinary science	Y	N	N	Y	Y	Y	N	Y	N

y = yes, n = no

Source: Graduate Careers Australia, *Graduate Destinations*, various years.

Table A7 Overseas commencing students

Overseas commencing students

Bachelor (pass)

	Engineering and related technologies	Health
2001	2,730	2,778
2002	3,859	3,537
2003	4,253	3,433
2004	3,935	3,612
2005	3,766	3,779
2006	3,848	4,404

Source: DEEWR, *Students: Selected Higher Education Statistics*

Table A8 Student loans, 2008

	Loan type	Maximum possible HELP debt \$
Commonwealth-supported place—HECS-HELP		
1	<i>Maximum theoretical borrowing</i> Band 3 subject * seven-year learning entitlement	59493
Full-fee place—FEE-HELP		
2	<i>Medicine, dentistry, veterinary science</i> (\$102,000 maximum loan, plus 20% loan fee)	122404
<i>All other higher education courses</i>		
3	If undergraduate (\$81,600 cap, plus 20% loan fee)	97920
4	If postgraduate (no loan fee)	81600
<i>Vocational courses</i>		
5	Diploma or advanced diploma, with credit transfer to higher education course (\$81,600 cap, plus 20% loan fee)	97920
6	VET graduate diploma or graduate certificate (included in cap with higher education courses) (\$81,600 cap, plus 20% loan fee)	97920
Non-award courses or units		
7	Bridging courses for overseas professionals (included in cap with higher education courses) (no loan fee)	81600
8	Unit provided by Open Universities Australia (included in cap with higher education courses) (no loan fee)	81600
9	Enabling course (included in cap with higher education courses) (no loan fee)	81600
Overseas travel—OS-HELP		
10	For up to two periods of study at overseas institution \$5,299 each. 20% loan fee.	12717
Maximum debt possible		
	Maximum theoretical HELP borrowing	59493
	Maximum FEE-HELP help	122404
	Maximum OS-HELP debt	12717
	Total	194614
Maximum lending possible		
	Maximum theoretical HELP borrowing	59493
	Maximum FEE-HELP borrowing	102000
	Maximum OS-HELP borrowing	10598
	Total	172091

Source: DEEWR student loan guides

Table A9(a) Degree holding by birth cohort and parental occupation (%)

	1950–1959	1960–1969	1970–1981
Routine non-manual	3.0	5.7	13.6
Skilled manual	2.9	4.7	12.1
Manual	2.4	6.2	11.9

Source: Gary Marks and Julie McMillan, 'Australia: Changes in Socioeconomic Inequalities in University Participation', in Yossi Shavit et al, *Stratification in Higher Education: A Comparative Study* Stanford University Press 2007

Using: 12 cross-sectional studies 1984 to 2001, including ISSS, International Social Survey Programme, International Survey of Economic Attitudes

Table A9(b) Trends in university participation by occupation group of parent, 18–19 year olds living at home % at university

Census date	Clerks	Tradespersons	Labourers/Production & transport
1991	22.32	16.25	12.38
1996	22.09	17.84	14.14
2001	23.21	19.82	16.02
2006	21.75	19.88	16.03

Source: ABS, census data

Table A9(c) Low socioeconomic status domestic students as a % of all domestic students

All students	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Low socioeconomic status	86,932	90,155	91,557	92,779	93,012	102,598	105,011	104,910	103,316	102,394	105,431
Total domestic students	600,061	617,276	623,700	629,794	629,062	678,036	703,204	709,832	706,500	705,743	720,589
% Low Socioeconomic status	14.49%	14.61%	14.68%	14.73%	14.79%	15.13%	14.93%	14.78%	14.62%	14.51%	14.63%

Note: Low socioeconomic status based on postcode corresponding to lowest 25%.

Source: DEEWR, *Students: Selected Higher Education Statistics*

Table A10 Low socioeconomic status commencing domestic students, total and % of all domestic commencing students

Commencing students	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Low socioeconomic status	35,785	36,150	36,117	36,926	37,061	40,479	40,937	39,356	38,076	38,820	40,834
Total domestic students	239,173	239,814	237,289	240,089	241,485	255,732	263,776	256,991	251,193	256,665	265,397
% Low socioeconomic status	14.96%	15.07%	15.22%	15.38%	15.35%	15.83%	15.52%	15.31%	15.16%	15.12%	15.39%

Note: Low socioeconomic status based on postcode corresponding to lowest 25%.

Source: DEEWR, *Students: Selected Higher Education Statistics*

Table A11 18 and 19 year olds, living at home 2006, by household income group

Increases in university attendance between ages 18 and 19

Weekly household income	Male 18–19 increase	Female 18–19 increase	All 18–19 increase	
\$500 to \$799	6.60%	4.47%	5.37%	Mostly full YA eligibility
\$800 to \$1,199	14.29%	11.47%	12.64%	Mostly part YA eligibility
\$1,200 to \$1,699	23.89%	17.63%	20.23%	
\$1,700 to \$1,999	24.61%	16.03%	19.52%	
\$2,000-\$2,499	29.14%	20.41%	24.03%	
\$2,500-\$2,999	26.06%	26.25%	26.17%	
\$3,000-\$3,499	35.73%	27.71%	31.21%	
\$3,500-\$3,999	22.50%	31.60%	27.31%	
\$4,000 or more	48.11%	38.45%	42.77%	
Total stating income	24.85%	18.84%	21.40%	

Source: ABS census data supplied to the University of Melbourne

Table A12 Retention and success rates at university 2005

	Success	Retention
Low SES and urban	85.24	79
Low SES and regional	87.71	77.74
Low SES and remote	80.53	71.47
Medium SES and urban	88.08	79.56
Medium SES and regional	87.73	77.57
Medium SES and remote	80.13	67.98
High SES and urban	89.86	80.17
High SES and regional/remote	88.18	77.24

Source: Centre for the Study of Higher Education, *Participation and Equity: A review of the participation in higher education of people from low socioeconomic backgrounds and Indigenous people*



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