

Mismatch: Australia's Graduates and the Job Market

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EXECUTIVE SUMMARY

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- Politicians and academics argue that we need more people graduating from university to meet strong labour market demand for the managerial and professional jobs to which graduates usually aspire.
- In a number of occupations, including many health-related professions, there are chronic shortages of workers, in part reflecting too few graduates.
- However, there are also half a million graduates in occupations that do not normally require university qualifications or who are unemployed.
- This reflects a mismatch between the graduates Australian universities produce and labour market demand.
- It is impossible to match precisely supply and demand for graduates; there are too many variables that cannot be predicted with precision.
- However, Australia's centrally-controlled system of allocating university places has failed to adjust to either student or labour market demand.
- A market system, in which universities set the number of places and student fees, would do a better job of supplying Australia's workforce.

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The labour market situation of graduates is more complex than portrayed, with shortages existing alongside oversupply

This year more than 170,000 Australians will enrol in an undergraduate course. Yet according to politicians, academics and Vice-Chancellors it is not enough. In January, Victorian Skills Minister Jacinta Allan complained that 17,000 'eligible' Victorian university applicants had missed out on a place. Over the last year, prominent Monash University academic Bob Birrell and federal Labor MP Craig Emerson have both argued that university enrolments are growing less quickly than demand for graduates. Though the President of the peak body representing Vice-Chancellors said recently that we don't need more students, his organisation has previously proposed a 60% target for university attendance over a lifetime. Less than 30% of our currently most educated cohort, those aged 25–34 in 2006, hold a higher education qualification.¹

The 60% target was unsupported by evidence, but Birrell and Emerson provide student enrolment and labour market data supporting their expansionist agenda. Graduates normally aspire to enter occupations classified by the Australian Bureau of Statistics as managerial, professional, and associate professional. The total number of jobs in these occupations, as Birrell and Emerson point out, has increased significantly since the mid-1990s. By contrast, annual university commencements are only slightly higher than in 1995. In a co-authored paper, Birrell concludes that 'Australia faces a crisis in the availability of university-trained personnel.'² Nearly twenty years ago, similar conclusions were reached in a green paper that John Dawkins, then Education Minister, used to justify a rapid increase in university enrolments. 'Shortages of skilled labour continue to be widely reported in a range of professional disciplines serviced by our higher education institutions', it said.³

As well as meeting workforce needs, advocates of more university places hope to provide opportunities for people from low-income backgrounds, whose university participation rates remain well below those achieved by their middle-class contemporaries. The Australian Vice-Chancellors' Committee (AVCC) says that improving access is necessary to 'achieve parity for students from disadvantaged backgrounds'. In a publication noting relatively low university enrolments from outer-suburban Melbourne, Birrell and his colleagues suggest creating additional places aimed directly at potential students from these areas.⁴

The idea that universities could and should promote social equality has motivated policymakers for decades. It was a rationale for free education in the 1970s and its replacement with HECS in the late 1980s, with HECS revenue used to create additional places. The current Labor leadership team has reflected nostalgically on free education, and said that HECS rates should come down to make university more affordable.⁵ The two arguments for offering more university places are inter-linked, because the potential human capital of people from disadvantaged backgrounds may be lost if they acquire too little education.

As this brief history suggests, recent arguments for a larger higher education system are not novel. Rather, they are the higher education policy community's long-held orthodoxy. They are now presented as a critique of current policy, rather than as a defence, only because university enrolment growth rates, at least for Commonwealth-supported places, have declined since the late 1990s, and even reversed in some years. Yet the labour market situation of graduates is more complex than portrayed, with shortages existing alongside oversupply.

Shortages of graduates

In some careers that usually or always require higher education qualifications Australia experiences on-going labour shortages. Table 1 shows occupations for which employers have experienced chronic recruitment problems over the last five years, either in all states (marked with an 'N') or most states (marked with a 'W'). Where migration data are disaggregated to a sufficient extent, the table includes workers entering Australia between 2001–02 and 2004–05, providing further evidence that the local labour market could

not meet employer needs. Because only some vacancies are open to recently-qualified workers, more graduates in these fields over the preceding years would have alleviated, though not eliminated, these shortages.

Table 1: Labour market shortages

	2002	2003	2004	2005	2006	Overseas recruitment
Accountant	N	W	N	N	N	10,705
Registered nurse	N	N	N	N	N	7,969
Pharmacist	N	N	N	W	N	
Physiotherapist	N	N	N	N	N	
Dentist		N	N	W	N	
Secondary teacher	N	N	W	N	N	
Engineer	W	N	N	N	N	6,930
Lawyer	W	W	W	W	W	

N = National shortages W = Widespread shortages

Sources: Department of Employment and Workplace Relations, *Skills in Demand Lists*, various years. B. Birrell, V. Rapson and T. Fred Smith, *Australia's Net Gains from International Skilled Movement*, (Monash University/Department of Immigration and Multicultural Affairs, 2006).

The link between the domestic flow of graduates and skills shortages can be seen in recent graduate full-time employment outcomes. Table 2 uses data from the Graduate Destination Survey on graduate employment approximately four months after course completion. Typically at this point, about 20% of graduates are unemployed or under-employed, defined as working in a part-time or casual job but looking for a full-time position. However labour markets are tight for graduates in some fields of study, with 5% or a lower proportion of graduates still seeking full-time work when the survey is conducted. This indicates that employers quickly take on newly qualified workers. Engineering, dentistry, nursing, and pharmacy are prominent in both this list and the skills shortage list based on employer surveys.

Table 2: Graduate un- and under-employment at or below 5%

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

Y = Yes N = No

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

There is a case for more students and therefore graduates in the fields appearing in both table 1 and table 2. But these are just a few of many fields of study and subsequent occupations for university students and graduates. Before jumping to the conclusion that we need more university-qualified workers, we need to examine the overall graduate employment situation.

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Graduate employment

It is true, as Bob Birrell and Virginia Rapson point out in their 2006 *Clearing the Myths Away* paper on why we need more university students, that there are more job opportunities for graduates than ever before. They tell us that between 1996–97 and 2005–06 overall employment in Australia increased by 20%, but for managers the growth was 56%, for professionals 37%, and for associate professionals 39%.⁶ Craig Emerson has claimed that two-thirds of jobs created in the Howard years have been for graduates.⁷ These are impressive statistics. Moreover, labour market forecasts for the next few years suggest continued annual growth for these occupations in the 1.3% to 2.8% range.⁸

It is a mistake, however, to assume that graduates have these occupations to themselves. The occupational definitions used by the Australian Bureau of Statistics (ABS) make clear that this is not necessarily the case. ‘Managers and administrators’ and ‘professionals’ are assumed to have a skill level commensurate with a degree, but not necessarily to actually hold a degree. For ‘associate professionals’ the base skill level is a diploma rather than a degree.⁹ As table 3 shows, most managers and associate professionals are not degree holders. Only among professionals are graduates a majority, though the overall trend is toward degree-holders.¹⁰ Apart from specific occupations restricted to people with particular credentials, graduates must compete not just against other graduates, but also people with lesser formal qualifications. Using more realistic assumptions about who is capable of filling managerial, professional and associate professional positions, just under half of the new jobs created in the Howard era were ‘graduate’ jobs, not the two-thirds claimed by Craig Emerson.

Table 3: Non-degree qualified job holders

	Managers	Professionals	Associate professionals	Total
1996	81%	36%	73%	58%
2006	63%	30%	79%	51%

Source: ABS, *Education and Work*, Cat. 6227.0. ABS, *Transition from Education to Work*, Cat. 6227.0.

While Birrell and Rapson note non-graduate employment in these occupations, they leave unexplored graduate employment in occupations that do not require degrees. This number can be calculated from statistics in the ABS publication, *Education and Work*.¹¹ At any given time, the total number of graduates in the labour force considerably outnumbers graduates in managerial, professional or associate professional jobs. The latest *Education and Work* survey recorded more than half a million such people. Most were employed in clerical, sales or service jobs, with some others working as labourers or unemployed. Together, they make up 21% of all graduates in the workforce.¹² Though some graduate labour markets are tight, there is no overall shortage of workers with degrees.

Subjective measures of education exceeding job requirements point to a similar conclusion. In each of two recent surveys asking respondents whether they use their abilities and qualifications at work, reported in table 4, just under a fifth of bachelor degree holders say that they do not, with nearly as many again in one survey neither agreeing nor disagreeing with the proposition.¹³ These surveys from the first half of the 2000s are consistent with another from the mid-1990s, in which 19% of respondents with a university education assessed their jobs as requiring only a secondary education.¹⁴ These results very closely match the proportion of employed graduates without managerial, professional or associate professional jobs, which has fluctuated in the 18–20% range since 1997.

Table 4: Do not use abilities/qualifications at work, self-report bachelor degree

	Agree	Disagree	Neither
2003	19.7%	72.9%	6.7%
2005	18.3%	64.9%	15.5%

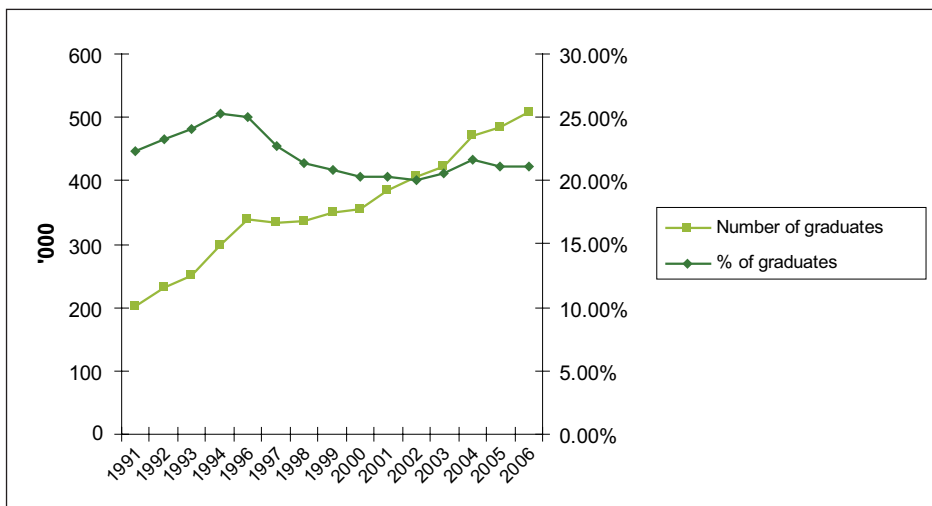
Question 2003: Don't get to use my abilities/qualifications at work.

Question 2005: I don't get a chance to use my abilities or qualifications at work.

Source: Australian Survey of Social Attitudes.

Despite slow growth in student enrolment and strong growth in employment during the Howard years, the number of workers not using their qualifications continues to increase, as figure 1 shows. Only once in the last fifteen years has the total declined, though the percentage of graduates without suitable jobs has stabilised well below its 1996 peak. In the mid-1990s, graduates from the early 1990s enrolment boom were swamping a recession-affected labour market.

Figure 1: Graduates in the labour force without jobs in graduate occupations



Source: ABS, *Education and Work*, Cat. 6227.0 and predecessor publications, various years.

A dynamic labour force

Figure 1 shows that Australia has a large, and in most years increasing, pool of people with university degrees in jobs that typically require lesser qualifications. While occupational categorisations can miss the nuances of individual jobs, which may in practice draw on lesser or higher skill levels than broad descriptions reveal, the self-reports in table 4 give us no reason to believe that figure 1 over-states the extent of over-education. In each case, we find that the qualifications of around 20% of graduates are under-utilised in the workforce. They are equivalent to a reserve graduate labour force of around five years of completing bachelor degree students.

Though there is a large surplus of university-qualified employees at any one time, each year there are hundreds of thousands of job openings in the 'graduate' workforce of managers, professionals and associate professionals. These opportunities are created not just by the long-term employment growth noted by Bob Birrell and Craig Emerson, but also by job turnover. ABS labour market data indicates that nearly half a million

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managers, professionals and associate professionals had been in their job less than 12 months as of July 2006.¹⁵ As well as people moving between positions within the same job categories, there are also many opportunities to move into these occupations. Table 5 compares respondents' labour market position at the time of the survey with twelve months previously. It shows that large numbers of people enter and exit these occupations every year. Most come from out of the labour force, but shifts between occupational categories are also important. Over twelve months, there are many more vacancies in 'graduate' jobs than there are new graduates (about 100,000 in recent years). However, new graduates must compete with other graduates and people without university qualifications.

A further complicating factor is movement in and out of Australia, as seen in table 6. Each year, the number of managers, professionals and associate professionals departing Australia is equivalent to between two-thirds and three-quarters of the number of new graduates. International movement does not, however, lessen competition since departures are outnumbered by arrivals from overseas. Most arrivals are Australian residents returning home, but settlers are equivalent to nearly 40% of annual Australian new graduates.

Table 5: Turnover in managerial, professional and associate professional workforce ('000)

	1996	1998	2000	2002	2004	2006
Additions to graduate workforce						
Not working 12 months prior	104.6	120.4	148.6	171.9	179.5	222.3
Inward flows from other occupations	42.7	68.9	75.5	77	87.6	170.9
Total	147.3	189.3	224.1	248.9	267.1	393.2
Departures from graduate workforce						
Non-degree jobs	42	50.6	66.9	57.7	71.6	97
Unemployment	35.5	42.1	48.6	52.9	54.9	52.7
Not in labour force	67.5	96.3	97.5	95.6	120.4	147.4
Total	145	189	213	206.2	246.9	297.1
Net expansion	2.3	0.3	11.1	42.7	20.2	96.1

Source: Australian Bureau of Statistics, *Labour Mobility*, Cat. 6209.0, various years.

Table 6: International arrivals and departures ('000)

Professionals, associate professionals, and managers and administrators					
	2000-01	2001-02	2002-03	2003-04	2004-05
Residents returning from overseas	35.8	39.6	43.6	45.7	47
Settlers	33.8	29.2	30.3	37.3	40.2
Total arrivals	69.6	68.8	73.9	83	87.2
Residents departing for overseas	65.2	67.8	66	68.5	74.3
Net gain	4.4	1	7.9	14.5	12.9

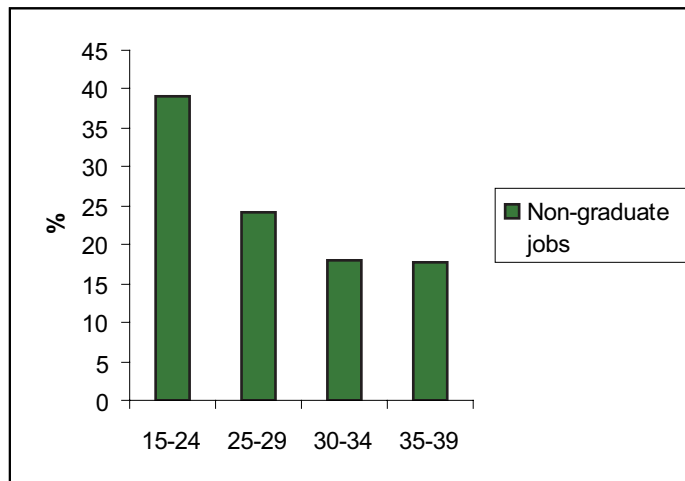
Source: *Australia's Net Gains from International Skilled Movement* (Monash University/Department of Immigration and Multicultural Affairs, 2006).

From all these movements in, out and around the Australian labour force the position of recent graduates improves over time. As figure 2 shows, graduates aged in their twenties are much more likely to be in non-graduate jobs than those in their thirties. Nevertheless, even among graduates in their thirties the proportion overqualified for their position

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remains in the high teens, and there is international evidence that over-education persists over time.¹⁶

Figure 2: Graduates in non-graduate jobs, by age



Source: ABS, *Education and Work*, Cat. 6227.0, 2005.

Though several hundred thousand people leave the ‘graduate’ workforce each year, Australia is far from confronting the ‘crisis’ in university-qualified personnel claimed by Birrell and his colleagues. Graduates are in short supply in only a small number of occupations. Some way needs to be found to avoid chronic labour force shortages. But with more than 800,000 graduates out of the workforce, unemployed, or in jobs that under-utilise their qualifications, expanding total student numbers should not be the first priority. A better system for matching graduates and jobs is the more important next step.

Forecasting demand for graduates

Predicting future labour market requirements is no easy task. Many variables affect demand for the skills offered by graduates. The overall economic growth rate is important, but so too are conditions in particular industries. Growth in the retail industry, where only 8% of workers have degrees, will have much less effect on graduate employment than growth in the education industry, in which nearly two-thirds of workers have degrees.¹⁷ Some industries are cyclical. Civil engineers are in tight supply now, but during the early 1990s recession a construction downturn left 30% of recent graduates unemployed. In the late 1990s, the Australian IT industry argued that it faced severe shortages of workers. As it turned out, many IT professionals struggled to find work in the early 2000s. In some industries, there are social trends that mean demand is likely to grow. For example, population ageing will, other things being equal, increase the need for health professionals. But changes in medical technology or population lifestyles could still render inaccurate labour demand forecasts based on current technologies and lifestyles.

Not only is forecasting overall demand for particular kinds of skills difficult, but so too is calculating how many graduates we would need to meet it. As tables 5 and 6 indicate, the number of people in managerial, professional and associate professional occupations leaving the Australian labour force each year has risen significantly over the last few years. This suggests that to fill a forecast number of jobs Australia needs more graduates and migrants than in the past, to replace those not working or employed overseas.

The feminisation of university enrolments also has significant implications for the graduate workforce. Over the last decade, women’s share of university course completions has been around 58%.¹⁸ Figure 3 shows that in 2003 female graduates on average were less likely to be in the workforce than their male contemporaries. Figure 4 shows that

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female graduates who were in the workforce spend fewer hours in paid employment than their male contemporaries. Though the long-term trend is towards higher workforce participation rates among university-educated women, in the foreseeable future on average female graduates will provide many fewer hours labour force supply than male graduates.¹⁹

Figure 3: Graduates not in workforce

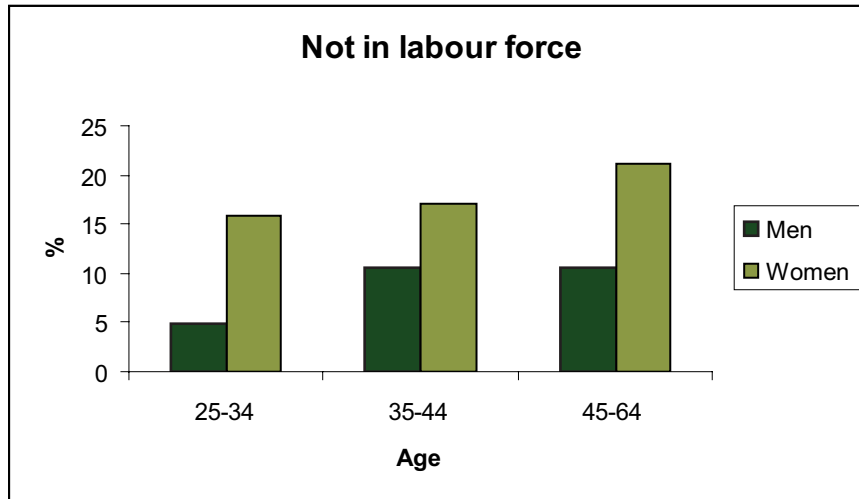
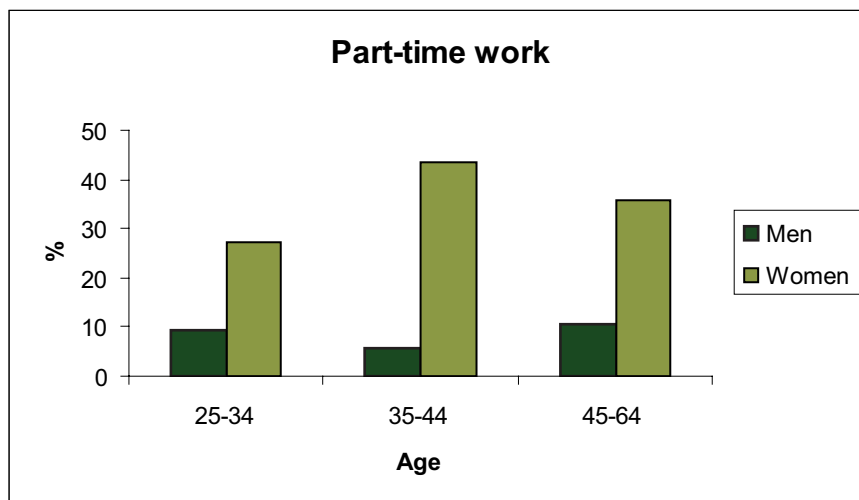


Figure 4: Graduates working part-time



Source: ABS, *Education and Work*, Cat 6227.0, 2003.

Setting student numbers

There are too many unknowns for there ever to be a perfect match between graduates and jobs. It follows that no policy framework can guarantee that the necessary workers will always be available, or that all graduates will be able to secure jobs that meet their expectations. Yet even given these constraints, Australia's system of setting student numbers in universities adds to the inherent risks of over and under-supply of graduate workers. Though the Australian postgraduate coursework market is largely deregulated, allowing universities and other higher education providers to respond to student and employer demand, most places in undergraduate courses are allocated by the federal

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government and funded according to their policies. This bureaucratic-political process is very poorly equipped to provide the best possible flow of graduates from universities to the workforce.

The Department of Education, Science and Training (DEST), which has primary responsibility for distributing Commonwealth-supported places to universities, lacks any significant capacity to adjust student places in response to labour market trends. The vast majority of undergraduate places are assigned for historic rather than strategic reasons. Year after year, the same places in the same disciplines are given to the same universities.

These historic allocations are rarely changed without a university request. In theory, such requests provide an opportunity to re-align enrolments with labour force needs. In practice, universities are highly constrained in the requests they can make, as they must meet both enrolment and expenditure targets set by the Commonwealth. It is hardest of all to add places in high-cost courses. For example, creating an extra dental place within a fixed funding envelope would, on current funding rates, require abolishing two IT places or three maths places. Yet too many such sacrifices would see a university's enrolment levels fall below their mandated minimum, removing such internal reallocations as feasible possibilities. Unfortunately, all the courses showing tight graduate labour markets in table 2 are high-cost courses. So while labour market trends suggest that universities should be increasing the number of graduates in health and engineering relative to other disciplines, course completions data published by DEST shows them to be in slight relative decline.²⁰ The labour market is dynamic, but the university system supplying it graduates fosters inertia.

The Commonwealth steers the system most when giving out new places. In recent allocations the government has, reacting to serious workforce shortages, focused on health-related courses. But the 4,600 new places it announced in July 2006 will increase Commonwealth-supported places by only 1%, so relative enrolment shares between disciplines will change very little. The process of distributing new places is also highly prescriptive, setting out not just general fields of study but also specifying courses and campuses. This rigid approach further reduces universities' capacity to respond to changing circumstances. It could result in places being unfilled by students, where demand does not precisely match the supply criteria set.²¹

Arguably, student place allocation could be improved within a centrally-controlled system by better analysis of labour market trends and greater willingness to re-allocate student places between disciplines and between universities. Yet though in principle the government could do better, we need to ask why it has not. One obvious reason is that its incentive structure is inadequate. There are few political rewards for getting higher education right and few political penalties for getting it wrong. Surveys of which issues voters think most important show that higher education is not high on their list of priorities.²² Given that this is a sensible position for most voters to hold—very few have direct contact with universities compared to other spending priorities such as health, social security and schools—it is unlikely to change. Hopes for a funding focus on higher education policy are as likely to be dashed in the future as they have been in the past. We need a system less reliant on politics, and more responsive to those with most at stake: universities, students and employers.

Letting markets meet labour force demand

A market-driven higher education system has been proposed several times as an alternative to the Commonwealth-directed model.²³ Under a market model, the government would not set maximum or minimum numbers of places at any higher education institution or in any discipline. It would not set the maximum fees charged to students. Those decisions would be left to higher education institutions themselves, taking into account their missions, strategies and competitors. If commercial demand exists for places in a particular discipline, government-imposed quotas and price controls would no longer

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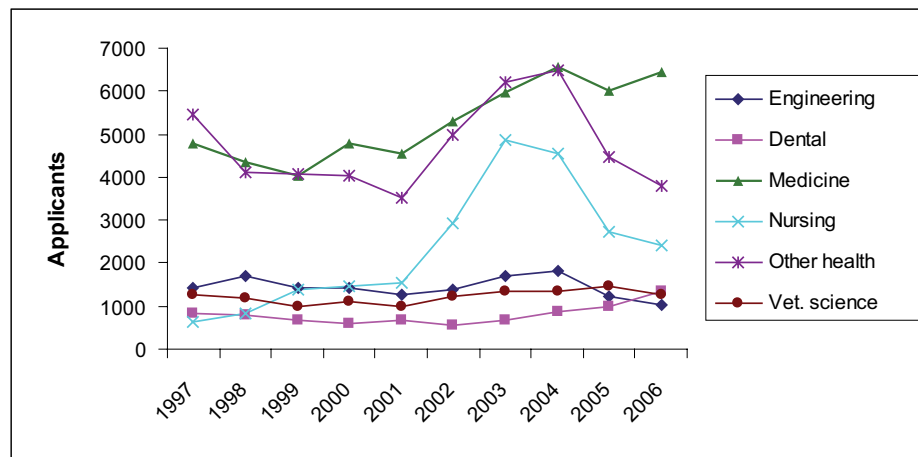
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stand in the way of places being created. Instead of causing problems in the higher education sector, as it does now, the government's role would be to ease problems that arise in the marketplace. Its main functions would be student loans, student income support, and where necessary influencing supply and demand by offering incentives for universities to provide places or students to apply for a place.

It isn't possible to say exactly what a future market-driven higher-education sector would look like. This is not a fault; if future demands cannot be predicted in great detail then nor can the look of a system designed to meet them. But, as a test of how a market model might work in comparison to the current system, we can use historical data to see what situation we might have been in now, had we already implemented a market system of higher education.

At the tuition charges prevailing over the last decade, student demand exceeded the supply of places in areas of persistent labour market shortages. Figure 5 shows results from the annual 'unmet demand' reports issued by the Australian Vice-Chancellors' Committee (AVCC) using data from the state-based university admissions centres. Unmet demand is particularly high for health-related courses, with thousands of applicants missing out every year. True unmet demand is likely to be greater than these statistics record, because high demand relative to supply means that entry requirements are very demanding. Medicine, dentistry and veterinary science typically all require school results in the top 1 or 2% in the state, causing some capable prospective students to abandon their career aspirations as unrealistic.

Figure 5: Unmet demand, selected disciplines



Source: Australian Vice-Chancellors' Committee, *Report on Applications for Undergraduate University Courses*, various years.

The AVCC's unmet demand statistics are sometimes criticised for counting applicants unlikely to be accepted, even if sufficient places were available. This is because they set a low minimum ENTER, which is a rank among school leavers used for university selection (called UAI in NSW), as the base level for university place 'eligibility'. Table 7 shows that in some courses highly ranked school leavers miss out on a place. While we turn bright young Australians away from medical courses, we have to bring thousands of overseas-trained doctors to Australia to fill workforce shortages.²⁴

Table 7: Applicants with ENTER of 90.05+ receiving offers (%)

	2005	2006
Dental	71	63
Medicine	48	59
Other health	91	96
Veterinary science	29	56

Source: Australian Vice-Chancellors' Committee, *Report on Applications for Undergraduate University Courses*, 2005 and 2006.

We know from the applications statistics that there was demand for additional places. But would universities have responded with appropriate supply? They say that they are under-funded, which would suggest that current income per student is too low to encourage expansion. Yet their behaviour calls this into question, with the federal government successfully allocating all the new Commonwealth-supported places it has announced in recent years. It is possible that what the Commonwealth pays is sufficient to cover the marginal cost of adding the relatively small numbers of new Commonwealth-supported places, even if it does not cover the fixed costs that the university must spread across students, such as buildings, libraries and administrators.

The deregulated part of the higher education sector provides clearer evidence of what happens when universities can decide both prices and places in the market. In the two largely deregulated markets, overseas students and postgraduate coursework students, and the limited market in domestic undergraduate full-fee students (limited to 35% of Australian enrolments in a particular course, but with no price control), we have seen double-digit growth rates in most years. Full-fee paying overseas students occupied more than 172,000 places in Australian universities in 2005—including 12,000 in engineering-related courses and 9,000 in health-related courses.²⁵ Indeed, allowing some overseas students to remain in Australia after completing their courses prevented labour market shortages being even more severe than they in fact were.

The historical evidence suggests that if we already had a market system we would be in a better position than we are now in. We had universities willing to offer more places. We had students willing to take the places. We had employers willing to employ those students when they finished. What we didn't have was government policy that let the three parties connect.

Even more over-qualified workers?

Though there is demand for university places that needs meeting, would abolishing legal limits on university enrolment lead to universities accepting all who apply, with the consequent risk of even more over-educated workers?

The scope for such an increase seems limited. Though the annual number of applicants not securing a place moves around from year to year, it is rarely large in comparison to total enrolments. In 2006, the AVCC estimated that 14,200 eligible applicants missed out on an offer, down from 36,100 in 2004. Either figure indicates that though the system misallocates places, few academically credible applicants miss out. For 2004, if all these applicants had enrolled domestic student numbers would have increased by 5.5%; in 2006 the increase would have been 2.1%.

The numbers are kept in check by existing self-regulating aspects of university enrolment levels that reduce the need for formal quantitative restrictions. Many universities will not take students without prior academic achievement levels well-above what the AVCC classifies as 'eligible'. For some institutions, this is a matter of prestige, but there are sound practical reasons as well. Teaching is more difficult in classes with a wide range of abilities; running the risk of boring the strong students or confusing the weak students.

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For weaker applicants, there are ethical considerations involved in considering whether or not to accept them. Though more research is needed on this subject, published studies suggest that enrolled weak applicants on average receive low grades and are more likely to fail.²⁶ They are also less likely to complete their courses.²⁷ Just as doctors should not provide patients with unnecessary treatments, universities should either reject weak applicants or provide honest advice as to their chances of success.

On the student side, there is apparent awareness of the links between school results and subsequent performance at university. The AVCC's statistics show that while more than 90% of school leavers with 90+ ENTER ranks apply, that drops to three-quarters for those with ranks between 60 and 70, and to below 50% for students with ranks in the range regarded as 'not eligible'. Even among those who are offered a place many do not accept, suggesting that the application was a means of keeping their options open rather than indicating a strong preference for a university education. There are also other disincentives to study, such as tuition charges plus the opportunity cost of being out of the full-time workforce for three or more years. While these expenses are not large compared to the lifetime income of people who secure 'graduate' jobs, for those with doubts about their employment prospects they could (and should) prompt careful reflection about whether or not attending university is a good idea.

The effects of a market system are less likely to be on the total number of students than on what and where they study. In the AVCC's analysis of student demand, the natural and physical sciences regularly report more offers than first-preference applicants. In other words, applicants are offered places in science as their second or lower preference. Given the strong scientific base of most health-related courses, some of their unsuccessful applicants end up in science degrees instead. With a market correction—extra places in health-related courses, fewer places in science courses—more graduates would have virtually certain employment in the health sector. Australia could draw less on the international labour market for health professionals, and more on the local pool of people with science-related interests who may currently be struggling to find work within their field.²⁸

The equity agenda

Letting the higher education market set the number of student places would end policy-imposed limits on university access for people from low-income backgrounds. Yet this does not mean that universities would take a significantly larger number of students from these backgrounds, or that policymakers should always encourage them to do so. Formidable obstacles remain in implementing the equity agenda, because the considerations discussed in the previous section disproportionately apply to 'equity' students.

Recent research confirms that by Year 12 the major reason for socio-economic differences in university attendance rates is school results. For a given ENTER rank, people from high and low socio-economic status (SES) groups proceed to university at the same rates. The difference between the two groups is not their responsiveness to tuition charges, but their ENTER ranks.²⁹ A 2003 analysis of Victorian Year 12 university applicants found that private schools dominated the upper-level school results. Independent schools provided 23% of applicants, but 47% of those with an ENTER of 90 or above. Government schools provided 53% of applicants, but 35% of the 90 and above group. Only among applicants with an ENTER of 69.95 or below did government schools provide applicants at or above their share of the total applicant pool.³⁰ Given lacklustre school performance, equity intakes can only increase significantly by enrolling lowly-ranked applicants. Since weak school results are associated with low academic grades at university, not all or even many would be accepted by universities.

For those who are accepted and complete their courses, we know little in Australia about their long-term outcomes. American research finds positive though generally small correlations between academic grades and occupational success.³¹ British research on outcomes for graduates from their 1990s higher education expansion found that better

school credentials reduced the probability of being over-educated in the workplace, but that academic skills were of marginal importance. The main protectors against graduates being over-educated for their job were particular disciplines (maths, medicine, engineering, education) and possessing entrepreneurial, management and leadership skills.³² Broad labour market research suggests that non-academic factors generally explain the large outcome differences between people with similar formal qualifications.³³ A recent Australian survey of graduate employers found that interpersonal and communication skills, rather than academic qualifications, were their top selection criteria.³⁴ Though we don't know how low SES students rate on these non-academic attributes employers favour, graduates whose parents already work as managers and professionals have more opportunity to learn what is expected. Before advocating an equity-motivated expansion, we need to know whether former low SES students are over-represented among the one in five degree holders without work matching their formal qualifications. What if we are providing them not with paths to financially and personally rewarding careers, but expensive detours on their way to jobs they could have had without spending three years at university?

Conclusion

For decades, the Australian higher education policy community has said that more people should go to university. The most radical recent proposals would—if students could be found to fill the places, which is far from certain—double the levels achieved after the last great expansion that began in the late 1980s. In the labour market, however, there are clear warning signs that this might not be a good idea. Despite the longest period of economic growth in Australia's history, and long-term structural changes in the economy that favour university-qualified workers, the number of graduates in jobs that require lower skill levels continues to grow.

For some graduates, skill under-utilisation is temporary. Every year many jobs open in managerial, professional and associate professional occupations, and graduates become more likely to hold to secure appropriate employment as they get older. Yet for some graduates over-education persists, with negative consequences for their lifetime earnings and overall work satisfaction.³⁵ We need to know more about how much discipline studied, grades received, and university attended influence graduates' employment opportunities.³⁶ Until we acquire this information, designing effective equity policies will remain difficult. The higher education policy community should be more cautious than it is about expanding higher education in the name of equity.

Though the case for encouraging more university attendance overall is weak, in some occupations there are shortages. The health profession in particular is chronically under-supplied with graduates. This fact alone should seriously undermine confidence in our centralised system of allocating university places. This is an industry in which population ageing made an increase in demand relatively easy to predict. Yet health workforce planning was seriously bungled, leaving widespread skills shortages despite extensive recruitment from overseas. As the demand statistics reported above show, simply leaving it to the market would have produced a better result.

Given the inherent uncertainties of the future labour market, no method of setting the number of university students can guarantee that graduates will precisely match jobs. But our current system, without either market guidance or informed central planning, is the worst of the available options. It has produced a major mismatch between available graduates and jobs, and without radical reform will continue to do so.

Our current system, without either market guidance or informed central planning, is the worst of the available options

Endnotes

- ¹ Jacinta Allan, 'Thousands to get uni offers/thousands to miss out', media release 16 January 2007; Craig Emerson, *Vital Signs, Vibrant Society* (Sydney: UNSW Press, 2006), pp 115-121, also 'Expanding opportunity or the welfare state', speech to The Centre for Independent Studies, 5 October 2006; see also his comments and statistics reported in Patricia Karvelas, 'Job qualifications defy PM line on degrees', *The Australian*, 4 January 2007; Bob Birrell, Daniel Edwards, Ian Dobson and T Fred Smith, 'The Myth of Too Many University Students', *People and Place* 13:1 (2005); Daniel Edwards, Bob Birrell and T Fred Smith, *Unequal Access to University Places: Revisiting Entry to Tertiary Education* (Melbourne: Centre for Population and Urban Research, Monash University, 2005); Bob Birrell and Virginia Rapson, *Clearing the Myths Away: Higher Education's Place in Meeting Workforce Demands* (Sydney: Dusseldorp Skills Forum, 2006); Bob Birrell and Daniel Edwards, 'Squandering our young's potential', *The Australian*, 28 February 2007; Catherine Armitage and Lisa Macnamara, 'No room at unis, VCs say', *The Australian*, 28 February 2007; Australian Vice-Chancellors' Committee, 'Ensuring fair access through meeting demand', election statement 2004; Australian Bureau of Statistics, *Education and Work 2006*, Cat. No. 6227.0 (Canberra: ABS, 2006), table 7.
- ² Birrell and Rapson, *Clearing the Myths Away*, especially pp 2,10,12.
- ³ John Dawkins, *Higher Education: A policy discussion paper* (Canberra: Australian Government Publishing Service, 1987), p 2.
- ⁴ ACCC, 'Ensuring fair access through meeting demand', p 2; Edwards, Birrell and Smith, *Unequal Access to University Places*, pp 58-61.
- ⁵ For a discussion of these issues see my *The Unchained University* (Sydney: CIS, 2002), especially chs 6 and 8. For the views of Kevin Rudd and Julia Gillard, see <http://andrewnorton.info/blog/2006/12/06/whitlamite-nostalgia-in-higher-education/>.
- ⁶ Birrell and Rapson, *Clearing the Myths Away*, p 12.
- ⁷ In Karvelas, 'Job qualifications defy PM line on degrees', see note 1.
- ⁸ Department of Employment and Workplace Relations, *Workforce Tomorrow: Adapting to a more diverse Australian labour market* (Canberra: DEWR, 2005), pp 34-5.
- ⁹ See Australian Bureau of Statistics, *Australian Standard Classification of Occupations*, 2nd ed (Canberra: ABS, 1997), pp 61, 103, 229. For a summary, and information about the 'associate professional' category being phased out, see <http://andrewnorton.info/blog/2007/01/15/the-rise-of-a-factoid/>.
- ¹⁰ Some changes are due to occupational reclassification. Managers of small sales and services organisations have been reclassified from managers to associate professionals. Registered nurses (who typically have degrees, as opposed to enrolled nurses who have a vocational sector qualification) have been moved from the associate professional to the professional category: ABS, *Australian Standard Classification of Occupations*, p 18.
- ¹¹ The number can also be calculated from another ABS survey, *Education and Training Experience*, Cat 6278.0. The two surveys, which have similar but not identical timing and samples, arrive at very similar results for the purposes of this analysis. For example in 2005, the last year for which both surveys are available, *Education and Training Experience* recorded 415,700 employed graduates not in appropriate work while *Education and Work* recorded 422,700. However, they differ significantly in the total number of bachelor degree holders compared to persons holding graduate certificates or above. Comparison with the Australian Election Study and the Australian Survey of Social Attitudes suggests that *Education and Training Experience* may have the more accurate classifications, a conclusion that will need to be checked against 2006 census data when it becomes available. I have used *Education and Work* because this survey has been carried out annually on a reasonably consistent basis for a long period of time.
- ¹² In calculating this figure, I have counted 'associate professional' as a 'graduate' qualification. This is not inconsistent with earlier criticisms, as my revised estimates of the proportion of jobs requiring degrees also assumes that graduates in 'associate professional' jobs are appropriately qualified. Occupations classed as 'associate professional' includes police officers, medical technical officers and computing support technicians. In practice, degrees are often now required for advancement in the police force, and it is not implausible to think that the occupations mentioned and others in the 'associate professional' category could benefit from a higher education qualification. How to classify over-education is a vexed one in the literature (see Seamus McGuinness, 'Overeducation in the labour market', *Journal of Economic Surveys*, 20:3 (2006)) with both objective job classification and subjective employee self-assessment being used. The compatibility of the objective figure 1 figures with the subjective table 4 figures

- supports this classification of associate professionals. If associate professionals were classified as 'non-graduate', 32% of graduates would be classed as 'over-educated'.
- ¹³ A change in wording between the two surveys possibly explains the different breakdown between 'disagree' and 'neither'. The later question referred to 'a chance' to use abilities or qualifications, reducing disagree responses and increasing 'neither' answers. This may reflect jobs that sometimes utilise the respondent's skills, but generally do not.
- ¹⁴ MDR Evans and Jonathan Kelley, *Australian Economy and Society 2001: Education, Work and Welfare* (Sydney: Federation Press, 2002), p 25.
- ¹⁵ Australian Bureau of Statistics, *Job Search Experience 2006*, Cat. No. 6222.0 (Canberra: ABS, 2006), table 11.
- ¹⁶ McGuinness, 'Overeducation in the labour market', p 412; Arnaud Chevalier and Joanne Lindley, 'Over-education and the skills of UK graduates', Institute for the Study of Labor, Discussion Paper No 2442, November 2006, p 5.
- ¹⁷ ABS, *Education and Work 2006*, table 12.
- ¹⁸ DEST, *Students 2005: Selected higher education statistics* (Canberra: DEST, 2006), appendix 2.2.
- ¹⁹ Steven Kennedy and David Hedley, 'Educational attainment and labour force participation', *Economic Roundup* (Winter 2003).
- ²⁰ DEST, *Students 2005: Selected higher education statistics* (Canberra: DEST, 2006), appendix 2.3. Engineering completions declined from 5.79% in 1995 to 5.06% in 2004; health from 14.81% in 1995 to 13.69% in 2004.
- ²¹ For examples of the micro-allocations of places, see Julie Bishop, 'Students to benefit from more than 4600 new places', media release, 24 July 2006. In 2006, seven universities could not fill all their places despite overall unmet demand for places. Whether these were for micro-allocated new places has not been revealed, but it highlights the system's inflexibility.
- ²² In a 2004 Newspoll, the 88% of people who nominated education as something the government should be giving more attention to and doing more about were asked about the reasons for their answer. Just 8% gave higher education related answers. In a supplementary question asking which of pre-schools, schools, TAFEs or universities was most important for government to give more attention to or do more about, 15% nominated universities: Dusseldorp Skills Forum/Newspoll, *Opportunities for Youth Study* (Sydney, Newspoll, 2004).
- ²³ For demand-driven proposals see former Education Minister Dr David Kemp's failed 1999 Cabinet proposal, published in Senate Employment, Workplace Relations, Small Business and Education References Committee, *Universities in Crisis: Report on Higher Education* (Canberra: The Senate, 2001); Department of Education, Training and Youth Affairs, *Learning for Life: Review of Higher Education Financing and Policy* (Canberra: DETYA, 1998), and Norton, *The Unchained University*.
- ²⁴ From the mid-1990s, Australia's net importation of medical practitioners has averaged nearly 1,000 a year: Bob Birrell, Virginia Rapson and T Fred Smith, *Australia's Net Gains from International Skilled Movement* (Monash University/Department of Immigration and Multicultural Affairs, 2006).
- ²⁵ DEST, *Students 2005: Selected higher education statistics* (Canberra: DEST, 2006), table 3.5.3.
- ²⁶ For example Michael Murphy, Kyri Papanicolaou and Roni McDowell, 'Entry Score and Performance: A Three Year Study of Success', *Journal of Institutional Research* (October 2001); Rosemary Win and Paul W Miller, 'The Effects of Individual and School Factors on University Students' Academic Performance', *The Australian Economic Review* 38:1 (2005).
- ²⁷ Mark Urban et al., *Completions: Undergraduate academic outcomes for 1992 commencing students* (Canberra: DEST, 1999), p 39.
- ²⁸ See Department of Education, Science and Training, *Audit of science, engineering and technology skills* (Canberra: DEST, 2006), table 4.1.
- ²⁹ Buly A. Cardak and Chris Ryan, 'Why are high ability individuals from poor backgrounds under-represented at university?', La Trobe University School of Business Discussion Papers No. A06.04, June 2006.
- ³⁰ Edwards, Birrell, and Smith, *Unequal Access to University Places*, p 11.
- ³¹ Ernest T Pascarella and Patrick T Terenzini, *How College Affects Students: A Third Decade of Research* (San Francisco: Jolley-Bass, 2005), pp 511–12.
- ³² Chevalier and Lindley, 'Over-education and the skills of UK graduates'. However, an earlier study found that 'those with better grades were less likely to be mismatched', Parvinder Kler, 'Graduate Overeducation in Australia: A Comparison of Mean and Objective Methods',

Education Economics Vol 13 No 1 (March 2005), p 50.

³³ For an interesting survey, see Samuel Bowles, Herbert Gintis and Melissa Osborne, 'The Determinants of Earnings: A Behavioral Approach', *Journal of Economic Literature* 24 (December 2001).

³⁴ 'Graduate Outlook 2006: a snapshot', *Graduate Grapevine*, December 2006.

³⁵ Parvinder Kler, 'The impact of overeducation on job satisfaction among tertiary educated Australians', Department of Economics, University of Queensland.

³⁶ There is some information on these matters in the Graduate Destination Survey, carried out a few months after course completion. At this point, significant proportions of graduates in science, business, arts and law are in occupations classified as requiring lesser qualifications. However, additional analysis shows that for business and law graduates most are employed in industries appropriate to their course. For example, law graduates working as law clerks. They would appear to be in paths that would enable transition to appropriate occupations. For science and arts graduates, majorities are not on obvious paths to appropriate employment. See Graduate Careers Australia, *Graduate Destinations 2005* (Melbourne: GCA, 2006), especially tables 19 and 20.



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