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Keep the caps off!
Student access and choice in higher education

A Grattan paper

Andrew Norton

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Overview

After just 18 months of operation, Australia's radical experiment in uncapping undergraduate university enrolments is under threat. According to its critics – which include the higher education minister and a leading vice-chancellor – it admits academically under-prepared students and consumes higher education funding that could be better used elsewhere.

This report, *Keep the caps off!,* shows that the new system is achieving its goals. It is lifting the supply of graduates to Australia's economy, increasing student choice, and improving access to higher education for disadvantaged groups.

The old system of government allocating student places to universities was unresponsive to student demand. With uncapping, universities are responding to demand trends in science, health and engineering by providing new student places. The last two fields are also areas of labour market shortage. Across most other disciplines, university applicants' chances of admission to their first-preference field of study have increased.

With their new freedom to offer more places, universities now offer Commonwealth-supported students innovative new options. Several new online ventures have started, ensuring that Australia is not left behind in this global trend. Universities are collaborating with TAFEs to meet the needs of new students.

Uncapping has meant that more students with lower ATARs (Australian Tertiary Admission Rank) are admitted to study. A minimum ATAR of 60 has been suggested. But degree completions data show that 60 is an arbitrary cut-off point. It would exclude the more than half of low ATAR students who successfully complete a qualification.

An ATAR cut-off of 60 would hit low socioeconomic status university applicants hard. In 2012, 8,000 low SES applicants would have been rejected without further consideration. With eased enrolment restrictions, the number of students from low SES backgrounds grew by 40 per cent after years of stagnation.

University is not for everyone. Universities have an ethical responsibility to advise applicants who are at high risk of not completing a degree. Information about completion rates should be much more easily available to people considering further study. But there is too much variation between courses and individual applicants for a national policy on university admission.

There are many hidden costs in capping university enrolments. Student places get misallocated between disciplines, because universities cannot easily adjust supply to demand. New higher education initiatives are hard to start. People miss out on their preferred careers. Social mobility suffers. There would be a high price to pay to offset $300 million in university funding cuts.

It would be a policy tragedy to recap university places now. It would make Australia's higher education system less fair, less efficient, and less productive.

Table of contents

Figures

1. A demand-driven higher education funding system

In 2009, Julia Gillard, then Education Minister, announced that Australia's public universities would move to a 'demand-driven' funding system. She aimed to lift the supply of graduates to Australia's economy, to increase student choice, and to improve access to higher education for disadvantaged groups.[1]

To achieve these goals, the government substantially eased its regulation of student numbers. After a phased-in relaxation of enrolment controls, from 2012 public universities were allowed to take an unlimited number of bachelor-degree Commonwealth supported students. The only bachelor-degree course kept out of the demand-driven system was medicine. Postgraduate and later sub-bachelor degrees were also excluded.

Demand-driven funding was a big change for universities. Since 1974, the Commonwealth government had been allocating them student places. These controls were often a red tape hindrance, but they were also a protection. With the total number of student places always capped well below demand, universities were almost guaranteed of filling all their places. Competitive pressures were weak.

Under the demand-driven system, competitive pressures have increased. Universities that don't respond to student demand risk losing enrolments and income. But most universities have responded favourably to the new system. Many have substantially increased their student numbers, and are taking advantage of their freedom to start new educational enterprises.

As with any expansion in student numbers, the demand-driven system has called entry 'standards' into question. The number of students with a lower Australian Tertiary Admission Rank (ATAR) is increasing from a small base. The higher education minister, Senator Kim Carr, has said that his belief in "excellence" is one reason for re-considering growth rates in the university system.[2] The Group of Eight, a group representing the largest research universities, has called for a minimum ATAR requirement of 60.[3] An editorial in *The Australian* newspaper endorsed this proposal.[4]

Mass higher education systems are also expensive. With student numbers increasingly rapidly, government spending on the main tuition subsidy program, the Commonwealth Grant Scheme, is expected to increase from $5 billion in 2010-11 to $7 billion in 2016-17.[5] Higher education spending cuts were announced in April 2013 to contain these costs. There are now proposals to re-control student numbers instead.[6] These are the major pressures to modify or end the demand-driven system.

[1] DEEWR (2009a)

[2] Taylor (2013)
[3] Mather (2013)
[4] Australian editorial (2013)
[5] DIICCSRTE (2013c) and predecessor publications.
[6] Shanahan (2013)

2. ‘Quality’ of the student intake

Over the last 30 years, Australia has moved from an elite system of higher education to a mass system. In 1982, only 12 per cent of 17 to 19 year olds were enrolled in higher education. By 2010 that proportion more than doubled, to 26 per cent.[7] If the demand-driven system stays in place, this proportion will continue to increase. Australia may achieve a government target of 40 per cent higher education attainment for 25 to 34 year olds by 2025.[8] As a result, universities take students who would not previously have gone on to higher education.

Some people question whether lower-ATAR students should be at university.[9] Professor Fred Hilmer, the chairman of the Group of Eight, suggests an ATAR minimum of 60 on the “basis of academic preparation and ability to benefit”.[10] In the Group of Eight plan, excluded school leavers would have some alternative pathways to university.[11] However, the main purpose of the minimum ATAR is to reduce government spending. The savings could then be used to avoid planned cuts to public spending on the remaining student places and other higher education programs.[12] How these savings could be implemented is discussed in chapter 7.

2.1 What are the trends for lower-ATAR applicants?

Between 2009 and 2012 applications from students with ATARs below 60 increased by 11 per cent, or just under 3,000 people. This compares to overall applications growth of 13 per cent.[13] Much of this growth occurred in 2012, and so possibly the demand-driven system is starting to generate additional demand.[14]

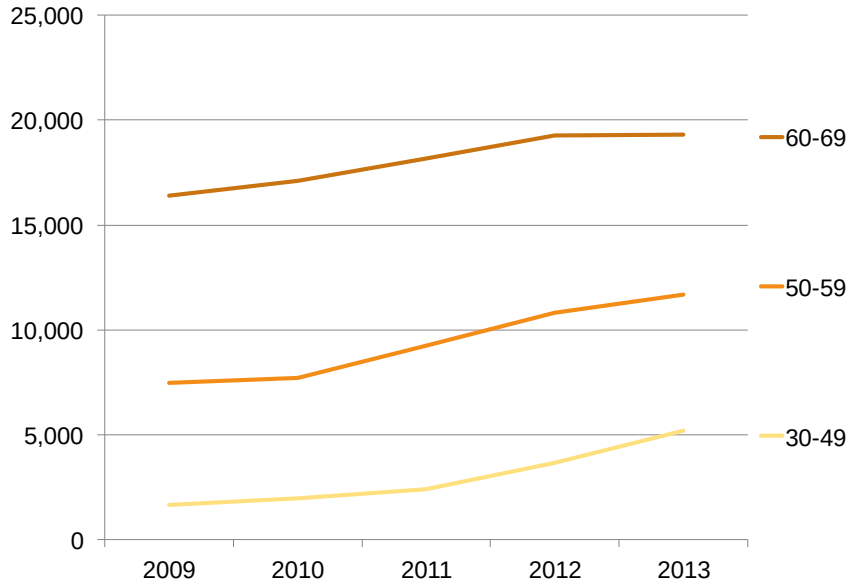
Under the old funding system, demand and supply were only weakly linked. Potential students could apply to any course in any university. But the supply of places was constrained by government. Universities rationed places within this supply constraint. Typically, they used prior academic performance to decide who received a place. This created a market in which ATAR was the currency and the cut-off mark the price. Students with low ATARs often received no offers.

The demand-driven system has expanded supply and driven down the academic price of entry. It is principally this factor (i.e.

[7] Norton (2013), p. 23
[8] ABS (2013). The current proportion is 37 per cent if adult migrants are counted, or 30 per cent for people raised in Australia.
[9] There are many alternative routes into university other than ATAR, including special admissions tests and qualifications from pathways colleges or TAFEs. None of these have the rankings provided by ATAR. But a policy based on the ‘quality’ of the student intake may need to consider these applicants as well.
[10] Mather (2013)
[11] There are dedicated pathways colleges to university. However, these charge fees that are considerably higher than the student contributions paid by public university students.
[12] Mather (2013)
[13] DEEWR (2010); DIISRTE (2012)
[14] Year 12 students are unlikely to be aware of higher education funding policy changes. But as entry requirements become more flexible this is likely to start attracting applicants who would previously have thought that they would not be admitted to higher education.

increased offers by universities) rather than significantly increased demand (increased applications by lower-ATAR students) that is driving up their numbers at university. Figure 1 shows university offers by the ATAR of applicants between 2009 and 2013. Below 60 offers increased by 85 per cent as the enrolment caps were removed.

Figure 1: Offers by ATAR, 2009-13



Source: DIICCSRTE (2013b) and predecessor publications.

2.2 Do lower-ATAR students complete?

Fred Hilmer suggests an "ability to benefit" test on university admission. Conceptually, this is a reasonable rule of thumb. University entrance can be costly to students, universities and taxpayers. They all have an interest in ensuring that there are likely benefits from enrolment. Empirically, however, turning this test into a workable policy is difficult. Abilities are hard to measure, and benefits are hard to predict.

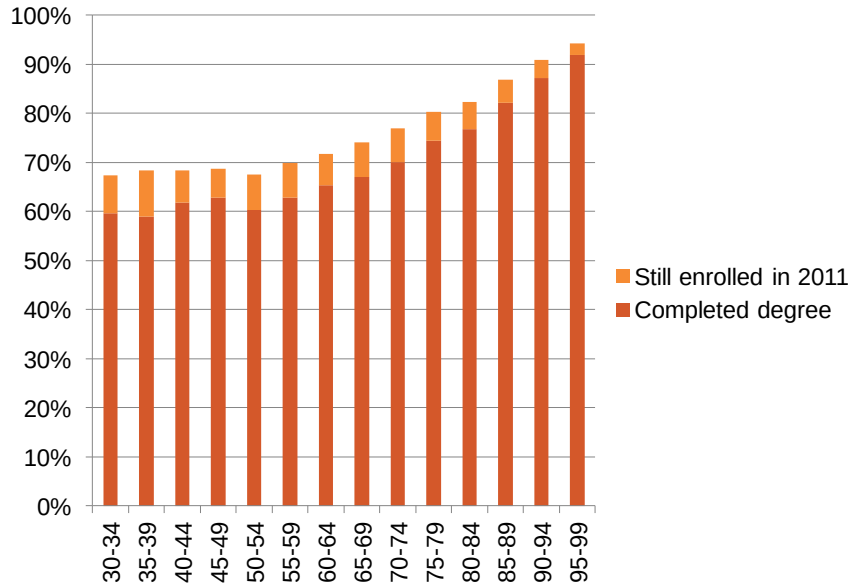
One plausible benefit of higher education is course completion. Figure 2 shows outcomes by ATAR for students who commenced their studies in 2005. Even for students entering university with low ATARs, most (60 per cent) complete a degree within seven years of commencement. The still-enrolled students will push eventual completions a little higher.

These results suggest that an ATAR of 60 lacks a strong empirical basis as a cut-off point for university admission. Completion rates are only slightly higher above than below the 60-64 ATAR band. ATAR is a rank rather than a score. In the middle ATARs underlying academic ability and preparation may not differ much.[15] An ATAR cut-off of 60 would mean that many people who could successfully complete a degree would be denied that opportunity.

However, figure 2 does show a clear relationship between ATAR and completion above 70: the higher the ATAR, the higher the completion rate.

[15] It suggests academic ability has a normal statistical distribution: a large group of similar students in the middle, with longer tails of high and low ability students.

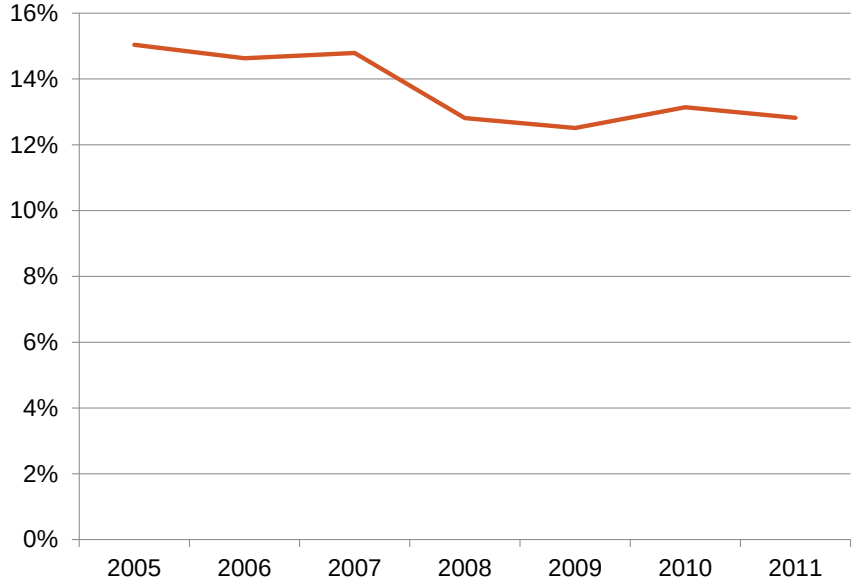
Figure 2: Completions and continuing enrolment, 2005 cohort at the end of 2011, by ATAR band



Source: DIICCSRTE data, Grattan special request.

As figure 2 shows, it takes many years to see the long-term outcomes of low-ATAR entry. It was unusually difficult to get into university in 2005, due to a tightening of enrolment caps. The low-ATAR applicants admitted then might not be typical of the low-ATAR applicants admitted now. We do not have attrition data by ATAR for later periods, but attrition rates from the higher education system as a whole are declining. As figure 3 shows, the rate has decreased over the last few years. Interestingly, institution-level attrition rates are unchanged on 19 per cent. What has changed is that more students are moving between universities after first year. This may be a benefit of the demand-driven system. With universities more willing to accept transfers from students who are dissatisfied with their original choice, fewer of them drop out entirely.

Figure 3: Attrition after first year, 2005-11



Source: DIICCSRTE (2013d)

2.3 What is the relationship between ATAR and university marks?

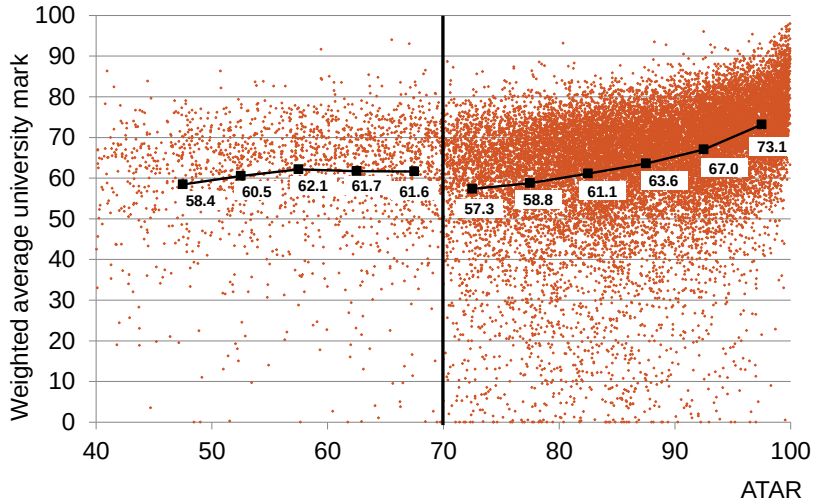
ATAR has a complicated relationship with the marks students receive while at university. Research to date finds that many students get higher marks at university than their school results would suggest, while many others get lower marks.[16]

This point can be seen graphically in figure 4. It uses data from the 2007 commencing students of a large Australian university. Each dot presents the average mark of a student over the period 2007-2010. We can see that average marks generally increase with ATAR. However, the dots show much variation around the average. Even among students with high ATARs, some failed on average. And some students who entered on low ATARs achieved average marks above 80 per cent.

At the university in this analysis, students with ATARs below 70 are only admitted via indirect routes. Although they have an ATAR, they use their results from a TAFE or a pathways college as their basis of admission. With this additional preparation, on average they get higher marks than students who were admitted directly on higher ATARs.

School and university grades are influenced by many factors other than underlying academic ability, including personal circumstances and teaching quality. It is therefore not surprising that ATAR is an imperfect guide to university prospects. But these ATAR limitations undermine proposals to use specific ATARs as a general cut-off for university admission.

Figure 4: Relationship between ATAR and average weighted mark



Source: Provided to Grattan Institute by an Australian university and used with permission. Note: Marks are weighted by the credit point value of each subject and the year level. First year subjects have a .5 weighting, later year subjects have a weighting of 1.

2.4 Is university for everyone?

While the lower-ATAR students who do enrol at university often complete their courses, this does not mean that university is always the right choice for lower-ATAR school leavers. In some cases their time, money and effort would be better spent on vocational education, looking for paid work, or other activities. There is no easy ATAR-based cut-off that can inform individual decisions.

[16] Norton (2013), p. 30-33

As the available empirical evidence cannot give us simple rules we need self-regulation by students and universities. Each can draw on much more information than policymakers. Students know more about their aptitudes, interests, ambitions and alternatives. Universities know (or at least should know) about their teaching capacities and how students with various backgrounds have performed in the past.

Many universities remain reluctant to take lower-ATAR students. This is partly for prestige reasons, but also because they are not always well-prepared for supporting and teaching this group.[17] Classes with mixed academic ability and preparedness can be difficult even for talented teachers. Only a quarter of applicants with ATARs below 50 received any offer in 2012.

New technology should give universities an opportunity to fine-tune their selection processes. Learning analytics software is one of the most important new developments in higher education. It can analyse large amounts of academic and other information about students to identify problems and predict success.[18] It is an important retention tool in itself, but the starting point for this is identifying the high-risk students.

The demand-driven system also creates new ethical issues for universities. They do not currently supply students with information about completion rates in their courses. Where non-completion rates are high, this is important information for people deciding whether or not they should spend time and money on higher education. There is also a responsibility to provide adequate support so that all students have a fair chance of success. For example, some universities offer peer mentoring and additional tutorial assistance for less academic students. Universities must tailor the learning experience they provide to individual student needs.

So far, however, applications data suggest a reasonable level of student self-knowledge. Most people with below-50 ATARs do not apply to university.[19] Especially for young men, vocational education provides a good alternative,[20] which they in fact pursue. Of the below-60 ATAR applicants who receive an offer, 40 per cent reject it. There is little research into why applicants reject offers. However, 15 per cent of first-year university students agree with the proposition that they are “marking time” while they decide their future.[21] A university application can be just a way of keeping options open, rather than signalling a clear preference for higher education. For less academic Year 12 students, a university application may just be a back-up option if they do not get a job, an apprenticeship, or some other more preferred outcome.

With these filtering mechanisms on both the demand and supply sides, low-ATAR enrolments are not massive. In 2012, 10 per cent of all acceptances were from applicants with an ATAR of 60 or below.

[17] Norton, *et al.* (2013)
[18] NMC (2013), p. 24-27
[19] DIISRTE (2012), p. 43
[20] Karmel and Liu (2011)
[21] James, *et al.* (2010), p. 19

3. Equity under the demand-driven system

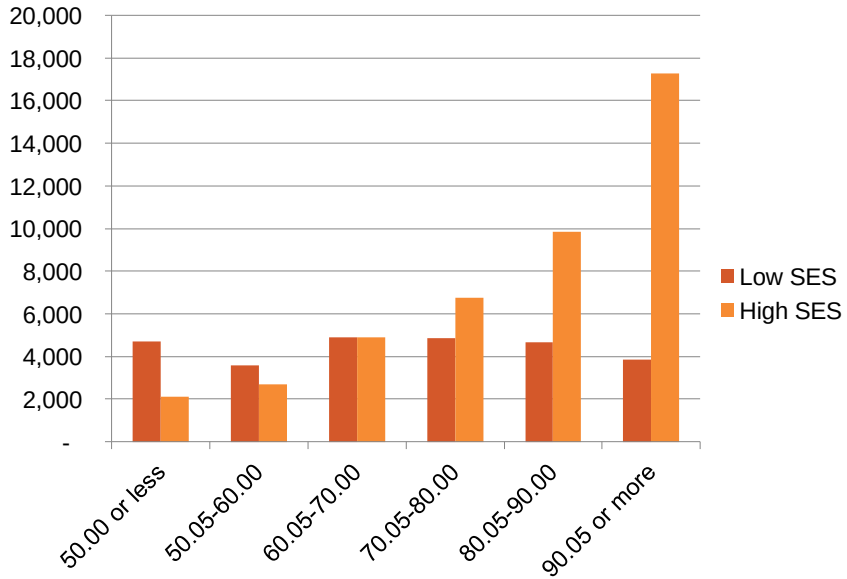
A goal of the demand-driven system is to increase access to higher education for people from low socioeconomic status (SES) backgrounds. The aim is that low socioeconomic background students will make up 20 per cent of domestic undergraduate students by 2020.[22]

The official indicators used to measure SES have many defects.[23] This chapter uses postcode data because it is the most readily available. A low SES student lives in the lowest 25 per cent of postcodes, according to Australian Bureau of Statistics (ABS) classifications of socioeconomic disadvantage. A high SES student lives in the top 25 per cent of postcodes. This definition misclassifies some individuals, but the data can identify broad trends.

3.1 SES and ATAR

There is a strong link between SES and ATAR, as figure 5 shows. High SES applicants dominate the 80-plus ATAR group. Below 60, low SES applicants outnumber high SES applicants. An ATAR cut-off at 60 would inevitably hit low SES university applicants hard. In 2012, it would have wiped out of contention more than 30 per cent of an already small pool of low SES applicants.

Figure 5: University applications by ATAR and SES, 2012



Source: DIISRTE (2012)

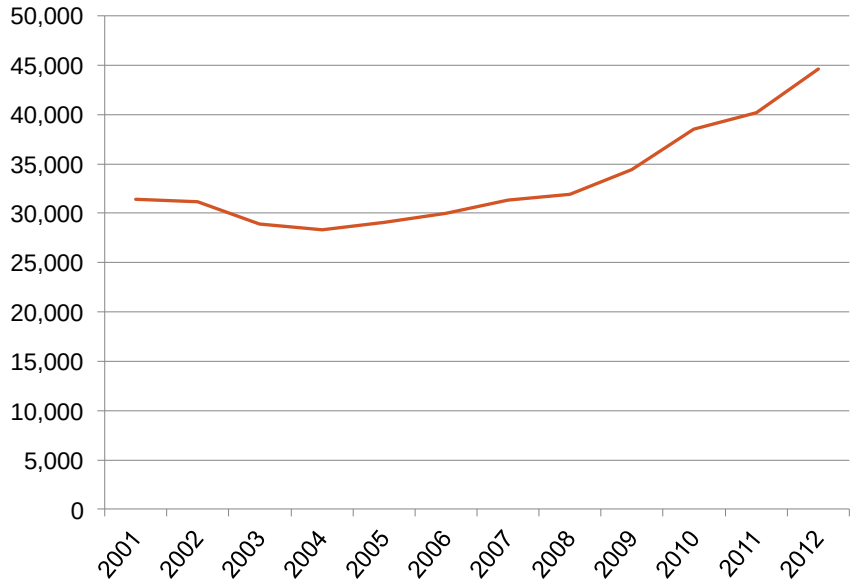
3.2 Low SES students under the demand-driven system

The uncapping of higher education places under the demand-driven system is critical to increasing low SES access. With their lower ATARs, they need the ATAR price of university entry to come down. Figure 6 shows that more low SES students commenced once enrolment caps were eased from 2008. Their

[22] DEEWR (2009a), p. 12-14
[23] Norton (2013), p. 29-30

numbers increased by 43 per cent in this period, compared to 32 per cent for the other SES groups.

Figure 6: Low SES commencing domestic undergraduate students, 2001-2012



Source: DIICCSRTE (2013d)

Progress towards the 20 per cent by 2020 target is slower. The low SES enrolment share increased from 16 per cent to 17 per cent between 2007 and 2012. To meet the target, low SES enrolments have to consistently increase more quickly than high SES enrolments. The way the target is defined hides increases in the absolute numbers of low SES students shown in figure 6. This increase is primarily due to the demand-driven system. Given that low SES students are more likely to have low ATARs, progress in admitting more low SES students is likely to halt if the demand-driven system is curtailed or abolished.

Capping student places is also likely to affect another government equity group, regional students. Many regional areas are classified as low SES. Regional student numbers also increased as enrolment controls were lifted.[24] The minister acknowledges that higher education attainment in regional areas still needs a "lot more work".[25]

Chapter 2's statistics on completion rates and average marks suggest that equity and excellence are not in as much tension as the minister may fear.[26] Particularly if universities admit students carefully, equity can be achieved without sacrificing excellence.

[24] DIICCSRTE (2013d)
[25] Matchett (2013)
[26] Taylor (2013)

4. Matching students with courses

As the name 'demand-driven' suggests, lifting controls on enrolment is designed to better match the supply of places with demand. A demand-driven system is intended to both enable and encourage universities to offer the courses students want to take.

4.1 Previous systems of allocating student places

In 1974 the Commonwealth Government took over the funding of higher education from the states. Since then it has controlled how student places are allocated between universities and disciplines.

Precisely how places were allocated has varied over the years. From the early 1990s to 2004, universities had to deliver target numbers of places within a set envelope of funding. Universities could move student places between disciplines provided they met their overall enrolment target.

Under this system universities lacked incentives to respond to student demand. There was no or only a small per student payment for taking more students than the government target number. Some universities nevertheless 'over-enrolled' (took more than their target number). Similarly, only some transfers of places between disciplines made financial sense. Universities saved money by shifting places from high to low cost disciplines. They lost it by transferring places from low to high cost disciplines.

In this capped system, supply rather than demand steered the allocation of places. However, the government did not routinely monitor whether student places were provided in areas of greatest need. It mainly intervened through the allocation of new student places, sometimes requiring universities to put them to particular uses. The system therefore relied heavily on additional funding and proactive ministers to respond to real-world demands. It drifted if either was absent.

From 2005 to 2007, the system of distributing student places reached its bureaucratic peak. Universities were allocated places by 'funding clusters', groups of disciplines with similar costs, as well as in total. Universities were fined for over-enrolling significantly beyond their total target number – a financial penalty for meeting student demand. This penalty was abolished for 2008 and 2009, before a phase-in to the demand-driven system over 2010 and 2011.

As with the pre-2005 system, the main steering mechanism from 2005 was new places. In the capped system's final years new places were relatively plentiful. The government responded to shifts in the labour market, which coincided with shifts in student demand.[27] However, the system retained its core structural weakness: its reliance on new funding and proactive ministers, with no institutionalised mechanism for responding to employer or student needs.

The pre-2005 system was characterised by unmet demand across the system and significant mismatches between supply and demand by discipline. Some disciplines such as science were

[27] For more detail on the pre-demand driven system, see Norton (2009).

over-supplied with places relative to demand, while other disciplines – especially in health fields – were chronically undersupplied.[28]

4.2 How well designed is the demand-driven system?

The description 'demand-driven' implicitly signals a shift from the previous 'supply-driven' system. It states what the new funding system is intended to do. Universities can adjust supply to demand in ways they previously could not. But they don't *have* to respond to student demand – they can reject applicants. In this quasi-market, what is produced reflects both supply and demand decisions.

There are reasons why universities might still resist supplying what is demanded. Their incentive to supply places is the prospect of additional revenue. However if student places are under-priced relative to costs, universities will make a loss. In these cases, the system could result in a *decreased* response to demand in loss-making disciplines.

The demand-driven system was introduced without reforming how student places are priced. The price universities receive remains the same mix as before of fixed Commonwealth contributions (a subsidy) and regulated maximum student contributions (which students pay, usually using the HELP loan scheme). The government rejected a funding review's suggestions to alter some of these prices.[29] In the absence of pricing reform, financial incentives to supply could be weak or absent.

While universities are always looking for additional income, revenue maximisation is not their core objective. Money is a means for other missions. Enrolment can therefore be constrained for a variety of reasons. Many universities serve particular local communities, and have no interest in setting up new campuses elsewhere. They may not want the management complexities that come from operating multiple campuses in different local markets. The older universities especially are status-driven, which means they will not increase enrolments if this means risking prestige. For example, the University of New South Wales recently set a minimum ATAR of 80 to reinforce its elite brand.[30]

These factors can result in universities having as much demand as they need to fill their available places. Although they may still compete with other universities for particular kinds of students, total demand in excess of supply insulates them from market forces. They can achieve their mission without taking more students.

The risk of blunted market forces was increased by excluding non-university higher education providers (NUHEPs) from the demand-driven system. Australia has around 130 NUHEPs.[31] Their exclusion keeps them in the mostly niche markets they have traditionally occupied, rather than competing directly with universities.

[28] DEEWR (2008)

[29] Evans (2013)
[30] Tovey (2013)
[31] Norton (2013), p. 12-13

A ministerial decision to limit sub-bachelor degree undergraduate courses created another weakness in the system. Diploma and associate degree courses can be good ways of introducing lower-ATAR students to higher education. The data presented in section 2.3 suggest that marks are improved if lower-ATAR students enter university through a pathway institution rather than directly.

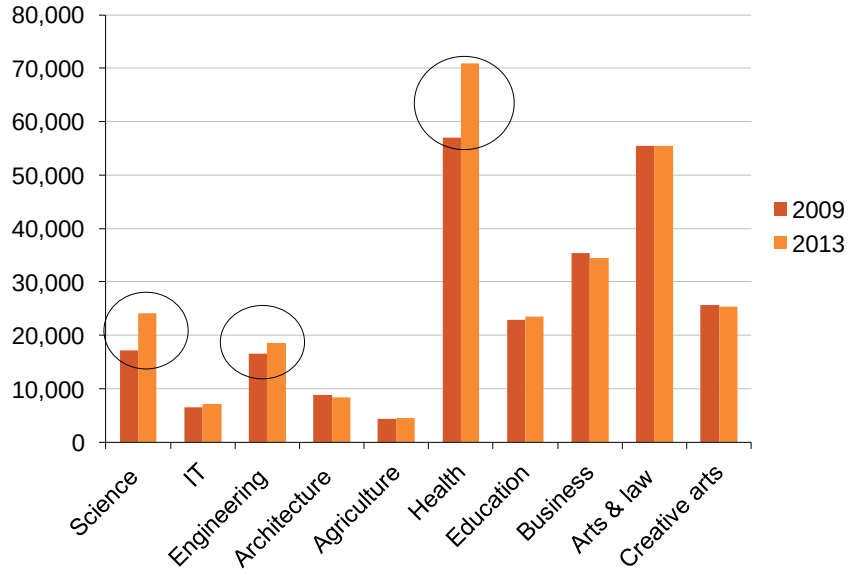
4.3 Movements in demand and supply

Although the demand-driven system did not officially start until 2012, university behaviour changed before then. As enrolment caps were eased over the 2008-11 period, many universities aggressively sought market share. By 2011, seven universities had enrolments of 20 per cent or more above their original target. Overall enrolments were 13 per cent above the original target.[32] Enough universities were acting as if enrolment caps were off to treat this period as a preview of the demand-driven system.

Since the demand-driven system was announced in 2009, almost all additional demand has been in just three broad disciplinary areas: health, science and engineering. Figure 7 shows that the other disciplines have stable applicant numbers.

Concentrated additional demand lets us see whether the demand-driven system is working as hoped. If it is, offers of places should respond to movements in applications. The charts in figure 8 show that this has happened. In all of health, science and engineering, offers and applications both increased significantly and together. For all other disciplines offers rose 10 per cent against flat applications. These extra offers reduced previous unmet demand.

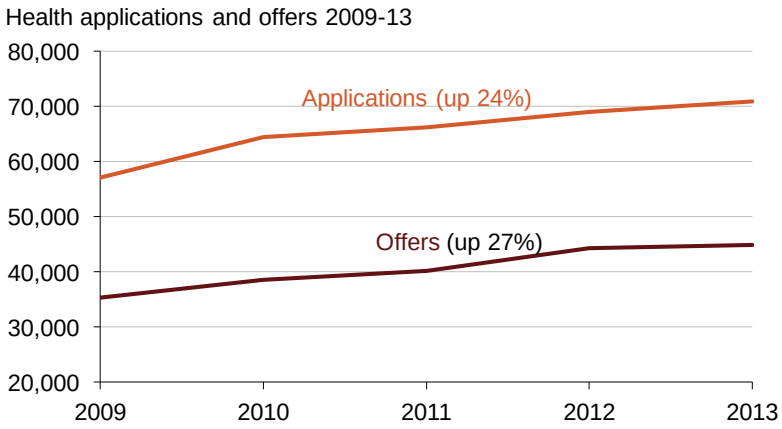
Figure 7: Applicant numbers by broad field of education 2009 and 2013

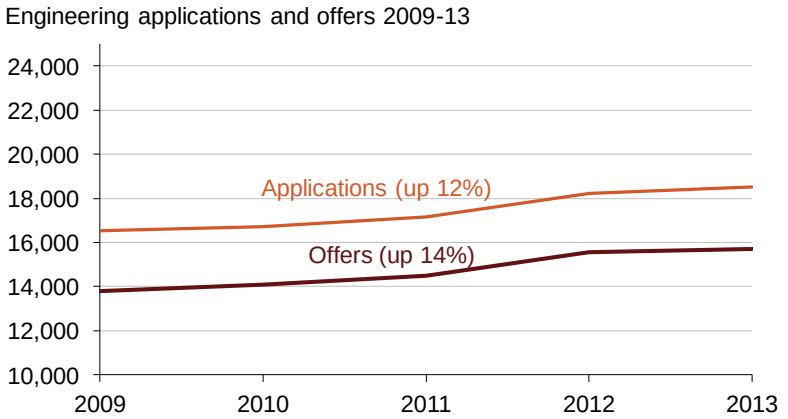


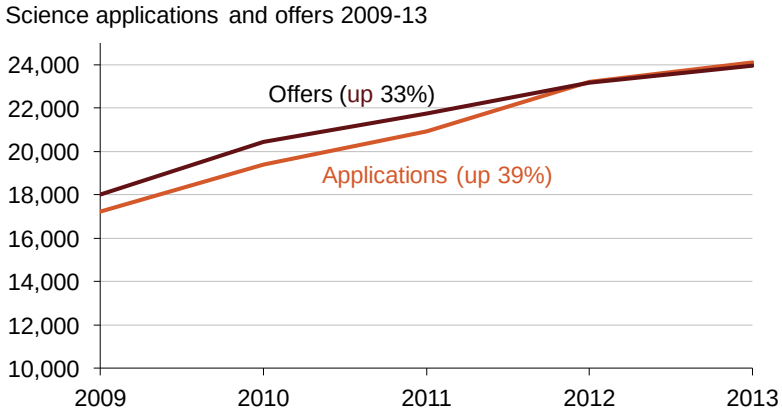
Sources: DEEWR (2010); DIICCSRTE (2013b)

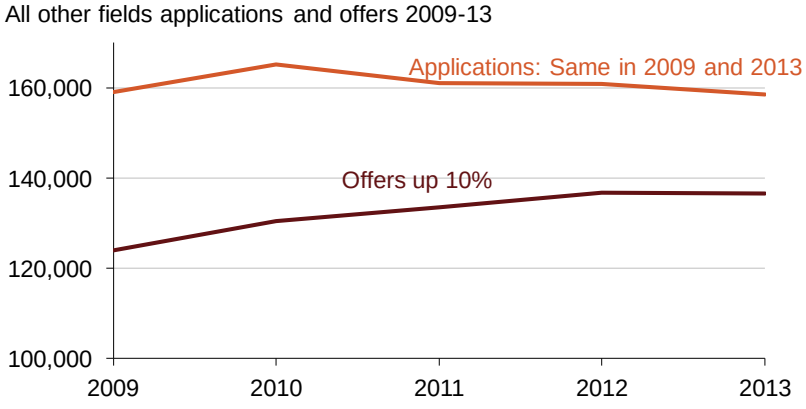
[32] Norton (2011)

Figure 8: Applications and offers trends: health, science, engineering and other disciplines





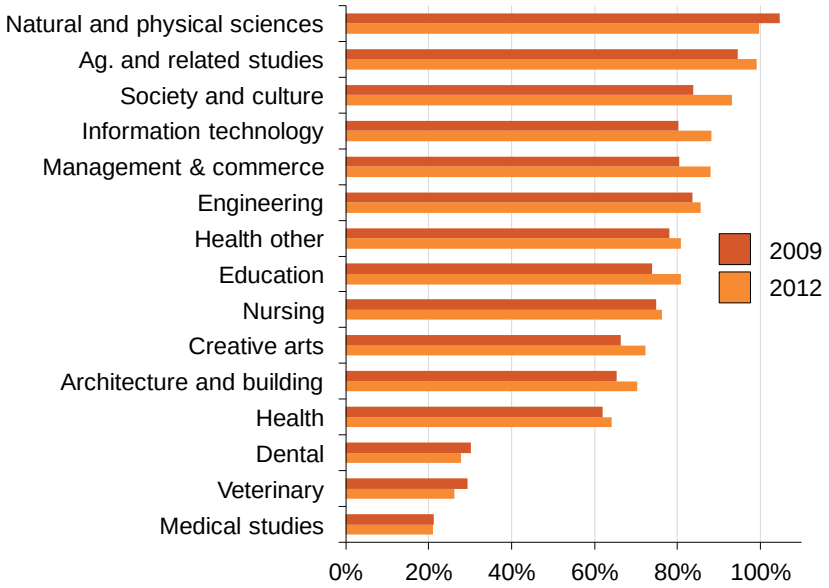




Sources: DEEWR (2010); DIISRTE (2012); DIICCSRTE (2013b)

Increased offers converted into improved offer rates (offers as a percentage of first-preference applications). An offer rate of 100 per cent would mean that every applicant for that field of study gets an offer. As figure 9 shows, offer rates improved in most disciplines between 2009 and 2012.[33] Science moved from excess supply to an even balance between supply and demand.

Figure 9: Offer rates by discipline, 2009 and 2012



Sources: DEEWR (2010); DIISRTE (2012)

In three disciplines applicants' prospects of an offer have not improved: medical studies, dentistry, and veterinary studies. For medical studies this is unsurprising; it is not in the demand-driven system. Dentistry demand increased by about 500 applications between 2009 and 2012 but supply remained the same. Demand for veterinary studies remained about the same but offers decreased by about 100. The effect in both cases was that already very low offer rates declined further.

One explanation is that dentistry and veterinary studies have inadequate funding. A Deloitte Access Economics cost study found that in most disciplines Commonwealth funding rates were sufficient to cover teaching and scholarship costs (that is, excluding the cost of research).[34] However, for health courses, a broad category that includes veterinary studies, the average cost per student was above income.

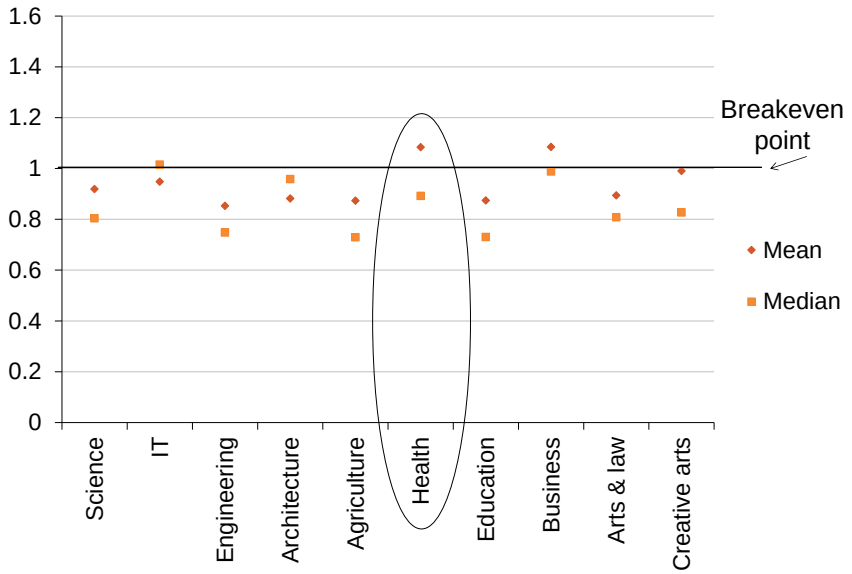
This is shown in figure 10. The dark line labelled "1" is the breakeven point where costs and revenue for a Commonwealth-supported place are in alignment. In most fields both the mean and median costs are below the breakeven point, and so universities make a surplus. This explains their willingness to supply. In health, median costs are comfortably below the line, consistent with large enrolment health fields such as nursing having costs that are below funding rates. However, mean health course costs are above the line, consistent with some expensive courses pushing up the average. University interest groups invariably claim that they are under-funded, but veterinary and

[33] 2012 data used because 2013 offer rates have not yet been published.

[34] Deloitte Access Economics (2011)

dentistry school representatives provided a 2011 funding review with unusually detailed evidence in their cases.[35]

Figure 10: Mean and median teaching and scholarship costs, 2010



Source: Deloitte Access Economics (2011)

4.4 Match at first-preference course level

Overall, the demand-driven system is improving matches between students and their first preference field of education. However, first preference course matches have improved only slightly. The first-preference offer rate increased from 52 per cent in 2009 to 54 per cent in 2012.[36] This probably reflects large numbers of people rejected by 'elite' institutions receiving offers in a matching course by another university. This would be consistent with elite institutions constraining supply to maintain their status (section 4.2). University status-maximisation strategies such as the UNSW minimum ATAR policy may limit improvement on this indicator.

We do not know how often missing out on a first preference course is very disappointing for applicants. One survey of Year 12 students explored the issue of course versus university. Nearly two-thirds of respondents indicated that a combination of university and course considerations drove their choice. Among those driven by one or the other, 5 per cent nominated the university, and 31 per cent nominated the course.[37] However, some applicants may regard two or more universities as close substitutes.

In a 2011 survey of graduates three years after completion, 63 per cent said that if they had the choice today they were very or extremely likely to do the same qualification at the same institution. By comparison, 22 per cent of respondents said they would be very or extremely likely to choose the same qualification at a different institution.[38] These hindsight preferences may be different from the respondents' original university preferences. They suggest that most people are happy with the institution they attend, but a significant minority are not.

[35] ACODS (2011); Veterinary Deans (2011)

[36] DEEWR (2009b), p. 26; DIISRTE (2012), p. 20-21

[37] Roy Morgan Research (2009), p. 101

[38] Beyond Graduation Survey 2011. SPSS datafile supplied to Grattan by Graduate Careers Australia.

Overall, a match at field of education is probably more important. Field of study is more relevant to employment prospects than university attended.[39] On this measure, the demand-driven system is likely to continue improving student matches, as universities adjust their historical allocations of student places to the new market conditions.

[39] Li and Miller (2013)

5. Encouraging innovation

Australian universities often seem like conservative places. But in practice they respond energetically to entrepreneurial opportunities. It happened with international students and postgraduate coursework students. It is happening again with the demand-driven system.

As section 4.3 explains, when supply constraints were lifted on Commonwealth-supported places (CSPs) universities moved quickly to better match it with existing demand. We are also seeing new ventures and services enter the market.

Swinburne University has a joint venture with SEEK Ltd, Swinburne Online, which started in 2012. In a recent paper, Sean Gallagher and Geoffrey Garrett describe its operation which has expanded to 7,000 students by the second year of operation:

> *Learning is "entirely digital" where students are arranged in online cohorts of 25, facilitated by an e-Learning Advisor (eLA) and connected through blogs, email and learning management systems. The eLA is specifically trained … and must first pass induction and training in "e-moderation" and facilitation of online learning cohorts.*[40]

Swinburne could not have created Swinburne Online under the old system of Commonwealth-supported places allocated by government. They would have needed to go through a slow political process to get new places, with no recent precedent for such a large number of new students at a single institution. Bureaucrats and politicians would have agonised over a joint venture with a for-profit company. Redistributing large numbers of places from within Swinburne's pre-2012 allocation would also have been politically difficult. Staff and student constituencies would (understandably) have resisted undermining viable courses for a venture that may not succeed. As it has turned out, Swinburne Online offers an innovative form of online education, for which there is strong market demand.

Across the other side of the country, Curtin University launched Curtin Online in 2011, extending its existing courses that were available online. In 2012, Curtin had 6,800 off-campus students, a 70 per cent increase on the 2010 pre-launch year.[41]

Open Universities Australia (OUA) flourished in the online education market before the demand-driven system. It sells subjects offered by its shareholder universities and other higher education providers. There are no Commonwealth contributions for subjects outside of a degree program, and OUA's growth was unconstrained. But the demand-driven system allowed its client universities to offer subsidised degree programs through OUA. Overall, OUA experienced a 7 per cent growth rate between 2011 and 2012.[42]

[40] Gallagher and Garrett (2013), p. 44

[41] DIICCSRTE (2013d) and the 2010 predecessor publication.

[42] Ibid.

Fortunately the demand-driven system's launch coincided with the global trend towards online education. Without this policy shift, Australian universities may have continued on their path of slow growth in online education.[43] With it, Australian universities can meet the shifting demand for online education and experiment with new business models.

As noted in section 4.2, non-university higher education providers (NUHEPs) are excluded from the demand-driven system. This is an obvious and major obstacle to higher education innovation. Despite this exclusion, the uncapping of student places has led to franchising models of provision. For example, the University of Canberra (UC) is franchising its degrees through four TAFEs. The degrees will be jointly developed by the TAFEs and UC, but the students would enrol in UC and get UC degrees. The CEO of one TAFE stressed that the programs had to be different from those currently offered by universities. He said that they had to attract the students currently "marginalised' from higher education.[44]

Putting caps back on Commonwealth-supported places would discourage innovation in the CSP market. As happened in the 1990s and early 2000s, the energy of university management would be directed to where it could make a difference: in international students, in postgraduate coursework, and in research.

The financial costs of lifting enrolment caps are real, and discussed in detail in the next chapter. But there are many hidden costs in capping the system. The caps misallocate resources between disciplines, and between old and new ways of doing things. Leaving them off is critical to a dynamic higher education industry.

[43] Norton*, et al.* (2013), p. 16
[44] Ross (2013)

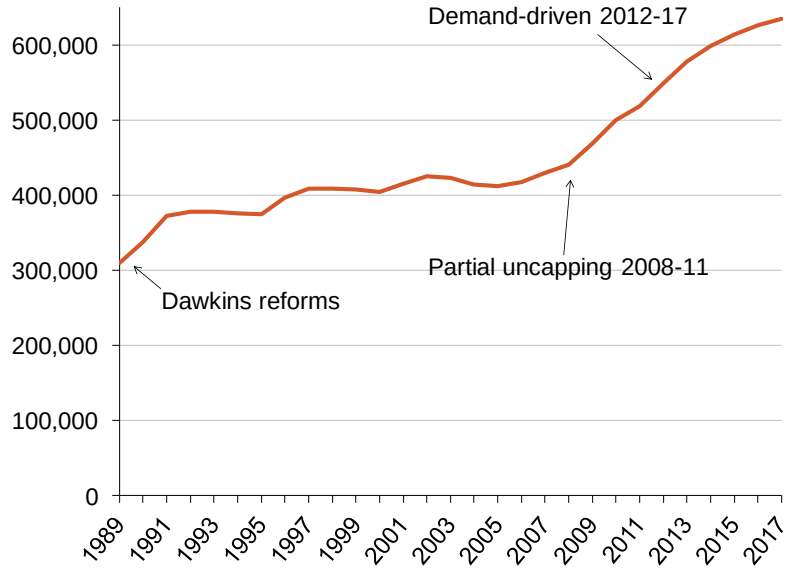
6. The cost of the demand-driven system

A demand-driven system was inevitably going to cost taxpayers more than its predecessor systems. Australia had unmet higher education demand waiting to be satisfied, and uncapping gave higher education providers the opportunity to find new markets. The result has been significantly higher expenditure, compared not only to the past but also to original budget forecasts.

As the Commonwealth Government's budget deteriorated, higher education received particular attention. The demand-driven system itself is so far intact, but previously promised per student funding levels are going to be reduced.[45] In response to university lobbying on funding, the higher education minister, Senator Kim Carr, said that he would only consider budget-neutral changes to original cuts.[46] Universities wanting to suggest alternative cuts has called the demand-driven system into question.

Figure 11 shows just how radical the higher education policies of recent years have been. After 15 years of stability or slow growth, Commonwealth-supported student numbers started growing rapidly in 2009. The government predicts that the system will continue expanding until at least 2017, although at a slower rate. Much of the previously existing unmet demand has been met, and the school leaver population is expected to decline slightly.[47]

Figure 11: Commonwealth supported full-time equivalent students, 1989-2017 (estimates 2013-17)



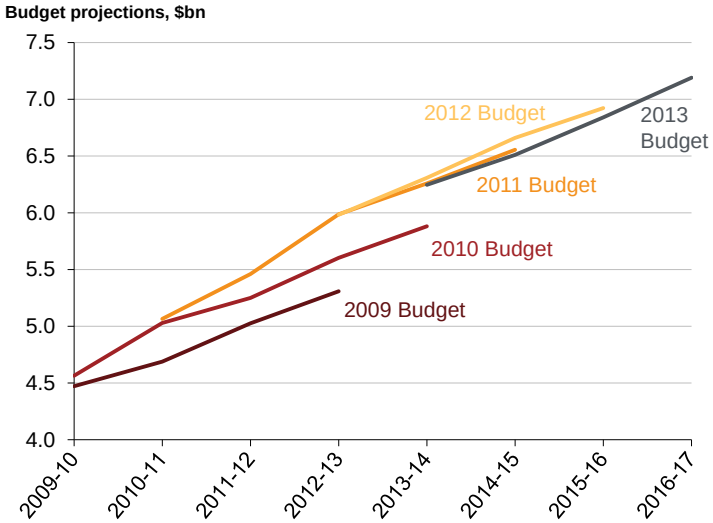
Source: Data provided by DIICCSRTE

Unsurprisingly these additional students are driving up expenditure on the Commonwealth Grant Scheme (CGS), the core tuition subsidy program. Figure 12 shows the CGS forecasts for each Commonwealth Budget between 2009 and 2013. Future expenditure was significantly under-estimated in the early years. The government did not predict that so many universities would

[45] The cuts have not been legislated, but the Opposition supports them.
[46] Shanahan (2013)
[47] ABS (2012)

'jump the gun' on the demand-driven system (section 4.3). They may also not have foreseen growth concentrated in health, engineering and science. These disciplines have high per student government subsidies.[48] The cumulative effect of more students in more expensive disciplines is that government spending will continue to increase, despite the cuts announced in April 2013. The cuts save less than $300 million a year.[49] Effectively, the cuts take the demand-driven system back onto the spending trajectory it was on in 2011.

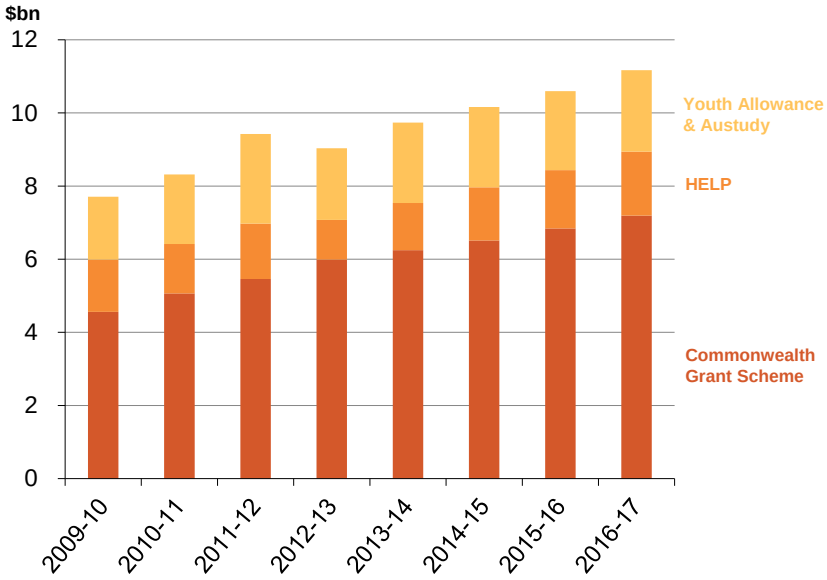
Figure 12: Commonwealth Grant Scheme budget forecasts, 2009-13



Source: DIICCSRTE (2013c) and predecessor publications.

The demand-driven system also pushes up costs in two other government programs, the Higher Education Loan Program (HELP) and student income support. Even after the 2013 cuts, expenditure on the demand-driven system is expected to increase by nearly 45 per cent over eight years. By 2017, it will cost taxpayers more than $11 billion per year.

Figure 13: Demand-driven system costs, 2009-10 to 2016-17



Source: DIICCSRTE (2013c) and predecessor publications
Note: Youth Allowance and Austudy expenditure is based on higher education share of Youth Allowance and Austudy recipients.

[48] The rates are reported in Norton (2013), p. 52
[49] Swan and Wong (2013), p. 217

7. Controlling costs in the demand-driven system

Several options have been proposed for containing public higher education expenditure: cutting per student spending, setting a minimum ATAR, and re-capping the system. However, all of these have consequences that are inefficient, unfair or both. A fourth option is to increase student contributions to cover reductions in Commonwealth spending.

7.1 The government's plan – cutting per student spending

The government's plans to curb higher education costs were announced in April 2013.[50] It tackled costs across the spending drivers: the conversion of some student income support from grants to loans, the abolition of some HELP concessions, and an "efficiency dividend" on grants under the *Higher Education Support Act 2003* (HESA). The biggest program under HESA is the Commonwealth Grant Scheme (CGS), which as chapter 6 showed is headed towards $7.2 billion expenditure a year. The government plans to take 2 per cent off the CGS in 2014, and 1.25 per cent in 2015. Effectively, it is taking away some previously promised increases in Commonwealth contributions, through a more generous indexation system. The budget forward estimates suggest that this will save $228 million in 2014-15 rising to $300 million in 2016-17.[51]

These cuts are not especially large as a proportion of total university revenues. Even for Commonwealth-supported students, student contributions make up 40 per cent of university income. This income stream will continue to increase under the normal indexation system. However, the cuts are inconvenient. Universities are currently re-negotiating enterprise agreements, and under pressure to deliver above-inflation pay increases. Cuts to Commonwealth contributions would increase the likelihood of staff redundancies and cancellation or postponement of investment in buildings and equipment. These flow-on effects may compromise the quality of the student learning experience.

7.2 Setting a minimum ATAR

The Group of Eight has suggested a minimum ATAR of 60 generally and 70 for teacher education courses.[52] This rule would have saved up to $130 million in Commonwealth contributions if it had been in place for 2013.[53] Savings would increase in subsequent years, due to smaller second and third year student cohorts. It would also curb growth in an area of the higher education market where there is still large potential demand.

Setting a minimum ATAR is not straightforward. The Commonwealth Government does not directly regulate who is admitted to university. It can influence admission decisions only indirectly, through general requirements about how Commonwealth funds are used. The one current rule is that higher education providers must have "open, fair and transparent"

[50] Emerson (2013)
[51] Swan and Wong (2013), p. 217
[52] Mather (2013)
[53] Inference from data in DIICCSRTE (2013b) and other sources.

selection procedures, which are based on "merit" in the provider's "reasonable view".[54] On the analysis in chapter 2, this provision provides no basis for a minimum ATAR.

While the Commonwealth Government does not decide who is admitted to university, it can deem some students ineligible for Commonwealth support. This means that the university would not receive a Commonwealth contribution for those students and the students would not be entitled to a HECS-HELP loan.

The legal process for restricting Commonwealth support to low ATAR students is cumbersome. The Minister needs to determine that "students of a specified kind" – that is, students with ATARs below 60 – may not be enrolled as Commonwealth-supported students. The legislation requires that the Minister consider the effects of the determination on students.[55] Chapter 2 shows that the effect would be that many low ATAR applicants who could get a degree would be excluded.

The determination needs to be made at least six months before students are next able to start the specified courses.[56] This leaves only a few weeks left to make the determination if is to influence the major student intake in late February/early March 2014.

Even if made soon, the determination would face additional legal obstacles. It would be a "legislative instrument", which either house of parliament can disallow.[57] Given its apparent unfairness, disallowance would be a real prospect in the Senate at least. As the 2013 federal election means the loss of the spring parliamentary sitting days, the determination may be disallowed very late in the year. This would restore the right of low-ATAR students to a Commonwealth-supported place.

A new minimum ATAR rule a few months before the 2014 intake would cause chaos for students and universities. If it is to be feasible, it would have to be for 2015 or later, as the Group of Eight proposed. It therefore cannot be used to save money in 2014.

7.3 Re-capping the system

The minimum ATAR option is unlikely to gain traction. It is legally complex, and requires the Commonwealth to take responsibility for an arbitrary cut-off. The easier option is to control costs by re-capping expenditure on Commonwealth-supported places (CSPs). In the apparent deal being considered by the Higher Education Minister, the savings from fewer CSP students would offset the planned $300 million cuts.

The only existing legal mechanism for doing this is the funding agreement each university has to sign with the Commonwealth Government. To meet the proposed savings, the funding agreements would need to take about 20,000 student places out of the system in 2014-15, and about 25,000 places in each of 2014-15 and 2015-16.[58] The precise number could vary significantly depending on discipline. Commonwealth contributions for 2014 range from less than $2,000 per student

[54] *Higher Education Support Act 2003*, (HESA 2003), section 19-35
[55] HESA 2003, section 36-15
[56] HESA 2003, section 36-15(4)
[57] *Legislative Instruments Act 2003*, section 42

[58] Grattan estimates based on DIICCSRTE projections of average per student Commonwealth contributions indexed by 3 per cent a year.

place to more than $21,000. The funding agreements for 2014 have not been signed, so this option is more legally feasible than setting a minimum ATAR. Funding agreements must be published, but they are not legislative instruments.[59]

The funding agreements cover two types of CSP. In the first category are the already capped places in medicine, along with capped numbers of postgraduate coursework and sub-bachelor undergraduate places. Legally these could be cut, within a constraint of current students enrolled on a CSP basis having a legal entitlement to continued Commonwealth support.[60] If CSPs were cut, at public universities postgraduate but not undergraduate students could enrol on a full-fee basis instead.[61] They would be entitled to a FEE-HELP loan to help them pay the fees.[62]

The government would have to make significant cuts to the controlled CSP places. In 2012, there were 35,000 postgraduate coursework places and 9,000 sub-bachelor places.[63] There is also a risk that displacement back into the demand-driven system would reduce financial savings. Universities may encourage diploma and associate degree students to take bachelor degrees instead. The various initial professional entry masters courses could be re-classified as undergraduate.

Capping CSPs in the demand-driven system is complicated. The funding agreements cannot mandate lower total Commonwealth contributions on these CSPs than the year before.[64] So this provision can curb growth, but not reduce spending. Current forecast growth between 2013 and 2014 is 21,500 places (see figure 11, page 21). So it is a borderline case as to whether the funding agreements can deliver offset savings. In any case, it would require a general freeze in places and the effective end of the demand-driven system. The gains described in chapters 3 to 5 would be lost.

Cutting student numbers may also have long-term consequences for Commonwealth Government tax revenues through fewer graduates. A future paper from Grattan may explore this issue using a revised version of the higher education financial benefits analysis used in the 2012 publication *Graduate Winners: Assessing the public and private benefits of higher education.*

7.4 Increase student contributions

In the odd politics of the higher education sector, the simplest solution to decreased public funding has barely been mentioned: increase student contributions. University vice-chancellors are ideologically divided on the broader issue of increasing student contributions, and fee advocates have gone quiet.

[59] HESA 2003, section 30-28
[60] HESA 2003, section 36-25(1)
[61] Public universities must enrol domestic undergraduates on a CSP basis: HESA 2003, section 36-30(1). However, undergraduates could go to a NUHEP and borrow under FEE-HELP.
[62] Provided they do not exceed the lifetime FEE-HELP borrowing limit, which for 2013 is $112,134 for students taking medicine, dentistry or veterinary science courses, and $93,204 for other courses.
[63] DIICCSRTE (2013e)
[64] HESA 2003, section 30-27(3)

But increased student contributions in this case should not cause major difficulties. An approximate six per cent increase in student contributions would offset the $300 million cuts to Commonwealth funding. A routine three per cent increase in student contributions for 2014 was recently revealed on the DIICCSRTE website without comment or controversy.[65] Universities decide on student contributions, so they would also be free to charge less if they could find genuine efficiencies for their 'efficiency dividend'.

As with all student contributions, students could borrow this under the HECS-HELP scheme, and repay it from their future income. With this income-contingent loan there is unlikely to be much reduction in demand.[66]

Neither vice-chancellors nor politicians relish imposing costs on students. But students will pay for these funding cuts anyway in student contributions, reduced services, or a less responsive higher education system. The policy question we face is not whether students will pay. It is which policy option delivers a financial saving at least loss of fairness and efficiency.

[65] DIICCSRTE (2013a). This was the annual indexation of student contribution amounts.
[66] Norton (2012a), p. 75-79

8. Conclusion: keep the demand-driven system

Demand-driven university funding is a policy that is clearly achieving its goals.

Universities are responding to student demand. Additional student places have been created where demand has increased: in health, engineering and science. Increased offers in other fields are soaking up previous unmet demand. Student choices of what they want to study are more likely to be met than before. In a couple of areas, universities have not responded to student demand. But this reflects per student funding issues that require a policy adjustment, not a policy reversal.

Although some university leaders would like the government to again control student numbers, there has been no explanation of how student places would be allocated efficiently. History suggests that the government does a poor job distributing student places between fields of study. Under the old system, some fields were chronically under-supplied with student places while others were chronically over-supplied. Under the demand-driven system, we are moving towards a more even balance between supply and demand.

Under the old system, there was a striking contrast between the dynamism universities displayed in international student markets and the stagnation shown in the regulated market for Commonwealth-supported students. With the lifting of controls we are seeing new initiatives for Commonwealth-supported students, including collaborations with the corporate sector and with TAFEs.

Under a centrally-managed system, change is just too slow and too politically difficult to produce the best results.

An uncapped higher education system is creating new opportunities for people from disadvantaged backgrounds. Their numbers have grown quickly after years of stability. Proposals to set a minimum ATAR would be a major setback for the equity agenda. But any recapping of student places would disproportionally hit low SES applicants. It would mean higher ATARs across the system.

The proposed minimum ATAR of 60 does not representing a clear dividing line between likely academic success and likely academic failure. Most students (over half) who enter on ATARs below 60 eventually complete a qualification. Admission cut-offs need to stay local, using information about specific courses and applicants.

The Commonwealth Government's financial problems are real, and higher education cannot expect to be exempt from savings measures. But recapping student places is the worst of all possible savings measures. Universities just wearing the cuts or increasing student contributions would both be better options.

The demand-driven system could turn out to be like income-contingent loans: an Australian policy experiment from which the rest of the world can learn. We should keep it.

9. Glossary

ABS	Australian Bureau of Statistics
ATAR	Australian Tertiary Admission Rank. ATAR ranks students in their age group according to their school results, with lower numbers indicating lower ranks.
CGS	Commonwealth Grant Scheme
Commonwealth contribution	The Federal Government's tuition subsidy
DEEWR	Department of Education, Employment and Workplace Relations
DIICCSRTE	Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education
EFTSL	Equivalent full-time student load
FEE-HELP	HELP for full-fee students
FTE	Full-time equivalent
Field of study	A disciplinary area, such as health or engineering
GCA	Graduate Careers Australia
Group of Eight	Coalition of Australia's 'sandstone' universities
HECS	Higher Education Contribution
HECS-HELP	HELP for Commonwealth-supported students
HELP	Higher Education Loan Program
HESA	Higher Education Support Act 2003
NUHEP	Non-university higher education provider
OUA	Open Universities Australia
Pathway college	Institution specialising in diploma level courses aimed at facilitating entry to university courses
SES	Socio-economic status
Student contribution	The amount paid by a student in a Commonwealth-supported place
TAFE	Technical and further education

10. References

ABS (2012) *Australian Demographic Statistics, Cat. 3101.0*, Australian Bureau of Statistics

ABS (2013) 'Snapshot: Migration and the increase in bachelor degrees among people aged 25-34 years in Australia', *Education and Training Newsletter (Australian Bureau of Statistics),* 10 May 2013, accessed 22 May 2013, from http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/4211.0main+features30April%202013

ACODS (2011) *Higher education base funding review submission*, Australian Council of Dental Schools from http://www.innovation.gov.au/HigherEducation/Policy/BaseFundingReview/Documents/Submissions/AtoF/Australian_Council_of_Dental_Schools.pdf

Australian editorial (2013) 'A breakthrough for excellence', *The Australian,* 22 July

DEEWR (2008) *Undergraduate applications, offers and acceptances 2008,* Department of Education, Employment and Workplace Relations

DEEWR (2009a) *Transforming Australia's higher education system*, Department of Education, Employment and Workplace Relations

DEEWR (2009b) *Undergraduate applications, offers and acceptances 2009,* Department of Education, Employment and Workplace Relations

DEEWR (2010) *Undergraduate Applications, Offers and Acceptances 2010*, Department of Education, Employment and Workplace Relations

Deloitte Access Economics (2011) *Higher education teaching and learning costs*, Department of Education Employment and Workplace Relations

DIICCSRTE (2013a) 'Allocation of units of study to funding clusters and student contribution bands according to Field of Education Codes for 2014', from http://innovation.gov.au/HigherEducation/ResourcesAndPublications/Resources/Pages/ResourcesForStudentAdministrators.aspx#resources

DIICCSRTE (2013b) *The demand-driven system: Undergraduate applications and offers, February 2013*, Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education

DIICCSRTE (2013c) *DIICCSRTE portfolio budget papers 2013-14,* Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education

DIICCSRTE (2013d) *Students: selected higher education statistics 2012,* Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education

DIICCSRTE (2013e) *uCube - Higher education statistics,* Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education

DIISRTE (2012) *Undergraduate offers, applications and acceptances 2012,* Department of Innovation, Industry, Science, Research and Tertiary Education

Emerson, C. (2013) 'Statement on higher education', Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education, accessed 13 April 2013, from http://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22media%2Fpressrel%2F2373570%22

Evans, C. (2013) 'Record investment gives universities a better base to thrive', Department of Industry, Innovation, Science, Research and Tertiary Education, from http://archive.innovation.gov.au/ministersarchive2013/chrisevans/mediareleases/pages/recordinvestmentgivesuniversitiesabetterbasetothrive.aspx.htm

Gallagher, S. and Garrett, G. (2013) *Disruptive education: technology-enabled universities*, United States Study Centre, University of Sydney

James, R., Krause, K.-L. and Jennings, C. (2010) *The first year experience in Australian universities: findings from 1994 to 2009*, Centre for the Study of Higher Education, University of Melbourne

Karmel, T. and Liu, S.-H. (2011) *Which paths work for young people?*, National Centre for Vocational Education Research

Li, I. W. and Miller, P. (2013) 'The absorption of recent graduates into the Australian labour market: variations by university attended and field of study', *Australian Economic Review*, 46(1), p 14-30

Matchett, S. (2013) 'High wired update: Carr space on caps', *The Australian,* 17 July, from http://www.theaustralian.com.au/higher-education/high-wired-update-carr-space-on-caps/story-e6frgcjx-1226680379762

Mather, J. (2013) 'Group of Eight debates university entry level lift', *The*

Australian Financial Review, 15 July, from http://www.afr.com/p/australia2-0/group_of_eight_debates_university_J3PbEfnmc3mkLDIRdRsazJ

NMC (2013) *NMC horizon report: 2013 higher education edition*, New Media Consortium

Norton, A. (2009) 'Markets and central planning in meeting labour market needs: lessons from higher education', in *Competition in the training market*, T. Karmel, F. Beddie and S. Dawe, Eds., National Centre for Vocational Education Research

Norton, A. (2011) 'Our over-enrolled universities', *Andrew Norton (blog),* 24 April, from http://andrewnorton.info/2011/04/24/our-over-enrolled-universities/

Norton, A. (2012a) *Graduate Winners: Assessing the public and private benefits of higher education*, Grattan Institute

Norton, A. (2013) *Mapping Australian higher education, 2013 version*, Grattan Institute

Norton, A., Sonnemann, J. and Cherastidtham, I. (2013) *Taking university teaching seriously*, Grattan Institute

Norton, A., Sonnemann, J. and McGannon, C. (2013) *The online evolution: When technology meets tradition in higher education*, Grattan Institute

Ross, J. (2013) 'Emerson approves franchising deal', *The Australian,* 3 June,

Roy Morgan Research (2009) *Year 12 choices: a survey of factors influencing year 12 decision-making on post-school destination, choice of university and preferred subject*, Australian Department of Education, Employment and Workplace Relations

Shanahan, D. (2013) 'Drop in university places to pay for Gonski', *The Australian,* 20 July, from http://www.theaustralian.com.au/national-affairs/drop-in-university-places-to-pay-for-gonski/story-fn59niix-1226682286159

Swan, W. and Wong, P. (2013) *Budget paper no. 2: budget measures* Department of Finance and Deregulation / The Treasury

Taylor, L. (2013) 'Rudd government to re-examine university funding cuts', *Guardian Australia,* 1 July, from http://www.theguardian.com/world/2013/jul/01/labor-capping-student-numbers-gonski

Tovey, J. (2013) 'UNSW branded "elitist" for setting ATAR benchmark of 80', *The Sydney Morning Herald,* 19 July, from http://www.smh.com.au/nsw/unsw-branded-elitist-for-setting-atar-benchmark-of-80-20130719-2q8v0.html

Veterinary Deans (2011) *Higher education base funding review submission*, Council of Veterinary Deans of Australia and New Zealand from http://www.innovation.gov.au/HigherEducation/Policy/BaseFundingReview/Pages/Library%20Card/Submissions/AtoF/Council_of_Veterinary_Deans_of_Australia_and_New_Zealand.aspx