Expanding the sector: growth targets and student numbers

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Expanding the sector –
Growth targets and student numbers

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Introduction
This is the fourth research briefing in the Joining the Dots series for 2011. This briefing follows on the themes and questions raised in the first two Joining the Dots research briefings for 2011 – ‘Student Demand’ (Edwards, 2011b) and ‘The Practicalities of Growth’ (Edwards, 2011a). The briefing examines the expansion of Australia’s higher education sector and how this might affect student numbers.

The policy for expansion of the higher education system in Australia (the foundation of which is a target of 40 per cent of 25 to 34 year olds in Australia holding a bachelor degree or above by 2025) was announced by then Minister for Education Julia Gillard in early 2009 (Australian Government, 2009). In the two years since this announcement, only a few detailed analyses have been undertaken to identify the actual commencement and completion numbers needed to meet this target. This briefing outlines the findings of this work and matches these to budget forecasting undertaken by the Department of Education, Employment and Workplace Relations (DEEWR).

The briefing covers the following areas:
• Revisiting the numbers – how many to make it to 40 per cent?
• Expansion estimates:
  – DEEWR forecasting
  – Forecasting growth for Australia
• Matching DEEWR forecasts with required growth estimates.
• Conclusions and questions for future expansion.
The main findings presented here are:

- The recent substantial growth in attainment levels of the 25 to 34 year old cohort has been a result of strong migration and the growth of international students rather than any domestically driven increase in provision.

- As a result of recent changes to migration policies and the predicted fall in international student numbers, the attainment targets are likely to be very difficult to achieve.

- These findings are somewhat contradictory to general opinion in the higher education sector.

- Recent Federal Budget projections by DEEWR suggest a realisation within the department of the ramifications of the attainment target, with significant upward revisions of forecast funding for undergraduate students apparent in the past three Federal Budgets.

- Scenarios for achieving growth targets, both at the national level and at state levels, suggest that sharp rises and sustained growth in provision is necessary over the coming decade if the targets are to be achieved.

- There is some evidence that recent growth in enrolments and the forecast growth in student numbers by DEEWR to 2015 have pushed Australia in the right direction for achieving the attainment targets.

- However, DEEWR forecasts indicate a slowing down of growth by 2015 rather than the rapid and sustained increase required if the attainment targets are to be met.

Revisiting the attainment goals

As detailed in the second Joining the Dots Research Briefing, ‘The Practicalities of Growth’(Edwards, 2011a), it is estimated that by 2025 a total of 1.47 million people, aged 25 to 34 years old, will need to have at least a bachelor-level qualification if the 40 per cent attainment target is to be met.

In terms of growth based on current numbers, the figures in the paper showed that in 2025 there will need to be 422,000 more people in this age cohort with a bachelor degree than there were in 2010. This equates to a 40 per cent increase over this period. Given that the size of this age group is predicted to rise by 20 per cent over the same period, the outcomes of these projections show that Australia will not reach these numbers through demographic change alone – the number of people with a bachelor degree or above in this age cohort will need to grow at twice the rate of natural population growth over the coming decade and a half.

It was argued in the second JTD Research Briefing that achieving this target is likely to be much more difficult than many in the sector assume. In general,
the sector seems to have been lulled into a false sense of security about the 40 per cent target as a result of recent growth in attainment rates in Australia. This is understandable given that in the decade from 2001 attainment rates for the 25 to 34 year age group rose by more than ten percentage points, from 24.0 per cent to 34.2 per cent.

However, as Figure 1 shows, despite clear growth in attainment over the past decade, there is no evidence to suggest that this attainment growth has been achieved through increased participation of domestic students in higher education. In fact, participation rates of 20 to 24 year olds – the age group moving into the 25 to 34 cohort – rose only modestly, from 22 per cent to 25.9 per cent over this period.

Instead, it is more plausible that the growth in higher education attainment levels has been the result of a strong skilled migration program, focused on young migrants in professional occupations, alongside large increases in the number of international students studying in Australia. Between 2001 and 2009 skilled migration numbers increased 87 per cent, with more than 35,000 settler arrivals of 25 to 34 year old professionals in 2009 (Edwards, 2011a, p. 7). In parallel, international student completions in Australian universities more than doubled over the decade, with nearly 43,000 completions in 2009. Data compiled by the ABS suggest at least one-third of international students are successful in applying for a permanent residency visa and remaining in Australia on completion (ABS, 2007).

So, while Australia appears to be on track to achieve the attainment figures (with some arguing this will be achieved ten years before the 2025 target [Group of Eight, 2010]), the reality of the situation appears to be less certain and heavily reliant on continued growth in migration and international student numbers. Given the volatility of these particular sources of growth, illustrated recently through changes to the skilled migration program and nervousness surrounding the sustainability of the international student market, the role of domestic student expansion in Australia in achieving the Government’s target of 40 per cent attainment over the long term is of paramount importance.

Figure 1:
Participation rates in bachelor degree or above (20 to 24 year olds) and bachelor degree attainment rates (25 to 34 year olds), 2001 to 2010
Source: ABS Survey of Education and Work 2001 to 2010
Expansion estimates

The need for domestic student expansion has been reflected in several analyses undertaken recently. Work from the Centre for Population and Urban Research (Birrell, Rapson, & Smith, 2010) and analysis carried out for the Victorian Tertiary Education Plan (Edwards, 2009; Lee Dow, Adams, Dawson, & Phillips, 2010) have been the main contributions to the process of converting the attainment target into actual student numbers. However, the importance of expansion in the number of domestic students in Australian higher education has also been recognised by DEEWR.

DEEWR estimates

As initially highlighted by the Group of Eight (Go8) in its submission to the Higher Education Base Finding Review (2011, pp. 15–16), DEEWR substantially increased its estimate of students in Commonwealth Supported Places (CSPs) in the two years following the announcement of the 40 per cent attainment target. Figures published here show that the most recent Australian Budget has again increased student number estimates.

For example, Table 1 shows that the 2009 Federal Budget (which was released at the same time as the attainment target policy) estimated undergraduate domestic student numbers for 2012–13 to be 458,000. However, the following year (2010 Federal Budget), this estimate was increased to 488,016. In 2011, DEEWR and the Government have again revised its estimate upwards with 507,000 undergraduate students forecast for 2012–13. This is almost 50,000 students more than was anticipated only three years earlier under the same policy – an upwards revision of 11 per cent.

These figures illustrate the increasing recognition within the federal department of education of the extent of growth in domestic student numbers that will be required if the attainment targets are to be met. They also reflect the expansion that has been occurring in many universities as they prepare for a demand-driven higher education system (as highlighted by Edwards, 2011b; Lane, 2011).

But are these forecast figures high enough to build a platform for reaching the attainment levels required to achieve the 40 per cent target?

Centre for Population and Urban Research estimates

The Centre for Population and Urban Research (CPUR) estimates of the numbers needed to achieve the attainment target provide the most detailed, publicly accessible insight into the conversion of an attainment figure into actual raw numbers of completing students.

In a paper by Birrell, Rapson and Smith (2010), they detail a ‘completions scenario’. This scenario was based on estimated enrolments and completions for domestic undergraduates from 2007 to 2030. It includes assumptions about migration and international student visa numbers in its calculations. Importantly, it takes account of attainment levels as bachelor degree holders ‘age-out’ of the 25 to 34 year old cohort, highlighting the need for continuous replenishment of degree completers to offset those with degrees who age-out of this cohort.

Table 11 of the paper by Birrell et al. (2010, p. 28) is simplified into a graph in this briefing (Figure 3). It estimates a steep growth in completion numbers through to 2025, followed by a ‘flat-lining’ of numbers after this in order to avoid ‘over shooting’ the attainment target in future years. According to this modelling, the most serious growth in completion numbers will need to occur in the years between

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<tbody>
<tr>
<td>2009 Budget Forecasts</td>
<td>422,000</td>
<td>432,000</td>
<td>444,000</td>
<td>458,000</td>
<td></td>
<td></td>
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<tr>
<td>2010 Budget Forecasts</td>
<td>443,540</td>
<td>466,022</td>
<td>474,986</td>
<td>488,016</td>
<td>494,210</td>
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<tr>
<td>2011 Budget Forecasts</td>
<td>469,428</td>
<td>488,000</td>
<td>507,000</td>
<td>513,000</td>
<td>517,000</td>
<td></td>
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<tr>
<td>Change 2009 to 2011</td>
<td>37,428</td>
<td>44,000</td>
<td>49,000</td>
<td></td>
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</tbody>
</table>

Source: DEEWR Portfolio Budget Statements (PBS), 2009 to 2011
2015 and 2021, with a required annual growth of five per cent.

In terms of actual numbers, the CPUR estimates suggest that domestic bachelor degree completions will need to increase from 100,000 in 2010 to 180,000 by 2025 – an 80 per cent growth in the sector.

The issue of translating these completion figures into estimates of how many students would need to be enrolled each year was not modelled by CPUR in this instance. This is a difficult issue to resolve because it relies on assumptions relating to progression/retention up to graduation, of which there is little meaningful data in Australia. Nonetheless, there is still some work to be done to map this aspect of the attainment target issue at the national level. As outlined below, this has been undertaken to a certain extent in a case study of Victoria.

**Victorian forecasts**

Estimates undertaken in the development of the Victorian Tertiary Education Plan (Edwards, 2009) have also suggested that significant growth in completion numbers will be required in coming years in order to achieve attainment targets. These analyses were based on a Victorian attainment level of 47 per cent of all 25 to 34 year olds holding a bachelor degree or above by 2025, rather than the Australian 40 per cent target. The reason for this higher target was based on the fact that Victoria already had levels of attainment higher than the national average and therefore, in order to help boost the national target to 40 per cent, a higher figure would be required. A report from the Panel chaired by Professor Kwong Lee Dow advising the Victorian Government on the Tertiary Education Plan states: ‘The Panel concluded that Victoria’s social and economic needs will require an attainment level in this age group of around 47 per cent’ (Lee Dow, et al., 2010, p. 14).

The analysis work undertaken for the Panel suggested that in Victoria alone, domestic undergraduate completions between 2012 and 2020 would need to be sustained at a level of at least 44,000 – a sharp rise from the 2007 levels of 37,870 in only a short period of time (Edwards, 2009, p. 8).

The Victorian analysis also estimated commencement numbers needed for Victoria to boost attainment levels.
The figures suggested that a rise in commencement numbers in Victoria would need to take effect from 2010. Further, the extent of this growth would require between 12,000 and 17,000 student commencements above the 55,000 commencements in 2007 (Edwards, 2009, p. 13; Lee Dow, et al., 2010).

The analysis concluded that the size of the growth estimate for Victoria was not so large as to be unachievable, but that there is an urgent need for immediate increases in enrolment numbers in order to reach the target by 2025.

Matching DEEWR estimates to required numbers

Taking the CPUR scenario for reaching the attainment goal and cross-referencing it with the DEEWR budget figures from 2011, this section of the briefing evaluates the extent to which the DEEWR forecasts outlined above are setting a trajectory that will achieve the required growth for the attainment target.

This process is far from simple, and relies on a number of assumptions. However, as an indicative exercise, a relatively crude calculation has been undertaken. The task involves a number of data conversions and alignments to change the DEEWR EFTSL domestic undergraduate estimates into the CPUR modelled completion numbers. The first step in this process was to convert the DEEWR estimates from EFTSL to overall numbers. This was done using a multiplier based on an average of the rate of EFTSL compared to student numbers calculated from 2001 to 2009, from DEEWR figures for student load and student enrolment. The conversion ratio used was 1.265; that is, each full EFTSL number was increased by this ratio to estimate the student head count.
The second step involved accounting for the fact that the CPUR estimates were based on bachelor pass numbers while the DEEWR figures included all undergraduates. Over the past five years of DEEWR data, bachelor pass students have comprised 93.3 per cent of all undergraduate completions.

The third step involved converting full population numbers into completion numbers. Based on trends over the past five years identified in the DEEWR enrolments file and the DEEWR completions file, it was estimated that 19.5 per cent of total enrolments complete a course in any one year.

The result of this calculation (shown in Figure 3 and Table 2) suggests that for the period of the DEEWR estimates (2010 to 2015), domestic enrolment numbers appear to be on track to reach the attainment target. However, the numbers in the converted DEEWR estimates flatten out by 2015. This is problematic because the CPUR scenario suggests that growth will need to increase to 5 per cent per year at this time and remain at this level for a seven-year period (Table 2).

So, while initial growth may be on track, the challenge for the sector will be increasing the rate of growth and sustaining such increases until the beginning of the next decade.

The conclusion is that the estimates by DEEWR appear to follow the numbers in the CPUR scenario up until 2015, but from then onwards, there is a large and unknown gap in the following decade that needs to be filled.

Table 2: DEEWR forecasts and CPUR growth scenario comparison, 2010 to 2025

<table>
<thead>
<tr>
<th>Year</th>
<th>DEEWR Estimates*</th>
<th>CPUR Growth Scenario</th>
<th>CPUR estimate annual growth required</th>
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</thead>
<tbody>
<tr>
<td>2010</td>
<td>102,080</td>
<td>101,000</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>108,038</td>
<td>102,000</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>112,312</td>
<td>110,000</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>116,685</td>
<td>112,200</td>
<td>2%</td>
</tr>
<tr>
<td>2014</td>
<td>118,066</td>
<td>115,500</td>
<td>3%</td>
</tr>
<tr>
<td>2015</td>
<td>118,986</td>
<td>121,400</td>
<td>5%</td>
</tr>
<tr>
<td>2016</td>
<td>127,400</td>
<td>127,400</td>
<td>5%</td>
</tr>
<tr>
<td>2017</td>
<td>133,900</td>
<td>133,900</td>
<td>5%</td>
</tr>
<tr>
<td>2018</td>
<td>140,600</td>
<td>140,600</td>
<td>5%</td>
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<tr>
<td>2019</td>
<td>147,700</td>
<td>147,700</td>
<td>5%</td>
</tr>
<tr>
<td>2020</td>
<td>155,100</td>
<td>155,100</td>
<td>5%</td>
</tr>
<tr>
<td>2021</td>
<td>162,800</td>
<td>162,800</td>
<td>5%</td>
</tr>
<tr>
<td>2022</td>
<td>169,400</td>
<td>169,400</td>
<td>4%</td>
</tr>
<tr>
<td>2023</td>
<td>174,400</td>
<td>174,400</td>
<td>3%</td>
</tr>
<tr>
<td>2024</td>
<td>177,800</td>
<td>177,800</td>
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<tr>
<td>2025</td>
<td>179,600</td>
<td>179,600</td>
<td>1%</td>
</tr>
</tbody>
</table>

*DEEWR estimates converted to completion numbers see discussion for details
Conclusion and questions for future provision

Research Briefings 1, 2 and 4 for JTD in 2011 have charted the attainment target policy of the Federal Government in detail, examining what the broad 40 per cent target actually means in terms of population and student numbers and outlining how the demand-driven funding policy is an integral factor in getting anywhere close to the target by 2025.

In particular, this briefing has shown:

- Bachelor degree attainment of 25 to 34 year olds will need to increase at twice the rate of population growth if Australia is to meet the 40 per cent attainment targets.
- The recent substantial growth in attainment levels of the 25 to 34 year old cohort has been a result of strong migration and the influx of international students rather than any domestic driven increase in provision.
- As a result of the above points, and changes to migration policies and international student numbers, the attainment targets are likely to be very difficult to achieve.
- DEEWR seems to acknowledge the need for major expansion, with significant upward revisions of forecast funding for undergraduate students apparent in the past three Federal Budgets.
- Modelling for Australian attainment and Victorian attainment suggests that sharp rises and sustained growth in provision is necessary over the coming decade if the targets are to be achieved.
- Comparisons of DEEWR estimates and CPUR modelling shows that early progress in growing enrolments is occurring.
- However, DEEWR forecasts suggest that by 2015 growth will be slowing, at a time when the CPUR target figures suggest growth will need to continue at a high level until into the next decade.

While it is clear there is a substantial amount of growth required in the sector over the coming decade and a half, there are still many questions about provision and the practicalities surrounding the sustainability of such growth.

Questions relating to future provision include:

- How will large and sustained growth be absorbed by the sector?
- Is there a substantial role for TAFE providers in this growth?
- Is there a role for private providers in this growth?
- Can the system develop and fund the physical infrastructure to accommodate growth?
- What impact might increases in university retention rates have on boosting attainment figures? How might these increases be encouraged?
- To what extent is distance and online learning going to bolster future provision?
- Are there models of provision not yet contemplated that could facilitate growth?
- How much will growth in provision align with industry need for skilled workers?
- What role will the international student market and the skilled migration program play in the attainment of targets in the future?

These are all issues of pertinence to policy makers and higher education leaders in Australia today. They are also potential topics for future issues of the Joining the Dots Research Briefing series.
References


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