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**JOHN CURTIN INSTITUTE**  
OF PUBLIC POLICY

# The Economic Implications of Fewer International Higher Education Students in Australia

**John Phillimore and Paul Koshy**  
*The John Curtin Institute of Public Policy*  
Curtin University

*for*

Australian Technology Network of Universities



## Final Report

August 2010



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## Key Points

1. International education is Australia's third largest export industry, generating \$18 billion in exports in 2009. It is 50% larger than tourism-related travel, and has grown by 94% since 2004.
2. In 2009, there were 629,918 international students in Australia, of whom 203,324 were in higher education, 232,475 attended a VET provider and 135,141 were in an English language course.
3. Higher education is the most economically significant part of the sector. With 32% of the total student market it generates 57% of export revenue. On average, each international higher education student studying in Australia generates \$50,874. Just over a third (36%) of student expenditure was on fees; the rest was spent on goods and services throughout the rest of the economy (mainly accommodation, cafes and restaurants; and retail trade) – generating more jobs and income.
4. Total value added generated by international higher education students – including both student and student visitors' expenditure – was \$9.3 billion in 2009 – or 0.76% of GDP; of this, \$3.5 billion was in the education sector, the other \$5.8 billion was in the rest of the economy.
5. This resulted in additional employment of 102,387 FTE positions of which 83,050 were created outside the education sector. For every two international higher education students enrolled in an Australian university, one extra job is created.
6. International higher education is now under severe pressure owing to several recent global and domestic developments such as a stronger Australian dollar; the impact of the global financial crisis; increased competition from other countries such as the US; reputational damage caused by attacks on international (especially Indian) students; the collapse of some private colleges; major changes to student visa and skilled migration rules; and the current election discussion about immigration and population issues. The impact of most of these factors has yet to be fully felt and is likely to be reflected in future data on commencements and visa grants.
7. However, there are already indications of a negative trend. Commencements, as measured by Australian Education International (AEI), showed a 6.3% decline for the year to June 2010, with ELICOS commencements being hardest hit, down 20.5%. Further reports from agents and providers suggest enrolments could fall by 30 to 40%. This is worrying for the higher education sector as ELICOS is a common pathway into higher education in subsequent years.
8. Data on student visa grants from the Department of Immigration and Citizenship show a similar downward trend. Higher education visa grants declined in 2009-10 by 11.5%, most of which was attributable to a fall in visas from India. Offshore higher education visa grants fell by 24.9% over this period. These figures were only slightly offset by increases in postgraduate research students receiving visas.
9. Modelling of the potential economic impact of a decline in commencements and enrolments was undertaken comparing a baseline of modest (3%) growth from 2010

with three plausible scenarios for the period 2010-2015: (i) a 'Sideways' scenario in which commencements decline by 10% in 2011, remain constant over 2012, before returning to Baseline growth of 3% per annum; (ii) a 'Trough' scenario, where commencements are hit by rolling decline, with a decrease in student numbers of 20% in each of 2011, 2012 and 2013, before expanding again by 3% per annum over each of 2014 and 2015; and (iii) a 'Perfect Storm' scenario in which commencements fall by 35% in 2011 then remain flat over 2012 and 2013, before returning to Baseline growth thereafter, albeit from a vastly reduced base.

10. The modelling takes account of the fact that in higher education, unlike in VET and ELICOS, students tend to have longer periods of attachment to their institution and consequently there is a lag between reported declines in commencements and declines in enrolments. This pipeline effect helps explain why current enrolments in higher education have held up relatively well despite early indicators of declines in commencements. Nevertheless, the impact of declining commencement numbers eventually manifests itself in lower overall enrolment numbers.
11. The modelling shows a decline in enrolments of just over 100,000 international higher education students in 2015 between the Perfect Storm scenario and the Baseline (148,419 versus 248,168 students). This would represent a loss of total expenditure associated with the Baseline case of just over \$5.88 billion in 2015.
12. As a result, the overall impact of international higher education on the Australian economy is severely diminished. Compared to a Baseline expectation of \$13.3 billion value added in 2015, the other scenarios show value added of between \$7.9 billion (Perfect Storm) and \$11.2 billion (Sideways). Employment throughout the economy (including in education) is reduced to 96,203 FTE positions for the Sideways scenario, 88,082 under the Trough scenario, and just 67,823 jobs under the Perfect Storm scenario, compared with an estimated figure of 104,005 in 2010 – a drop of 36,182 FTE positions. Against the Baseline, the fall in 2015 is 45,583 FTE positions.
13. For higher education institutions, revenue losses relative to the Baseline are substantial under all scenarios with income gaps of between \$2.6 and \$7.0 billion over the period 2011 to 2015. This is a severe hit especially as the sector moves to a competitive demand-driven domestic funding model in 2012.
14. Government needs to reconsider its policy settings. Higher education – the largest economic and employment generator in the sector, with the least problems in terms of quality – is already suffering reduced enrolments and lower visa grants, in what appears to be a case of significant 'collateral damage' arising from policy measures aimed mainly at other sectors, in a challenging international environment. Lower prospective enrolments in higher education will in turn likely have negative impacts on other parts of the sector, in particular ELICOS providers, which have a close relationship with higher education in providing pathway language tuition for students intending to go on to university studies in Australia. A reinforcing downward spiral is a definite possibility, with consequent negative impacts on incomes and jobs across the economy as a whole.

## Executive Summary

### **Introduction**

*Travel related education is the third largest export industry in Australia, with \$18 billion of exports generated in 2009. This makes it almost 50% larger than tourism-related travel.*

*The sector has seen marked growth in recent years, expanding by 94% since 2004. In 2009, there were 629,918 international students in Australia. Of this figure, 203,324 were in higher education, 232,475 attended a VET provider, 135,141 were in ELICOS and the remainder were either in Schools (27,506) or participating in a non-award course.*

*However, a combination of factors in the past 18 months has put the international education sector under pressure. Preliminary evidence suggests that the entire sector could see a decline in enrolments of between 15 to 30% in the near future.*

*Any decline in the international student sector has implications for the Australian economy. A study in April 2009 by Access Economics found that in 2007-8 the entire international education sector in Australia contributed \$12.6 billion to the Australian economy and was responsible for total employment of 126,240 FTE positions. This current report updates the Access study to model the impact on the economy of a number of plausible scenarios for the higher education segment of the market over the period to 2015.*

### **International Higher Education in Australia**

*Higher education was the prime initiator of the international student export success and remains the most economically significant part of the whole sector.*

*In 2009, there were 203,324 international higher education students studying at campuses across Australia. This represented annual growth of 12.1% compared to 2008. Commencements numbered 89,435, representing a 15.4% growth rate over the calendar year. Overall, higher education student numbers have grown by 76% since 2002, at an average rate of 8.4% growth per annum.*

*Approximately 56% of all international higher education students in 2009 were undergraduates, with 44% being postgraduates. The most popular 'broad field of education', was "Management and Commerce" which accounted for 48.3% of enrolments. No other field accounted for more than 10% of enrolments, with "Engineering and Related Technologies" being the second largest at 8.3% of enrolments.*

*The international segment is dominated by China (31.7% share) and India (13.5%), who have a combined share of 45.2% of all enrolments, an increase from 25% in 2003 and 11.1% in*

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2000. The top five nationalities account for 62% of all enrolments, while the top ten nationalities account for almost 75%.

International higher education accounts for 32% of all international students, but represents 57.5% of all export revenues, at around \$10.3 billion in 2009. On average, each international higher education student studying at an onshore campus in Australia generated \$50,874. By comparison, each international VET student generated \$20,647 in export income.

### **The Economic Impact of International Higher Education in Australia**

This study applies a standard economic model to determine the impact of international higher education on the Australian economy.

The majority of this impact occurs as a result of higher education student expenditure in Australia. In 2009, this amounted to \$10.3 billion being spent by 203,324 students and had a total value added contribution to the economy of \$9.3 billion at \$45,016 per student. This resulted in the creation of 99,923 FTE positions in the Australia economy.

These impacts flow from international student expenditure only. In addition, visits to international students generated expenditure in Australia of around \$233 million, and created value added of around \$184 million and employment equal to 2,464 FTE positions.

Combined, therefore, international higher education student and student visitors' expenditure in 2009 was equal to \$10.6 billion or around \$51,735 per student. The economic impact in terms of value added contributions was considerable. Education alone benefited by \$3.5 billion, with the rest of the economy seeing an increase in value added of \$5.8 billion. Total value added created through onshore international higher education was equal to \$9.3 billion or \$45,916 per student. This resulted in employment equal to 102,387 FTE positions or around 0.51 FTE positions per international student. Approximately 83,050 of these FTE positions were created outside the education sector.

State and territory shares of value added calculated on the basis of their shares of international student enrolments in 2009 are reported in Table A below. These show that international onshore education is now a billion dollar industry in its own right in New South Wales and Victoria. In addition, it has an overall impact of \$1.4 billion in Queensland.

**TABLE A: Estimated Value Added from Onshore International Higher Education, \$m**

	NSW	VIC	QLD	WA	SA	TAS	NT	ACT	Aust.
Education	1,181	1,101	537	298	232	46	7	91	3,494
Rest of the economy	1,975	1,841	899	498	387	77	12	152	5,842
Total Value Added	3,157	2,943	1,436	795	619	122	20	244	9,336

Table B reports employment across the states and territories. These tend to be commensurate with the level of expenditure associated with international students in the state. New South Wales, Victoria and Queensland in particular have sizeable levels of FTE positions in Education which are attributable to international students, with the other states and territories having a considerable exposure as well.

**TABLE B: Estimated Employment from Onshore International Higher Education, Full-time Equivalent (FTE) Positions**

	NSW	VIC	QLD	WA	SA	TAS	NT	ACT	Aust.
Education	6,538	6,095	2,974	1,282	1,648	253	41	505	19,337
Rest of the economy	28,079	26,177	12,773	5,553	7,029	1,088	174	2,168	83,050
Total Value Added	34,617	32,272	15,747	6,835	8,677	1,341	215	2,672	102,387

As a general rule, for every one job created in higher education, another four jobs are created throughout the rest of the economy.

Spending by international higher education students and their visitors in Australia therefore has a substantial impact on the Australian economy, contributing \$9.3 billion to total value added, representing 0.76% of GDP, and supporting 102 387 FTE positions.

#### **Recent Trends, Prospects and Scenarios**

The relative health of the international education export sector is now under severe pressure owing to several international and domestic developments over the past 18 months:

- A stronger Australian dollar;
- The impact of the global financial crisis on demand for places;
- Increased competition from other countries seeking international students, in particular the USA;
- Reputational damage caused by highly publicised attacks on international students;
- The collapse of some private colleges;
- Significant changes to student visa rules and skilled migration; and
- The current election campaign discussion about immigration and population issues.

Commencement data from Australian Education International (AEI) for the year-to-date to June 2010, show a decline in overall commencements in the onshore international sector of around 6.3% on a year on year basis, although higher education is still trending positive with commencements to June of 54,326, up 5.64% on the 2009 equivalent figure of 51,339. The other three key sectors have all seen a marked decline in enrolments: VET commencements to June 2010 were at 67,046, down by 4.45%; Schools at 7,177, down by 12.27%; and ELICOS at 43,815, down by 20.5% from June 2009.



*The ELICOS sector has been hit particularly hard. The peak body for ELICOS providers, English Australia, has suggested that in view of the confluence of negative factors recently, ELICOS enrolments could fall between 30 to 40%.*

*From the perspective of higher education, the marked decline in ELICOS commencements could be a potential indicator of future decline. ELICOS providers typically prepare future higher education students in their short course structures, as 60% of students 'pathway' into the other sectors. Falls in ELICOS enrolments this year more often than not presage falls in higher education commencements the next year.*

*In addition to a general decline, there is evidence from commencement data to indicate that a significant fall in new enrolments across the education sector has already occurred in the Indian market. Commencements by Indian students for the year-to-date for June were 22,670, down by 13,300 or 37% over 2009 (year to June) levels of 35,970. This included a fall in higher education commencements of 1,898 students to 3,435, equal to 36% on the 2009 equivalent figure of 5,333. Of more concern is the 86% fall in ELICOS commencements – 950 students in 2010 versus 6,754 students in 2009. This is widely attributable to the negative press about attacks on Indian students in Australia, and changes in visa policy.*

*Looking forward in the context of all source markets, the Department of Immigration and Citizenship (DIAC)'s grants for the higher education visa – the 573 visa – declined in 2009-10 to 118,541, a decrease of 11.5% on 2008-9 grants of 133,990, almost all of which is attributable to a fall in Indian higher education visa grants. Offsetting this change somewhat was the relatively healthy outcome for the postgraduate research visa, which increased by 11.3%. Overall, combined onshore and offshore grants for higher education visas fell by around 10.2% in 2009-10. Significantly, combined offshore grants fell by 23.4% in 2009-10.*

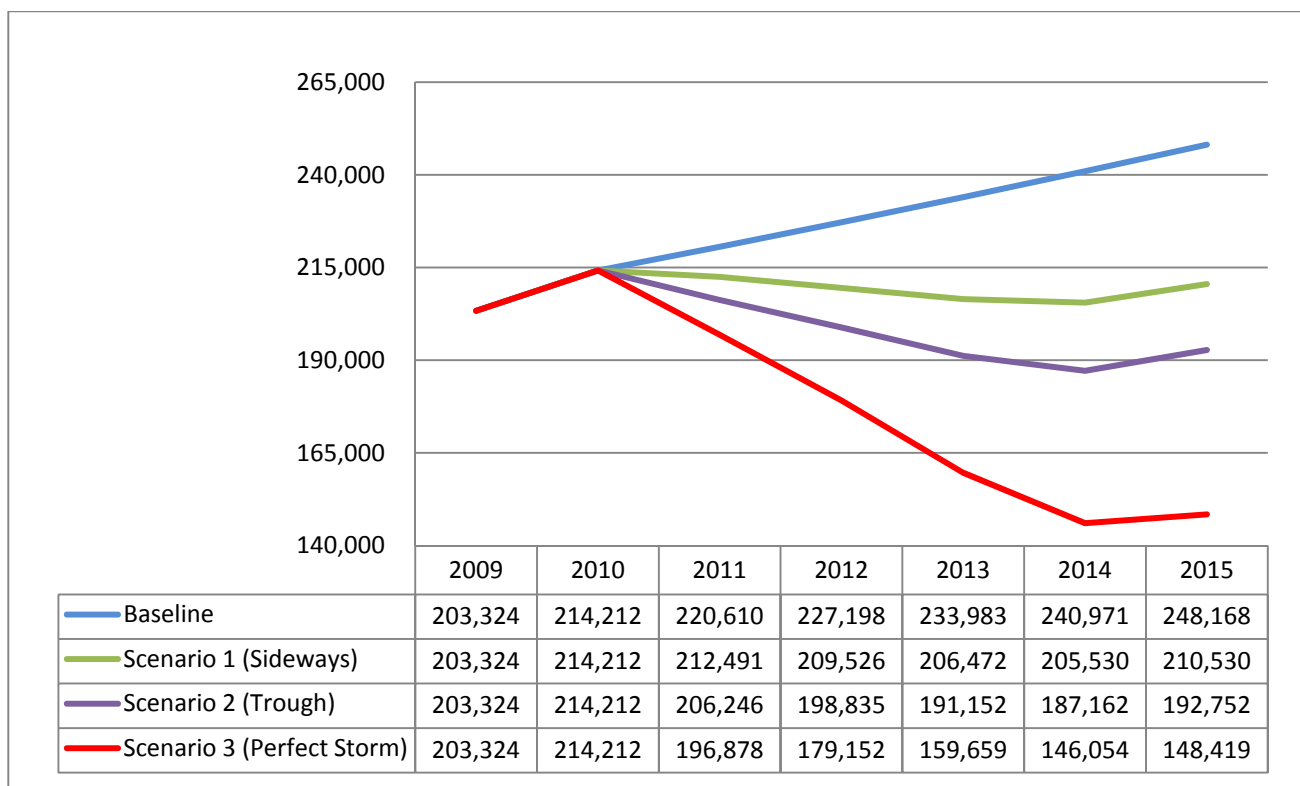
### **Modelling the Economic Impact of Declining International Higher Education Enrolments**

*We modelled potential impacts from a decline in international students, initially through the construction of a Baseline case for growth which largely held prior to current trends. From a growth forecast for 2010 of 214,212 students, we model this baseline and three realistic scenarios. The 'Sideways' scenario reflected an initial drop in international higher education commencements of 10% on 2010 enrolment levels in 2011, with numbers stabilising at this level through 2012 and 2013 before a return to Baseline growth of around 3% per annum. The 'Trough' scenario saw a decline in commencements of 20% in each of 2011, 2012 and 2013 before a return to 3% growth in the two years thereafter.*

*The third scenario, the 'Perfect Storm', sees commencement numbers fall by 35% between 2010 and 2011 and then remain flat in 2012 and 2013 before returning to 3% trend growth.*

*These falls in commencement numbers translate into student enrolment projections seen in Figure A.*

**FIGURE A: Baseline Projections and Three Scenarios for International Higher Education Enrolments in Australia, 2010-2015**



The figures outlined in Figure A translate into potentially serious outcomes for the Australian economy. In the case of the Baseline, total expenditure associated with international students (from both students and visitors) increases in all years, rising from \$11.4 billion in 2010 to \$12.7 billion in 2012 and \$14.9 billion by 2015. Under the Sideways scenario, student expenditure in 2011 experiences a marginal increase of 2.6% on 2010 levels. Under the Trough scenario, expenditure falls to \$11.1 billion or 2.6% below 2010 levels. Total expenditure declines much more sharply under the Perfect Storm scenario, where total expenditure falls to \$10 billion in 2012, a decrease of \$3.1 billion or 12.2% of levels in 2010.

When set against the Baseline, the decrease in total expenditure is even more pronounced. Further, this is in many ways the true indication of the impact on the overall Australian economy of a decline in onshore international student numbers, relative to expectations, until quite recently, of a steady growth of 3% per annum from 2010. In the instance of the Perfect Storm scenario, total expenditure in 2012 is around 24% below where it would have been under the Baseline. By 2015, expenditure in the Perfect Storm scenario is \$8.9 billion, around 40% below the Baseline forecast of \$14.9 billion.

These declines in total expenditure patterns translate into identical outcomes (in percentage terms) for value added and employment in the Australian economy. This can be seen in Table C below.

**TABLE C: Baseline Projections and Three Scenarios: International Higher Education Enrolments in Australia, Implications for Economic Value Added, 2010-2015, \$m**

	2010	2011	2012	2013	2014	2015
Baseline	10,134	10,690	11,277	11,896	12,549	13,239
Scenario 1 (Sideways)	10,134	10,297	10,400	10,497	10,704	11,231
Scenario 2 (Trough)	10,134	9,994	9,869	9,718	9,747	10,282
Scenario 3 (Perfect Storm)	10,134	9,540	8,892	8,117	7,606	7,917

Employment in Australia, due to international higher education, is projected to reach 104,005 FTE positions in 2010. In all three scenarios modelled, declining enrolments in 2011 result in a decline in employment in that year, with a recovery only taking place as enrolment levels recover after 2013 (see Table D). Under the Perfect Storm scenario, employment due to international higher education declines to 84,899 FTE positions in 2012, a decrease of 19,106. By 2015, employment is 67,823, a fall of almost 36,182 from 2010 and around 45,583 fewer jobs than under the Baseline for 2015 - a fall of 40.2%.

**TABLE D: Baseline Projections and Three Scenarios: International Higher Education Enrolments in Australia, Implications for Employment, 2010-2015, FTE positions.**

	2010	2011	2012	2013	2014	2015
Baseline	104,005	106,333	107,668	109,548	111,460	113,406
Scenario 1 (Sideways)	104,005	102,420	99,294	96,668	95,067	96,206
Scenario 2 (Trough)	104,005	99,409	94,227	89,495	86,571	88,082
Scenario 3 (Perfect Storm)	104,005	94,894	84,899	74,750	67,557	67,823

These findings have implications at the state and territory level. For instance, under the Perfect Storm scenario, employment associated with international students in NSW in 2015 will decrease to 32,084 FTE positions, down 3,080 from 35,164 positions in 2010.

### **Implications for the Higher Education Sector and Government**

The most obvious impact for the higher education sector is in terms of revenue loss, which is substantial in all scenarios relative to the moderate Baseline case (\$23.7 billion in revenue over the five year period). Under the Sideways scenario, the higher education sector sees an income gap relative to the Baseline of around \$2.6 billion over the period 2011 to 2015.

A more pronounced downturn such as that modelled under the Trough scenario sees revenue fall 16.8% relative to the Baseline, or a revenue loss of \$4.0 billion. Under the Perfect Storm scenario, revenues collapse over the five year period to \$16.7 billion, implying a loss of 29.5% of all expected income under the Baseline. This loss is equal to around \$7.0 billion.

**TABLE E: Baseline Projections and Three Scenarios: International Higher Education Enrolments in Australia, Cumulative Fee Income, 2011-2015, \$m, %**

	<b>Cumulative Projected Fee Revenue: 2011-15</b>	<b>Change from Baseline 2011-2015</b>	<b>Change as % of Baseline 2011-2015</b>
<i>Baseline</i>	23,677	-	-
<i>Scenario 1 (Sideways)</i>	21,087	-2,590	-10.9%
<i>Scenario 2 (Trough)</i>	19,691	-3,986	-16.8%
<i>Scenario 3 (Perfect Storm)</i>	16,698	-6,979	-29.5%

The loss in fee income translates into quite significant prospective employment losses in the Australian higher education sector. On the broad-based modelling undertaken, between 2010 and 2011 alone, these are in order of between 402 FTE positions under the Sideways scenario, 982 positions under the Trough scenario and 1,851 under the Perfect Storm where there is a more dramatic decline in commencements. Over time these losses are sustained if student numbers do not increase.

For government, the implications are two-fold. First, there is a need for a reconsideration of policy settings in view of the current international climate, particularly in regard to immigration policy as it affects higher education. Second, government needs to examine options to meet the challenges presented by the current global and domestic circumstances facing the sector, in view of government's goals for higher education in general.

# 1 Introduction

The purpose of this report is to better understand the impact of international students on the Australian economy, focusing in particular on the effect of potential reductions in higher education enrolments.

International education is an Australian export success story. From a small base it has now become Australia’s third largest export sector behind coal and iron ore, and is the largest service export sector in the economy, worth around \$18 billion in 2009. There has been rapid growth in recent years in the international education sector (see Table 1), with student numbers almost doubling over the five years to 2009. The growth has been distributed across the sector (except Schools), with both the VET (299%) and ELICOS (119%) segments experiencing especially rapid growth since 2004. The higher education sector has seen 51% growth in enrolments between 2004 and 2009, coming off an established base.

**TABLE 1: International Onshore Student Enrolments, By Sector, 2004 to 2009**

Sector	2004	2005	2006	2007	2008	2009	Growth %
Higher Education	150,736	162,688	169,591	174,254	181,392	203,324	51%
VET	58,208	65,580	82,532	119,646	174,558	232,475	299%
ELICOS	61,736	64,556	76,855	101,961	126,785	135,141	119%
Schools	27,311	25,093	24,471	26,764	28,308	27,506	1%
Other	25,942	26,248	26,426	27,299	30,123	31,472	21%
Total	323,933	344,165	379,875	449,924	541,166	629,918	94%

Source: Australian Education International (AEI)<sup>12</sup>

Such growth has provided increased income for higher education institutions. The most recently available consolidated figures on Australian higher education provider finances, those for 2007 from the Department of Education, Employment and Workplace Relations (DEEWR), show that the revenue item ‘Fee Paying Overseas Students’ was equal to \$2.6 billion and accounted for around 15% of all revenue from continuing operations (\$17.3 billion). While a proportion of this is from offshore operations, it does indicate the importance of international students to the sector. This revenue enabled them to expand opportunities for all students and devote resources to research activity.

In addition to the importance of the international sector to higher education, students also had a strongly positive economic impact, boosting GDP and providing increased numbers of jobs across the Australian economy.

However, a combination of factors in the past 18 months has put the international education sector under pressure. As Universities Australia puts it, “we are faced with a ‘perfect storm’ of factors coming together to threaten Australia’s position as a preferred destination for an educational experience”<sup>3</sup>. The factors cited by UA and others include:

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- A stronger Australian dollar;
- The impact of the global financial crisis on demand for places;
- Increased competition from other countries seeking international students, in particular the USA;
- Reputational damage caused by highly publicised attacks on international students;
- The collapse of some private colleges;
- Significant changes to student visa rules and skilled migration; and
- The current election campaign discussion about immigration and population issues.

These factors have had the effect of slowing or declining international student enrolments, with prospects of worse to come. The effects of policy-induced changes to student visas and skilled migration, the most important of which came into effect only quite recently, are likely to be only seen in the coming months.

Higher education was the prime initiator of the international student export success and remains the most economically significant part of the whole sector. While recent changes to student visas and skilled migration are targeted primarily at other parts of the sector (e.g. private colleges), there is a real prospect that higher education institutions will also be negatively affected, both in the short and long term – and that this could in turn adversely impact on the Australian economy.

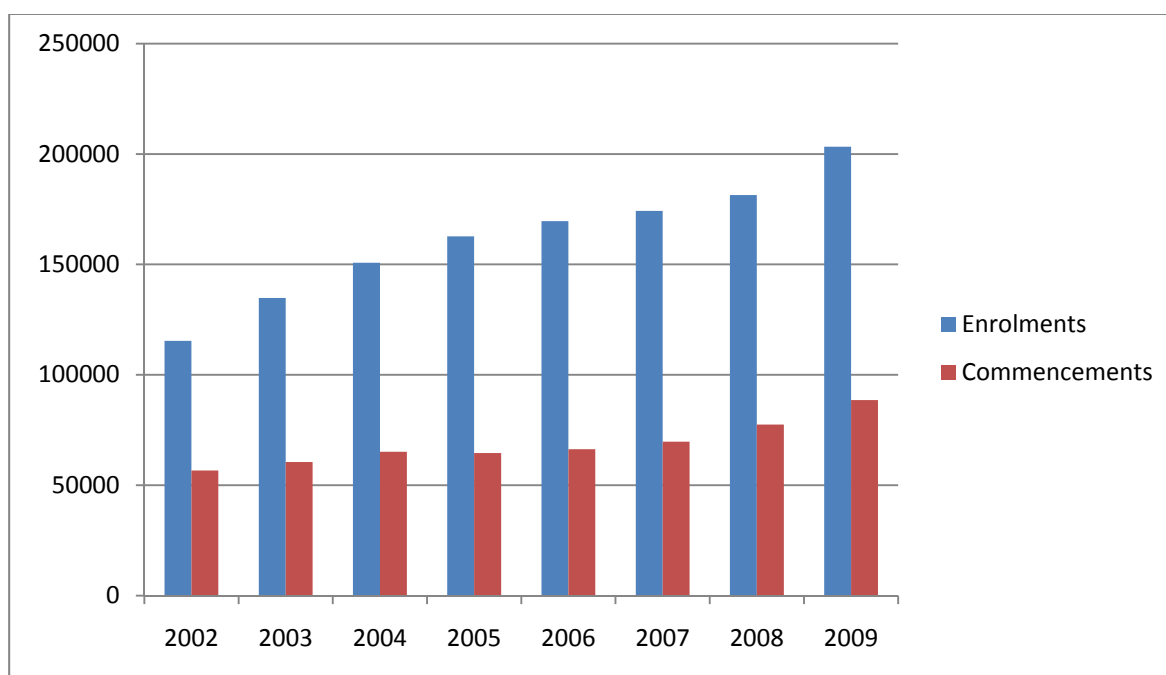
This report attempts to assess the potential impacts on the economy of a number of plausible scenarios for international higher education enrolments over the next five years. It provides a brief background to the sector (Section 2) as well as an assessment of its current economic impact (Section 3). It briefly reviews recent international and domestic factors impacting on the sector, and examines a range of indicators of current and likely future enrolment trends, based on student visa grants and actual enrolment data, as well as feedback from within the sector (Section 4). Based on these trends, it devises several scenarios for the sector ranging from continued growth to a sharp decline and effective ‘flat-lining’ of enrolments, which then form the basis for providing projections of international higher education enrolments and their economic impact (Section 5). Finally we discuss the implications of the findings for government and the sector (Section 6).

The report uses data and projections from the Australian Bureau of Statistics (ABS), Australian Education International (AEI), IDP Education and the Department of Immigration and Citizenship (DIAC) as well as economic impact analysis from a report by Access Economics published in April 2009, which was based on 2007-08 data. It updates the data wherever possible in order to provide as accurate an estimate as possible of the current situation, given the rapid changes that have occurred in the sector over the past 18 months.

## 2 International Higher Education in Australia

There were 203,324 international higher education students studying at campuses across Australia in 2009. This represented annual growth of 12.1% compared to 2008. Commencements numbered 89,435, representing a 15.4% growth rate over the calendar year. Overall, higher education student numbers have grown by 76% since 2002, at an average rate of 8.4% growth per annum.<sup>4</sup>

**FIGURE 1: International Onshore Higher Education Students, Enrolments and Commencements, 2002 to 2009**



Source: AEI<sup>5</sup>

Approximately 56% of all international higher education students in 2009 were undergraduates, with 44% being postgraduates. Postgraduate enrolments have increased at a faster rate than undergraduate enrolments over the past seven years, rising from a percentage share of only 33% of total international higher education enrolments in 2002.<sup>6</sup> In 2009 there were around 69,700 Masters Degree (Coursework) students, representing 124% growth since 2002. In research, there were 10,252 doctoral students – with figures more than doubling (up 144%) since 2002 – and 1,353 Masters Degree (Research) students. In terms of their representation of the higher degree by research (HDR) student body in Australia, international students accounted for 27% of all HDR completions in 2007, a level of participation which has been broadly constant in recent years.<sup>7</sup>

In terms of enrolments by *broad field of education*, the dominant field in 2009 was “Management and Commerce” which accounted for 48.3% of enrolments. This dominance

by “Management and Commerce” represents a continued strengthening of an historic trend, with its share rising from 40.1% of total enrolments in 2003. No other field accounted for more than 10% of enrolments, with “Engineering and Related Technologies” being the second largest at 8.3% of enrolments.

Table 2 below reports higher education enrolment data by nationality. China (31.7% share) and India (13.5%) have a combined share of 45.2% of all enrolments, an increase from 25% in 2003 and 11.1% in 2000.<sup>8</sup> The top five nationalities account for 62% of all enrolments, while the top ten nationalities account for almost 75%.

This reflects in large part the continued dominance of Asia as a source of students, which accounts for around 83% of all international enrolments compared with 79.6% in 2000.<sup>9</sup> Although there is evidence of a growing diversity in the Australian international student body, as education becomes increasingly globalised, Australia’s higher education system is still relatively dependent on a small group of source countries, principally located in the Asia Pacific region.

**TABLE 2: International Onshore Higher Education Students, By Nationality, 2009**

Nationality	Enrolment	% Share
China	64,046	31.7%
India	27,535	13.5%
Malaysia	17,311	8.5%
Singapore	7,966	3.9%
Indonesia	7,945	3.9%
Republic of Korea	6,985	3.4%
Hong Kong	6,000	3.0%
Vietnam	5,724	2.8%
Thailand	4,105	2.0%
Nepal	3,862	1.9%
<i>Other nationalities</i>	51,845	25.4%
<b>Total</b>	<b>203,324</b>	<b>100%</b>

Source: AEI<sup>10</sup>

International onshore students were distributed across the Australian states and territories, but with a skew towards greater internationalisation in the more populous states. New South Wales and Victoria had shares of the international higher education enrolment which were at least 10% greater than their shares of the domestic student load – 33.8% versus 30.8% in the case of New South Wales and 31.5% versus 27.1%, in the case of Victoria. The other jurisdictions had commensurately lower levels of international students, ranging from the Northern Territory with a 0.2% share, which was equal to around 40% of its domestic share, to South Australia and the Australian Capital Territory whose international shares approach parity with their domestic representation.



**TABLE 3: International Onshore Higher Education Students, By State/Territory, 2009**

	<b>International Students</b>	<b>Per cent Share of National Total</b>	<b>Domestic Share</b>
New South Wales	68,739	33.8%	30.8%
Victoria	63,971	31.5%	27.1%
Queensland	31,219	15.4%	17.5%
Western Australia	13,510	8.5%	11.0%
South Australia	17,355	6.6%	6.9%
Tasmania	2,735	1.3%	1.9%
Northern Territory	421	0.2%	0.5%
Australian Capital Territory	5,374	2.6%	2.6%
<b>Total</b>	<b>203,324</b>	<b>100.0%</b>	<b>100.0%</b>

Note: Multi-state domestic enrolments of 1.8% of the entire system are not included in this comparison because international student data is not disaggregated on this basis.

Source: AEI<sup>11</sup>

### ***Education's Contribution to Exports***

International education has a considerable economic presence in Australia. This is most clearly seen in a comparison of export income data. For 2009, the ABS calculates that service exports attributable to *Education-related travel services* were equal to around \$18 billion.<sup>12</sup> This includes all expenditure attributable to international students in Australia, be it fees or living expenses. The *Education-related travel services* sector is Australia's third largest export industry, behind the bulk commodity export categories of *Coal* and *Iron Ore & Concentrates* (see Table 4). The sector's exports were substantially larger than the next most prominent services sector, *Personal Travel (excl. Education) services*, which had total exports of around \$12.1 billion. *Education-related travel services* exports accounted for 7.2 per cent of all Australian exports of goods and services.

**TABLE 4: Australia's Principal Exports, 2009, Calendar Year**

<b>Export</b>	<b>\$m</b>
Coal	39,437
Iron Ore & Concentrates	29,967
Education-related travel services	17,986
Gold	15,603
Personal Travel (excl. Education) services	12,122
Natural Gas	7,628
Crude Petroleum	7,175
Aluminium Ores & conc. (incl. Alumina)	4,798
Wheat	4,756
Beef, f.c.f	4,307
<b>TOTAL (all exports)</b>	<b>249,888</b>

Source: DFAT<sup>13</sup>

The ABS also reports an “analytical industry” estimate for *Education services* which includes *Education-related travel services*, *Royalties on education services* and *Other education services*. In 2009, exports of Australian *Education Services* were equal to \$18.6 billion – including another \$589 million in services, in addition to *Education-travel related services*, attributable to the smaller categories, and mostly relating to university activity in offshore campuses and teaching programs.<sup>14</sup>

### ***Education’s Contribution to the Australian Economy***

The scale of activity in the international education sector in Australia was estimated in an April 2009 report prepared by Access Economics for the Australian Council for Private Education and Training (ACPET), entitled *The Australian Education Sector and the Economic Contribution of International Students*.<sup>15</sup>

That report estimated the final economic impact of the Australian onshore international education sector in 2007-8, in terms of spending by students on fees and living expenses plus the expenditure of visitors to students.

In 2007-08, spending by students for *Education related travel* was equal to \$13.7 billion. Access Economics calculates that additional expenditure by visitors of students was equal to \$365.8 million, on the basis of estimates from Tourism Research Australia.<sup>16</sup> This indicates total expenditure associated with international students of \$14.1 billion.

Access Economics defines the economic contribution of international students as deriving from the income flow from this expenditure, in other words, the *value added* component of this expenditure. Value added is that part of the expenditure which either forms the basis of income for labour or gross operating surplus (GOS) to capital owners, after allowing for spending on intermediate inputs from other industries and taxes on production (net of subsidies). The value added component is calculated using well-established multipliers from the ABS’s 2005-6 input-output tables for Australia. From these estimates, employment multipliers are used to calculate the level of employment associated with onshore international education.

Access Economics’ estimates for value added and employment attributable to the international education sector are reported in Table 5 below. Total expenditure on international services in Australia of \$14.1 billion resulted in a value added of around \$12.6 billion and accounted for 126,240 full-time equivalent (FTE) jobs being created. On a per capita basis, the average international student spent \$32,376 in 2007-08, resulting in value added creation of around \$28,921 and 0.29 FTE positions as a result.

**TABLE 5: Economic Contribution of Onshore International Students in Australia, Access Economics Estimates**

	<b>Total contribution 2007-08 (\$m, FTE jobs)</b>	<b>Per - student contribution \$2007-08</b>
Expenditure	\$14,092	\$32,376
Value added	\$12,588	\$28,921
Total employment (FTE)	126,240	0.29

Source: Based on Table B of Access Economics.<sup>17</sup>

### **Higher Education's Contribution to Exports**

This current study specifically identifies the likely economic impact of reduced onshore international enrolments in higher education in Australia. Based on ABS data for calendar year 2009, it is clear that international higher education enrolments contributed significantly to the Australian economy, with export income attributable to onshore international students equalling \$10.3 billion, equal to around 57.5% of total onshore education export earnings of nearly \$18 billion (see Table 6).<sup>1</sup> This includes both fee income as well as expenditure on goods and services.

**TABLE 6: The International Onshore Education Sector, Student Numbers and Earnings, 2009**

	Students	Earnings (\$m)	\$ per student	Students %	Earnings %
Higher Education	203,324	10,344	50,874	32.28%	57.51%
Vocational	232,475	4,845	20,841	36.91%	26.94%
Schools	135,141	903	6,682	21.45%	5.02%
ELICOS	27,506	1,043	37,919	4.37%	5.80%
Other	31,472	893	28,374	5.00%	4.96%
<b>Total across sectors*</b>	<b>629,918</b>	<b>17,987</b>	<b>28,555</b>	<b>100.00%</b>	<b>100.00%</b>

Note: Estimates of revenues are for onshore education only. 'Other' includes New Zealand students (who do not require a visa), Non-Award and AusAid/Defence students who cannot be assigned across sectors. Source: AEI; ABS<sup>18</sup>

Significantly, onshore international higher education generated substantial levels of funding relative to its student intake. While higher education accounted for 32.3% of all enrolments, it generated 57.5% of all onshore export revenue. In 2009, on average, each international higher education student studying at an onshore campus in Australia generated \$50,874. This represents growth in per student export earnings of 157% since 2002, with per-student spending on goods and services increasing by 8% per annum and student fees rising at around 5% per annum.

<sup>1</sup> Offshore campuses contributed a further \$589 million to the economy.

## The Economic Implications of Fewer International Higher Education Students in Australia

By comparison, the international student intake of 232,475 in the vocational education and training (VET) sector, which recently became the largest sector in terms of intake, accounted for 36.9% of total onshore international enrolments but only 26.9% of the sector's export value, or \$4.8 billion. On average, each international VET student generated \$20,647 in export income.

For this reason, overall education exports are especially sensitive to movements in higher education. A 1% increase (decrease) in the onshore international student intake in the higher education sector results in a 1.78% increase (decrease) in overall exports of *Education-related travel services*.

### 3 The Economic Impact of International Higher Education in Australia

In the first instance, the economic impact of onshore higher education students in Australia represents the contribution to the economic added value of spending by international students on fees and living expenses in Australia. This represents the most immediate impact on Australia in terms of flow-on effects from this spending as well as the employment generated by it.

In this section we present estimates of the economic impact of international onshore higher education students on the Australian economy. These are calculated using a widely established methodology for linking initial spending to overall spending in the economy and was recently used by Access Economics in their assessment of the impact of the overall international education sector.<sup>19</sup> Our analysis below uses a similar methodology and focuses on the impact of international higher education students, which is the most economically significant segment of the international student sector.

The starting point for this analysis is the aggregate impact of onshore international higher education in Australia. This is outlined in Table 7 below.

**TABLE 7: Economic Contribution of Onshore International Higher Education Students in Australia**

	<b>Total contribution 2009 (\$m)</b>	<b>Per - student contribution 2009 (\$)</b>
Goods & Services	\$6,627	\$32,593
Fees	\$3,717	\$18,281
Total Expenditure	\$10,344	\$50,874

Source: ABS; AEI<sup>20</sup>

Total expenditure by international higher education students was equal to \$10.3 billion in 2009. The calculation of the economic value-added measure depends upon the assignment of this expenditure to industries across Australia and the ‘flow-on’ impact of this spending on the basis of multiplier impacts. As with the Access Economics report, we apply expenditure pattern estimates of international student travellers from the *International Visitor in Australia* (2007-8) survey to determine likely expenditure patterns by students (Table 2-3 in Access’s report) and then re-assign these to the Australian 2005-6 input-output (I-O) table (Table 2-4 in the Access report).<sup>21</sup>

The one point of divergence is in regard to “Education fees” which constitute around 46.9 % in the survey across the entire international education sector but which are closer to 36% in the higher education sector, on the basis of the ABS data reported in Table 7 above. In other words, a greater proportion of international higher education student expenditure is on non-education items. This is likely due to the longer duration of higher education courses

compared to other education sectors such as VET or ELICOS. Using the ABS-reported figure for higher education fees in this analysis, Table 8 below reports on total expenditure across relevant industries on this basis – this represents the split of the student expenditure into various Australian industries. It shows that the three main items of expenditure by higher education students are fees; accommodation, cafes and restaurants; and retail trade.

**TABLE 8: International Onshore Higher Education Student Expenditure by I-O Table Industry**

	\$m
Electricity supply	67.5
Gas Supply	67.5
Retail Trade	2,195.9
Accommodation, cafes and restaurants	3,031.3
Road transport	413.4
Air and space transport	403.4
Communication services	237.9
Education (fees)	3,717.0
Motion picture, radio and television services	85.8
Libraries, museums and the arts	85.8
Sport, gambling and recreational sports	38.4
<b>Total</b>	<b>10,344</b>

Note: JCIPP calculations to determine industry shares of expenditure. These are based on Table 2-4 in Access Economics (2010).<sup>22</sup>

### ***Impacts from the Expenditure of International Students in Australia***

Table 9 below reports on the value added contribution of the 203,324 onshore international higher education students in Australia in 2009. Based on the expenditure share estimates of Table 8, the total value added attributable to international students is \$9.15 billion of which \$3.5 billion accrues to the education sector and \$5.7 billion accrues throughout the rest of the economy. This is equivalent to around 0.76% of GDP (\$1.2 trillion in 2008-9) and represents around 70% of the impact of the entire international education sector in Australia based on Access Economics' finding of an overall impact of 1.08% of GDP.<sup>23</sup> On a 'per student' basis, spending of \$51,150 results in total value added of \$45,010.

Additional employment of almost 100,000 FTE is generated by the higher education sector, or 0.49 FTE per student. In other words, almost one extra job is created for every two international higher education students in Australia.

**TABLE 9: Estimated Value Added and Employment from Onshore International Higher Education Student Spending, 2009**

	Total contribution 2009	Per - student contribution 2009 (\$)
<b>Economic Impact (\$m)</b>		
Education	3,494	17,184
Rest of the economy	5,658	27,825
<b>Total Value Added</b>	<b>9,152</b>	45,010
<b>Employment (FTE positions)</b>		
Education	19,337	0.09
Rest of the economy	80,586	0.40
<b>Total Employment</b>	<b>99,923</b>	<b>0.49</b>

***Impacts from the Expenditure of Visitors of International Students in Australia***

The other major impact of international students over the short-term is that of visits from friends or family initiated as a result of their presence. Tourism Research Australia has indicated that this averages around 0.5 visits for student tourists who were defined as being ‘formal’, that is, their main purpose for visiting Australia was education related.<sup>24</sup>

We assume that all students in the higher education sector are here for formal reasons and therefore on average, receive 0.5 visitors each year.<sup>25</sup> This implies that the 203,324 international higher education students in Australia in 2009 received 101,662 visitors.

To calculate the level of revenue associated with this, we use Access Economics’ estimate of the average expenditure of visitors to Australia of \$1,681 as a starting point. However, there is anecdotal evidence to suggest that visitors of higher education students spend more time in Australia, especially for official functions such as graduations. So we escalate the Access Economics estimate by 30% and inflate by the CPI rate of 2.5% to generate a 2009 equivalent of \$2,296. This yields an estimate of the total expenditure by visitors of international higher education students of around \$233 million.

Table 10 reports this and estimates of value added and employment associated with this level of activity. Total expenditure of around \$233 million by visitors (\$1,148 per student) resulted in a flow-on impact throughout the economy equal to around \$184 million (\$907 per student). This created employment equal to 2,646 full-time equivalent (FTE) positions, much of which was concentrated in two industries, Retail Trade (914 FTEs) and Accommodation, cafes and restaurants (591 FTEs).

**TABLE 10: Estimated Value Added and Employment Generated from Visits to International Higher Education Students in Australia, 2009**

	<b>Total contribution (2009)</b>
Number of Visits	101,662
Spend per Visit (0.5 visits/student)	\$2,296
Expenditure (\$m)	\$233m
<b>Economic Impact</b>	
	<b>\$184m</b>
Total Value Added (\$m)	
<b>Employment (FTE positions)</b>	
Retail Trade	914
Accommodation, cafes and restaurants	591
Rest of the economy	959
<b>Total Employment</b>	<b>2,464</b>

***Total Impact of International Higher Education Students in Australia***

In terms of both total value added and employment, the onshore international higher education student sector in Australia has a substantial impact on the Australian economy and employment.

The majority of this impact occurs as a result of higher education student expenditure in Australia. In 2009, this amounted to \$10.3 billion being spent by 203,324 students and had a total value added contribution to the economy of \$9.3 billion at \$45,016 per student. This resulted in the creation of 99,923 FTE positions in the Australia economy.

In addition to student expenditure, visits to international students generated expenditure in Australia of around \$233 million, and created value added of around \$184 million and employment equal to 2,464 FTE positions.

Table 11 provides the total impact of this activity. Student and student visitors' expenditure in 2009 was equal to \$10.6 billion or around \$51,735 per student. The economic impact in terms of value added contributions was considerable. Education alone benefited by \$3.5 billion, with the rest of the economy seeing an increase in value added of \$5,842 million. Total value added created through onshore international higher education was equal to \$9.3 billion or \$45,916 per student. This resulted in employment equal to 102,387 FTE positions or around 0.51 FTE positions per international student. Approximately 83,050 of these FTE positions were created outside the education sector.



**TABLE 11: Estimated Impact of Onshore International Higher Education in Australia, 2009**

	<b>Total contribution 2009</b>	<b>Per - student contribution 2009</b>
Student Numbers	203,324	-
Student and Student Visitors' Expenditure	\$10,577 million	\$52,020
<b>Economic Impact (value added)</b>		
Education	\$3,494 million	\$17,184
Rest of the economy	\$5,842 million	\$28,732
<b>Total Value Added</b>	<b>\$9,336 million</b>	<b>\$45,916</b>
<b>Employment (FTE positions)</b>		
Education	19,337	0.10
Rest of the economy	83,050	0.41
<b>Total Employment</b>	<b>102,387</b>	<b>0.51</b>

State and territory shares of value added are calculated on the basis of their shares of international student enrolments in 2009 and are reported in Table 12 below. These show that international onshore education is now a billion dollar industry in its own right in two states – New South Wales and Victoria. In addition, it has an overall impact of \$1.4 billion in Queensland.

**TABLE 12: Estimated Value Added from Onshore International Higher Education, \$m**

	<b>NSW</b>	<b>VIC</b>	<b>QLD</b>	<b>WA</b>	<b>SA</b>	<b>TAS</b>	<b>NT</b>	<b>ACT</b>	<b>Aust.</b>
Education	1,181	1,101	537	298	232	46	7	91	3,494
Rest of the economy	1,975	1,841	899	498	387	77	12	152	5,842
Total Value Added	3,157	2,943	1,436	795	619	122	20	244	9,336

Table 13 reports employment shares across that states and territories. These tend to be commensurate with the level of expenditure associated with international students in the state. New South Wales, Victoria and Queensland in particular have sizeable levels of FTE positions in Education which are attributable to international students, with the other states and territories having a considerable exposure as well. As a general rule, for every one job created in higher education, another four jobs are created throughout the rest of the economy as a consequence of international student expenditure.

**TABLE 13: Estimated Employment from Onshore International Higher Education, Full-time Equivalent (FTE) Positions**

	NSW	VIC	QLD	WA	SA	TAS	NT	ACT	Aust.
Education	6,538	6,095	2,974	1,282	1,648	253	41	505	19,337
Rest of the economy	28,079	26,177	12,773	5,553	7,029	1,088	174	2,168	83,050
Total Value Added	34,617	32,272	15,747	6,835	8,677	1,341	215	2,672	102,387

Spending by international higher education students and their visitors in Australia therefore has a substantial impact on the Australian economy, contributing \$9.3 billion to total value added, representing 0.76% of GDP, and supporting 102,387 FTE positions in both the education and related sectors.

## 4 Recent Trends, Prospects and Scenarios

### Shocks to the system

As noted in the Introduction, the relative health of the international education export sector is now under severe pressure owing to several developments over the past 18 months. Some of these are external to Australia but others have their origins domestically. In addition, there are likely to be interactions between all these factors.

### *International factors*

*The dollar:* The Australian dollar fell precipitously against the US dollar in the latter half of 2008 as a result of the global financial crisis, from over 96 cents in June 2008 to as low as 64 cents in January 2009. For 8 months between October 2008 and June 2009 it remained below 80 cents, providing a significant boost to the education export sector. However, it has since recovered and has been hovering around the 90 cent mark since October 2009.

*The global financial crisis:* In addition to the negative impact of a rising dollar, the fallout from the global financial crisis and continuing economic difficulties in Europe and the US, combined with the higher Australian dollar, could reduce demand for international education from these more developed country markets.

*Competition:* The USA has amended its student visa rules and processing as part of a concerted push to increase international student enrolments. The UK, while maintaining a fairly strict visa regime, is likely to find its universities competing fiercely for international students in order to compensate for savage cuts in public funding announced by the new coalition government in its recent budget.

### *Domestic Factors*

*Reputational damage:* Violent attacks in 2009 on international (particularly Indian) students in Australia have resulted in damaging publicity in India. Despite concerted efforts to improve student security, and visits to India from senior government ministers, officials, and universities themselves, there has been a large drop in the number of Indians applying for student visas and enrolling in Australian education institutions (see below).

*Private sector woes:* Partly as a consequence of these factors, there have been some widely publicised closures of a number of private colleges, which has caused further reputational damage as well as impacting on affected students themselves.

*Immigration policy changes:* Significant changes have been made by the Commonwealth Government to skilled migration and student visa rules in recent months<sup>26</sup>, which are having a negative impact on commencement numbers in the international student sector. These policy moves have come about partly in response to a perception that too many students were using education as a route to permanent migration to Australia (although in fact most

students return home after their studies). The key migration changes have seen a significant narrowing of the number of eligible occupations on the Skilled Occupational List<sup>27</sup>. Furthermore, new student visa rules have increased up-front income and other requirements for students from some key markets (e.g. Vietnam and India) which are likely to hit demand. A tightening of regulations in order to assure quality in the private sector, aimed at rooting out unsatisfactory providers, is also having an impact. In addition, there are anecdotal claims of a slowing of visa processing.

*Election debate:* The current federal election campaign debates about population and immigration have led many in the sector to express concern that the international education sector could be hard hit. Moves to restrict the number of student visas as part of a broader approach to cut immigration numbers, combined with the generally negative tenor of the population/immigration debate, “are creating an impression that we are not welcoming students or even welcoming visitors”, according to *Universities Australia* chief executive Glenn Withers<sup>28</sup>.

Although much of the focus of the new visa rules and general debate has been focused at the explosive growth in VET, and to a lesser extent English language, private colleges, there is a strong fear that higher education could suffer extensive ‘collateral damage’ from the damage to the international education sector as a whole. Next, we look at recent data to see to what extent the factors discussed above are being reflected in student enrolments.

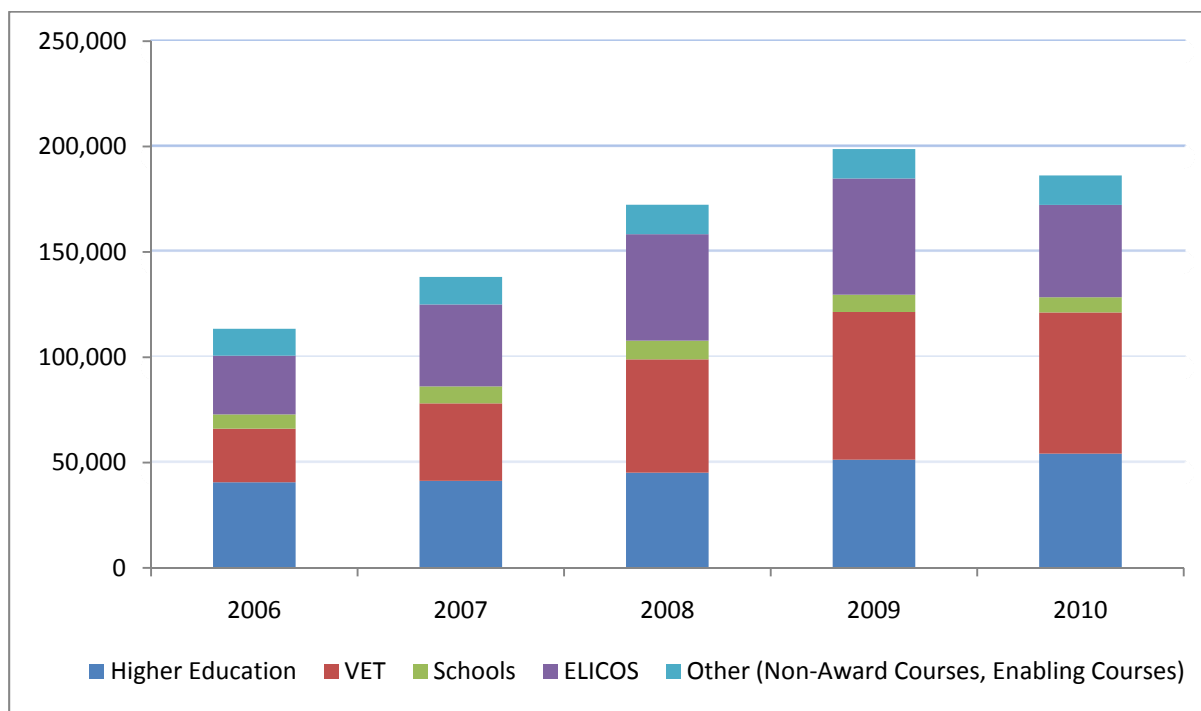
### Recent Trends and Prospects

There are indications already that the international education sector is experiencing a slump in enrolments overall and that there is a slowing in the rate of expansion in higher education. However, it should be noted that the most recent publicly available official data is unlikely to reflect many of the significant changes to student visa and skilled migration rules or the federal election campaign discussion on immigration. Any reductions in enrolments and visa grants experienced so far are more likely to reflect factors from 2009 such as the attacks on Indian students or the rising Australian dollar.

Commencement data from Australian Education International (AEI) for the year-to-date to June 2010 show a decline in overall commencements in the onshore international sector of around 6.3% on a year on year basis. Higher education is still trending positive with commencements to June of 54,326, up 5.64% on the 2009 equivalent figure of 51,339. The other three key sectors have all seen a marked decline in enrolments: VET commencements to June 2010 were at 67,046, down by 4.45%; Schools at 7,177, down by 12.27%; and ELICOS at 43,815, down by 20.5% from June 2009.

As Figure 2 shows, the decline in international student enrolments to June 2010 is the first decline in what has been a period of strong growth across the sector, particularly in VET and ELICOS, which saw them approach higher education in terms of their student numbers, with VET becoming the largest enroller in 2008.

**FIGURE 2: International Onshore Commencements Data, By Sector, Year-to-Date, June 2010**



Source: AEI (2010b).<sup>29</sup>

The ELICOS sector has been hit particularly hard. The AEI data shows that ELICOS recorded a 20.5% decline in enrolments in the year to June 2010. The peak body for ELICOS providers, English Australia, observes that this reflects the impact of a number of factors, principally the impact of the global financial crisis, proposed changes to Australia's visa system, the higher Australian dollar and the closure of private colleges providing ELICOS services.<sup>30</sup>

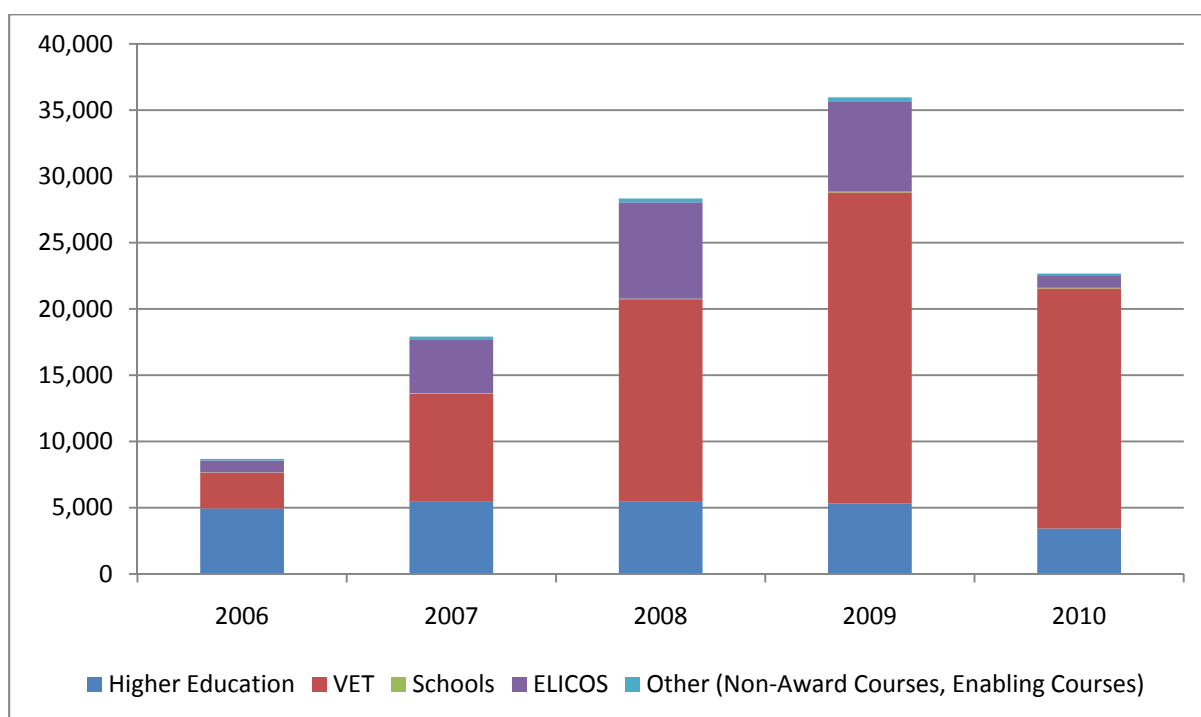
History shows that ELICOS enrolments are particularly susceptible to short-term fluctuations. For instance, in 1998, the year following the Asian Financial Crisis, ELICOS enrolments declined by 29% or 20,000 students. The sector also saw two years of declining enrolments after the changes to student visa regulations in 2001. English Australia has suggested that in view of the confluence of negative factors recently, ELICOS enrolments could fall between 30 to 40%.

From the perspective of higher education, the marked decline in ELICOS commencements could be a potential indicator of future decline. ELICOS providers typically prepare future higher education students in their short course structures, as 60% of students 'pathway' into the other sectors. Analysis by Curtin University shows that ELICOS commencements in a given year are a very strong leading indicator of higher education commencements the following year.<sup>31</sup> As a general 'rule of thumb', a one student increase in ELICOS international student numbers was associated with a .90 increase in international higher education numbers in the next year. On that basis, the decline in ELICOS commencements to June 2010 of around 11,300 compared with June 2009, suggests that international higher

education commencements to June 2011 are likely to be around 44,228 – a decline of around 18.4% on 2010 levels.

Evidence from commencement data for the year-to-date for June indicates that much of the fall in new enrolments across the education sector has occurred in the Indian market (see Figure 3). Commencements by Indian students for the year-to-date for June were 22,670, down by 13,300 or 37% over 2009 (year to June) levels of 35,970. This included a fall in higher education commencements of 1,898 students to 3,435, equal to 36% on the 2009 equivalent figure of 5,333. Of particular concern is the 86% fall in ELICOS commencements – 950 students in 2010 versus 6,754 students in 2009. This is widely attributable to a number of factors including the negative press about attacks on Indian students in Australia, the closure of private colleges and the change in visa policy.

**FIGURE 3: Indian Onshore Commencements Data, By Sector, Year-to-Date, June 2010**



There is further evidence from other sources that indicates that the higher education sector will see a weakening in international student enrolments over the latter half of 2010 and a decline in 2011. According to the Department of Immigration and Citizenship (DIAC), grants for the higher education visa – the 573 visa – declined in 2009-10 to 118,541 grants, a decrease of 11.5% on 2008-9 grants of 133,990. Almost all this decline can be accounted for by a huge decline in the number of visa grants to higher education students from India (from 27,717 in 2008-09 to 10,988 in 2009-10 – a fall of almost 18,000).

It should also be noted that the critical category in this regard is that of offshore grants, which declined to 68,247 grants in 2009-10 from 90,859 grants in 2008-9, a fall of 24.9%. Again, this was largely the consequence of a decline in Indian applications.

Offsetting this change somewhat was the relatively healthy outcome for the postgraduate research visa, the 574 visa, where grants rose from 8,354 in 2008-9 to 9,301 in 2009-10, an increase of 11.3%. Overall, combined onshore and offshore grants for higher education visas fell by around 10.2% in the 2009-10 program year.<sup>32</sup> Offshore grants for postgraduates were relatively stable, rising by 1.8% in 2009-10 to 5,372.

**TABLE 14: Combined Onshore and Offshore Grants for the 573 ('Higher Education') and 574 ('Postgraduate Research') visas**

	573 Visa	574 Visa	Total Higher Education
<b>Combined Onshore and Offshore Grants</b>			
2008-09	133,990	8,354	142,344
2009-10	118,541	9,301	127,842
% change	-11.5%	11.3%	-10.2%
<b>Offshore Grants Only</b>			
2008-09	90,859	5,278	96,137
2009-10	68,247	5,372	73,619
% change	-24.9%	1.8%	-23.4%

Source: DIAC (2010)<sup>33</sup>

Anecdotal evidence from providers and offshore recruiters contacted for this project indicates that the latter half of 2010 will see a further deterioration in offshore student visa grants as a consequence of softening demand across a number of key markets. Recent commentary in the media cites this evidence in support of projections that suggest international higher education in Australia will see a more marked decline than indicated by the 11.5% decline in 573 visa grants already experienced.<sup>34</sup>

## 5 Projections for Higher Education: 2010 – 2015

Given the uncertainty surrounding international higher education enrolments over the short-term, the approach taken in this report is to construct a 'Baseline' of a moderate growth path for higher education between 2010 and 2015 as a benchmark for assessing outcomes for the university sector and Australian economy under three different scenarios of declining student numbers. The usefulness of this method is that it provides a 'snapshot' of how a variety of scenarios can affect the international higher education market and consequently the economy in general, without being tied to any one particular outcome.

The starting point for the Baseline is the economic impact estimates for the onshore international higher education sector in 2009, as outlined in Section 3 of this report. In comparing the scenarios with the Baseline, we make two important assumptions about the economic impact of future changes in student numbers.

First, we assume that the impacts associated with student and visitor spending rise and fall *linearly* with international student numbers alone, such that movements in the benefits of international higher education in Australia are driven solely by changes in student numbers, with expenditure only rising by the consumer price index (CPI). This makes our analysis relatively conservative, as at least one of the identified factors affecting the market, the rise of the Australian dollar, is likely to also diminish student spending and place pressure on Australian higher education fees relative to those charged around the world.

Second, the Baseline reflects the growth path of international higher education in Australia expected in mid-2009, when the collection of factors identified in Section 4 was not present to the extent that they fundamentally altered longer term growth scenarios for the sector. We draw on work by IDP Australia in 2007 to determine a reasonable short-term growth path for onshore international enrolments in Australia.<sup>35</sup> IDP Australia undertook long-term modelling of the demand for international education in Australia from 2005 to 2025. They found annual compound growth over this twenty year period would be around 2.9% per annum, with growth at 3% between 2010 and 2015 across the higher education sector before slowing slightly.<sup>36</sup> This represents a measured growth path in view of the recent expansion. For instance, the projection of international higher education student numbers in 2010 in the IDP report was 201,132, which was below the actual numbers of 203,324 for 2009, or one year earlier. We therefore make a single adjustment to the series, with the 2010 estimate being 5.3% higher than the 2009 actual – an estimate that is consistent with moderate growth in the first half of 2010, followed by likely falling demand for international higher education over the latter half. Thereafter, growth in the Baseline scenario for international enrolments is assumed to take place at 3% per annum between 2011 and 2015, as per the IDP report. Overall, this implies that the estimated divergence from the baseline scenario should be viewed as being a 'business-as-usual' benchmark from which to measure potential losses in the system and across the Australian economy.



## The Economic Implications of Fewer International Higher Education Students in Australia

From an identical growth forecast for 2010 of 214,212 students, we then model three scenarios against the Baseline. Underpinning these scenarios are ‘stories’ about what will happen to higher education commencements (and therefore enrolments) between 2011 and 2015.

The ‘Sideways’ scenario is based on a relatively mild contraction in 2011 being followed by consolidation and recovery. It sees commencements decline by 10% in 2011, remain constant over 2012, before returning to Baseline growth of 3% per annum.

Under the Trough scenario, commencements are hit by rolling decline, with a decrease in student numbers of 20% in each of 2011, 2012 and 2013, before expanding again by 3% per annum over each of 2014 and 2015.

The third scenario, the ‘Perfect Storm’, sees international higher education commencements fall dramatically, by 35% in 2011, and then remain flat over 2012 and 2013, before returning to Baseline growth thereafter, albeit from a vastly reduced base. This scenario assumes that the higher education sector and government act to arrest the severe decline in enrolments experienced in 2011. In this sense, ‘Perfect Storm’ is not actually the worst-case scenario. That would imply further falls in commencements in 2012 and beyond.

Table 15 presents projections for student enrolments under the Baseline and our three scenarios, based on their respective commencement patterns for the period 2010 to 2015.

**TABLE 15: Four Scenarios: Growth Paths in International Higher Education Enrolments in Australia, Relative to Baseline Projections for 2010-2015, % of Baseline**

Scenario	2009	2010	2011	2012	2013	2014	2015
<i>Baseline Case</i>	203,324	214,212	220,610	227,198	233,983	240,971	248,168
	<b>% of Baseline</b>						
Scenario 1 (Sideways)	100%	100%	96%	92%	88%	85%	85%
Scenario 2 (Trough)	100%	100%	93%	88%	82%	78%	78%
Scenario 3 (Perfect Storm)	100%	100%	89%	79%	68%	61%	60%

Table 15 shows that total enrolment under the Sideways scenario reaches 85% of the Baseline equivalent in 2015. Under Trough, enrolments reach 78% of Baseline projections in 2014. As in the Sideways scenario, the Trough plateaus as a percentage of the Baseline as we assume growth in both cases is equal in the last two years. For the Perfect Storm, total enrolment numbers stabilise at 60% of where they would be under the Baseline case.

Figure 4 below provides an overview of projected onshore international higher education enrolments under the Baseline and three scenarios outlined above.

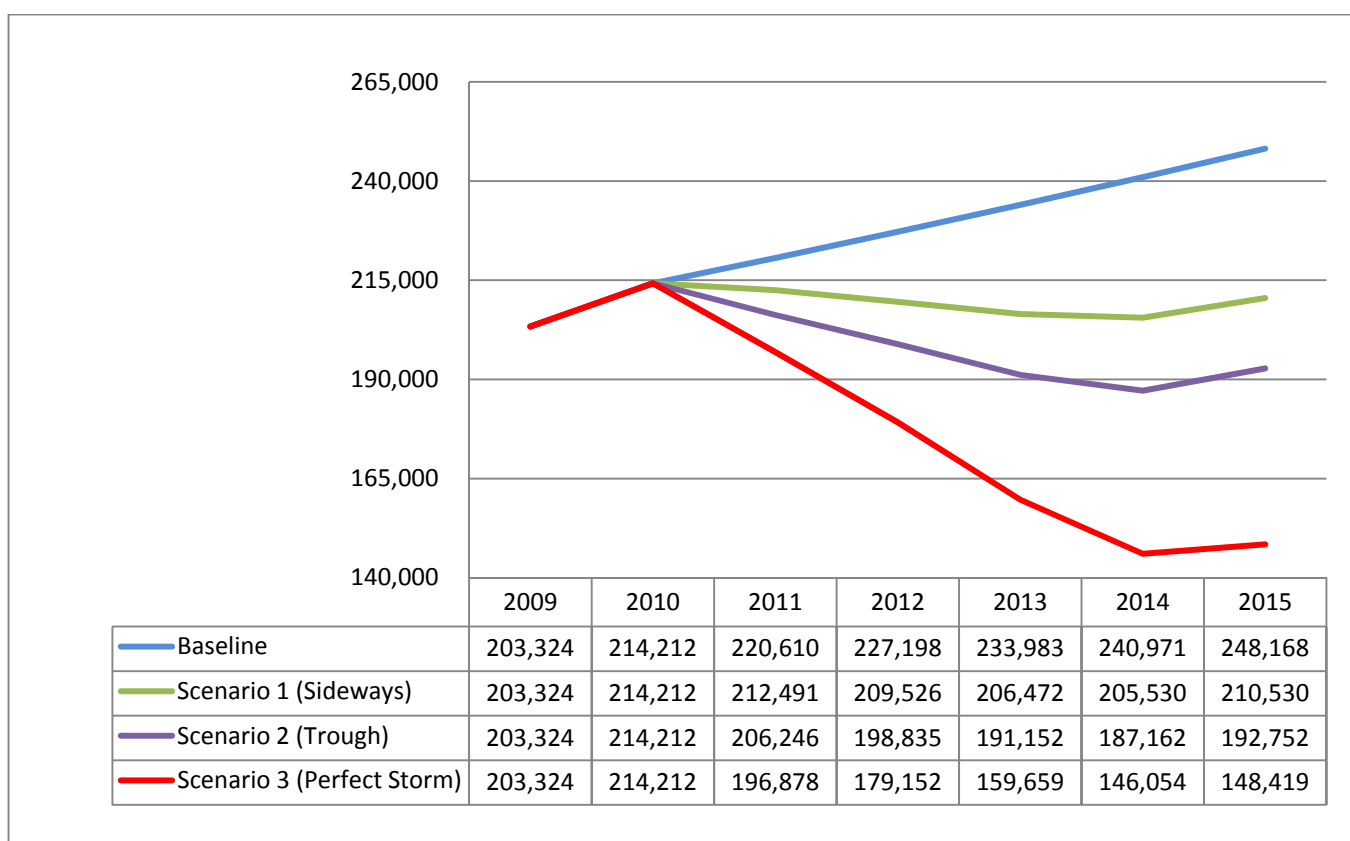
One thing that should be emphasised is that in higher education, unlike in VET and ELICOS, students tend to have longer periods of attachment to their institution and host city or region, typically three to four years for an undergraduate and between two to five years for

postgraduates depending upon their study plans. For this reason, there is a lag between reported declines in commencements and declines in enrolments. In fact, in the case of a relatively brief and shallow decline in commencements, overall enrolments in higher education may barely register the decline in commencements.

Nevertheless, in the case of greater and more sustained declines, the impact of declining commencement numbers eventually manifests itself in lower overall enrolment numbers. For instance, in the case of the Perfect Storm scenario, a sustained fall in commencement numbers of 35%, beginning in 2011, does not see total enrolments decline by 35% at any point, but rather ‘bottom’ out at 71% of 2010 enrolments in 2014, before rising again at the Baseline growth rate.

For this reason, across all scenarios in higher education, enrolments lag declines in commencement numbers by three or more years.<sup>37</sup>

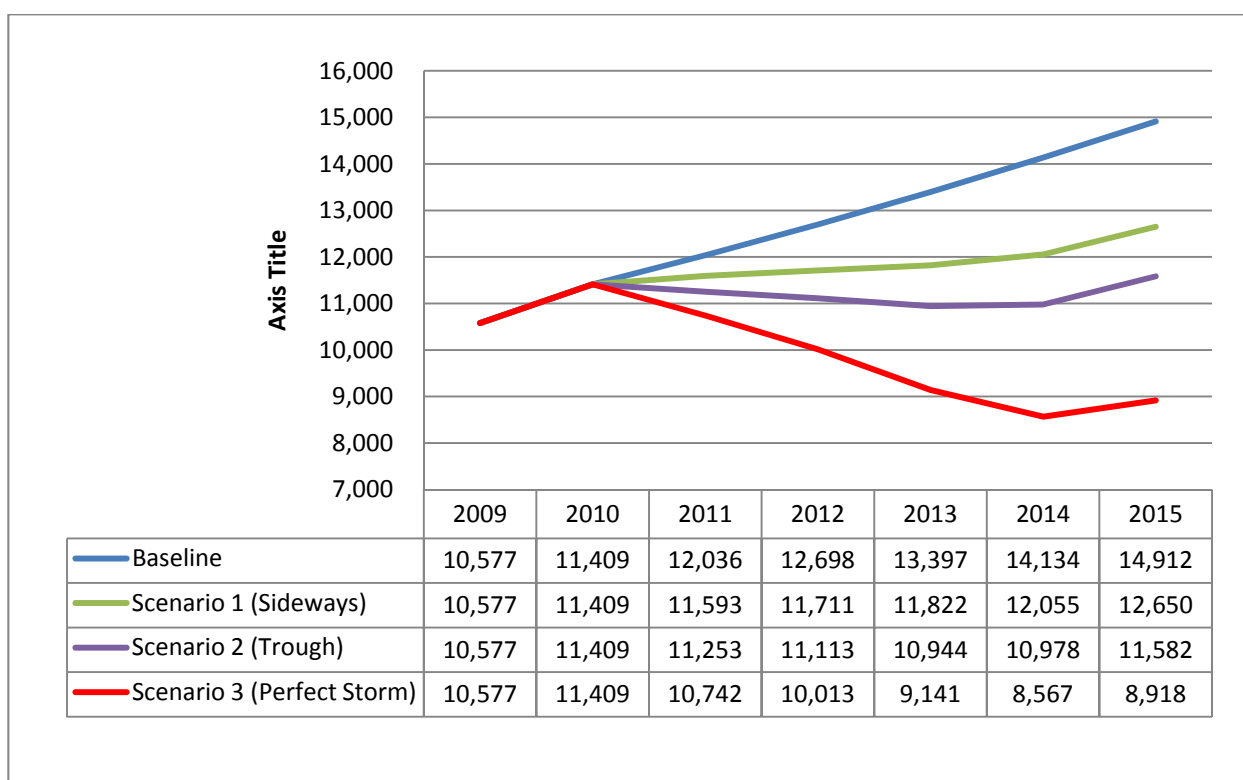
**FIGURE 4: Baseline Projections and Three Scenarios for International Higher Education Enrolments in Australia, 2010-2015**



**Implications for the Australian Economy**

The Baseline and each of the three scenarios has implications for the Australian economy through 2015. An intuitive comparison is to examine outcomes in each instance in 2012, relative to outcomes in 2010 and against the Baseline. The most immediate measure of the impact of lower international student numbers is in terms of overall expenditure in Australia associated with their studies, either direct expenditure on fees and living expenses or in terms of indirect effects due to visitor expenditure ('total expenditure'). The projections for total expenditure can be seen in Figure 5 below. These track the changes in student numbers in Figure 5 and Table 16 below.

**FIGURE 5: Baseline Projections and Three Scenarios for International Higher Education Enrolments in Australia, 2010-2015, Total Expenditure (Students and Visitors), \$m**



In the case of the Baseline, expenditure increases in all years, rising from \$11.4 billion in 2010 to \$12 billion in 2011 and \$12.7 billion in 2012 (see Figure 5). However, under the Sideways scenario, student expenditure is just \$11.7 billion in 2012, a marginal increase of 2.6% (or \$301 million) on 2010 levels, while the Trough scenario sees a fall in expenditure of \$296 million or 2.6% on 2010 levels. Student expenditure falls much more sharply under the Perfect Storm scenario, where total expenditure falls to around \$10 billion in 2012, a decrease of \$1.4 billion from 2010 levels, or 12.2%.

**TABLE 16: Baseline Projections and Three Scenarios: Implications for Total Expenditure (Students and Visitors), \$m and %**

	2010	2012	Change from 2010	Change as % of 2010	Change from Baseline 2012	Change as % of Baseline 2012
<i>Baseline</i>	11,409	12,698	1289	11.3%	-	-
Scenario 1 (Sideways)	11,409	11,711	301	2.6%	-988	-8.2%
Scenario 2 (Trough)	11,409	11,113	-296	-2.6%	-1585	-13.5%
Scenario 3 (Perfect Storm)	11,409	10,013	-1396	-12.2%	-2685	-24.2%

*Note:* The 2010 forecast is identical in all cases. The figure for 2012 is the outcome under each scenario, with the divergence against (1) 2010 and (2) Baseline shown in actual and percentage terms. The 2009 estimate for total expenditure associated with international students was \$10.6 billion.

When set against the Baseline, the decrease in total expenditure is even more pronounced and is the true indication of the impact on the overall Australian economy of a decline in onshore international student numbers, relative to expectations (until quite recently) of a steady growth of 3% per annum after 2010. In the instance of the Perfect Storm scenario, total expenditure in 2015 is 24.2% below where it would have been under the Baseline, with the drop in student numbers resulting in a decline in expenditure relative to the Baseline of \$5 billion (\$8.9 billion versus \$14.9 billion).

These declines in total expenditure patterns translate into identical outcomes (in percentage terms) for value added and employment in the Australian economy. The findings in regard to changes in value added are reported in Table 17. Again, under each scenario there is a decrease in value added contribution in 2012, relative to both the 2010 level and that projected under the Baseline case. This divergence increases over time to 2015.

**TABLE 17: Baseline Projections and Three Scenarios: International Higher Education Enrolments in Australia, Implications for Economic Value Added, 2010-2015**

	2010	2011	2012	2013	2014	2015
<i>Baseline</i>	10,134	10,690	11,277	11,896	12,549	13,239
Scenario 1 (Sideways)	10,134	10,297	10,400	10,497	10,704	11,231
Scenario 2 (Trough)	10,134	9,994	9,869	9,718	9,747	10,282
Scenario 3 (Perfect Storm)	10,134	9,540	8,892	8,117	7,606	7,917

*Note:* The 2009 estimate for value added, due to total expenditure associated with international students, was \$9.3 billion.

Employment in Australia due to international higher education is projected to reach 104,005 FTE positions in 2010. By reference, this is projected to increase under the Baseline, as increases in student numbers by 3% per annum and spending by the CPI at 2.5% are sufficient to cover assumed increases in real wages of around 1.5% (a 4% nominal increase

or 1.5% above the CPI index of 2.5%). However, in all three scenarios modelled, declining enrolments in 2011 result in a decline in employment in that year, with a recovery only taking place as enrolment levels recover (see Table 18).

Under the Perfect Storm scenario, this is equal to a fall of 9,111 FTE positions in 2011 to 94,894, with a further deterioration forecast as flat student numbers see expenditure associated with international higher education students only increase by the CPI rate of 2.5% while labour costs throughout the economy increase by 4% per annum. By 2015 under this scenario, employment is 67,823 – a fall of 36,182 from 2010. This is also 45,583 fewer jobs than under the Baseline for 2015 of 113,406.

**TABLE 18: Baseline Projections and Three Scenarios: International Higher Education Enrolments in Australia, Implications for *Employment*, 2010-2015, FTE positions.**

	2010	2011	2012	2013	2014	2015
<i>Baseline</i>	104,005	106,333	107,668	109,548	111,460	113,406
Scenario 1 (Sideways)	104,005	102,420	99,294	96,668	95,067	96,206
Scenario 2 (Trough)	104,005	99,409	94,227	89,495	86,571	88,082
Scenario 3 (Perfect Storm)	104,005	94,894	84,899	74,750	67,557	67,823

*Note:* The 2009 estimate for employment, due to total expenditure associated with international students, was 102,387 FTE positions.

Table 19 below reports projections for the states and territories over 2010 and for 2011 under the Baseline and scenarios. This provides an overview of the implications for output and employment at the state and territory level under each scenario in 2011. The most striking finding is that the employment losses associated with a decline in the level of international higher education participation are quite marked. For instance, under the Perfect Storm scenario, employment associated with international students in New South Wales in 2011 will decrease to 32,084 FTE positions, down 3,080, from 35,164 positions in 2010. Victoria, which has already been hit particularly hard by falls in the Indian market, sees employment losses of another 2,872 FTE positions under the Perfect Storm scenario where onshore international commencements in higher education decline by 35% in 2011.

**TABLE 19: Baseline Projections and Three Scenarios: International Higher Education Enrolments in Australia, Implications for *Value Added* and *Employment* in the States and Territories, 2010 and 2011, \$m, FTE positions.**

	NSW	VIC	QLD	WA	SA	TAS	NT	ACT	Aust.
<b>Value Added</b>									
2010	3,426	3,194	1,559	863	672	133	21	265	10,134
2011									
<i>Baseline</i>	<i>3,614</i>	<i>3,370</i>	<i>1,644</i>	<i>911</i>	<i>709</i>	<i>140</i>	<i>22</i>	<i>279</i>	<i>10,690</i>
Scenario 1 (Sideways)	3,481	3,246	1,584	877	683	135	22	269	10,297
Scenario 2 (Trough)	3,379	3,150	1,537	852	663	131	21	261	9,994
Scenario 3 (Perfect Storm)	3,226	3,007	1,467	813	633	125	20	249	9,540
<b>Employment</b>									
2010	35,164	32,783	15,996	6,896	8,861	1,362	218	2,715	104,005
2011									
<i>Baseline</i>	<i>35,951</i>	<i>33,516</i>	<i>16,354</i>	<i>7,050</i>	<i>9,060</i>	<i>1,393</i>	<i>223</i>	<i>2,775</i>	<i>106,333</i>
Scenario 1 (Sideways)	34,628	32,283	15,752	6,790	8,726	1,342	215	2,673	102,420
Scenario 2 (Trough)	33,610	31,334	15,289	6,591	8,470	1,302	209	2,595	99,409
Scenario 3 (Perfect Storm)	32,084	29,911	14,595	6,291	8,085	1,243	199	2,477	94,894

### **Assessment**

The modelling undertaken in this Section outlines the implications for economic value added and employment under various plausible scenarios.

Given the evidence provided in Section 4, there is every reason to conclude that the scenarios assessed here are relatively conservative. In the scenario that most closely follows from evidence such as the DIAC data on offshore visa grants – the Perfect Storm scenario – a 35% reduction in international higher education commencements is followed by two years of relatively stagnant growth and historically moderate growth of 3% per annum thereafter.

The economic consequences of this decline are significant. Total expenditure in Australia associated with onshore international education declines from \$11.4 billion in 2010 to \$10 billion in 2012 and \$8.9 billion in 2015. By 2015, expenditure is still 12.2% below 2010 levels and around 24.2% below levels associated with Baseline growth of 3% per annum (as shown in Table 16). The reduction in the contribution of the sector to economic value added in Australia falls commensurately with expenditure – declining from \$10.1 billion in 2010 to \$7.9 billion in 2015, a fall of 21.9%.

## The Economic Implications of Fewer International Higher Education Students in Australia

This has direct implications for employment in Australia, with employment attributable to international higher education declining over the forecast period. Around 9,111 positions are lost in 2011, the year in which the decline is projected to take place. These losses will be distributed across Australia in proportion to the level of international higher enrolments in each state and territory. As an indicative estimate only, New South Wales and Victoria are particularly affected, losing 3,080 and 2,872 positions respectively in 2011.

Looking to 2015, under the Perfect Storm scenario, employment associated with international higher education will decline from 104,005 FTE positions across Australia in 2010 to 67,823 FTE positions, a reduction of 36,182 positions or 34.8% of employment that flows from this sector. The decline compared to the Baseline 3% growth scenario – which would have been seen as conservative just 18 months ago – is 45,583 FTE positions, a reduction of 40.2%.

## 6 Implications for the Higher Education Sector and Government

### *Implications for the Higher Education Sector*

The most immediate implications of this modelling for the Australian higher education sector lie in the impact of declining international student enrolments on fee income. Fee income decreases across all scenarios modelled, in contrast to the moderate Baseline case where income tracks student enrolment growth. Depending on the projected severity of the downturn, the estimated loss in fee income for higher education providers in 2011 alone ranges between \$53 million under the Trough Scenario to \$233 million under the Perfect Storm scenario or around 5.8% of projected 2010 revenues. Even under the more benign Sideways scenario, fee revenue is only marginally higher in 2011 than in recent years.

The comparison becomes even more pronounced when compared with expected revenue gains under the Baseline case in 2011, equal to around total onshore fee income of \$4.24 billion. In this comparison, the sector loses \$156 million in 2011 alone under the Sideways scenario, \$276 million under Trough and \$456 million under Perfect Storm – the latter representing a variance of 10.8% against the Baseline estimates.

**TABLE 20: Baseline Projections and Three Scenarios: International Higher Education Enrolments in Australia, Implications for Fee Income, 2010-2015, \$m**

	2010	2011	2012	2013	2014	2015
<i>Baseline</i>	4,014	4,237	4,473	4,722	4,984	5,261
Scenario 1 (Sideways)	4,014	4,081	4,125	4,166	4,251	4,463
Scenario 2 (Trough)	4,014	3,961	3,914	3,857	3,871	4,086
Scenario 3 (Perfect Storm)	4,014	3,781	3,527	3,222	3,021	3,147

*Note:* The ABS reports higher education fee income from onshore international students as \$3.7billion in 2009.

Table 21 reports on the impact on projected cumulative fee income between 2011 and 2015. The revenue losses are substantial in all scenarios relative to the moderate Baseline case (\$23.7 billion in revenue over the five year period). Under the Sideways scenario, the higher education sector sees onshore fee income of \$21.1 billion between 2011 and 2015, representing an income gap relative to the Baseline of around \$2.6 billion over this period. A more pronounced downturn, such as that modelled under the Trough scenario, sees a fall in revenue of 16.8% relative to the Baseline, with a revenue loss of \$3.98 billion. Under the Perfect Storm scenario, revenues collapse over the five year period to \$16.7 billion, implying a loss of 29.5% of all expected income under the Baseline, equal to around \$6.98 billion.



**TABLE 21: Baseline Projections and Four Scenarios: International Higher Education Enrolments in Australia, Cumulative Fee Income, 2011-2015, \$m, %**

	Cumulative Projected Fee Revenue: 2011-15	Change from Baseline 2011-2015	Change as % of Baseline 2011-2015
<i>Baseline</i>	23,677	-	-
Scenario 1 (Sideways)	21,087	-2,590	-10.9%
Scenario 2 (Trough)	19,691	-3,986	-16.8%
Scenario 3 (Perfect Storm)	16,698	-6,979	-29.5%

The loss in fee income translates into prospective employment losses in the Australian higher education sector. On the broad-based modelling undertaken, in 2011 these are in order of between 402 FTE positions under the Sideway scenario, to 982 FTE positions under the Trough scenario and 1,851 under Perfect Storm. Over time these losses are sustained if student numbers do not increase and very likely will emerge sooner if the expectation is that international student numbers do not recover. For instance, under Perfect Storm, in 2015 it is expected that the education sector workforce attributable to onshore international income will shrink to 13,125, a decrease of 34.8% on 2010 levels.

**TABLE 22: Baseline Projections and Four Scenarios: International Higher Education Enrolments in Australia, Implications for *Employment*, 2010-2015, FTE Positions.**

	2010	2011	2012	2013	2014	2015
<i>Baseline</i>	20,127	20,479	20,836	21,200	21,570	21,947
Scenario 1 (Sideways)	20,127	19,725	19,216	18,707	18,398	18,618
Scenario 2 (Trough)	20,127	19,145	18,235	17,319	16,753	17,046
Scenario 3 (Perfect Storm)	20,127	18,276	16,430	14,466	13,074	13,125

*Note:* The 2009 estimate for employment, due to total expenditure associated with international students, was 19,337 FTE positions.

### ***Implications for Government***

The implications for the government of any of the above scenarios are significant:

1. Travel related education is the third largest export industry in Australia, with \$18 billion of exports generated in 2009. This makes it almost 50% larger than tourism-related travel. International higher education accounts for \$10 billion, or 57.5% of this total, in terms of total value. It is responsible for creating an additional 104,000 jobs in the Australian economy.

2. Presently, enrolment, visa and intention data suggest scenarios for a decline in international higher education student numbers of between 10% to 35% or more. Behind this outcome is a confluence of factors which could be termed a 'perfect storm'. The immediate implications for government relate to the impact across Australia. Under the Perfect Storm scenario, around 8,822 FTE positions are at risk in the sector and a total of 45,583 positions in the broader community (including those in the sector) by 2015 compared to the Baseline case.
3. The centrality of the overseas market to the Australian higher education sector is now entrenched, with international operations now contributing 15% of all revenues in the system. In the case of several public providers, between 25% to 30% of all revenue comes from the international sector. Private providers have considerably higher levels of exposure, particularly where they specialise in servicing the international segment.
4. For this reason, the current downturn is likely to constitute a medium-term threat to the higher education sector, at a time during which its domestic operations are being deregulated with the removal of quotas in 2012. In particular, projections to 2015 indicate that the higher education sector could see a cumulative loss in fee revenue of between \$2.6 to \$7.0 billion, depending on the severity and duration of the projected downturn.
5. The loss of revenue in a critical area for the higher education sector means that the objectives of the Commonwealth and state and territory governments will be compromised if (i) policy drivers of the current downturn are not addressed and/or (ii) funding is not made available to the higher education system from other sources.
6. The most immediate issue for government to address is the impact on the entire international education sector of policy in regards to student visa conditions, permanent residency issues and regulation of quality issues in the sector. This is one area in which government has a considerable degree of control over outcomes. Given the importance of higher education to the Australian economy, both in terms of immediate economic impacts but also over the longer term, it is essential that government initiates a dialogue across the entire international education sector to address the problems created by recent and proposed policy changes.
7. Finally, there is a need for a reconsideration of higher education policy settings in view of the current international climate. This presents both opportunities and challenges for the Australian sector which need to be addressed in view of government's goals for higher education in general.

- <sup>1</sup> Australian Education International (AEI) (2010a) *International Student Enrolments in Higher Education in 2009*: [http://aei.gov.au/AEI/PublicationsAndResearch/Snapshots/20100416HE\\_pdf.pdf](http://aei.gov.au/AEI/PublicationsAndResearch/Snapshots/20100416HE_pdf.pdf); AEI (2010b) *Market Information Package*, Pivot Table (June 2010).
- <sup>2</sup> AEI (2010b) *Market Information Package*, Pivot Table (June 2010).
- <sup>3</sup> Universities Australia (2010) 'Balanced migration policy, not a 'Fortress Australia'', Media Release No. 13/10, 27 July.
- <sup>4</sup> AEI (2010a) *op cit.*
- <sup>5</sup> AEI (2010b) *Market Information Package*, Pivot Table (May 2010)
- <sup>6</sup> AEI (2010b) *op cit.*
- <sup>7</sup> Edwards, D., Radloff, A. and Coates, H. (2009) *Supply, Demand and Characteristics of the Higher Degree by Research Population in Australia*, a report submitted to the Department of Innovation, Industry, Science and Research by the Australian Council of Education Research: <http://www.innovation.gov.au/Section/Research/Documents/SupplyDemandandCharacteristicsoftheHDRPopulationinAustralia.pdf>
- <sup>8</sup> AEI (2010b) *op cit.*; AEI (2000) *Year 2000 Final International Student Numbers*: <http://www.aei.gov.au/AEI/Statistics/StudentEnrolmentAndVisaStatistics/2000/2000Final.htm#Tables>
- <sup>9</sup> AEI (2010b) and AEI (2000) *op. cit.*
- <sup>10</sup> AEI (2010b) *op cit.*
- <sup>11</sup> AEI (2010b) *op cit.*
- <sup>12</sup> DFAT – Department of Foreign Affairs and Trade (2010) *Composition of Trade Australia*, Canberra: Commonwealth of Australia.
- <sup>13</sup> DFAT (2010) *op. cit.*
- <sup>14</sup> Australian Bureau of Statistics (ABS) (2010) *International Trade in Goods and Services*, ABS Catalogue No. 5368.0)
- <sup>15</sup> Access Economics (2009) *The Australian education sector and the economic contribution of international students*, A Report to the Australian Council for Private Education and Training.
- <sup>16</sup> Tourism Research Australia (2007) *Quarterly Results of the International Visitor Survey*, Canberra, June 2008.
- <sup>17</sup> Access Economics (2009), *op. cit.*
- <sup>18</sup> ABS (2010b) *International Trade in Services by Country, by State and by Detailed Services Category*, Calendar Year, 2009, Catalogue No. 5368055004; and AEI (2010b), *op cit.*
- <sup>19</sup> For details of a discussion of these impacts in the context of economic multiplier analysis, please see: Kenyon, P and Koshy, P (2003) *The Economic Benefits to Australia from International Education*, A Report Prepared for Australian Education International (AEI) – International Education Network, Canberra: Australian Government; Access Economics (2009), *op. cit.*
- <sup>20</sup> ABS (2010b) *International Trade in Services by Country, by State and by Detailed Services Category*, Calendar Year, 2009, Catalogue No. 5368055004; and AEI (2010b), *op cit.*
- <sup>21</sup> Access Economics (2009), *op. cit.*, p. 5.
- <sup>22</sup> Access Economics (2009), *op. cit.*, p. 5.
- <sup>23</sup> Access Economics (2009), *op. cit.*, p. 6.
- <sup>24</sup> Tourism Research Australia (2007b) *Study Tourism Report, Profile of International Visitors Who Studied in Australia*, Canberra: Tourism Research Australia.
- <sup>25</sup> Access Economics (2009), *op. cit.*, p. 10.
- <sup>26</sup> For a summary, see Department of Immigration and Citizenship, *Student Visa Program Integrity Measures 2009-10*, issued in late April 2010: <http://www.immi.gov.au/students/pdf/students-integrity-measures.pdf>
- <sup>27</sup> A list of changes to the general skilled migration program in 2010 is available from the DIAC website at <http://www.immi.gov.au/skilled/general-skilled-migration/whats-new.htm#k>. The implications for onshore international students are described in <http://www.immi.gov.au/skilled/general-skilled-migration/pdf/faq-onshore-student.pdf>
- <sup>28</sup> As quoted in Trounson A and Healy G (2010), 'Sector faces perfect storm', *The Australian*, Wednesday 28 July. <http://www.theaustralian.com.au/higher-education/sector-faces-perfect-storm/story-e6frgcjx-1225897720803>
- <sup>29</sup> ABS (2010b) *International Trade in Services by Country, by State and by Detailed Services Category*, Calendar Year, 2009, Catalogue No. 5368055004; and AEI (2010b), *op cit.*

<sup>30</sup> English Australia (2010) *ELICOS Sector Student Numbers and Predictions 2010*, Private communication from English Australia, July 2010.

<sup>31</sup> Curtin University (2010) *The ELICOS & Higher Education Commencements Relationship*, A Briefing Paper from The Office of Strategy and Planning, Curtin University, June 2010.

<sup>32</sup> Department of Immigration and Citizenship (2010), *Student Visa Statistics, 'Offshore and Onshore Grants Combined,'* various. <http://www.immi.gov.au/media/statistics/study/>

<sup>33</sup> DIAC (2010), *op. cit.*

<sup>34</sup> See for instance: Trounson, A and Healy G (2010), 'Sector faces perfect storm', *The Australian*, Wednesday 28 July. <http://www.theaustralian.com.au/higher-education/sector-faces-perfect-storm/story-e6frgcjx-1225897720803>

<sup>35</sup> Banks, M., Olsen, A. and Pearce D (2007), *Global Student Mobility: An Australian Perspective Five Years On*, IDP Education Pty Ltd.

<sup>36</sup> Banks, M., Olsen, A. and Pearce D (2007), *op. cit.*, p. 4. Table 5.1, p. 72.

<sup>37</sup> Table 15 and Figure 4 assume that enrolments in any one year involve a 'pipeline effect' – i.e. they are based on a combination of existing enrolments as well as new commencements, to reflect the fact that higher education students can be enrolled for between two and five years. Our estimates for 2011-2105 are based on analysis of the relationship between commencements and enrolments over the past eight years.