

# WESTERN AUSTRALIA'S INTERNATIONAL EDUCATION SECTOR



Performance and Prospects November 2016

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and Training Industry Association (WAPETIA)

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Department of Training  
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## Foreword



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Australia has been a leader in international education for many years, and it is now the country's principal services export and our third largest export industry overall. It has been identified in many government and other studies as an industry with strong growth potential.

While Western Australia continues to see growth in international student enrolments, the states' share of overall international enrolments to Australia has declined.

This report outlines the performance and prospects for WA's international education sector. We analyse trends in international student enrolments across the main sectors including higher education, VET, ELICOS, schools and non-award. Key source countries for WA are reported on, and we compare WA's source country concentrations to that of other states.

The value-added contribution of international education to WA is presented, and scenario analysis explores potential future growth trajectories. Economic modelling shows the importance of various macroeconomic push and pull factors that determine student choice of destination. Finally, the strategies currently being undertaken by other state and territory governments aimed at promoting international education are presented and compared.

This report will assist policy makers and stakeholders in making decisions that will promote the industry in WA, to ensure that WA obtains an appropriate share of international students and optimises its potential in gaining the broader social, cultural and economic benefits that the sector brings.

We would like to thank the Western Australian Private Education and Training Industry Association and the other sponsors for their invitation to undertake the research for this report.



## Executive Summary

International education is a key sector for the Australian economy and has been identified by governments as a sector with significant growth potential.

This report focuses on the performance and prospects for WA's international education sector. Historical onshore international student enrolment trends as well as the revenue, value added and employment contributions are presented. Factors contributing to variations in student enrolments across Australian states are assessed and future growth projections are presented. The strategies currently being undertaken by other state and territory governments aimed at promoting international education are presented.

While WA had a record 50,500 international onshore student enrolments in 2015, its current share of the Australian onshore international education market has declined from 9.9 per cent in 2002 to 7.8 per cent in 2015.

This trend is particularly evident in WA's higher education sector, which has declined from over 11 per cent to under 7 per cent over the same period. This is particularly concerning, given that higher education comprises almost 67 per cent of expenditure by international students in WA.

WA's schools sector has also fallen significantly since 2002, when it contributed 8 per cent to WA's international student enrolments. This now lies at 1.8 per cent.

On a more positive note, the VET sector has increased its share of the national market to over 9 per cent, driven primarily by private providers.

Statistical examination in this report shows that distance from home country to host state has the strongest influence on international student commencements into WA. Other influential factors include the strength of the state's labour market and the availability of future employment.

Scenarios project that there is significant growth potential for WA's international education sector. For example, if WA was to obtain its demographic share (10.9%) of Australia's international education market by 2020, there would be an additional 30,000 student enrolments. This would lead to an estimated revenue of \$2.65bn, with an employment contribution of 16,000 FTEs by 2020.

While the global demand for international education is increasing, so too is competition between global suppliers. Therefore, to realise future growth projections requires a focussed, coordinated and inclusive state strategy.

## Key Findings

### Enrolment Trends

- WA had a record 50,500 international onshore student enrolments in 2015, representing 7.8% of Australia's total.
- WA's share of international enrolments has dropped from 9.9% in 2002. Only VET has increased its share of the national market, led by private providers.
- Higher education enrolments in WA as a share of Australia have dropped from 11.2% to 6.8% over the same period.
- Curtin University consistently dominates international higher education onshore student enrolments within WA.
- WA universities' patterns of internationalisation are in many respects quite distinctive in comparison to their relevant institutional grouping, with fewer onshore student enrolments overall and slower growth rates.
- Just over half (53.8%) of international students enrolled in WA institutions are enrolled onshore, compared to over three quarters (77.1%) for Australia as a whole.
- Schools enrolments in WA have fallen in absolute terms since 2002 and are only 4.1% of the national total.
- WA's top two source countries are China and India. The top ten source countries are responsible for 60% of enrolments, significantly less than for Australia (67%) or SA (79%).
- Asian economies account for 68% of international student enrolments in WA.
- WA's declining share of Australia's international education market emerges from a failure to take sufficient advantage of growth in both the higher education sector and from China.

## Determinants of Student Destination

- Based on statistical analysis in this report, the distance between the home country and host state exerts the strongest influence on international student enrolments into WA.
- This emphasises the potential for WA to exploit its natural endowment in terms of its relative proximity to Asia.
- The strength of the state's labour market, and especially the availability of future employment opportunities is also key. Student commencements are stronger in those states, and in those time periods, with lower levels of unemployment and higher average salaries.
- Unemployment rates in students' home countries exert a strong push influence on students' desire to seek education opportunities in Australia.
- Having controlled for a range of factors, WA still lags behind VIC and NSW in particular, and SA and QLD too, in the state's capacity to attract a rising share of international student enrolments.
- These suggest that 'selling' Perth and WA as a desirable study destination, facilitating easy access to available courses in the state, and enhancing the student experience both to attract students to WA, and to create successive cohorts of future advocates for study in WA, are all important priorities in developing the state's future international education strategy.

## Economic Contribution

- WA's international education sector was valued at \$1.39bn in 2015.
- International education is a lower share of WA's service exports than all other states and territories other than the NT.
- Annual growth in education-related travel expenditure exceeded 10 percentage points only once between 2002 and 2015, the equal lowest of any state, and well below the eight years for NT, and seven for VIC.
- Value-added contribution to WA from international education was \$766m in 2015, and an estimated 8,065 FTE jobs.
- The principal areas of expenditure and employment were in food, drink and accommodation; education and retail.

## Projections and Scenario Analysis

- Under a baseline scenario, WA's international student enrolments grow to 60,500 by 2020 and 67,300 by 2025.
- India overtakes China as the largest source country under this scenario.
- Revenue increases to \$1.8bn, value-added to \$1bn and employment to 11,170 FTEs.
- Under a higher growth scenario, enrolments more than double from 2015 to 103,500 by 2025, with revenue increasing to \$2.7bn, value-added to \$1.55bn and employment growing to 16,600 FTEs.
- If WA could reach its population demographic share (10.9%) of Chinese enrolments by 2025, this would see Chinese enrolments increase to 32,660 compared to a current figure of 7,000.
- Achieving its demographic share in all sectors by 2020 would imply WA enrolments increasing to 91,200 compared to 60,500 under the baseline. Revenue would increase to \$2.6bn, value-added to \$1.5bn and employment to 16,000 FTEs.

## Strategic Context

- The Commonwealth and every State and Territory government, other than WA, has recently released a strategy or draft strategy for international education.
- Responsibility for these strategies in most cases rests with the main economic development agency.
- Each strategy has a focus on destination marketing and market development.
- Most states are now placing much greater emphasis on enhancing the student experience and providing welfare services. Partnerships have been established with local government and industry, including the creation of advisory councils solely dedicated to international education.

# Introduction

There were approximately half a million international students studying on a student visa in Australia in 2015, with over half of these in higher education (Department of Education and Training, 2016a). Reflecting that students can enrol in more than one course during a study period, international education enrolments in Australia were higher, at 645,000 in 2015, a 10 per cent increase on 2014 (Department of Education and Training, 2016b). Western Australia (WA) had 50,500 international student enrolments in 2015, or 7.8 per cent of the national total. International education contributes significantly to the Australian economy, with export income attributable to onshore international students in 2015 valued at \$18.8 billion, supporting an estimated 130,000 jobs throughout Australia (Deloitte Access Economics, 2016).

The industry nationally faces many challenges but also has multiple opportunities (see Australian Government 2016b). Some of these are common to all advanced economies: expected strong growth in students looking to study internationally; technological change impacting on the way education services are delivered; the growth of domestic post-secondary opportunities in traditional source countries; and increased competition for international students among developed countries. Other challenges are more peculiar to Australia, such as currency fluctuations, cost of living, visa rules and other regulations, and perhaps even lingering reputational issues arising from difficulties faced by the sector in 2009.

WA faces its own issues. Despite being an early innovator in international education, WA's market share of international students onshore has steadily fallen over the past decade, from 9.9 per cent of national enrolments in 2002 to 7.8 per cent in 2015, with particularly large falls in the state's share of international enrolments in higher education and schools. Other States and Territories are not standing still, and there is a need for WA to consider how to reverse the trend and re-build its share of the international student market.

With a focus on WA, this report outlines the latest trends in international education enrolments and their economic impact. We also look at trends by source countries. We use economic modelling to show the importance of various push and pull factors that determine student choice of destination. We also develop scenarios to explore potential future growth trajectories. Finally, we present and compare the strategies currently being undertaken by other state and territory governments aimed at promoting international education.

Wherever possible, we delineate between the five key sub-sectors: higher education, vocational education and training (VET), English language intensive courses for overseas students (ELICOS), schools, and non-award courses (such as foundation and exchange courses). Although some institutions have offshore campuses as an important part of their international strategy, our focus is on onshore international education, because of its greater economic impact.

The purpose of the report is not to provide a strategic plan for the sector. That is more properly the responsibility of government and the industry. Instead, the report aims to provide useful background material to assist with such a task. Nor is the report aimed at providing a detailed argument for the broader value of international education to students, to Australia and the global community – there are many reports that do this.





# ENROLMENT TRENDS

# Introduction

## Key Findings

- In 2015, WA had approximately 50,500 international student enrolments, the highest level recorded. This accounted for 7.8% of Australia's total international student enrolments.
- Three distinct periods can be identified: (i) 2002-2009, when enrolments grew from 27,000 to 50,000; (ii) 2009-2012, when enrolments fell to 41,500; and (iii) 2012-2015, when enrolments recovered.
- Higher education (36.9%) and VET (30.6%) account for over two thirds of WA's enrolments. For WA, higher education's share is lower and VET's share is higher than that reported at the national level (the latter being 42.2% and 26.3%, respectively).
- WA's share of international enrolments in Australia has declined, from 9.9% in 2002 to 7.8% in 2015. Only VET has increased its share of the national market – from 7.5% to 9.1%. The biggest declines have been in higher education (from 11.2% to 6.8% between 2002 and 2015) and schools (from 9.6% to 4.1% over the same period). Absolute international school enrolments have decreased over this period.
- WA universities have reduced international enrolments as a share of their total onshore enrolments, in contrast to many of their counterparts in other states.
- WA's growth in VET has predominantly been driven by private providers, as is also the case for ELICOS.
- WA has a more diversified international student market, with the top ten source countries being responsible for 60% of all enrolments, compared to 67% nationally and 79% for SA. The main explanation for this is the relatively low share of Chinese students as a proportion of the WA market (14%), compared to 26% nationally and 40% in SA.
- Around 12% of WA's international student enrolments are from India, and WA has around 8.5% of all Indian students in Australia. WA only has 4.1% of Chinese students. However, it has a larger proportion of students from Singapore (18% of national total), Taiwan (15%) and Malaysia (15%). However, the absolute numbers of Singaporean and Malaysian students in WA fell over the past five years.

This section examines international education enrolment trends to Australia for the period 2002 to 2015 across the five sub-sectors – higher education, VET, ELICOS, non-award and schools. Enrolments by provider type (public/private) are analysed, as are enrolments by main subject studied. Key source markets for international education students are also reported.

Where appropriate, comparisons by state and territory as well as by education sector are drawn, with a particular focus on differences between WA and SA. Both these States have lower populations and are distant from the more well-known tourist centres of the east coast of Australia. In addition, SA has had a conscious strategy to focus on higher education – including international education – for many years, in its State Strategic Plan and through its efforts to promote Adelaide as an education city. On the surface, SA appears to have been relatively successful in higher education in particular in recent years, compared to WA, and therefore warrants closer scrutiny.

## International Student Enrolment Trends, by Sector

For Australia, total international student enrolments saw an annual increase from 2002 (274,500) to 2009 (631,400), as displayed in Table 1. As a result of the GFC and other shocks (see JCIPP 2010), enrolments declined from 2009 to 2012 (513,400), after which overall international enrolments reverted to positive growth, recording their highest on record in 2015 (645,200).

Over the period 2002 to 2015, higher education, VET, ELICOS and non-award all saw their highest number of enrolments in 2015. Schools reported an enrolment high in 2008, which declined to 2013, with more recent years displaying a return to 2011 levels.

**Table 1** International Student Enrolments by Sector, Australia, 2002-2015

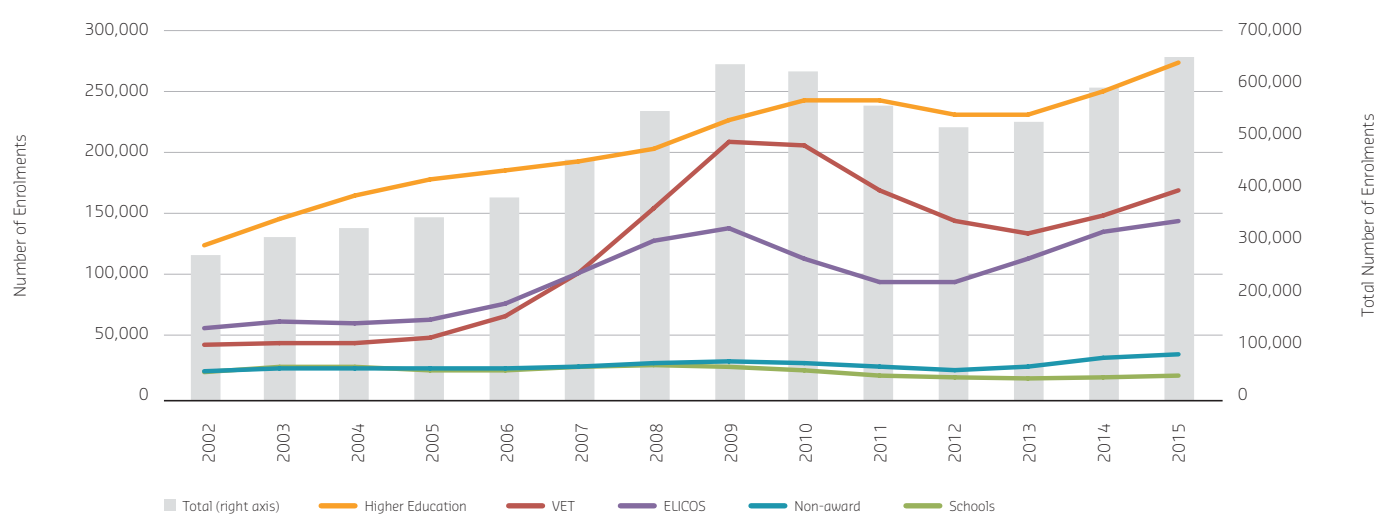
Sector	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2015 % Share
Higher Education	124,800	146,200	64,200	178,000	185,600	192,300	202,300	225,800	242,200	241,200	230,100	230,400	249,100	272,100	42.17%
VET	44,800	46,000	45,600	51,000	67,200	102,400	154,500	208,300	205,400	169,600	144,300	134,300	149,300	169,700	26.30%
ELICOS	58,200	62,900	62,600	65,500	78,100	103,300	128,700	139,000	114,000	95,200	95,400	114,600	136,400	145,300	22.52%
Non-Award	23,500	25,600	25,500	25,700	25,600	26,800	29,500	30,900	30,900	27,600	25,100	27,900	34,200	37,500	5.81%
Schools	23,200	26,900	27,300	25,100	24,500	26,800	28,300	27,300	24,100	20,700	18,500	17,700	18,400	20,600	3.19%
<b>Total</b>	<b>274,500</b>	<b>307,600</b>	<b>325,200</b>	<b>345,200</b>	<b>380,900</b>	<b>451,500</b>	<b>543,200</b>	<b>631,400</b>	<b>616,500</b>	<b>554,300</b>	<b>513,400</b>	<b>525,000</b>	<b>587,400</b>	<b>645,200</b>	

Notes: Enrolments rounded to nearest hundred

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

Higher education reports the highest enrolments throughout the period. Since 2008, VET has the second highest number of enrolments. This position was held by ELICOS prior to 2008. The composition of international student enrolments by sector in 2015 was as follows: higher education 42 per cent, VET 26 per cent, ELICOS 23 per cent, non-award 6 per cent and schools 3 per cent (see Table 1 and Figure 1 for details).

**Figure 1** International Student Enrolments by Sector, Australia, 2002-2015



Notes: Enrolments rounded to nearest hundred

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

Similar to the overall Australian trends, for WA, international student enrolments saw an annual increase from 2002 (27,100) to 2009 (49,800), with annual declines recorded from 2009 to 2012 (see Table 2). Total enrolments reported a historical high in 2015 (50,500).

**Table 2** International Student Enrolments by Sector, WA, 2002-2015

Sector	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2015 % Share
Higher Education	14,000	16,200	17,000	17,400	17,600	17,400	18,000	20,200	21,000	20,500	18,700	17,900	18,000	18,600	36.89%
VET	3,400	3,200	3,200	3,400	3,900	5,300	8,900	13,700	14,300	12,200	11,400	11,400	13,200	15,400	30.56%
ELICOS	5,900	6,500	6,300	6,400	7,200	8,600	10,700	11,800	9,400	8,300	8,300	9,800	11,500	13,200	26.18%
Non-Award	1,700	1,900	1,800	1,900	1,700	1,700	2,000	2,100	2,200	2,000	1,800	2,100	2,500	2,400	4.68%
Schools	2,200	2,500	2,500	2,200	2,000	2,000	2,000	1,900	1,800	1,500	1,300	1,100	900	900	1.69%
<b>Total</b>	<b>27,100</b>	<b>30,300</b>	<b>30,700</b>	<b>31,300</b>	<b>32,400</b>	<b>35,100</b>	<b>41,500</b>	<b>49,800</b>	<b>48,600</b>	<b>44,500</b>	<b>41,500</b>	<b>42,300</b>	<b>46,000</b>	<b>50,500</b>	

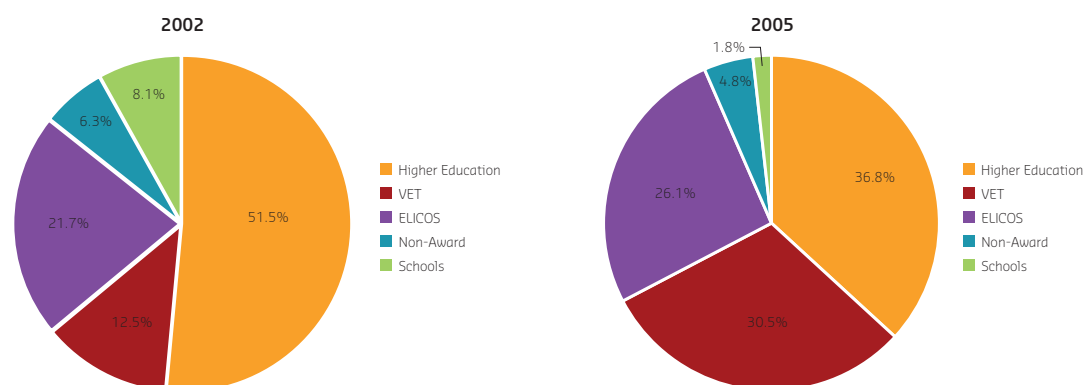
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

International student enrolments in WA decreased across the GFC period from 2009-2012, but have since picked up reaching over 50,000 student enrolments in 2015.

Enrolments in higher education comprise just over one-third of all international student enrolments in WA – down from over 50% in 2002.

However, the composition of WA's total enrolments by sector has changed, from the previous high experienced in 2009. As shown in Figure 2, in 2002, higher education accounted for over 50 per cent of WA's total enrolments. While higher education remains WA's largest sector, its contribution has declined to below 37 per cent. 2015 enrolments in higher education (18,624) have not recovered to their 2010 historical high (21,022).

**Figure 2** Enrolment Shares by Sector, WA, 2002-2015



Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

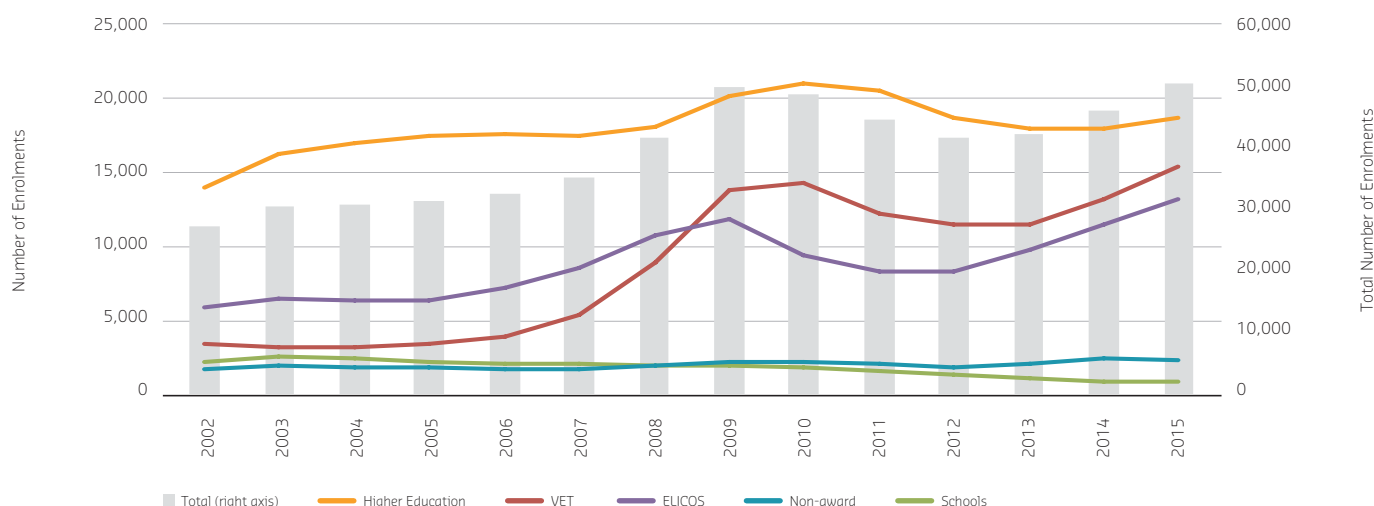


The VET sector accounted for only 12.5 per cent of enrolments in WA in 2002, but has increased to over 30 per cent in 2015. ELICOS has also shown an increase from 22 per cent in 2002 to 26 per cent in 2015. VET (15,400) and ELICOS (13,200) reported their highest enrolments on record in 2015, with non-award reporting its highest number in 2014 (2,500).

As seen in Figure 3, the schools sector has reported negative growth since 2003, having declined from an enrolment number of 2,500 in 2003 to 850 enrolments in 2015.

The schools sector has reported negative growth since 2003, having declined from an enrolment number of 2,500 in 2003 to 850 enrolments in 2015.

**Figure 3** International Student Enrolments by Sector, WA, 2002-2015



Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

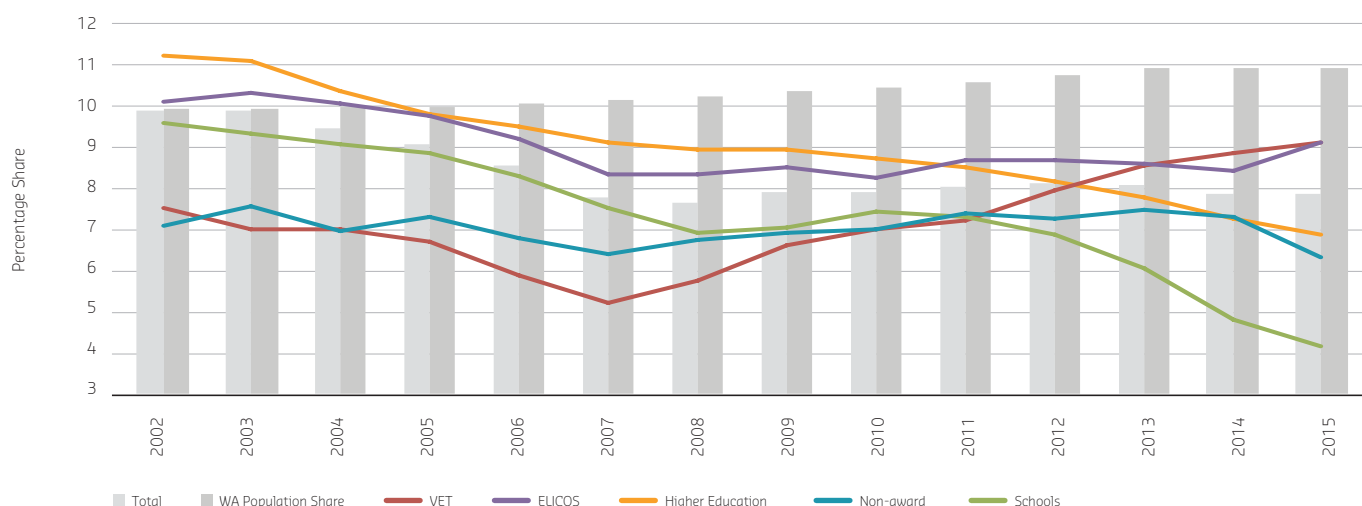
WA's share of Australian enrolments by sector is presented in Figure 4. In 2002, WA had 9.87 per cent of total Australian enrolments, its highest share over the reported period. This share fell continuously to 7.64 per cent in 2008 – a period of very rapid growth in national enrolments. WA's share of total enrolments increased to 8.09 per cent in 2012, but then declined to stand at 7.83 per cent of the national total in 2015.

The largest decline has been in the schools sector, where WA's share of the national total fell from 9.6 per cent in 2002 to 4.1 per cent in 2015. Given the significance of the scale and value added contribution of the higher education sector, even more concerning is WA's declining share of the higher education sector. With the exception of a slight improvement in 2009 (from 8.91% to 8.93%) WA's share of higher education enrolments has declined annually since 2002. WA's share of the national higher education sector now stands at 6.85 per cent.

WA's national share of international enrolments in higher education and schools has been declining over the last decade - whereas the VET sector has seen increases since 2007.

On a more positive note, WA's share of the VET sector has increased annually since 2007, and in 2015 accounted for 9.09 per cent of the Australian VET market. WA's share of ELICOS saw an improvement in 2015 (9.10%), and has remained reasonably consistent since 2007. However, in 2015, WA's share of the non-award sector reported its lowest level (6.31%) on record, although, over the longer period it has remained reasonably consistent, with an average of 7 per cent.

**Figure 4 WA's Share of Australian Enrolments by Sector, 2002-2015**



Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

Figure 4 also shows that WA's decline in the share of enrolments occurred at a time when the state's population share increased annually from 2002 to 2014, with a very slight decline (0.01%) in 2015.

To obtain a better indication of the scale of enrolments by state, Figure 5 reports international student enrolments as a percentage of population, for each state and by education sector. The gap between Australia and WA is also presented (WA-Aus Gap).

In 2015, total international student enrolments (all sectors) were equivalent to 1.95 per cent of WA's total population. VIC (3.30%), ACT (3.28%) and NSW (3.19%) report the largest enrolments per capita in 2015, all lying above the Australian average (2.71%). These are followed by QLD (2.16%), WA (1.95%), SA (1.89%), TAS (1.02%) and NT (0.88%).

WA and SA report very similar enrolments as a proportion of the state's population in 2015. SA has made significant improvements since 2002, when international student enrolments were equivalent to 0.73 per cent of the state population, almost half that of WA (1.40%). While WA has also seen improvements since 2002, its enrolments as a share of population have dropped from the height of 2010 (2.22%).

For total enrolments, the WA-Aus gap is now at its largest since 2009 standing at -0.76. That is, WA has 0.76 fewer international students per hundredth of the WA population compared to the Australian average. While it is not reported in the graph here, historical data shows that this gap was zero in 2002.

As can be seen in the remaining panels in Figure 5, WA's gap of -0.76 is primarily driven by the higher education sector (with a gap of -0.43), which accounts for 56 per cent of the overall gap. For higher education, the gap has continually increased since 2009. Schools and non-award sectors have seen a deterioration in the gap since 2013, whereas ELICOS has experienced an improvement. The WA-Aus gap for the VET sector has improved substantially since 2009 (going from -0.35 to -0.12) and has remained constant since 2013.

**Figure 5 State Enrolments as a Proportion of Population, by Sector, 2009-2015**

Notes: States are ranked by 2015 enrolments as a share of state population

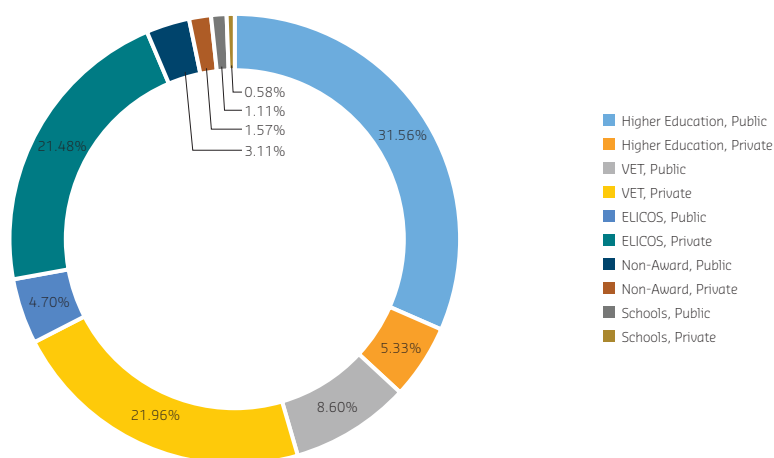
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

## International Student Enrolment Trends, by Provider Type

This section discusses the sectoral distribution of international student enrolments into WA by provider type – that is, the distribution of enrolments by public and private providers.

In 2015 (see Figure 6), while public providers (namely, Curtin University, ECU, Murdoch University and UWA) dominate in the provision of higher education, private providers are the largest providers of VET and ELICOS.

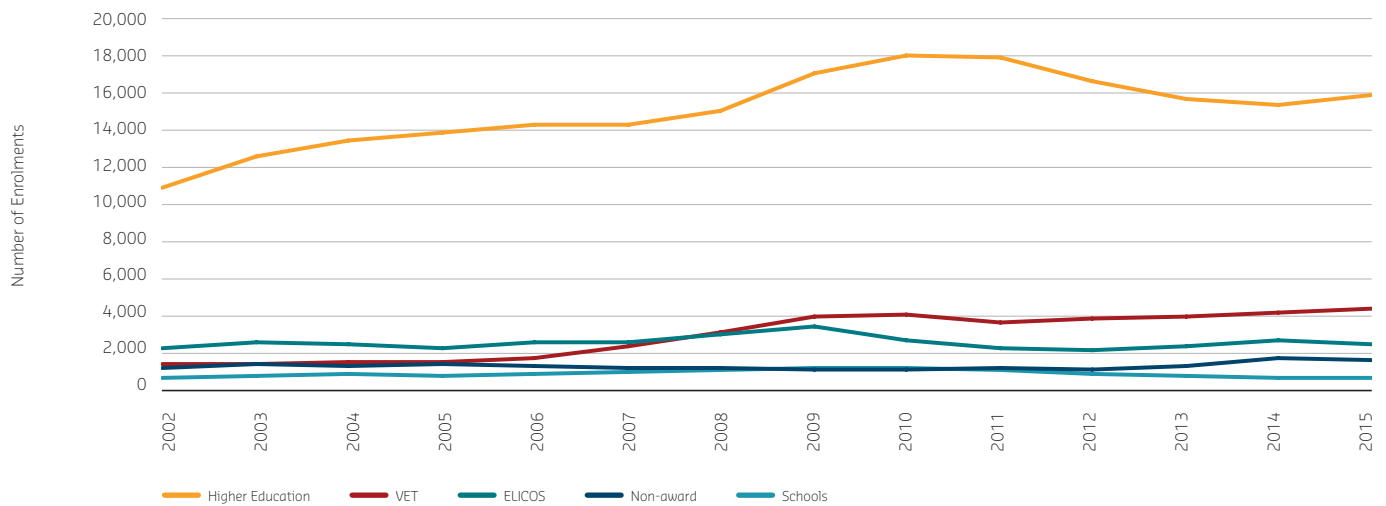
**Figure 6** The Provision of International Education in WA, by Provider Type, 2015



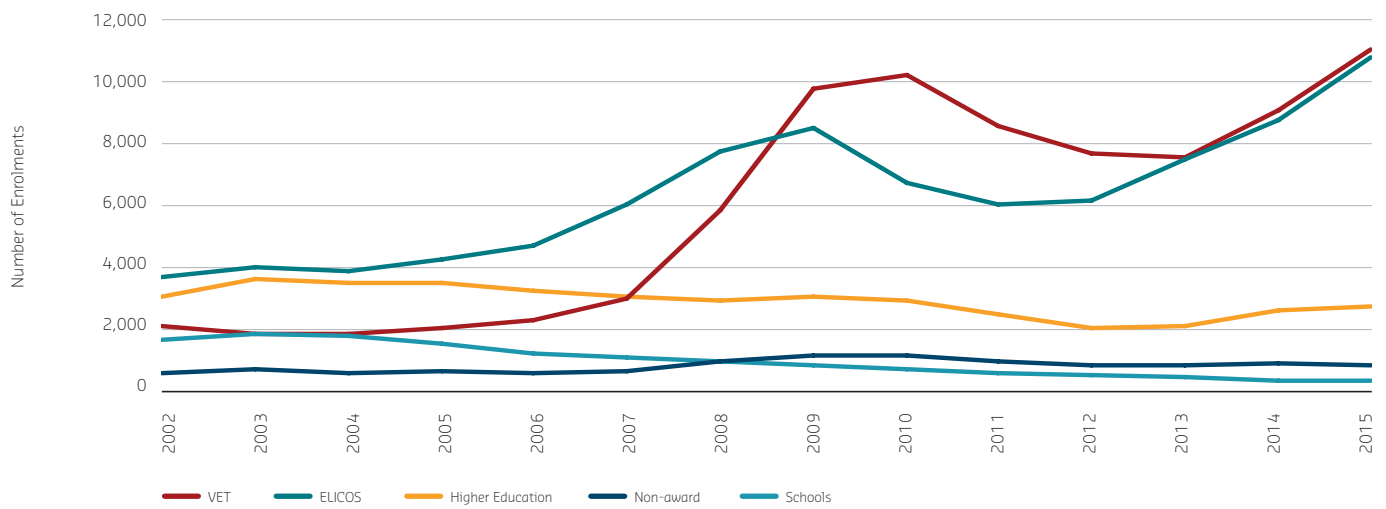
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

Public providers dominate in the provision of higher education in WA whereas private providers are the largest providers of VET and ELICOS for international students.

WA's decline in school enrolments is evident for both public and private providers (see Figure 7 and Figure 8). This decline is particularly visible for private enrolments, which has seen a decline from a high of 1,783 enrolments in 2003 to just 293 enrolments in 2015. School enrolments for public providers reached its height in 2010 (1,126 enrolments), before declining annually to 560 enrolments in 2015.

**Figure 7 International Enrolment Trends by Public Providers, WA, 2002-2015**

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

**Figure 8 International Enrolment Trends by Private Providers, WA, 2002-2015**

Note: Ranked according to 2015 shares

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

## A Focus on Higher Education, VET and Schools

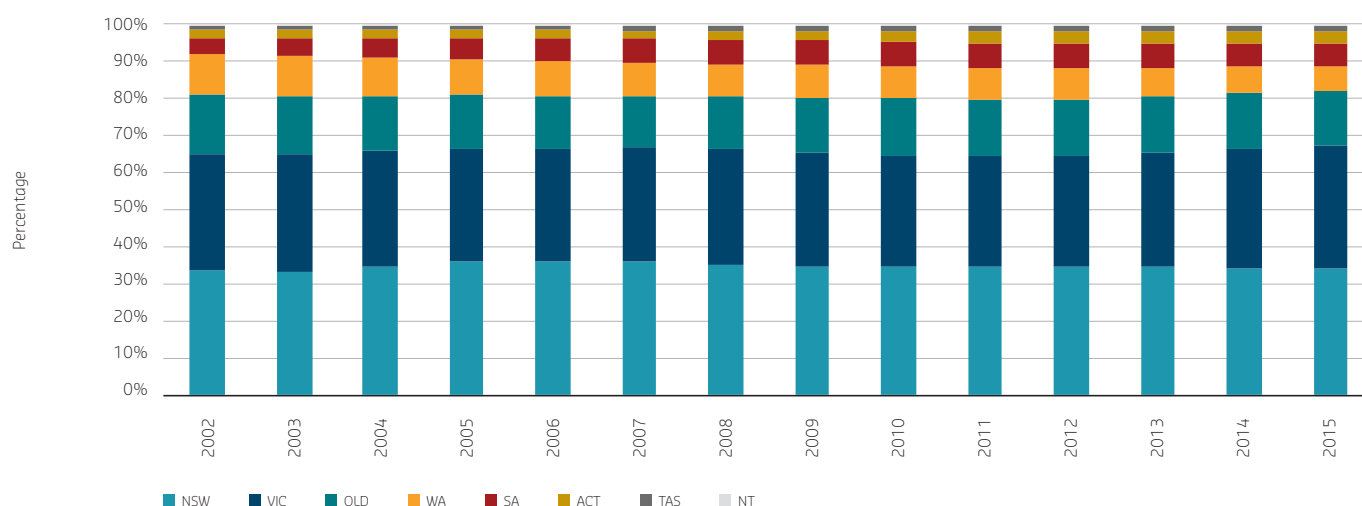
Given the significant economic contribution of the higher education sector for Australia, and the steady decline in WA's national share of this sector, further examination of the sector is provided here. We also examine the VET sector in more detail, given that it too makes a significant economic contribution to the Australian economy and has reported strong growth for WA in recent years. Furthermore, we compare WA and SA school enrolments given WA's significant decline in its share of international enrolments in this sector.

### Higher Education

The state distribution of international student enrolments in the higher education sector is presented in Figure 9. NSW and VIC are the dominant states in higher education, followed by QLD. VIC's share has increased by almost 4 percentage points since 2011 while all other jurisdictions, except NT, have fallen. Coupled with a slight decline in NSW's share, VIC and NSW now both lie at approximately 34 per cent. These are followed by QLD (14.5%), WA (6.9%), SA (6.0%), ACT (3.2%), TAS (1.3%) and NT (0.5%)

Victoria's share of international student enrolments in higher education has increased by almost 4 percentage points since 2011, while all other jurisdictions, except NT, have fallen.

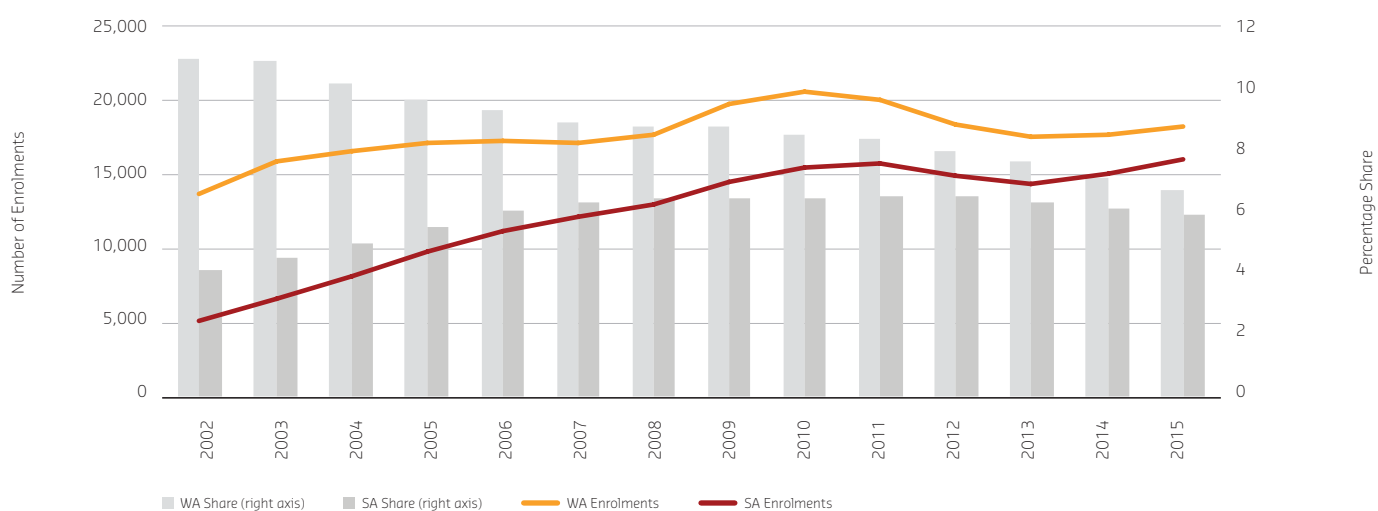
**Figure 9** State Share of International Student Enrolments in Higher Education, 2002-2015



Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

WA has seen an annual decline in share of Australia's international student enrolments in higher education from 2002 (11.2%) to 2015 (6.9%).

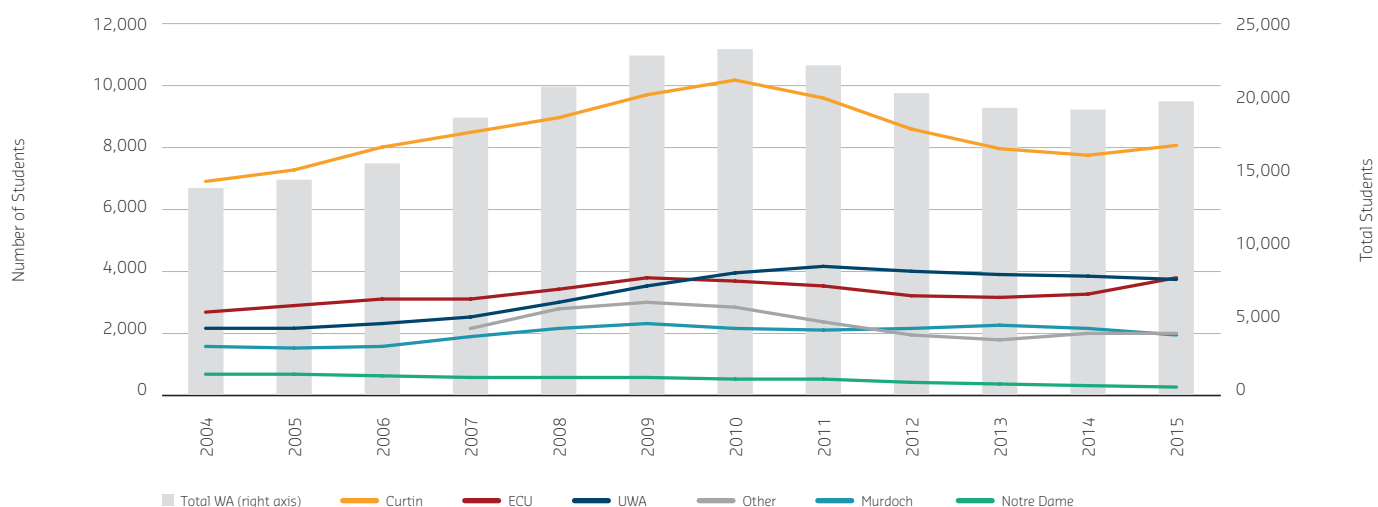
WA has seen an annual decline in share of Australia's international student enrolments in higher education from 2002 (11.2%) to 2015 (6.9%). This persistent decline in WA's share of Australia's international higher education sector is highlighted further in Figure 10. There has been a significant convergence in market share between SA and WA over this period. SA's enrolments in higher education saw strong growth between 2002 (5,200) and 2011 (16,000), and reached a high of 16,300 enrolments in 2015. This compares to WA, where enrolment numbers have not returned to their high of 2010 (21,000), and with the exception of the three year period (2009 to 2011), enrolments in WA remained between 17,000 and 19,000 between 2004 and 2015.

**Figure 10 International Student Enrolment Numbers and Shares in Higher Education, WA and SA, 2002-2015**

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

## Higher Education – University Trends

Using Commonwealth Department of Education and Training statistics, it is possible to investigate in more detail the historical trends in WA's international higher education student numbers by looking at figures for the main institutions and comparing them by state and university grouping. Figure 11 shows the trends in onshore international students in WA since 2004.

**Figure 11 International Onshore Students in Higher Education Institutions, WA, 2004-2015**

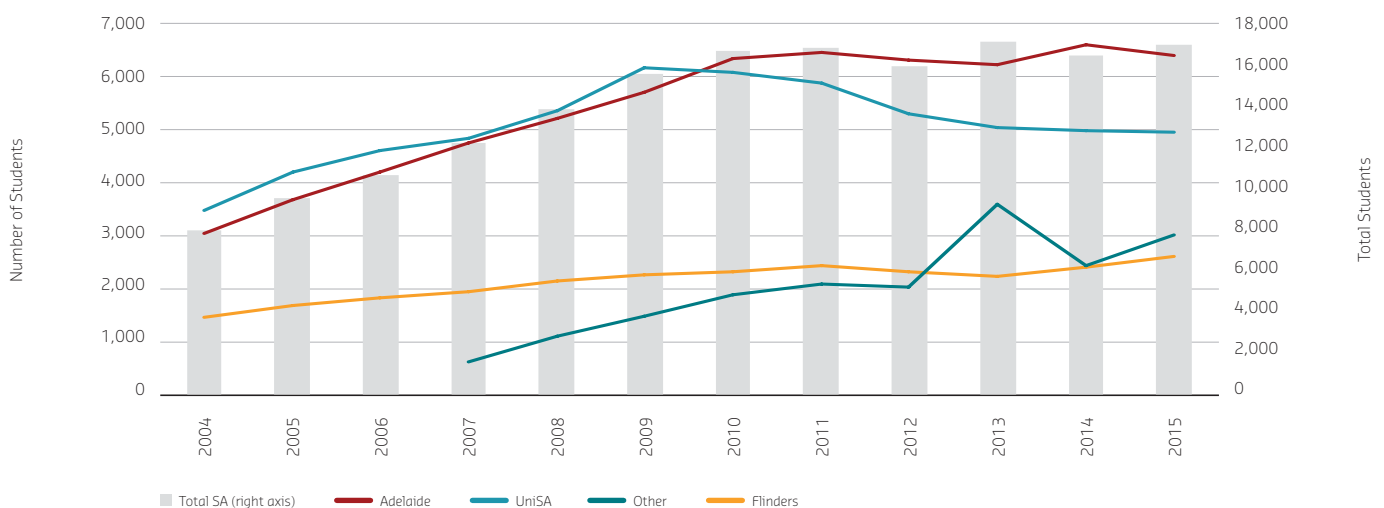
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

Curtin University consistently dominates international higher education onshore student enrolments within WA.

Curtin University consistently dominates international higher education onshore students in WA with student numbers increasing from almost 7,000 in 2004 to just over 10,000 in 2010 before falling to around 8,000 in 2015. The other WA universities were relatively static, although student numbers by private providers (Other) rose quickly to almost 3,000 in 2009 before falling back to 2,000 by 2015. The University of Western Australia increased student enrolments between 2007 and 2010, however, this trajectory has since plateaued.

The structure of the WA higher education market is quite different from that in other states. In SA, for example, there have traditionally been two large providers – the University of Adelaide and the University of South Australia (see Figure 12).

**Figure 12** International Onshore Students in Higher Education Institutions, SA, 2004-2015



Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

WA universities' patterns of internationalisation are in many respects quite distinctive in comparison to their relevant institutional grouping, with fewer onshore student enrolments overall and slower growth rates.

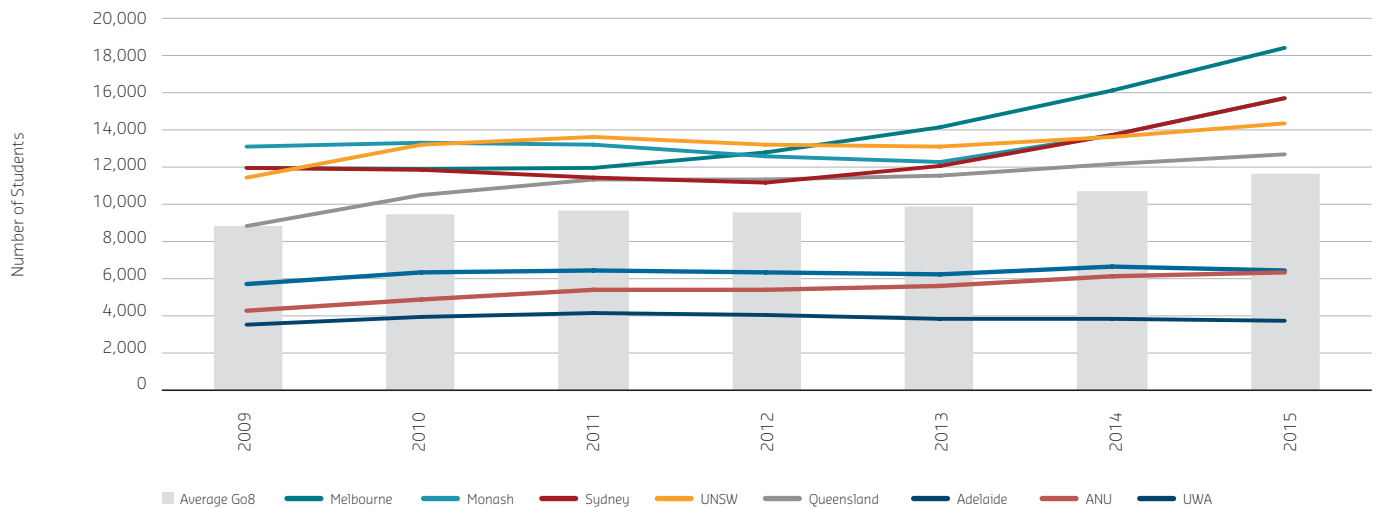
It is often more instructive to compare universities with similar institutions in other states than within the state. For example, The University of Western Australia (UWA) is part of the Group of Eight (GO8) of older, research-intensive 'sandstone' universities, while Curtin University is part of the Australian Technology Network (ATN) consisting of former institutes of technology. Murdoch University is a member of the Innovative Research Universities (IRU), a group of universities established in the late 1960s and early 1970s. These institutional groupings are often the comparator used by these universities.

UWA for example, has the lowest number of onshore enrolments in the GO8. While UWA experienced positive growth between 2009 and 2011, onshore students have declined since then (Figure 13). This is in contrast to other GO8 Universities, with the exception of Adelaide, which, despite seeing growth between 2013 and 2014, saw a decline in 2015.

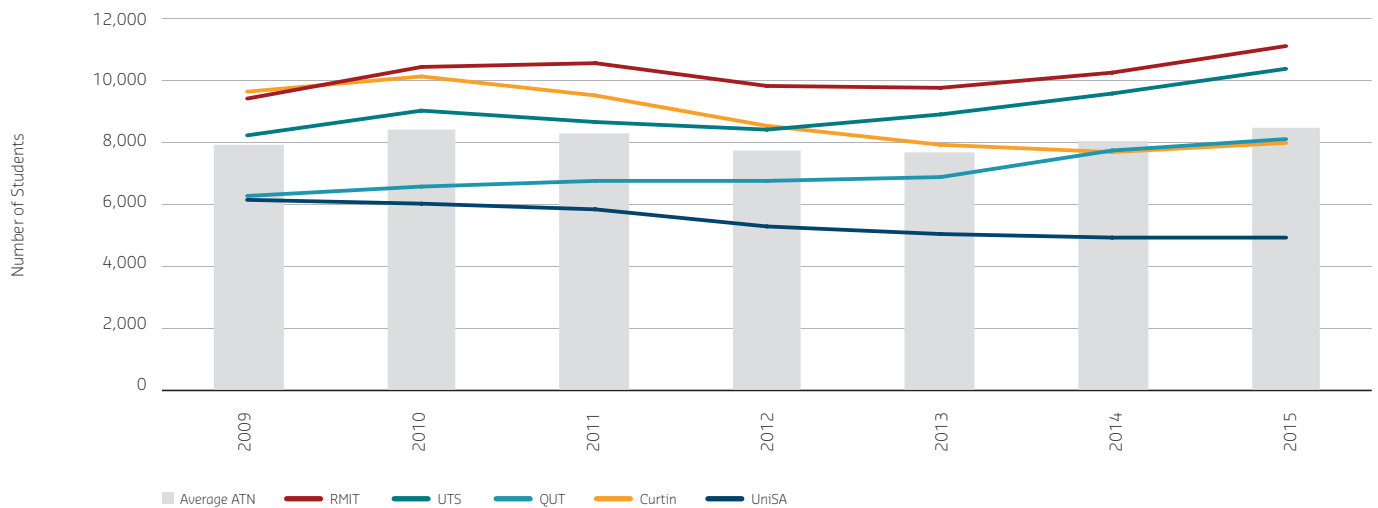
Curtin University's onshore enrolments have declined since 2010. It had the highest number of students of the ATN group in 2009 but has since dropped to fourth position relative to other ATN universities across Australia's states and territories (Figure 14).

RMIT in Melbourne and UTS in Sydney have recorded the strongest growth in international onshore student enrolments in the last few years.



**Figure 13** Group of Eight Universities International Onshore Students, 2009-2015

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

**Figure14** Australian Technology Network Universities International Onshore Students, 2009-2015

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

An important development in Australian higher education in recent years was the introduction of a demand-driven system for domestic students, which effectively removed the cap on domestic enrolments. Some universities have opted to grow through domestic students rather than international students, while others have continued to grow both segments.

Table 3 shows the size of all students (domestic plus onshore international students) for WA universities and the three main university groupings in 2015, as well as the percentage of total students represented by onshore international students. Two things stand out. First is the relatively small size of WA universities (except for Curtin), and second is their relatively low number and percentage of onshore international students. Only 15.5 per cent of UWA-based students are from overseas; the next lowest GO8 University has 24.4 per cent. Murdoch is significantly smaller than its IRU counterparts and also has a lower than average share of overseas students. The share of overseas students at Curtin fell from 27.7 per cent in 2009 to 18.6 per cent in 2015 (see Figure 15) as its domestic student numbers increased and international onshore enrolments fell.

**Table 3** Onshore International Students as a Share of Total Onshore Enrolments, Higher Education, 2015

	Onshore	Domestic	Total	% Onshore	Change since 2009 (% points)
<b>Western Australia</b>					
Curtin	8,010	35,150	43,160	18.6%	-9.1%
ECU	3,780	22,630	26,410	14.3%	-1.9%
Murdoch	1,930	13,430	15,360	12.6%	-2.6%
Notre Dame	250	11,520	11,770	2.1%	-4.6%
UWA	3,740	20,390	24,130	15.5%	-1.8%
Other	1,990	680	2,670	74.5%	-16.2%
Total Western Australia	19,690	103,800	123,500	15.9%	-5.7%
<b>Average Western Australia</b>	<b>3,280</b>	<b>17,300</b>	<b>20,580</b>	<b>15.9%</b>	<b>-5.7%</b>
<b>GO8</b>					
Adelaide	6,400	19,840	26,250	24.4%	-1.9%
ANU	6,280	16,180	22,470	28.0%	3.7%
Melbourne	18,380	40,500	58,880	31.2%	4.8%
Monash	15,720	43,870	59,590	26.4%	1.2%
Queensland	12,640	38,170	50,810	24.9%	3.1%
Sydney	15,750	42,670	58,420	27.0%	3.3%
UNSW	14,370	39,640	54,010	26.6%	1.9%
UWA	3,740	20,390	24,130	15.5%	-1.8%
<b>Average Go8</b>	<b>11,660</b>	<b>32,660</b>	<b>44,320</b>	<b>26.3%</b>	<b>2.3%</b>
<b>ATN</b>					
Curtin	8,010	35,150	43,160	18.6%	-9.1%
QUT	8,140	40,260	48,400	16.8%	1.2%
RMIT	11,160	33,150	44,310	25.2%	-2.7%
UniSA	4,950	25,760	30,720	16.1%	-5.0%
UTS	10,450	29,210	39,660	26.3%	2.0%
<b>Average ATN</b>	<b>8,540</b>	<b>32,710</b>	<b>41,250</b>	<b>20.7%</b>	<b>-2.4%</b>
<b>IRU</b>					
Flinders	2,610	19,880	22,500	11.6%	-2.1%
Griffith	7,810	37,240	45,050	17.3%	-8.5%
La Trobe	6,710	27,770	34,480	19.5%	-1.8%
Murdoch	1,930	13,430	15,360	12.6%	-2.6%
<b>Average IRU</b>	<b>4,770</b>	<b>24,580</b>	<b>29,350</b>	<b>16.2%</b>	<b>-4.7%</b>

Notes: Universities are sorted alphabetically. Change since 2009 is percentage point change. Rounding to nearest ten students  
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

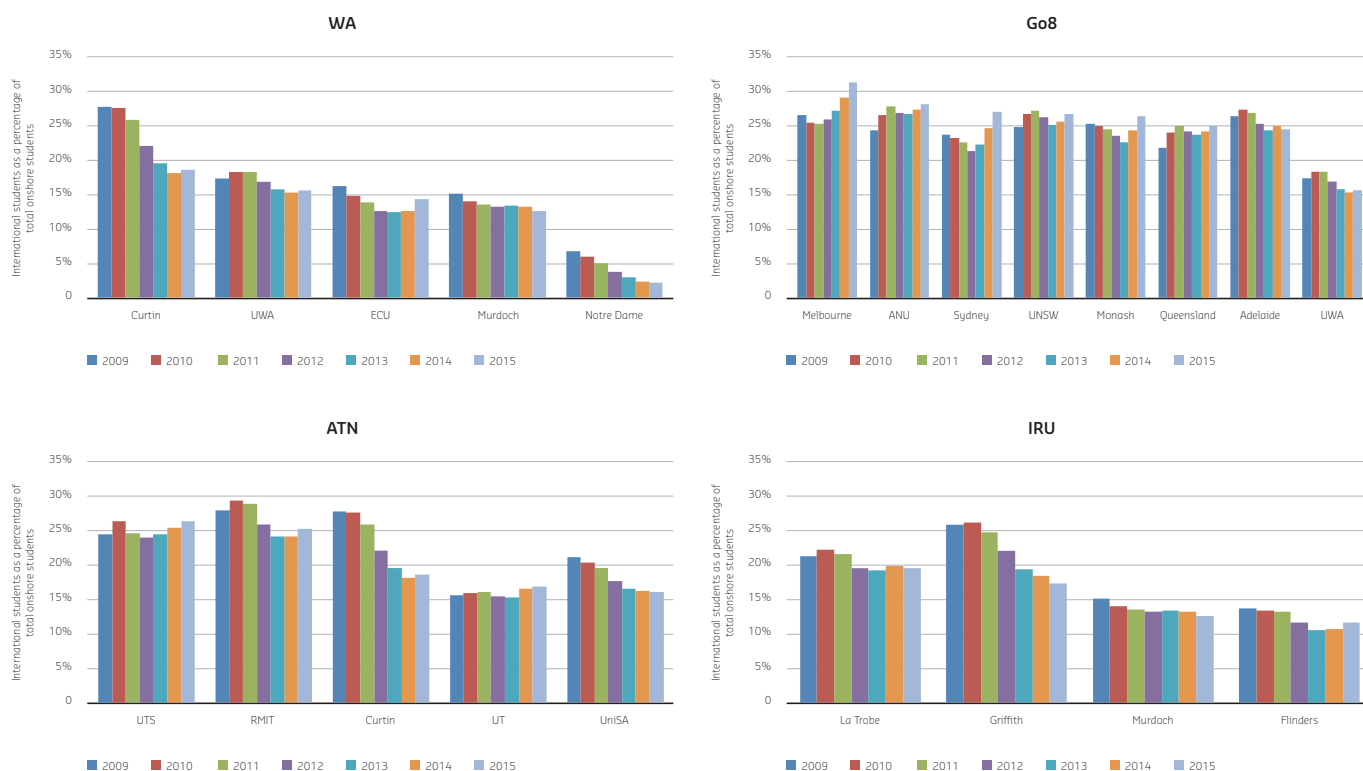
For WA universities and the three main university groupings, Figure 15 presents onshore international students as a proportion of total onshore students (domestic and international) in higher education between 2009 and 2015. Three of the five WA universities (Curtin, UWA and ECU) have increased their proportion of international students in 2015. However, the proportion of international students in WA universities remains well below the levels reported in earlier years. This is particularly evident for Curtin, which saw its proportion of international students decrease from 28 per cent in 2009 to 18 per cent in 2014 (before increasing to 18.5% in 2015), and Notre Dame, with a decrease from 7 per cent in 2009 to 2 per cent in 2015. UWA, ECU and Murdoch have also seen a decrease from 2009, but with less variation.

Figure 15 also compares WA universities to their main university groupings between 2009 and 2015. The GO8 grouping further highlights the difference between UWA and its counterparts, not just on 2015 proportions, but across all years reported. UWA was the only GO8 University to show a continuous decline in their international student share of total onshore students between 2010 and 2014.

In relation to the ATN grouping, Curtin's declining share of international onshore students as a proportion of total onshore students again stands out. In 2009, Curtin's share was almost on par with RMIT, but in 2015, lies 6.6 per cent behind RMIT (18.6% compared to 25.2%). UTS's share has been more stable over time, averaging between 24 and 26 per cent over the period.

Three of the five WA universities (Curtin, UWA and ECU) have increased their proportion of international students in 2015. However, the proportion of international students in WA universities remains well below levels reported in earlier years.

**Figure 15 Onshore International Students as a Share of Total Onshore Enrolments, Higher Education, 2009-2015**



Notes: Universities are sorted based on 2015 share

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

A distinctive aspect of WA universities is their relatively large number of offshore students which are an important source of revenue but do not have the same economic impact within Australia, as students are not resident here (see Table 4). Murdoch University has increased its number of offshore students significantly, from 2,710 in 2009 to 7,880 in 2015. Curtin, ECU and UWA have all reduced their offshore students since 2009, but still retain higher numbers than many comparable institutions. Just over half (53.8%) of international students enrolled in WA institutions are enrolled onshore, compared to over three quarters (77.1%) for Australia as a whole.

**Table 4** Onshore and Offshore International Students in Higher Education, 2015

	Onshore	Offshore	Total	% Onshore	Onshore % Point Change 2009-2015
<b>Western Australia</b>					
Curtin	8,010	7,490	15,500	51.7%	-1.6%
ECU	3,780	530	4,300	87.8%	34.4%
Murdoch	1,930	7,880	9,810	19.7%	-26.0%
Notre Dame	250	0	250	100.0%	0.0%
UWA	3,740	1,000	4,740	78.9%	10.4%
Other	1,990	0	1,990	100.0%	-
<b>Total Western Australia</b>	<b>19,690</b>	<b>16,900</b>	<b>36,590</b>	<b>53.8%</b>	<b>-4.8%</b>
<b>Australia</b>					
Average Go8	11,660	1,540	13,210	88.3%	1.1%
Average ATN	8,540	5,040	13,580	62.9%	6.8%
Average IRU-4	4,770	2,980	7,750	61.5%	-17.3%
<b>Total Australia</b>	<b>280,100</b>	<b>83,200</b>	<b>363,300</b>	<b>77.1%</b>	<b>0.6%</b>

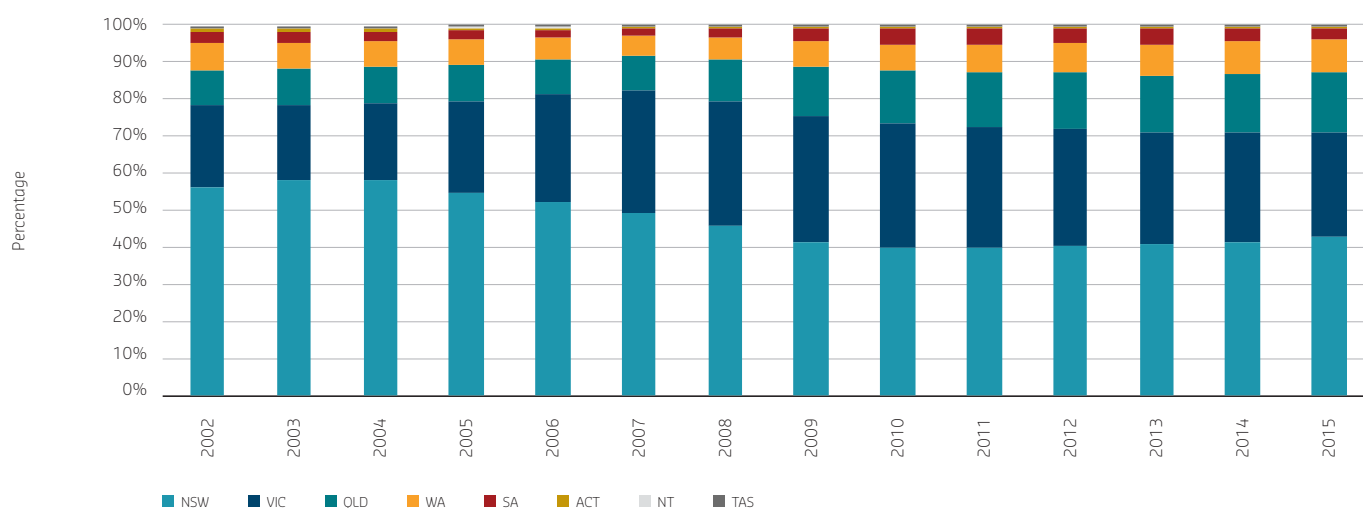
Notes: WA Universities are sorted alphabetically. Rounded to nearest ten students  
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

Just over half (53.8%) of international students enrolled in WA institutions are enrolled onshore, compared to over three quarters (77.1%) for Australia as a whole.

## Vocational Education and Training

A very different picture for WA exists in the VET sector, where it has seen steady growth in share since 2007 (see Figure 16). This coincides with a similar trajectory displayed by QLD, and in NSW since 2010. However, SA and VIC have seen a decline in VET enrolments from 2011 and 2009, respectively. In SA this most likely is due to subdued economic activity, while in VIC it represents the fallout from severe reputational problems arising in 2009 and subsequent visa changes, which in particular reduced enrolments from India.

**Figure 16** State Share of International Student Enrolments in VET, 2002-2015

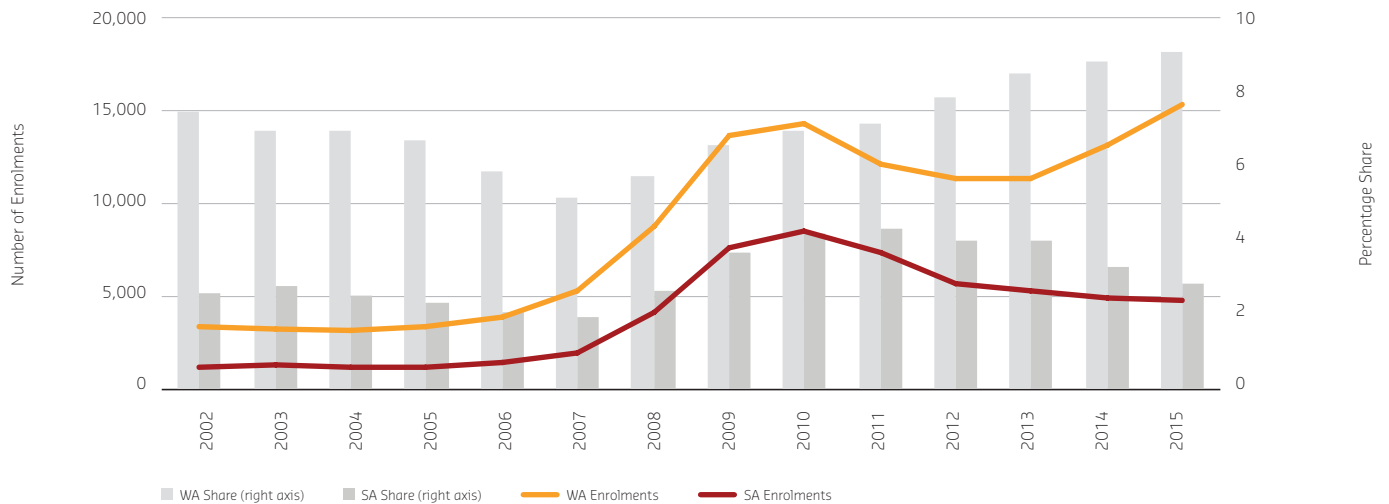


Notes: Sorted by 2015 rank

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

The differing fortunes of WA and SA in the VET sector are displayed in Figure 17. For both states, the share of VET enrolments followed a similar trajectory to 2011, at which point a significant divergence occurs. Despite WA experiencing an increasing share of Australia's total VET enrolments, WA did see a decline in VET enrolments between 2010 and 2013. However, both enrolment numbers and share increased in 2014 and 2015, with VET enrolments in WA reaching its highest level (15,400) in 2015.

VET enrolments in WA have been increasing, reaching more than 15,000 international student enrolments in 2015.

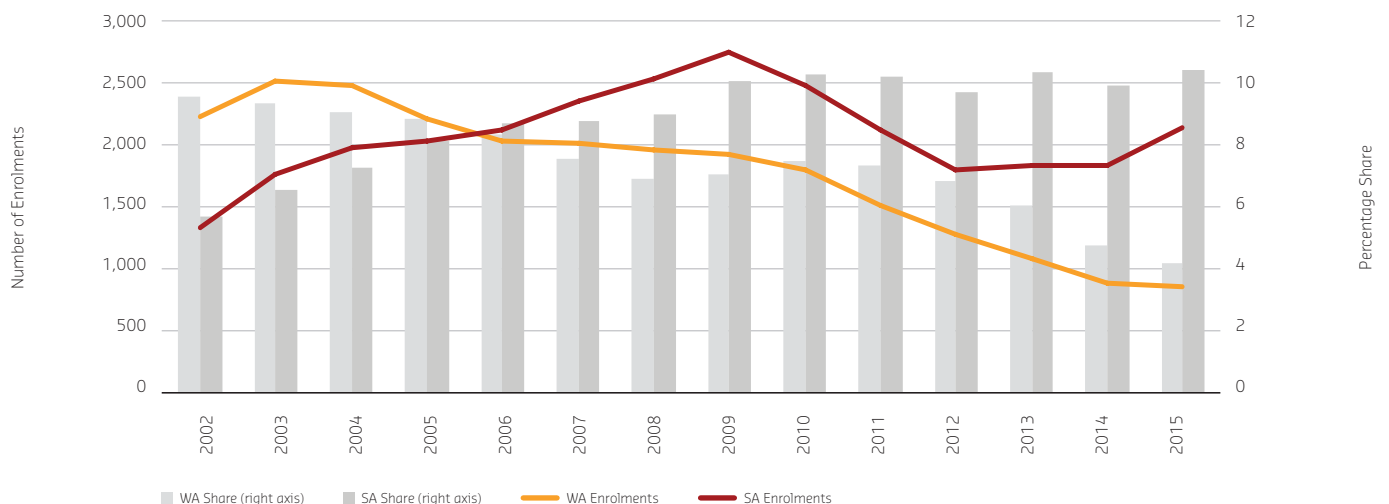
**Figure 17 International Student Enrolment Numbers and Shares in VET, WA and SA, 2002-2015**

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

WA's share of international student enrolments in Australia's schools sector is now only 4 per cent compared with over 9.5 per cent in 2002.

## Schools

As noted above, WA has fared very poorly in the schools sector. Although relatively small as a proportion of total international students, schools are seen as an important 'feeder' sector into higher education and, to a lesser extent, VET. The contrast between SA and WA is evident in Figure 18, with SA having more international students enrolled than WA since 2006, despite WA's much larger overall population. WA's share of international student enrolments in Australia's schools sector now lies at just over 4 per cent, having been over 9.5 per cent in 2002. This compares to SA's current share of 10.4 per cent having been 5.7 per cent in 2002.

**Figure 18 International Student Enrolment Numbers and Shares in Schools, WA and SA, 2002-2015**

Notes: Sorted by 2015 rank  
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

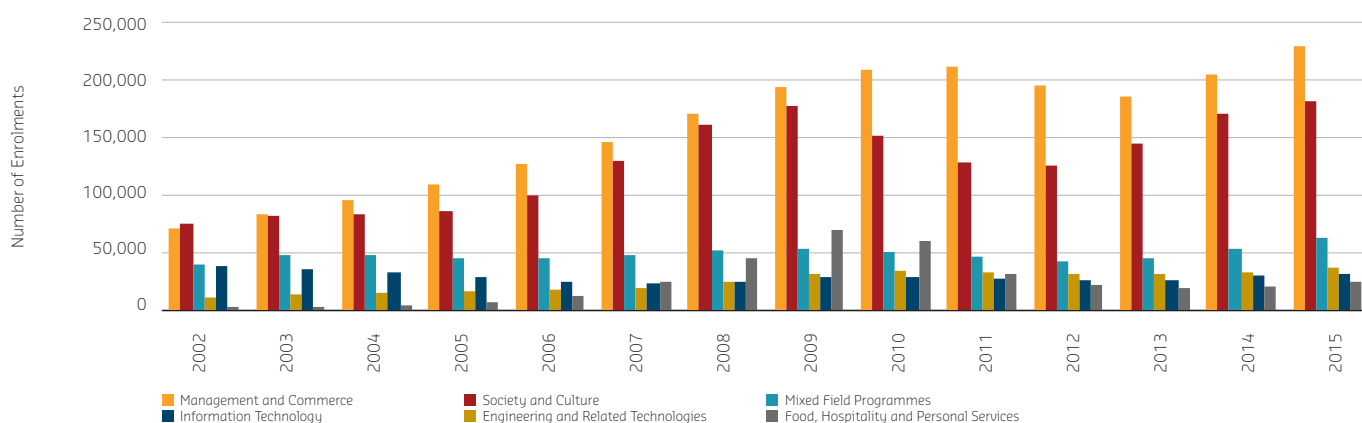
## Enrolments by Broad Field of Study

Figure 19 shows the distribution of total international enrolments (all sectors) by broad field of study for Australia. With the exception of 2002, Management and Commerce has reported the largest share of enrolments over the period 2002 to 2015. In 2015, with 229,300 enrolments, Management and Commerce is the largest broad field of study, followed by Society and Culture (181,400 enrolments). There is a drop to the Mixed Field Programmes (62,100), which in turn is followed by Engineering (36,400), Information Technology (31,400) and Food, Hospitality and Personal Services (24,800).

For WA, Society and Culture has been the largest broad field of study since 2013, followed by Management and Commerce. Engineering is WA's third largest sector for WA (see Figure 20).

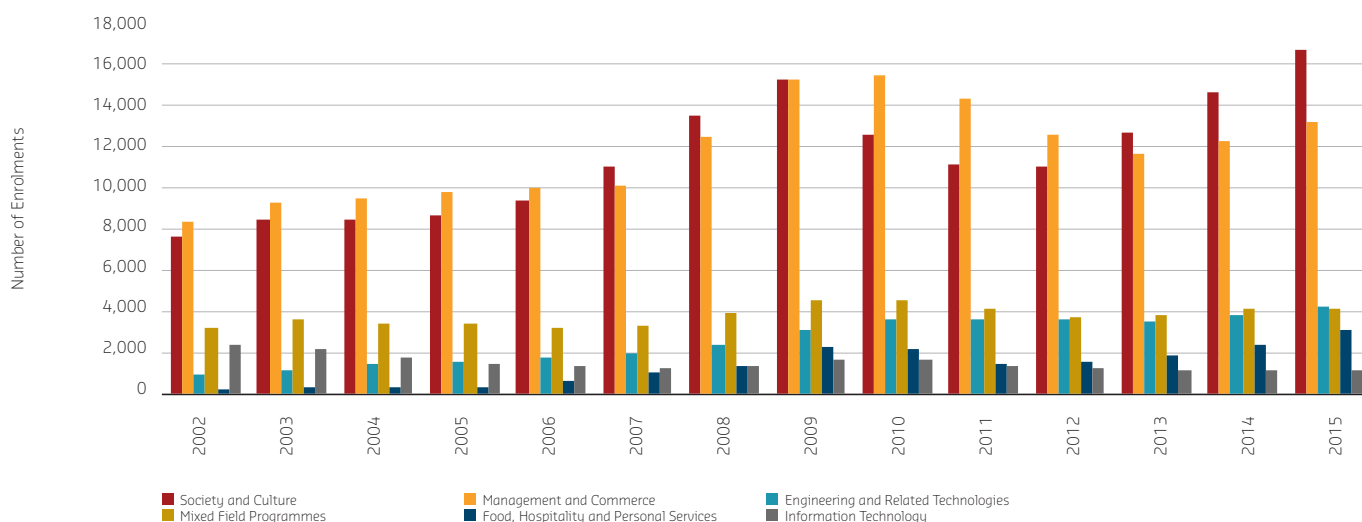
Nationally, Management and Commerce studies have the highest rates of enrolment, whereas for WA studies in Society and Culture attract the most international students.

**Figure 19 International Enrolments by Broad Field of Study, Australia, 2002-2015**



Notes: Sorted by 2015 rank  
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

**Figure 20 International Enrolments by Selected Broad Field of Study, WA, 2002-2015**



Notes: Sorted by 2015 rank  
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

## Enrolments by Source Country

China is the largest source country for international enrolments in WA and nationally. However WA lags behind other states in capturing the increased demand from China.

Table 5 presents the international student enrolment share of the top ten source countries for Australia and WA, between 2002 and 2015. For comparative purposes, SA shares are also presented.

The top ten source countries for Australia accounted for 71 per cent of overall international student enrolments in 2002, declining to 67 per cent in 2015, with a peak of 72.5 per cent reported in 2009.

For WA, the top ten source countries accounted for 73 per cent of enrolments in 2002, declining to 63 per cent in 2007 before declining further to just below 60 per cent in 2015. For SA, the percentage share of the top ten source countries increased from 74 per cent in 2002 to almost 84 per cent in 2009. This has fallen to just above 79 per cent for 2015, but remains almost 20 percentage points higher than that of WA and 12 percentage points higher than that of the overall Australian market. A positive interpretation of these enrolment figures is that WA has a more diversified international education market to that of Australia and SA. A negative interpretation is that WA was unable to capture a significant share of the Chinese market which has been a major source in other states.

**Table 5** Top 10 Source Countries, Enrolment Share, Australia, WA and SA, 2002-2015

	2002	2007	2009	2012	2015
Australia	70.77%	70.16%	72.49%	66.95%	67.11%
WA	73.37%	63.47%	64.45%	62.50%	59.80%
SA	74.24%	83.10%	83.67%	80.91%	79.12%

Notes: Selection of years presented

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

Ranked according to 2015 enrolment share, Australia's top ten source countries for international enrolments were: China (26.4%), India (11.2%), Vietnam (4.6%), Korea (4.5%), Thailand (4.3%), Brazil (3.8%), Malaysia (3.7%), Nepal (3.1%), Indonesia (3.0%), and Pakistan (2.5%). The remaining 'Other' countries account for 33 per cent (refer to Table 6).



**Table 6** Enrolments from Top Ten Source Countries to Australia, WA and SA, 2015

Australia				
Source Country	Enrolments 2015	% of Total Enrolments	% Change from 2012	Share of Source Country
China	170,210	26.38%	17.36%	N/A
India	72,500	11.24%	25.68%	N/A
Vietnam	29,580	4.58%	24.19%	N/A
Korea	28,730	4.45%	4.19%	N/A
Thailand	27,970	4.34%	28.10%	N/A
Brazil	24,670	3.82%	38.84%	N/A
Malaysia	24,120	3.74%	10.93%	N/A
Nepal	19,810	3.07%	29.61%	N/A
Indonesia	19,300	2.99%	9.68%	N/A
Pakistan	16,090	2.49%	30.66%	N/A
Others	212,210	32.89%		
<b>Total</b>	<b>645,190</b>	<b>100.00%</b>		
Western Australia				
Source Country	Enrolments 2015	% of Total Enrolments	% Change from 2012	Share of Source Country
China	6,990	13.85%	-10.46%	4.10%
India	6,140	12.16%	41.51%	8.47%
Malaysia	3,550	7.03%	-6.03%	14.71%
Brazil	2,630	5.21%	26.29%	10.65%
Vietnam	2,120	4.20%	30.85%	7.18%
Taiwan	2,040	4.04%	N/A	14.95%
Korea	1,950	3.86%	20.50%	6.77%
Hong Kong	1,830	3.62%	42.60%	11.58%
Singapore	1,490	2.95%	-32.59%	18.19%
Pakistan	1,460	2.89%	19.79%	9.07%
Others	20,290	40.18%		
<b>Total</b>	<b>50,480</b>	<b>100.00%</b>		
South Australia				
Source Country	Enrolments 2015	% of Total Enrolments	% Change from 2012	Share of Source Country
China	12,710	39.61%	14.63%	7.47%
India	3,490	10.88%	-2.72%	4.81%
Hong Kong	1,910	5.95%	25.51%	12.05%
Malaysia	1,770	5.52%	-17.35%	7.33%
Vietnam	1,380	4.30%	14.57%	4.67%
Saudi Arabia	1,190	3.71%	12.44%	11.77%
Korea	940	2.93%	-26.04%	3.28%
Brazil	830	2.59%	N/A	3.38%
Japan	620	1.93%	23.91%	4.78%
Singapore	550	1.71%	10.85%	6.77%
Others	6,700	20.88%		
<b>Total</b>	<b>32,090</b>	<b>100.00%</b>		

Notes: N/A means that the nation was not in the top 10 in the comparative year. Korea refers to Korea, Republic of (South). Rounded to nearest ten.  
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

Figure 21 presents a comparison of the composition and share of the top ten source countries for Australia, WA and SA between 2002 and 2015. While the composition of the top ten source countries can and does change on an annual basis, in comparing 2002 to 2015 for Australia, six countries remain in the top ten - China, India, Indonesia, Korea, Thailand, and Malaysia. In keeping with this comparison, USA, Singapore, Japan and Hong Kong are replaced in the top ten by Pakistan, Brazil, Vietnam and Nepal.

WA's diversity of international student enrolments by source country is further highlighted by the breakdown of 'others' presented in Figure 21, with over 26 countries reporting a share of between 0.5 and 2.8 percent of WA's enrolments. It is important that WA positions itself to take advantage of those countries which are most likely to be sources of significant growth going forward.

**Figure 21 Top Ten Source Countries, Share of Enrolments, Australia, WA and SA 2002 and 2015**

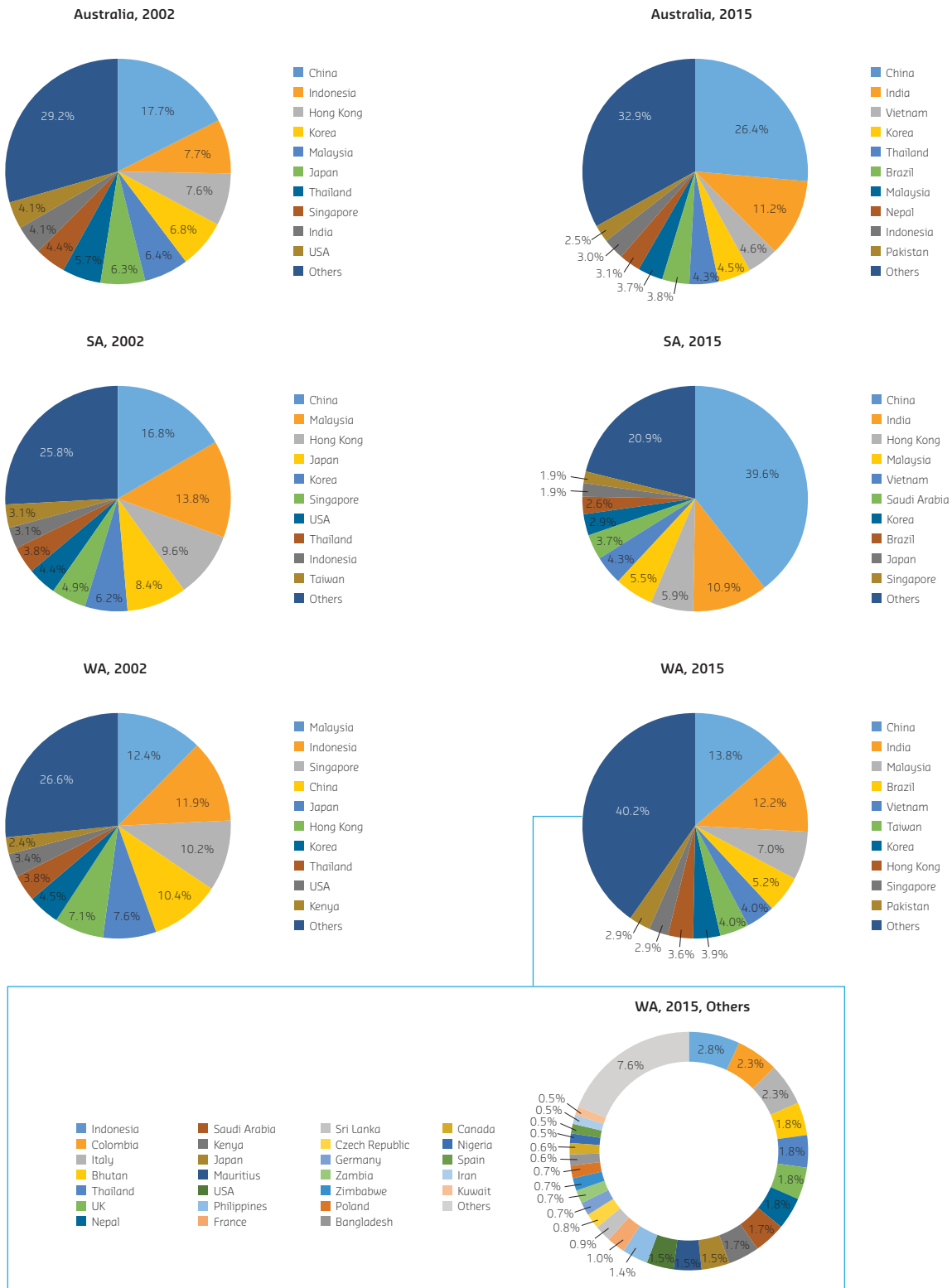
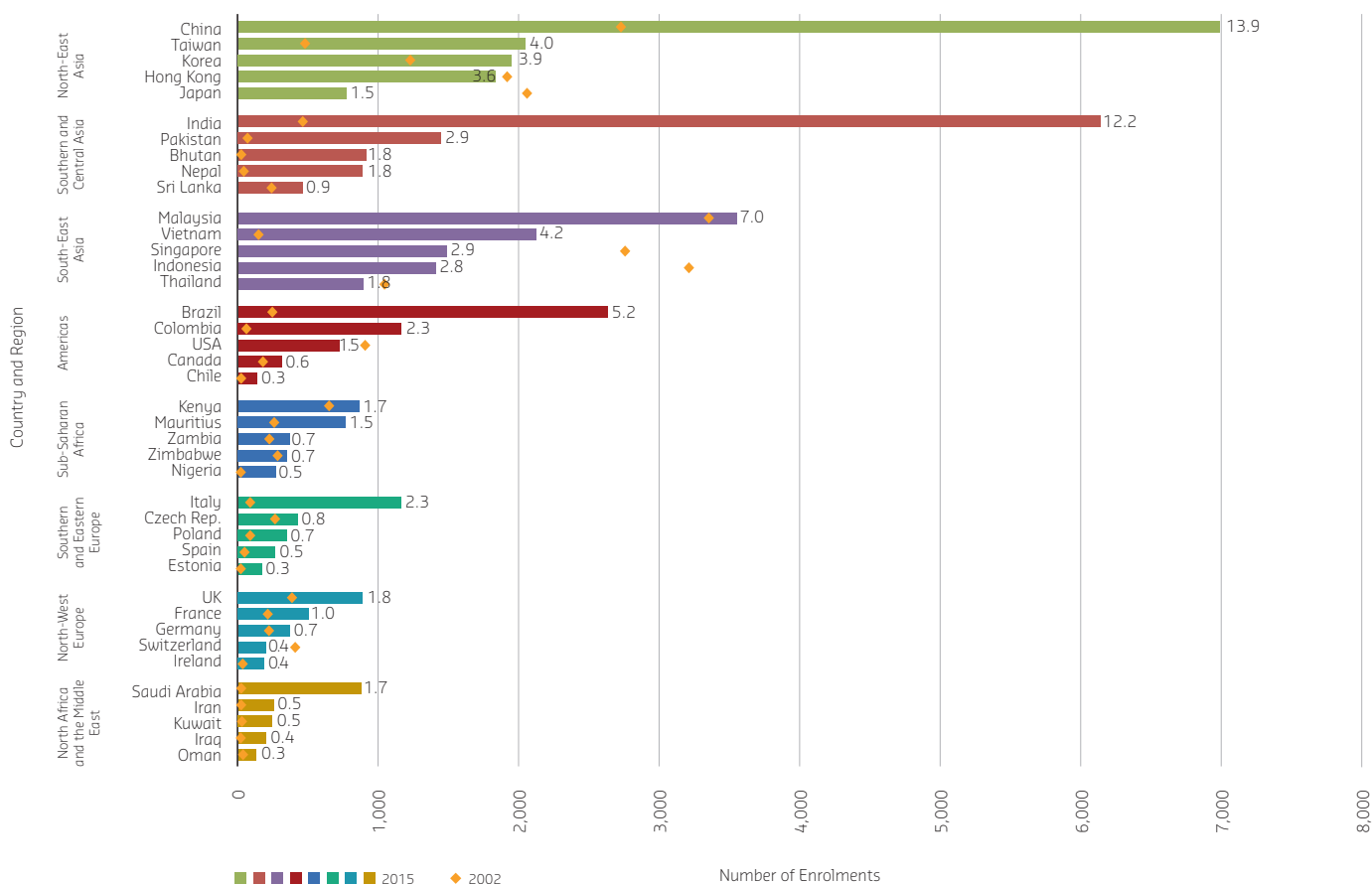


Figure 22 Source Countries by Region, WA, 2002 and 2015



Notes: Top five source countries by region, ranked. Source country percentage contribution to total international enrolments in WA (2015) are shown.  
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

Figure 22 shows WA's source countries by region in 2015. The top five source countries for each region are presented and ranked. For comparative purposes, the number of enrolments for 2002 are also displayed.

A number of key points emerge from this figure. First, only seven of the forty countries presented show a decline in enrolments from 2002 to 2015. The most significant of these is the decline in enrolments from Indonesia (from 3,210 in 2002 to 1,410 in 2015) and Singapore (from 2,760 in 2002 to 1,490 in 2015).

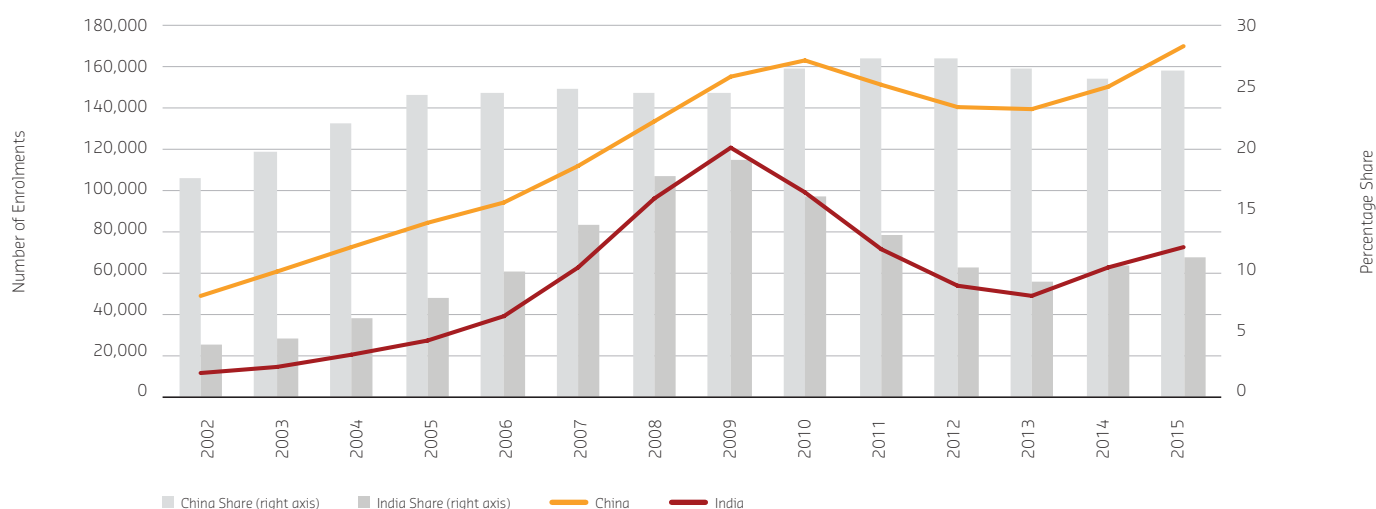
Second, this chart reiterates the significance of China and India for WA, with a combined contribution of 26 per cent to WA's overall enrolments in 2015. As previously stated, WA has not secured sufficient share of growth in Chinese demand for education in Australia, a point which is developed further later in this section.

Third, WA has seen growth in other regions, such as the Americas, with enrolments from Brazil accounting for over 5 per cent of WA's international enrolments. Fourth, while WA has seen a decline in enrolments from Japan from 2002 and 2015, overall, North-East Asia accounts for 27 per cent of WA's total international enrolments. South-East Asian accounts for 21 per cent of WA's international enrolments, with Southern and Central Asia accounting for 20 per cent of WA's international enrolments. Finally, Sub-Saharan Africa has shown signs of positive growth, with further growth in the global demand for internationally education projected for this region as economies develop further.

Asia accounts for 68% of international student enrolments in WA.

The importance of China and India as a source of Australia's international enrolments is significant. Together, they account for almost 38 per cent (242,700) of total international enrolments (645,200) in 2015. The growth in enrolments from the two countries is demonstrated in Figure 23.

**Figure 23** International Student Enrolments from China and India to Australia, 2002-2015



Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

China and India account for almost 38% of total international enrolments across Australia.

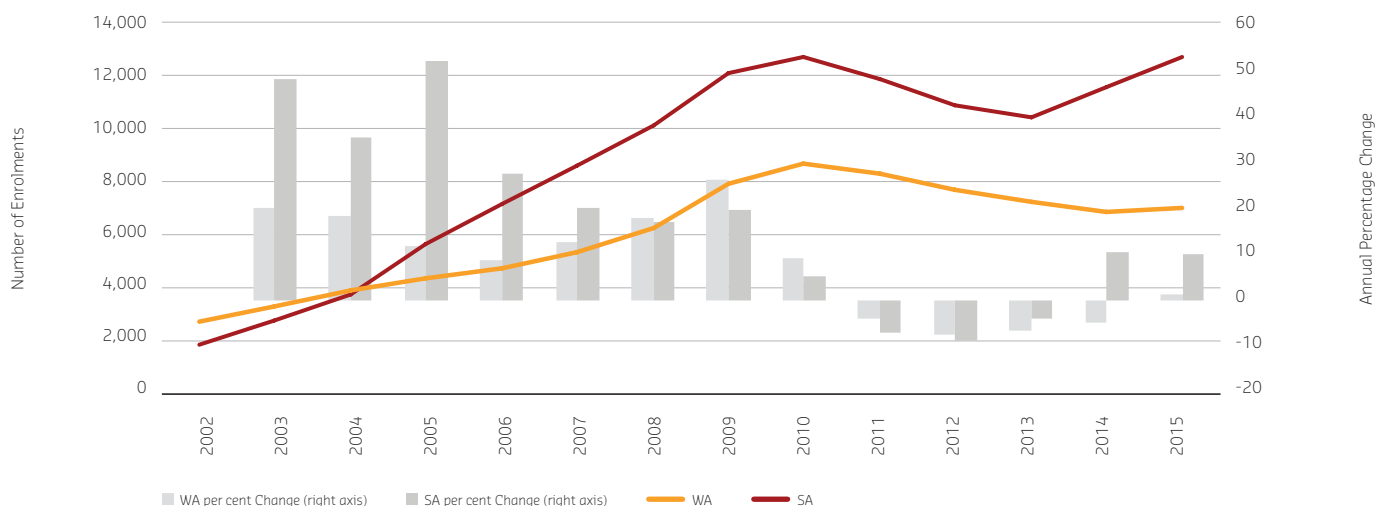
In 2002, Chinese students represented 17.7 per cent (48,660 enrolments) of Australia's total international education market (274,460 enrolments), growing to 27.4 per cent in 2012. This share has declined slightly to 26.4 per cent in 2015, although the total number of Chinese student enrolments increased to 170,210 in 2015.

India has seen its share of total international enrolments to Australia increase significantly over time, although with greater fluctuations. In 2002, India's share of Australia's international education market was 4.1 per cent (11,330 enrolments) increasing to 19 per cent (120,483) in 2009. However, India's share (10.5%) and enrolment numbers (53,890) dropped considerably by 2012. In 2015, India's share increased to 11.2 per cent, with enrolment numbers of 72,500.

SA's dominance over WA in the Chinese market is evident across all education sectors, despite WA's much higher population and larger domestic student population.

Some interesting comparisons can be drawn between WA and SA, as shown in Table 6 and Figure 24. With 12,710 enrolments from China in 2015, SA had 5,724 more enrolments from China than WA (with 6,990 enrolments). SA's dominance over WA in the Chinese market is evident across all education sectors, despite WA's much higher population and larger domestic student population. In 2015, from China, SA had an additional 2,760 enrolments in higher education, 384 additional enrolments in VET, 410 additional enrolments in schools, 1,220 additional enrolments in ELICOS and 450 additional enrolments in non-award relative to WA (refer to Table 7, Table 8, and Table 9 for details of the top five source countries for the higher education, VET and ELICOS sectors, respectively). From a WA perspective, there is a need to further understand and address this difference, for what is and will continue to be a key source country for Australia and WA.

As a result, China's share of total Australian enrolments (26.4%) is double, and for SA (39.6%) is triple, China's share of WA's enrolments (13.8%). This appears to be a key reason for WA's slower growth and loss of market share over the past decade.

**Figure 24** International Student Enrolments from China to WA and SA, 2002-2015

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

**Table 7** Higher Education Enrolments, Top Five Source Countries to Australia, WA and SA, 2015

Australia				
Source Country	HE Enrolments	% of Enrolments in HE	% Change 2012 to 2015	Share of Source Country
China	97,050	35.67%	7.95%	N/A
India	35,360	13.00%	64.31%	N/A
Malaysia	14,300	5.26%	-13.75%	N/A
Vietnam	12,800	4.70%	14.13%	N/A
Nepal	12,260	4.51%	42.15%	N/A
Others	100,320			
<b>Total</b>	<b>272,100</b>			
Western Australia				
Source Country	HE Enrolments	% Change 2012 to 2015	% of Total HE Enrolments in WA	Share of Source Country
China	4,220	-14.71%	22.66%	4.35%
India	2,240	62.17%	12.05%	6.35%
Malaysia	2,060	-24.04%	11.04%	14.38%
Singapore	1,240	-40.14%	6.67%	17.55%
Indonesia	830	-26.69%	4.45%	9.79%
Others	8,030			
<b>Total</b>	<b>18,620</b>			
South Australia				
Source Country	HE Enrolments	% Change 2012 to 2015	% of Total HE Enrolments in SA	Share of Source Country
China	6,980	1.58%	42.85%	7.19%
Malaysia	1,520	-20.43%	9.34%	10.64%
India	1,390	49.96%	8.51%	3.92%
Hong Kong	1,070	25.87%	6.55%	13.13%
Vietnam	740	9.61%	4.54%	5.77%
Others	4,600			
<b>Total</b>	<b>16,290</b>			

Notes: Korea refers to Korea, Republic of (South)

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

**Table 8** VET Enrolments from Top Five Source Countries to Australia, WA and SA, 2015

Australia				
Source Country	VET Enrolments	% of Enrolments in VET	% Change 2012 to 2015	Share of Source Country
India	28,890	17.02%	-37.07%	N/A
Korea	14,150	8.34%	35.98%	N/A
China	13,470	7.94%	-5.47%	N/A
Thailand	13,140	7.74%	28.39%	N/A
Indonesia	8,230	4.85%	27.91%	N/A
Others	91,820			
<b>Total</b>	<b>169,700</b>			
Western Australia				
Source Country	VET Enrolments	% Change 2012 to 2015	% of VET Enrolments in WA	Share of Source Country
India	1,840	31.28%	11.90%	6.35%
Korea	670	51.35%	4.33%	4.72%
Malaysia	550	28.96%	3.56%	N/A
Taiwan	530	N/A	3.40%	9.51%
Brazil	500	33.27%	3.25%	6.51%
Others	11,350			
<b>Total</b>	<b>15,430</b>			
South Australia				
Source Country	VET Enrolments	% Change 2012 to 2015	% of VET Enrolments in SA	Share of Source Country
India	1,620	-71.78%	33.72%	5.62%
China	690	-23.21%	14.23%	5.08%
Hong Kong	320	27.90%	6.63%	N/A
Korea	270	17.78%	5.61%	1.91%
Philippines	260	46.92%	5.40%	4.17%
Others	1,660			
<b>Total</b>	<b>4,810</b>			

Notes: N/A means that it the nation was not in the top ten in comparative year. Korea refers to Korea, Republic of (South)  
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

**Table 9** ELICOS Enrolments from Top Five Source Countries to Australia, WA and SA, 2015

Australia				
Source Country	ELICOS Enrolments	% of Enrolments in ELICOS	% Change 2012 to 2015	Share of Source Country
China	38,530	26.52%	-63.26%	N/A
Brazil	13,160	9.06%	35.06%	N/A
Thailand	11,610	7.99%	42.44%	N/A
Colombia	9,740	6.71%	29.19%	N/A
India	7,630	5.25%	N/A	N/A
Others	64,630			
<b>Total</b>	<b>145,300</b>			
Western Australia				
Source Country	ELICOS Enrolments	% Change 2012 to 2015	% of ELICOS Enrolments in WA	Share of Source Country
China	1,630	1.84%	12.33%	4.23%
Brazil	1,590	16.53%	12.04%	12.09%
India	1,280	N/A	9.69%	16.78%
Taiwan	1,240	78.11%	9.37%	23.42%
Colombia	780	26.38%	5.88%	7.97%
Others	6,700			
<b>Total</b>	<b>13,220</b>			
South Australia				
Source Country	ELICOS Enrolments	% Change 2012 to 2015	% of ELICOS Enrolments in SA	Share of Source Country
China	2,850	37.90%	47.17%	7.39%
Saudi Arabia	500	1.41%	8.23%	10.76%
Brazil	470	N/A	7.79%	3.57%
India	370	83.65%	6.08%	4.81%
Vietnam	310	50.98%	5.07%	4.04%
Others	1,550			
<b>Total</b>	<b>6,040</b>			

Notes: N/A means that it the nation was not in the top ten in comparative year.  
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)



# PUSH AND PULL FACTORS: DETERMINANTS OF STUDENT DESTINATION

# Introduction

## Key Findings

- The distance between the home country and host state exerts the strongest influence on international student enrolment into WA.
- This emphasises the potential for WA Australia to exploit its natural endowment in terms of its relative proximity to Asia.
- The strength of the state's labour market, and especially the availability of future employment opportunities is also key. Student commencements are stronger in those states, and in those time periods, with lower levels of unemployment and higher average salaries.
- Unemployment rates in students' home countries exerts a strong push influence on students' desire to seek education opportunities in Australia.
- Having controlled for the range of factors, WA still lags behind VIC and NSW in particular, and SA and QLD too, in the state's capacity to attract a rising share of international student enrolments.
- These suggest that 'selling' Perth and WA as a desirable study destination, facilitating easy access to available courses in the state, and enhancing the student experience both to attract students to WA, and to create successive cohorts of future advocates for study in WA, are all important priorities in developing the state's future international education strategy.

This section begins with a brief discussion of the literature on the factors that affect students' choice to study overseas. These factors are categorised as 'push and pull' factors – that is, factors in the source country that encourage students to pursue education overseas (push factors), and factors in the host country that attract international students there (pull factors). We develop a model in an attempt to explain if state specific macroeconomic factors contribute to differences in student commencements across Australian states over time. Key results from the model are presented.



# The Decision to Study Abroad

A number of studies have addressed questions relating to the flow of international students, student motivation and decision to study abroad, and student choice of destination and institution.

The decision to study abroad is a complex one with various overlapping branches in the decision making tree. As per Chen's three stage synthesis model (Chen, 2007), broadly, the decision-making process can be seen to have three main stages: (1) the decision to study abroad or not (motivation stage); (2) the choice of country to study (search stage) and (3) the choice of institution and/or course (choice stage).

Borrowing on a phrase from the migration literature, the factors influencing students' decision to study abroad are termed 'push and pull' factors. Push factors are related to the home country and provide the motivation to study abroad. Pull factors relate to the host country, which attract the student to study there.

Based on Chen's (2007) synthesis model, and Mazzarol and Soutar's (2002) push and pull factor model, Lee (2014) develops a hierarchy of 28 factors that influence the decision to study abroad, which can be categorised under seven integrated dimensions. These dimensions are, the motivation for personal improvement; the importance of knowledge and awareness of the host country; the importance of recommendations from friends, relatives and others; the importance of costs issues; the importance of environment (physical and learning); the importance of social links and geographic proximity; and factors influencing host institution selection (Lee, 2014; Mazzarol and Soutar, 2002).

The theory of human capital is useful for understanding students' motivation to study abroad. It suggests that students study abroad if they believe that the last unit of education received equals the cost of borrowing (the rate of interest to fund the investment). However, due to capital market imperfections, factors other than the interest rate also matter. These include expected income differentials, family income, financial aid, tuition fees and other expenses (see Vinod and Donald (1985) for further discussion). It is also assumed that students select whether to study abroad or at home (including choice of course and institution) based on the relative rates of return of those investment decisions.

At a microeconomic level, it would be ideal to measure and compare the costs of such decisions over time and across multiple countries, regions and institutions. However, much of this information either does not exist, or is not accessible within the timeframe of this report. While we can assess international student commencements by source country, destination state and sector, we cannot assess individual students' characteristics (for example, age, family income, entry level scores, home institution, family ties to host country, amongst others). Furthermore, we cannot match students to a particular institution.

Most studies look at the drivers and factors affecting international student choice from one country to another, with a focus on the higher education sector. To our knowledge, no study has looked at the decision to choose a particular state in Australia over another, across all education sectors. Therefore, in this report, we assess the extent to which macroeconomic factors can explain the variation in commencements across Australian states and territories.

Where possible, the choice of macroeconomic variables are either a direct measure of, or act as a proxy for, the various macro-environmental push and pull factors. The source country variables can be considered as push factors, with the state variables as pull factors. The variables used in our model are set out below, including their push-pull factor dimension. For example, a low unemployment rate in a state can be seen as a proxy for the availability of work experience abroad and/or the opportunity to stay for employment post-graduation (demand for skilled workers).

The decision to study abroad is a complex one with various overlapping branches in the decision making tree.

## Methodology

In this section, we undertake a statistical examination of data on international student commencements to uncover those factors that may be driving enrolment patterns into Western Australia, as well as into other states and territories over time. The purpose of the analysis is to confirm those push and pull factors that appear to be influencing international student commencements most strongly, with a view to informing the state's international education strategies.

The core data in this part of the study captures international student commencements in each of Australia's states and territories from 2002 through to 2015. The base data records separately information on the number of commencements into each education sector – specifically schools, ELICOS, VET and higher education – and from each source country.

We model these outcomes using longitudinal regression methods, using a number of indicators and proxies to capture the potential drivers of international student demand. These include:

- **Distance** between home country capital cities and the relevant capital city in Australia of the enrolling student is included to capture the strength of proximity effects as a driver of international student enrolments.
- Wealth effects are captured by including measures of per capita **Gross Domestic Product (GDP)** in each home country, and per capita **Gross State Product (GSP)** for each Australian state and territory, as potential drivers of international student demand.
- One of the more important potential drivers of international student demand is the cost of living and quality of life to be enjoyed in the host state. For the purpose of this study, we incorporate two measures of living costs - **consumer price indices (CPI)** and **wage price indices (WPI)** – and one specific housing cost measure that we regard to be most appropriate to the student cohort - **median rental costs**.
- Current and future employment opportunities are proxied in our economic modelling through the inclusion of a number of key labour market indicators – including **average salaries**, and **unemployment rates** both in the student's home country (as a push factor) and in the host Australian state/territory (to pull factor).
- We include the **density of students in each state and territory** over time, expressed as a share of the state's population, to capture the potential that an accommodating environment intensifies the demand among international students to study in each Australian state or territory.

Our analysis would ideally have captured price effects of enrolment through the inclusion of tuition fees, enrolling universities and courses studied. Unfortunately, the commencement data at our disposal does not allow students from different home countries to be further differentiated either by entry qualifications, specific universities enrolled, or course studied. This limitation presents a challenge in relating tuition fees accurately as a driver of international student demand.

## Key Findings

We turn now to some of the key findings from our modelling of international student demand for higher education places in Australia, with conclusions drawn from a suite of either panel regression models (to capture changes in the share of international student commencements) or Poisson count models (to explain changes in the number of international student commencements).

1. The distance between the home country and host state exerts the strongest influence on international student enrolment into Western Australia – the closer is the home country, other things equal, the higher is the level of student enrolment. This clearly emphasises the potential for Western Australia to exploit its natural endowment in terms of its relative proximity to Asia, and alignment of time zones with important source countries for the state's international student intake.
2. Another consistently strong positive influence on international student enrolments is the strength of the state's labour market, and especially the availability of future employment opportunities. Student commencements are stronger in those states, and in those time periods, with lower levels of unemployment and higher average salaries.
3. So too do we find that unemployment rates in students' home countries exerts a strong push influence on students' desire to seek education opportunities in Australia.

Notwithstanding these key influences on international student demand, Western Australia has been challenged in gaining at least a 'fair' market share of international students given its size and the scale of the State's education sector. Having controlled for the range of factors described above, Western Australia still lags behind Victoria and New South Wales in particular, and South Australia and Queensland too, in the state's capacity to attract a rising share of international student enrolments.

This we attribute to a number of factors, not least of which is the relative strength of the 'lifestyle' drawcards for Melbourne and Sydney in attracting international students to those cities, the cultural comfort given to prospective students from the large cohorts of international students – and the broader multiculturalism – evident in those cities.

This suggest that 'selling' Perth and Western Australia to international students as a desirable study destination, facilitating easy access to available courses in the state, and enhancing the student experience both to attract students to WA, and to create successive cohorts of future advocates for study in Western Australia, are all important priorities in developing the state's future international education strategy.

The distance between the home country and host state exerts the strongest influence on international student enrolments into WA.

Student commencements are stronger in those states, and in those time periods, with lower levels of unemployment and higher average salaries.

Having controlled for the range of factors, WA still lags behind other states in its capacity to attract a rising share of international student enrolments.





# ECONOMIC CONTRIBUTION OF INTERNATIONAL EDUCATION

# Introduction

## Key Findings

- International education was valued at \$18.8bn in 2015 and represented Australia's third largest export in 2015. It accounts for almost 6% of Australian exports. In WA its value was estimated at \$1.39bn.
- International education accounts for around one fifth of WA's services exports, the second lowest of any state or territory. In SA it accounts for 45% and in Victoria for 36% of services exports.
- Annual growth in education-related travel expenditure exceeded 10 percentage points in WA (and QLD) only once between 2002 and 2015. This compares to other states which report between three and eight such years of growth.
- Higher education (\$882m) is by far the largest sector in terms of expenditure by international students, over three times that of VET (\$280m). Slightly more than half of international student expenditure is on goods and services, with the rest being fees.
- The value-added contribution to WA in 2015 from international education was \$766m, and contributed an estimated 8,065 full time equivalent jobs.
- Family and friends visiting international students are estimated to have provided an additional \$15.5m value-added with 216 additional jobs.
- The principal areas of expenditure and employment by international students are food, drink and entertainment; education; and shopping.

This section provides an overview of the economic contribution of international education to the Australian economy. Where possible, comparisons by State and Territory are drawn, with a particular focus on WA.

Previous studies have noted some limitations to the data in measuring the economic contribution of international education to Australia, and Australian regions.<sup>1,2,3</sup> Despite these limitations, ABS data on education-related travel services is used extensively by government departments, higher education institutions (such as Universities Australia) and consultancy firms, amongst others. For the purposes of this report, we too draw largely on ABS data, which reports on the contribution of education-related travel services to International Trade in Services.

<sup>1</sup> See for example commentary by Professor Rolf Gerritsen, available here: <http://www.campusreview.com.au/2016/04/international-student-data-called-a-mess/>

<sup>2</sup> In particular, Birrell and Smith (2010) point to three limitations with ABS data on education-related travel expenditure. The first relates to the fact that ABS estimates of student expenditure on goods and services in Australia are "based on students with different demographic characteristics than the current stock of overseas students". Second, ABS data does not adjust for the on-shore earnings of international student in Australia. The third concern raised by Birrell and Smith, is that the fees of off-shore based agents are not subtracted from education-related travel credits. Based on these concerns, Birrell and Smith estimate that, for 2007-08, the export of educational services attributable to international students is "just over half (58%) the figure claimed by the overseas education industry".

<sup>3</sup> In contrast to Birrell and Smith (2010), a recent Australian Government report prepared by Deloitte Access Economics (2016) argues that the contribution of international education is undercounted by ABS statistics. They argue that for 2014-15, international education contributes an additional (to that reported by the ABS) \$935 million in export revenue to Australia. This figure is based on estimates of students studying ELICOS on non-student visas, tourism expenditure by visiting family and friends, and revenue from offshore campuses amongst others.

## International Education's Contribution to Australian Total Exports

Table 10 displays the value (\$m) of Australia's principal exports for the 2014 and 2015 calendar years. Education-related travel services<sup>4</sup> was Australia's 4th largest export in 2014, accounting for 5.2 per cent (\$17,040m) of the overall value of Australian exports. This increased to be Australia's 3rd largest export component in 2015, with a value of \$18,801m (5.9%). This is behind iron ore and concentrates (15.5%) and coal (11.7%).

Education-related travel services was Australia's third largest export component in 2015, behind iron ore and coal.

**Table 10** Australia's Principal Goods and Services Exports, 2014 and 2015

Rank	Commodity	2014		2015	
		Value (\$m)	% Share	Value (\$m)	% Share
1	Iron ores & concentrates	66,010	20.2	49,060	15.5
2	Coal	38,000	11.6	37,030	11.7
4	Education-related travel services (c)	17,040	5.2	18,800	5.9
3	Natural gas	17,740	5.4	16,460	5.2
5	Personal travel (excl education) services	14,230	4.4	15,940	5.0
6	Gold	13,460	4.1	14,500	4.6
8	Beef, f.c.f.	7,750	2.4	9,300	2.9
9	Aluminium ores & conc (incl alumina)	6,340	1.9	7,490	2.4
7	Crude petroleum	10,560	3.2	6,040	1.9
10	Wheat	5,920	1.8	5,810	1.8
	<b>Total</b>	<b>326,860</b>		<b>316,590</b>	

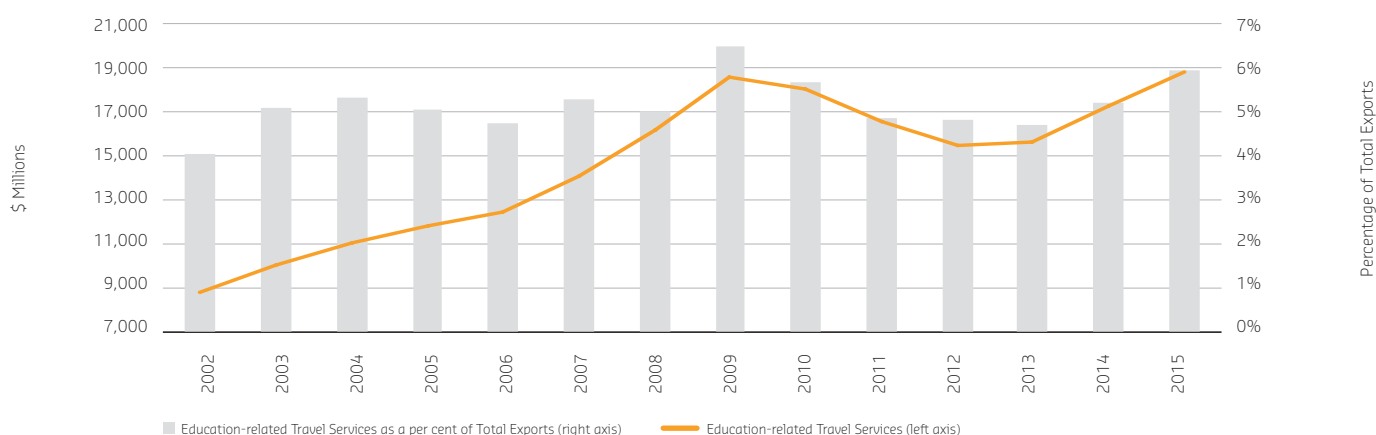
Notes: (a) Goods trade are on a recorded trade basis, Services trade are on a balance of payments basis. (b) Total is balance of payments basis. (c) Includes international student expenditure on tuition fees and living expenses. (d) Calendar Year (e) Ranked by 2015 values.

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DFAT see <http://dfat.gov.au/trade/resources/trade-at-a-glance/Pages/top-goods-services.aspx>. Accessed, 12/04/16; ABS Cat. 5368.0

Figure 25 shows the value of Australia's education-related travel services and its contribution to total exports between 2002 and 2015 (at 2015 prices). With the exception of 2010 to 2012, the value of education-related travel services has increased annually from a value of \$8,779m in 2002 to \$18,801m in 2015. Over this period, education-related travel services has accounted for between 4 and 6.5 per cent of total Australian exports.

Education-related travel services in Australia increased from \$8.8bn in 2002 to \$18.8bn in 2015.

**Figure 25** The Value of Education-related Exports and the Contribution to Total Exports, Australia, 2002-2015



Notes: Calendar Year; 2015 prices using CPI deflator  
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from ABS Cat 5368.0

Education-related travel services includes international student expenditure on tuition fees (Fees) and living expenses (Goods and Services). It is an element of the total services exports reported by the ABS.

4 Education-related travel services includes international student expenditure on tuition Fees (Fees) and living expenses (Goods and Services).

## Education-related Travel Expenditure, by State

Table 11 reports the value of total international services and education-related travel services by state from 2002 to 2015. The contribution of education-related travel services to total international services is also presented. NSW reports the highest value in total services for all years, with a value of \$27.3bn in 2015. NSW is followed by VIC (\$16.17bn), QLD (\$10.71bn), WA (\$6.56bn) and SA (\$2.6bn), ACT (\$1.6bn), NT (\$714m) and TAS (\$508m).

In relation to state education-related travel services expenditure, NSW reports an income of \$6.96bn for 2015, followed by VIC (\$5.81bn), QLD (\$2.80bn), WA (\$1.39bn), and SA (\$1.17bn), ACT (\$451m), TAS (\$169m) and NT (\$56m).

The percentage changes in education-related travel services by State and Territory for the period 2002 to 2015 are reported in Figure 26. Of particular interest is that WA only reports one year of growth in education-related expenditure that exceeds 10 percentage points. This compares to eight such years of growth for NT, seven for VIC, six for NSW and ACT, five for SA, with TAS reporting four and QLD three years of growth in excess of 10 per cent over the period 2002 to 2015.

The significance of mining and resources related trade and services for QLD and WA is a likely factor in explaining this, along with their relatively stagnant share of international education enrolments. As these states look to diversify their economies, more attention could be paid to developing the potential of the international education sector.

From a State and Territory perspective, the importance of education-related travel services as a percentage of total services trade credits can be seen in Figure 27. For SA, education-related travel services accounted for 45 per cent of total services in 2015. This is followed by VIC (36%), TAS (33%), ACT (28%), NSW (26%), QLD (25%), WA (21%) and NT (8%). For WA, the percentage contribution of education-related services to total services has remained between 17 per cent and 22 per cent between 2002 and 2015.

It is important that the latter are interpreted in the context of the size of total services. As presented in Table 11, the 2015 value of WA's education-related travel services (\$1.39bn) is slightly higher than that of SA (\$1.17bn). However, WA also has a much higher value of total services (\$6.56bn) relative to SA (\$2,60bn). This indicates a greater reliance on education-related travel services for the SA economy relative to that of WA.

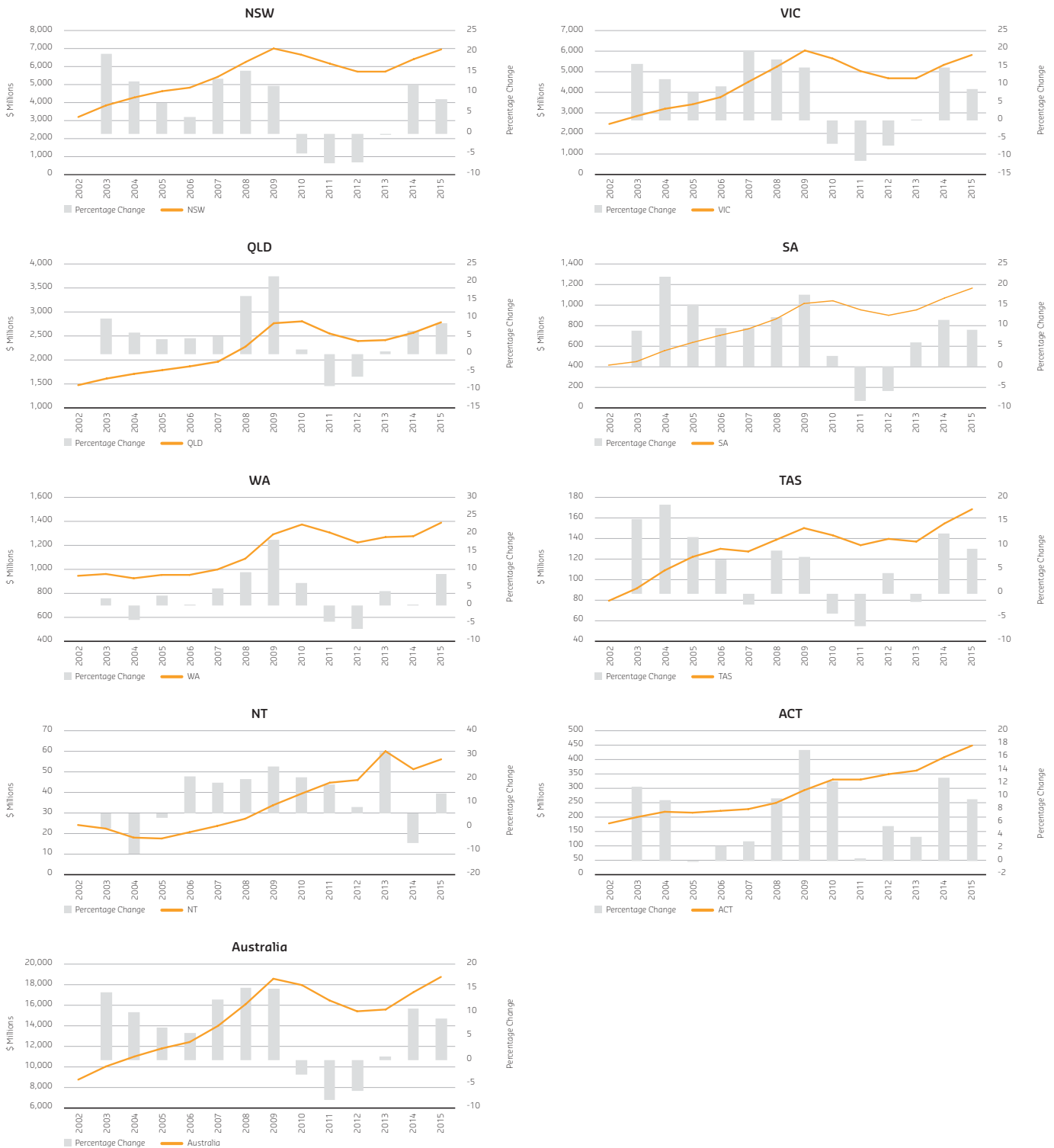


Table 11 Total Services and Education-related Travel Services, by State, 2002-2015

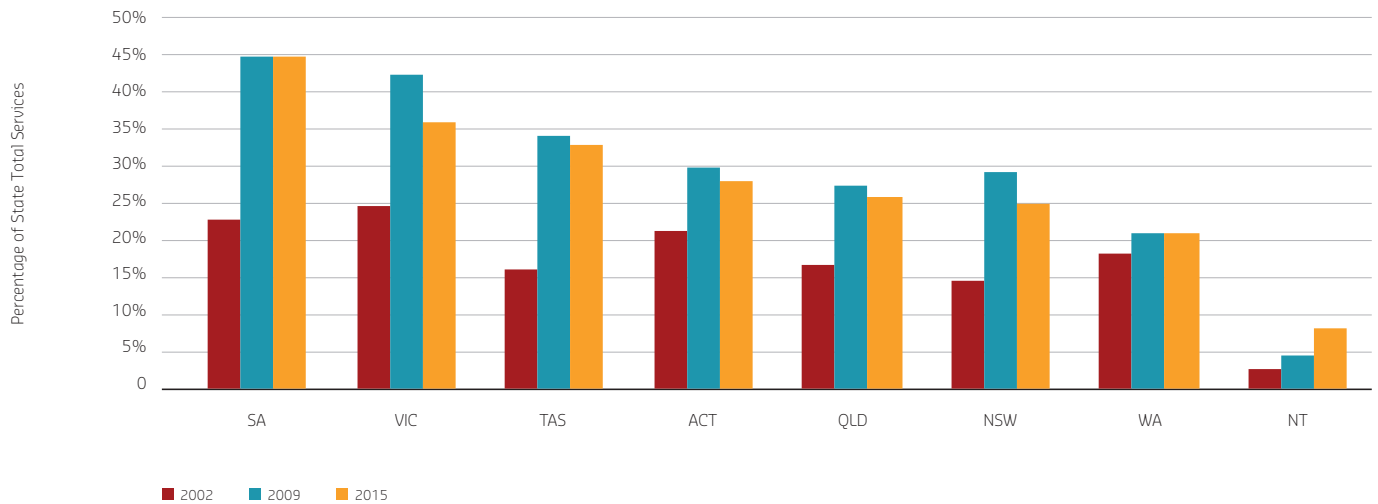
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
SA Education-related Travel Services \$m	420	460	560	640	710	770	870	1,020	1,050	960	900	960	1,070	1,170
Total Services \$m	1,840	1,770	1,850	2,150	2,180	2,270	2,250	2,270	2,310	2,120	2,090	2,250	2,370	2,600
Education-related as % of Total Services	23%	26%	30%	30%	32%	34%	38%	45%	45%	45%	43%	43%	45%	45%
VIC Education-related Travel Services \$m	2,460	2,850	3,180	3,420	3,750	4,480	5,240	6,010	5,620	5,000	4,650	4,660	5,340	5,810
Total Services \$m	9,950	10,460	10,730	11,240	11,880	13,130	13,960	14,220	13,650	13,310	13,220	13,730	15,030	16,170
Education-related as % of Total Services	25%	27%	30%	30%	32%	34%	37%	42%	41%	38%	35%	34%	36%	36%
TAS Education-related Travel Services \$m	80	90	110	120	130	130	140	150	140	130	140	140	150	170
Total Services \$m	500	350	410	470	490	470	500	440	420	430	410	420	480	510
Education-related as % of Total Services	16%	26%	26%	26%	27%	27%	28%	34%	34%	32%	34%	32%	32%	33%
ACT Education-related Travel Services \$m	180	200	220	220	220	230	250	290	330	330	350	360	410	450
Total Services \$m	840	840	730	780	800	880	960	990	1,060	1,260	1,330	1,320	1,370	1,600
Education-related as % of Total Services	21%	24%	30%	28%	28%	26%	26%	30%	31%	27%	26%	28%	30%	28%
QLD Education-related Travel Services \$m	1,470	1,620	1,720	1,790	1,870	1,960	2,280	2,770	2,810	2,560	2,400	2,420	2,580	2,800
Total Services \$m	8,750	8,810	8,920	9,120	9,620	10,000	10,530	10,080	9,820	9,090	9,180	9,610	10,150	10,710
Education-related as % of Total Services	17%	18%	19%	20%	19%	20%	22%	28%	29%	28%	26%	25%	25%	26%
NSW Education-related Travel Services \$m	3,200	3,830	4,310	4,630	4,820	5,460	6,290	7,020	6,670	6,190	5,760	5,750	6,420	6,960
Total Services \$m	22,070	21,390	22,050	22,270	24,080	25,680	24,790	23,940	22,720	22,540	22,460	23,370	24,490	27,290
Education-related as % of Total Services	15%	18%	20%	21%	20%	21%	25%	29%	29%	27%	26%	25%	26%	25%
WA Education-related Travel Services \$m	950	970	930	950	960	1,000	1,090	1,290	1,370	1,310	1,230	1,270	1,280	1,390
Total Services \$m	5,160	5,010	4,910	5,200	5,350	6,010	6,620	6,180	6,180	5,950	6,260	6,280	6,420	6,560
Education-related as % of Total Services	18%	19%	19%	18%	18%	17%	17%	21%	22%	22%	20%	20%	20%	21%
NT Education-related Travel Services \$m	20	20	20	20	20	20	30	30	40	40	50	60	50	60
Total Services \$m	940	700	710	710	710	720	720	760	780	670	640	710	790	710
Education-related as % of Total Services	3%	3%	3%	2%	3%	3%	4%	4%	5%	7%	7%	8%	7%	8%
Australia Education-related Travel Services \$m	8,780	10,030	11,040	11,810	12,470	14,060	16,180	18,590	18,030	16,540	15,480	15,620	17,290	18,800
Total Services \$m	49,990	49,260	50,250	51,840	55,040	59,090	60,300	58,890	56,930	55,350	55,580	57,680	61,080	66,160
Education-related as % of Total Services	18%	20%	22%	23%	23%	24%	27%	32%	32%	30%	28%	27%	28%	28%

Notes: (1) States are ranked by 2015 percentage contribution of education-related travel services to total services; (2) Calendar Year; Credits; (3) 2015 prices using CPI deflator  
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from ABS Cat. 5368.0

**Figure 26 The Value of Education-related Travel Services and Annual Percentage Changes, by State, 2002-2015**



**Notes:** (1) Australia (2) Calendar Year (3) Education-related travel covers all expenditure by international students, including tuition fees; (4) 2015 prices using CPI deflator  
**Source:** BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from ABS Cat. 5368.0

**Figure 27 Education-related Travel Services as a Percentage of Total Services, by State, 2002-2015**

**Notes:** (1) Australia (2) Calendar Year (3) Education-related travel covers all expenditure by international students, including tuition fees. Ranked based on 2014 percentage contribution of education-related travel services to state Total Service.

**Source:** BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from ABS Cat. 5368.0

## Education-related Travel Expenditure, by Sector

Higher education is Australia's largest education export sector, reporting its highest total value (\$12.9bn) in 2015.

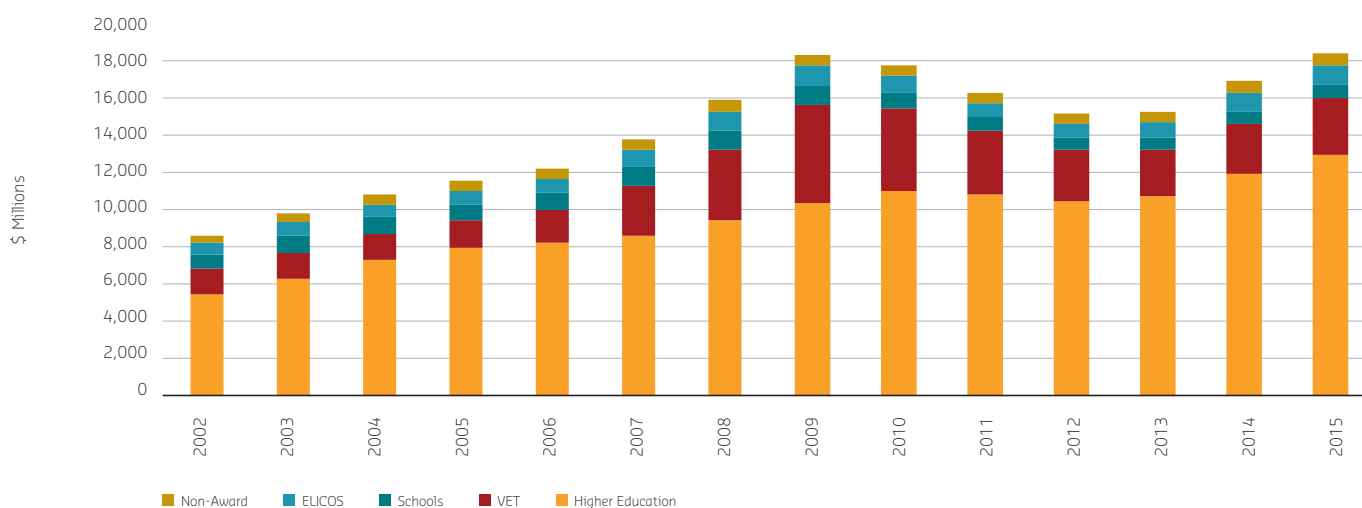
Figure 28 presents total expenditure in education-related travel by sector from 2002 to 2015 for Australia (refer to Table 12 for details of the underlying data from 2008).

Higher education is the largest education export sector, reporting its highest total value (\$12,892m) in 2015. It has higher fees and students enrol for a longer period, making it more economically valuable. Total expenditure in higher education only experienced two years (2011 and 2012) of negative growth, which suggests that the higher education sector was somewhat cushioned from the GFC fallout displayed by other sectors, assisted by lag effects associated with longer enrolment duration. Over the same period, VET experienced four years of negative growth (2010-2013), schools reported five years of negative growth (2009-2013), with non-award and ELICOS reporting three years of negative growth (2009-2012) and ELICOS reported two years of negative growth (2010-2012).

Under a unique set of circumstances (see JCIPP, 2010 for further details), the VET sector reported its highest total value (\$5,238m) in 2009. In 2014, VET reported its first positive annual percentage change (5.9%) since 2009, with a continuation of that recovery evident from an 11.1 per cent growth rate in 2015 (its second highest growth rate over the period). The 2015 VET growth rate is second only to schools (11.3%), and is in turn followed by higher education (8.0%), ELICOS (4.2%), and non-award (-1.5%).

The schools sector saw a significant decline in value between 2008 (\$1,046m) and 2013 (\$602m), but with positive growth for 2014 and 2015, now stands at a value of \$728m. Student Visa (SV) ELICOS had large declines in 2010 and 2011, but has since recovered reporting a total value high (\$1,012m) in 2015.

**Figure 28 Education-related Travel Expenditure, by Educational Sector, 2002-2015, Australia, \$m**



Notes: Calendar year; \$m; 2015 prices using CPI deflator

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from ABS Cat. 5368.0

Table 12 Education Related Travel Expenditure, by Sector, Australia, 2008-2015 (\$m)

	2008	Annual % Change	2009	Annual % Change	2010	Annual % Change	2011	Annual % Change	2012	Annual % Change	2013	Annual % Change	2014	Annual % Change	2015	Annual % Change
<b>Goods &amp; Services</b>																
Higher Education	5,760	11.5%	6,080	5.2%	5,830	-4.2%	5,430	-7.4%	5,160	-5.4%	5,330	3.2%	6,040	11.9%	6,910	12.5%
Vocational	2,200	29.4%	3,080	28.6%	2,840	-8.5%	2,180	-30.3%	1,840	-18.6%	1,650	-11.2%	1,710	3.5%	2,000	14.2%
Schools	630	8.4%	580	-8.4%	470	-24.0%	400	-18.5%	350	-13.9%	330	-7.0%	340	3.4%	380	10.1%
SV ELICOS	450	-2.2%	500	10.3%	420	-21.2%	360	-14.1%	360	0.0%	400	7.8%	440	9.6%	490	10.2%
New Zealand	90	7.8%	70	-24.4%	60	-13.8%	60	-7.1%	80	25.4%	70	-14.7%	70	5.9%	80	11.8%
Non-Award	290	4.7%	250	-12.4%	240	-4.3%	220	-8.3%	210	-6.4%	240	12.6%	300	18.6%	270	-10.2%
<b>Total</b>	<b>9,420</b>	<b>14.6%</b>	<b>10,570</b>	<b>10.9%</b>	<b>9,860</b>	<b>-7.2%</b>	<b>8,660</b>	<b>-14.0%</b>	<b>8,000</b>	<b>-8.3%</b>	<b>8,010</b>	<b>0.2%</b>	<b>8,900</b>	<b>10.0%</b>	<b>10,120</b>	<b>12.0%</b>
<b>Fees</b>																
Higher Education	3,590	3.9%	4,290	16.2%	5,120	16.3%	5,380	4.8%	5,220	-3.1%	5,330	2.0%	5,810	8.4%	5,990	2.9%
Vocational	1,600	28.8%	2,160	25.7%	1,630	-32.5%	1,230	-32.1%	1,020	-21.3%	920	-10.6%	1,020	9.9%	1,080	5.3%
Schools	410	4.2%	400	-3.2%	380	-6.6%	320	-16.9%	290	-12.4%	280	-3.2%	310	10.3%	350	12.6%
SV ELICOS	560	16.0%	600	7.0%	480	-26.2%	380	-24.4%	380	-1.5%	440	15.1%	530	16.5%	530	-1.3%
New Zealand	60	43.7%	50	-10.6%	60	7.2%	60	5.9%	80	26.0%	70	-17.7%	70	3.3%	70	1.3%
Non-Award	380	9.1%	370	-3.4%	350	-4.9%	310	-14.2%	280	-11.1%	330	14.6%	410	21.0%	430	3.9%
<b>Total</b>	<b>6,610</b>	<b>11.7%</b>	<b>7,870</b>	<b>16.0%</b>	<b>8,010</b>	<b>1.8%</b>	<b>7,690</b>	<b>-4.2%</b>	<b>7,260</b>	<b>-5.9%</b>	<b>7,360</b>	<b>1.4%</b>	<b>8,160</b>	<b>9.7%</b>	<b>8,440</b>	<b>3.4%</b>
<b>Total</b>																
Higher Education	9,360	8.6%	10,360	9.7%	10,950	5.4%	10,810	-1.3%	10,370	-4.2%	10,650	2.6%	11,850	10.1%	12,890	8.1%
Vocational	3,800	29.2%	5,240	27.4%	4,470	-17.2%	3,410	-31.0%	2,850	-19.6%	2,570	-10.9%	2,730	5.9%	3,070	11.1%
Schools	1,050	6.8%	980	-6.3%	850	-16.3%	720	-17.8%	630	-13.2%	600	-5.3%	650	6.7%	730	11.3%
SV ELICOS	1,010	7.9%	1,100	8.5%	890	-23.9%	750	-19.3%	740	-0.7%	840	11.6%	970	13.4%	1,010	4.2%
New Zealand	150	21.9%	130	-18.6%	120	-3.9%	120	-0.5%	160	25.7%	140	-16.2%	150	4.6%	160	6.9%
Non-Award	670	7.2%	620	-7.0%	600	-4.7%	530	-11.7%	490	-9.1%	570	13.7%	710	20.0%	700	-1.5%
<b>Total</b>	<b>16,030</b>	<b>13.4%</b>	<b>18,440</b>	<b>13.1%</b>	<b>17,880</b>	<b>-3.1%</b>	<b>16,340</b>	<b>-9.4%</b>	<b>15,260</b>	<b>-7.1%</b>	<b>15,370</b>	<b>0.8%</b>	<b>17,060</b>	<b>9.9%</b>	<b>18,560</b>	<b>8.1%</b>

Notes: 2015 prices using CPI deflator  
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from ABS Cat. 5368.0

# The Economic Contribution of Education-related Travel Expenditure to Western Australia

This section provides a more detailed analysis of the economic contribution of international education to WA.<sup>5</sup>

Table 13 shows the expenditure incurred by international students in WA in 2015. As the ABS do not provide a breakdown of education-related travel expenditure by education sector at the state and territory level (that is, only total expenditure in education-related travel services is provided at state and territory level), we use actual WA enrolment shares by sector to estimate WA's total education-related expenditure by sector.<sup>6</sup> The latter is calculated for both the 'goods and services' and the 'fees' categories.<sup>7</sup>

**Table 13** International Student Expenditure, by Sector, WA, 2015 (\$m)

Education-related Travel Expenditure	Higher Education	VET	Schools	ELICOS	Non-award	2015
Goods and services	473	182	16	44	17	731
Fees	410	98	15	48	27	597
<b>Total</b>	<b>882</b>	<b>280</b>	<b>30</b>	<b>92</b>	<b>44</b>	<b>1,328</b>

**Notes:** Calendar Year. The total value differs from that reported in Table 11 due to the exclusion of New Zealand and AusAid/Defence student expenditure on fees and goods and services. Any remaining difference can be considered as price differentials between states, for which adjustments have not taken place.

**Source:** BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from ABS Cat 5368.0; DET (2015)

For WA, the higher education sector (\$882m) is by far the largest sector in terms of expenditure by international students, over three times higher than that of VET (\$280m).

For WA, the higher education sector (\$882m) is by far the largest sector in terms of expenditure by international students, over three times higher than that of VET (\$280m). This is followed by ELICOS (\$92m), non-award (\$44m) and schools (\$30m). In 2015, WA's total number of international education enrolments equated to 50,484 enrolments. Therefore, WA's total education-related travel expenditure of \$1.33bn<sup>8</sup>, implies an average value of \$26,310 per enrolment across all education sectors in WA.

The economic contribution of international students to the WA economy is measured based on the valued-added component of their expenditure and the employment it generates. Use of value-added is consistent with the ABS approach to measuring the economic contribution of a sector or industry to the economy. The total of value-added across all industries/sectors in the WA economy is equal to the gross state product (GSP).

Value-added is comprised of three components: labour income, gross operating surplus, and taxes on production less subsidies. Using a widely accepted methodology<sup>9</sup> to estimate the value-added component of international student expenditure on education fees and

goods and services, we report the direct and indirect effects of this expenditure, including the employment it generates.

## Calculating the Value-Added Contributions to the Western Australian Economy - Methodology

The estimated value-added component of international student expenditure within each education sector is based on the assignment of the overall expenditure across relevant industries. This expenditure within each industry is then used to estimate the value of the value-added components (labour income, gross operating surplus, and taxes less subsidies).

To assign expenditure across industries, the total expenditure within each education sector was first apportioned across a variety of expenditure items. The apportionment of the goods and services expenditure was based on Tourism Research Australia (TRA) data on expenditure for international visitors to Australia, whose visit was for the purpose of education (TRA, 2016). It should be noted that the use of this data implicitly assumes that the consumption bundle for all international students in Australia is homogenous. The proportion of expenditure on education fees, in each education sector, is based on the ratio of education fees to total expenditure derived from Table 13.

<sup>5</sup> New Zealand and AusAid/Defence student expenditure on fees and goods and services have been excluded.

<sup>6</sup> As an example, WA's share of enrolments in the higher education sector in 2015 is 6.85 per cent. Therefore, the contribution of the higher education sector to WA's student expenditure (\$882m) is 6.85 per cent of the total of Australia's student expenditure (\$12,892m) in higher education.

<sup>7</sup> This method assumes that fees by sector and expenditure on goods and services are equivalent across all States and Territories.

<sup>8</sup> The total value differs from that reported in Table 11 due to the exclusion of New Zealand and AusAid/Defence student expenditure on fees and goods and services. Any remaining difference can be considered as price differentials between states, for which adjustments have not taken place.

<sup>9</sup> See for example, JCIPP (2010), Access Economics (2009), Deloitte Access Economics (2016).

Table 14 shows the estimated proportion of expenditure by education sector for each expenditure item. With the exception of the VET sector, education fees comprise the largest component of expenditure followed by food, drink and accommodation. In the case of the VET sector, food, drink and accommodation is the largest component of expenditure followed by education fees.

**Table 14** International Student Expenditure by Expenditure Item and Sector, WA, 2015 (%)

Education-related Travel Expenditure	Higher Education	VET	Schools	ELICOS	Non-award
Organised tours	0.66	0.80	0.64	0.59	0.48
International airfares bought in Australia	2.92	3.55	2.81	2.63	2.10
Domestic airfares	0.51	0.61	0.49	0.45	0.36
Taxi and local public transport	2.41	2.93	2.32	2.17	1.74
Petrol and oil for self-drive cars or other vehicles	0.82	1.00	0.79	0.74	0.59
Retail	6.55	7.95	6.30	5.89	4.71
Food, drink and accommodation	34.36	41.67	33.04	30.87	24.72
Entertainment	0.96	1.16	0.92	0.86	0.69
Motor vehicles	2.02	2.45	1.94	1.82	1.45
Phone, internet, fax and/or postage	1.39	1.69	1.34	1.25	1.00
Other	0.96	1.16	0.92	0.86	0.69
Education Fees	46.44	35.04	48.49	51.88	61.46
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from TRA (2016b)

Having mapped each expenditure item to an appropriate 2013-14 ABS Input-Output industry<sup>10</sup>, industry expenditures are proportioned to labour income, gross operating surplus, and other tax less subsidies (refer to Table 42 in the Appendix). Together with the total expenditure for each expenditure item, these proportions are used to estimate the values of labour income, gross operating surplus, and other tax less subsidies, respectively. Full-time equivalent (FTE) employment is estimated by dividing the labour income by the average annual salary (including on-costs) for each industry.

## The Value-Added Contribution of International Education to the Western Australia Economy

The estimated value-added contribution by education sector is displayed in Table 15. Higher education delivers a value-added of \$516m. While accounting for 37 per cent of international enrolments in WA, higher education accounts for 67 per cent of the value-added contribution. In 2015, international higher education students to WA added an estimated 4,886 additional full-time equivalent jobs to the WA economy. Of these, 1,793 were through direct employment in the higher education sector, with the remainder being indirect contributions across other industries (see Table 43 for a detailed breakdown by industry). The VET sector is the second largest contributor (20.14%) followed by ELICOS, non-award, and schools.

While accounting for 37 per cent of international enrolments in WA, higher education accounts for 67 per cent of the value-added contribution.

**Table 15** Value-added Contribution, by Sector, WA, 2015

Sector	Value Added (\$m)	Value Added (%)	Employment (FTE)	Employment (%)	Share of Enrolments (%)
Higher Education	520	67.37	4,890	60.59	36.89
VET	150	20.14	2,070	25.65	30.56
Schools	20	2.40	240	2.97	1.69
ELICOS	50	6.47	510	6.32	26.18
Non-award	30	3.61	360	4.46	4.68
<b>Total</b>	<b>770</b>	<b>100.00</b>	<b>8,070</b>	<b>100.00</b>	<b>100.00</b>

Notes: Calendar Year; Estimates; Rounded to nearest ten.

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from ABS Cat 5368.0; ABS Cat 5209.0; DET (2015)

<sup>10</sup> Refer to Table 41 in the Appendix for the concordance of expenditure items to Input-Output industries.

The total estimated value-added contribution, by industry, of the 50,484 international student enrolments to WA in 2015 are reported in Table 16. For a similar breakdown of the value-added contribution for each education sector, refer to the Appendix and Table 43, Table 44, Table 45, Table 46, and Table 47, which report on higher education, VET, schools, ELICOS and non-award, respectively.

**Table 16** Value-added Contribution, by Industry, WA, 2015

Expenditure Category	All Education Sectors (\$m)	Labour Value (\$m)	GOS Value (\$m)	Other Tax Less Subsidies on Production Value (\$m)	Total Value Added (\$m)	Employment FTE
Organised tours	\$9	\$2	\$1	\$0	\$3	47
International airfares bought in Australia	\$40	\$8	\$3	\$0	\$11	84
Domestic airfares	\$7	\$1	\$1	\$0	\$2	15
Taxi and local public transport	\$33	\$8	\$5	\$1	\$14	90
Petrol and oil for self-drive cars or other vehicles	\$11	\$0	\$1	\$0	\$2	2
Retail	\$89	\$35	\$18	\$2	\$55	758
Food, drink and accommodation	\$469	\$130	\$67	\$14	\$212	3515
Entertainment	\$13	\$3	\$1	\$0	\$5	63
Motor vehicles	\$28	\$7	\$4	\$1	\$12	75
Phone, internet, fax and/or postage	\$19	\$3	\$5	\$0	\$8	25
Other	\$13	\$5	\$3	\$0	\$8	111
Education Fees	\$597	\$383	\$47	\$6	\$436	3281
<b>Total</b>	<b>\$1,328</b>	<b>\$586</b>	<b>\$156</b>	<b>\$25</b>	<b>\$766</b>	<b>8065</b>

Notes: Calendar Year; Estimates; Rounded.

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from ABS Cat 5368.0; ABS Cat 5209.0; DET (2015); TRA (2016b)

## The Economic Contribution of Family and Friends Visiting International Students

In addition to the economic contribution of international students, there is the economic contribution of family and friends who come to WA to visit international students. Research by Tourism Research Australia (TRA, 2007) suggests that 0.3 family members and 0.2 friends visit each international student annually. In WA in 2015, there were 42,500 international students (headcount) across all education sectors. This equates to an estimated 21,200 friends and family members visiting WA in 2015. The breakdown of these visits by sector are reported in Table 17.

**Table 17** Family and Friends Visits to WA, by Sector, 2015

Sector	International Students in WA, 2015	Family and Friends Visits	Percentage
Higher Education	17,700	8,800	41.55
VET	11,500	5,800	27.12
Schools	800	400	2.00
ELICOS	10,100	5,100	23.77
Non-award	2,400	1,200	5.56
<b>Total</b>	<b>42,500</b>	<b>21,200</b>	<b>100.00</b>

Notes: Number of students is based on student headcount data; Estimates; Rounded to nearest hundred.

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015); TRA (2016a)



Table 18 provides a breakdown of the average expenditure per international visitor who came to Australia in 2015 to visit family and friends. The data suggests that, on average, they spent \$1,500 per visit. Of this, the largest component of expenditure (45%) was on food, drink and accommodation, with retail making up 28 per cent.

**Table 18** Expenditure by Visiting Family and Friends, Australia, 2015

Expenditure Items	Visiting Friends and Relatives (\$m)	Average Expenditure Per Visitor (\$)	Percentage
Organised tours	80	50	2.96%
International airfares bought in Australia	60	30	2.21%
Domestic airfares	70	40	2.32%
Taxi and local public transport	110	60	3.68%
Rental vehicles	80	40	2.63%
Petrol and oil for self-drive cars or other vehicles	70	30	2.29%
Retail - items for use in Australia	240	130	8.31%
Retail - items to take home	560	300	19.71%
Food, drink and accommodation	1,300	690	45.30%
Gambling	30	20	1.16%
Entertainment	70	40	2.51%
Motor vehicles	80	40	2.89%
Phone, internet, fax and/or postage	30	20	1.19%
Other	80	40	2.84%
<b>Total</b>	<b>2,870</b>	<b>1,520</b>	<b>100.00%</b>

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015); TRA, (2016a)

The economic contribution of family and friends visiting international students in WA was estimated using the methodology outlined in the previous section. The estimated value-added contribution of family and friends visiting international students in WA, by sector, is displayed in Table 19. Family and friends visiting international students in WA contributed an estimated \$15.5 million in value-added to the WA economy in 2015.

Family and friends visiting international students in WA contributed an estimated \$15.5 million in value-added to the WA economy in 2015.

**Table 19** Value-added Contribution of Visiting Family and Friends, by Sector, WA, 2015

Sector	Value Added (\$m)	Employment (FTE)
Higher Education	6.44	90
VET	4.20	59
Schools	0.31	4
ELICOS	3.68	51
Non-award	0.86	12
<b>Total</b>	<b>15.49</b>	<b>216</b>

Notes: Based on student headcount data; Assumes constant prices and the same consumption bundles by visitors across all states.

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015); TRA (2016a, 2016b)

Therefore, international education makes a significant contribution to the WA economy, both in terms of direct expenditure by students, but also through their visiting family and friends. Of course, there are other benefits to international education in WA. These include international students as a source of labour, cultural and educational exchange benefits to Australian students and related skills development, developing international trade networks, and regional benefits from international education. Many of these benefits (and related costs) lay outside of the scope of this research, but cannot be discounted.





# FUTURE PROJECTIONS AND SCENARIO ANALYSIS

# Introduction

## Key Findings

- Under baseline projections, international enrolments in WA grow from 50,500 in 2015 to 60,500 by 2020, and 67,300 by 2025. Enrolments from India (10,400) overtake Chinese enrolments (8,500) as the largest cohort.
- This leads to a total student expenditure of \$1.83bn to the WA economy, a value-added of \$1.06bn and employment of 11,200 by 2025 (compared to \$1.39bn, \$766m and 8,065 currently).
- Under a more optimistic, higher growth scenario, enrolments would more than double to 103,500 by 2025, and see revenue increase to \$2.69bn, value-added to \$1.55bn and employment to 16,600 FTEs.
- For WA to obtain its demographic share (10.9%) of Chinese enrolments by 2025, this would entail their enrolments increasing to 32,660, compared to a current figure of around 7,000 and a baseline forecast of 8,500 in 2025. Overall WA enrolments would increase to 91,500 compared to the baseline scenario of 67,300.
- Achieving WA's demographic share in all sectors within five years (i.e. by 2020) implies a rapid increase in enrolments to 91,200 compared to 60,500 under the baseline – a more than 50% increase. Export revenue would increase to \$2.6bn, with a value added contribution of \$1.5 billion and employment contribution of 16,000 FTEs by 2020.
- A modest scenario which reverses the decline in school enrolments and instead sees a 10% annual increase through to 2025 would see an additional 1,665 enrolments above the baseline scenario of 550, and a cumulative increase of almost 8,000 enrolments above the baseline over the ten year period.

Following the discussions of historical enrolment trends and the economic contribution of the international education sector to WA, our analysis turns to projecting future international student enrolments in Australia and WA, and estimating the economic contributions under these projections.

Based on an analysis of the historical enrolment growth rates of fourteen countries and a residual 'other countries' category between 2002 and 2015, a low, baseline (medium) and high scenario are developed by state and sector<sup>11</sup>. The projections are based on historical trends in the absence of any shocks, including new policy directions. Other scenarios, based on deviations from the baseline are also considered. These are based on scenarios specified by key stakeholders, and would imply a significant deviation from existing policies.

The fourteen countries analysed comprise of Australia's top ten source countries in 2015<sup>12</sup>, along with an additional four countries, which ensures coverage of WA's top 10 source countries and/or countries of geographic importance for WA<sup>13</sup>. The fourteen source countries account for 73 per cent of the total onshore student enrolments in Australia and 68 per cent in WA. By sector, the fourteen countries account for 80 per cent of higher education, 71 per cent of the VET sector, 79 per cent of schools, 66 per cent of ELICOS, and 50 per cent of the non-award sector.

<sup>11</sup> A detailed methodology is provided in the following 'scenario methodology' section.

<sup>12</sup> Based on 2015 international student enrolment numbers, the top ten source countries for Australia are: China, India, Vietnam, Republic of (South) Korea, Thailand, Brazil, Malaysia, Nepal, Indonesia, and Pakistan.

<sup>13</sup> These include: Taiwan, Hong Kong and Singapore (which together with China, India, Malaysia, Brazil, Vietnam, Korea and Pakistan, make up WA's top ten source countries in 2015) and Philippines, which is of regional importance and seen as a growth market.

# Methodology

In generating the low, baseline and high scenarios, enrolment projections are generated by applying a series of projected growth rates to each country and sector. In doing so, the projections are based on historical trends in the absence of any shocks, including new policy directions.

The main steps undertaken in developing the scenarios are as follows:

- Low, baseline and high scenarios are developed.
- Projections are generated for each of the five sectors (higher education, VET, ELICOS, schools and non-award), by source country (top fourteen and a residual 'others') and by enrolments into each of the Australian states/territories (NSW, VIC, QLD, SA, WA, TAS, ACT, and NT).
- Projections are generated each year for the period 2016 to 2025.
- A long-run growth rate is determined for each case which is guided by historical trends.
- Exclusion of historical extremes.
- Gradual adjustment to long-run growth rate.
- The resulting projections are then aggregated, summarised and presented in the charts and tables that follow.
- Designed to ensure 'Global' methodology across all sectors and countries.

More specifically, using Chinese enrolments in higher education into WA as an example, the procedure undertaken is as follows:

## 1. Procedure: Determining the long-run growth rate (by sector, state and source country)

Historical year-on-year growth rates are calculated and ranked in ascending order. The growth rates are shown in Table 20. Over the past decade, growth rates in the lower range has averaged -2.02 per cent each year. Similarly, a medium range of growth has been 2.16 per cent, while at the higher end there have been periods where average growth rates have been 7.94 per cent each year. These three average growth rates are selected to represent the low, baseline (medium) and high 'long-run' growth rates. 'Long-run' (LR) is defined as the growth rate which will be reached by the end of the forecast period, i.e. 2025. To allow the current (i.e. 2015) growth rate to gradually and smoothly converge to the long-run growth rate a partial adjustment formula is used<sup>14</sup>.

## 2. Forecasting the level of enrolments (for each sector into each state from each source country)

This allows a series of growth rates from 2016 to 2025 to be obtained, which are then used to generate scenario projections<sup>15</sup>. An example of this scenario projection method (applied to China) is shown in Figure 29.

<sup>14</sup> The formula used to project future growth to 2025 takes the general form:

$$gr_t = gr_{t-1} + \alpha(LR - gr_{t-1})$$

where  $gr$  is the growth rate,  $\alpha$  is a speed of adjustment parameter whose value lies within the range from 0 (slow adjustment) to 1 (rapid adjustment), and  $LR$  is the long-run growth rate determined using the procedure outlined above. Scenario forecast enrolments are generated from these growth rates using the following formula:

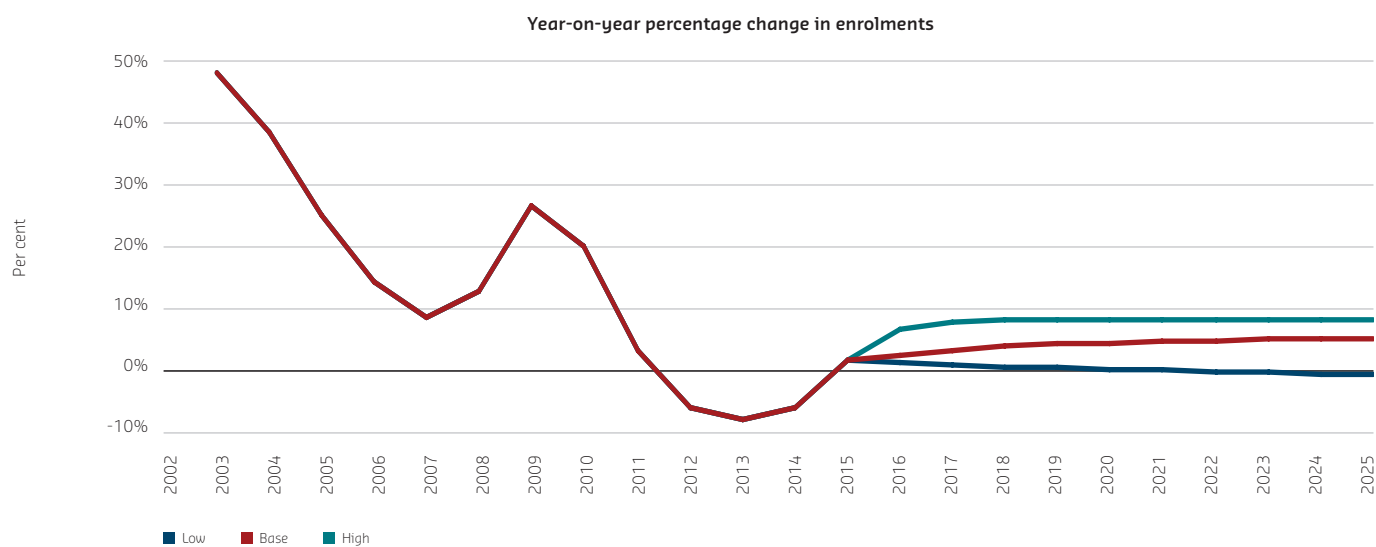
$$enrol_t = (1 + gr_t)enrol_{t-1}$$

<sup>15</sup> Under extreme cases, an override country growth rate was applied. For example, unprecedented growth rates in international enrolments in higher education to WA from India are unlikely to continue over the longer term (based on consultation with key stakeholders).

**Table 20** Historical Growth Rates, Methodology Example (China - WA)

Rank	Year	Sorted growth rate	Low	Base	High
13	2013	-8.3%			
12	2012	-6.3%			
11	2014	-6.1%			
10	2015	1.3%			
9	2011	3.0%	-2.02%	2.16%	
8	2007	8.3%			7.94%
7	2008	12.7%			
6	2006	14.3%			
5	2010	19.9%			
4	2005	25.1%			
3	2009	26.6%			
2	2004	38.2%			
1	2003	47.9%			

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

**Figure 29** Historical and Projected Growth Rates, Methodology Example (China - WA)

Notes: For the baseline case, an add-factor has been applied to the long term growth rate to reflect the upturn from 2013

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

## Enrolment Projections: Australia

The low, baseline and high scenarios for Australia's total enrolment projections are presented in Table 21 and Figure 30 below. The baseline scenario sees Australia's enrolments grow from the 2015 (actual) number of enrolments of 645,093 to 838,700 in 2020 and 967,600 in 2025. The low scenario also sees a projected growth for the Australian market, growing to 806,700 enrolments in 2020 and to 832,500 to 2025. The high scenario sees Australia's international education market growing to almost one million enrolments in 2020, with significant growth continuing to 2025, where enrolments exceed 1.5 million. Such projections are in line with other recent reports<sup>16</sup>.

The baseline scenario sees Australia's enrolments grow from the 2015 (actual) number of enrolments of 645,093 to 838,700 in 2020 and 967,600 in 2025.

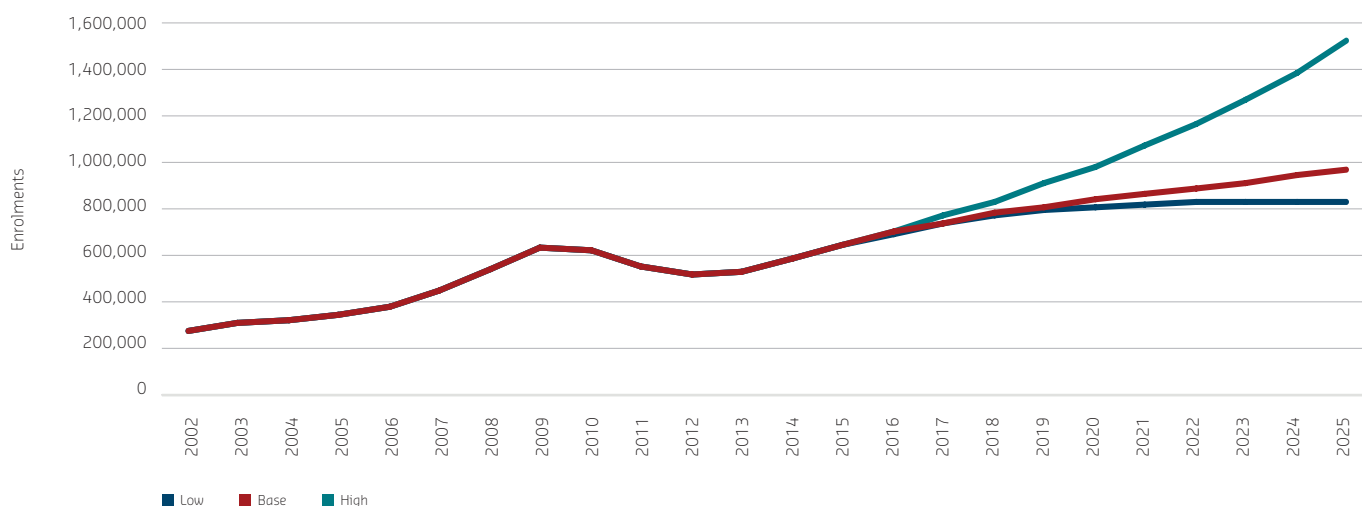
**Table 21** Low, Baseline and High Scenario Analysis: Projected Enrolments for Australia, All Sectors, 2015 to 2025

Enrolments	2012	2013	2014	2015	2020	2025
Low	513,300	524,600	586,900	645,100	806,700	832,500
Medium	513,300	524,600	586,900	645,100	838,700	967,600
High	513,300	524,600	586,900	645,100	982,500	1,514,400

Notes: Projections rounded to the nearest hundred

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

**Figure 30** Low, Baseline and High Scenario Analysis: Projected Enrolments, Australia, All Sectors, 2016 to 2025



Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

Under the high scenario Australia's international education market grows to almost one million enrolments in 2020, with enrolments exceeding 1.5 million by 2025.

<sup>16</sup> See for example: (1) Australian Government, 2016, 'Australian International Education 2025', Report by the Australian Trade Commission (Austrade), 2016; and (2) Australian Government (2016), 'National Strategy for International Education 2025', March 2016. (3) Deloitte Access Economics (2015), 'Growth and Opportunity in Australian International Education', A report prepared for Austrade, December 2015.

The low, baseline and high total enrolment projections for Australia, by state, are presented in Table 22. WA is presently the fourth highest state in terms of international education enrolments, a ranking which remains unchanged under each scenario.

The low, baseline, and high projections for WA to 2025 are 50,900, 67,300 and 103,500 enrolments, respectively. Under the high scenario, by 2025, WA's total enrolments are in line with current (2015) enrolments in QLD.

**Table 22** Low, Baseline and High Scenario Analysis: Projected Enrolments for Australia, by State, 2015 to 2025

Enrolments	Actual	Low		Base		High	
State	2015	2020	2025	2020	2025	2020	2025
NSW	243,200	311,200	309,700	317,400	348,900	370,500	536,000
VIC	195,800	261,700	288,200	269,600	326,000	314,000	505,200
QLD	103,300	119,200	122,400	126,700	148,400	150,100	243,200
WA	50,500	54,800	50,900	60,500	67,300	71,700	103,500
SA	32,100	34,900	33,700	38,300	44,300	45,700	75,700
ACT	12,800	15,900	18,200	16,500	20,800	18,200	28,200
TAS	5,300	5,600	4,900	6,200	6,600	8,300	14,300
NT	2,200	3,400	4,500	3,500	5,300	3,900	8,300
Total	645,100	806,700	832,500	838,700	967,600	982,400	1,514,400

Notes: Rounded to the nearest hundred

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

Table 23 to Table 25 present the low, baseline and high scenarios for enrolments in Australia by sector. In all three scenarios, in order of market share, the top sector is higher education, followed by VET and ELICOS.

**Table 23** Low Scenario: Enrolments for Australia, by Sector, 2015 to 2025

Low	2015	2020	2025	Average Growth Rate 2015-2020	Average Growth Rate 2020-2025
Higher Education	272,100	351,800	386,400	5.3%	1.9%
	42.2%	43.6%	46.4%		
VET	169,600	221,500	224,100	5.5%	0.2%
	26.3%	27.5%	26.9%		
ELICOS	145,300	163,200	157,000	2.4%	-0.8%
	22.5%	20.2%	18.9%		
Non-award	37,500	45,600	45,700	4.0%	0.0%
	5.8%	5.7%	5.5%		
Schools	20,600	24,500	19,300	3.6%	-4.6%
	3.2%	3.0%	2.3%		
<b>Total</b>	<b>645,100</b>	<b>806,700</b>	<b>832,500</b>	<b>4.6%</b>	<b>0.6%</b>
	100.0%	100.0%	100.0%		

Notes: Rounded to the nearest hundred

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)



**Table 24** Baseline Scenario: Enrolments for Australia, by Sector, 2015 to 2025

Medium	2015	2020	2025	Average Growth Rate 2015-2020	Average Growth Rate 2020-2025
Higher Education	272,100	362,600	439,000	5.9%	3.9%
	42.2%	43.2%	45.4%		
VET	169,600	229,300	261,100	6.2%	2.6%
	26.3%	27.3%	27.0%		
ELICOS	145,300	170,300	185,500	3.2%	1.7%
	22.5%	20.3%	19.2%		
Non-award	37,500	50,400	58,800	6.1%	3.1%
	5.8%	6.0%	6.1%		
Schools	20,600	26,100	23,200	4.9%	-2.3%
	3.2%	3.1%	2.4%		
<b>Total</b>	<b>645,100</b>	<b>838,700</b>	<b>967,600</b>	<b>5.4%</b>	<b>2.9%</b>
	100.0%	100.0%	100.0%		

Notes: Rounded to the nearest hundred

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

**Table 25** High Scenario: Enrolments for Australia, by Sector, 2015 to 2025

High	2015	2020	2025	Average Growth Rate 2015-2020	Average Growth Rate 2020-2025
Higher Education	272,100	384,700	574,400	7.2%	8.3%
	42.2%	39.2%	37.9%		
VET	169,600	296,800	478,600	11.8%	10.0%
	26.3%	30.2%	31.6%		
ELICOS	145,300	213,400	339,900	8.0%	9.8%
	22.5%	21.7%	22.4%		
Non-award	37,500	58,700	90,700	9.4%	9.1%
	5.8%	6.0%	6.0%		
Schools	20,600	28,800	30,900	7.0%	1.4%
	3.2%	2.9%	2.0%		
<b>Total</b>	<b>645,100</b>	<b>982,500</b>	<b>1,514,400</b>	<b>8.8%</b>	<b>9.0%</b>
	100.0%	100.0%	100.0%		

Notes: Rounded to the nearest hundred

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

In terms of country of origin enrolment projections for the low, baseline and high scenarios are summarised in Table 26, Table 27 and Table 28. For all three scenarios China remains the primary source market for international student enrolments to Australia, followed by India, with Brazil and Pakistan inter-changing third and fourth place under the various scenarios.

**Table 26** Low Scenario: Enrolments for Australia, by Source Country, 2015 to 2025

Nationality	2015	2020	2025	2015 Share	2020 Share	2025 Share
China	170,200	233,100	258,500	26.4%	28.9%	31.1%
India	72,500	84,500	60,600	11.2%	10.5%	7.3%
Pakistan	16,100	27,500	41,300	2.5%	3.4%	5.0%
Brazil	24,700	36,200	40,200	3.8%	4.5%	4.8%
Malaysia	24,100	31,800	38,800	3.7%	3.9%	4.7%
Thailand	28,000	35,200	34,800	4.3%	4.4%	4.2%
Vietnam	29,600	30,800	33,400	4.6%	3.8%	4.0%
Nepal	19,800	24,500	24,900	3.1%	3.0%	3.0%
Korea	28,700	29,700	24,800	4.4%	3.7%	3.0%
Philippines	10,900	13,800	18,800	1.7%	1.7%	2.3%
Indonesia	19,300	20,800	16,400	3.0%	2.6%	2.0%
Taiwan	13,700	17,300	14,900	2.1%	2.1%	1.8%
Hong Kong	15,800	15,400	9,700	2.4%	1.9%	1.2%
Singapore	8,200	6,200	4,300	1.3%	0.8%	0.5%
Others	163,600	199,700	211,100	25.4%	24.8%	25.4%
<b>Total</b>	<b>645,100</b>	<b>806,700</b>	<b>832,500</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Notes: Rounded to the nearest hundred

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

**Table 27** Baseline Scenario: Enrolments for Australia, by Source Country, 2015 to 2025

Nationality	2015	2020	2025	2015 Share	2020 Share	2025 Share
China	170,200	242,900	300,300	26.4%	29.0%	31.0%
India	72,500	90,700	81,800	11.2%	10.8%	8.5%
Brazil	24,700	37,000	46,300	3.8%	4.4%	4.8%
Pakistan	16,100	28,400	46,100	2.5%	3.4%	4.8%
Thailand	28,000	37,500	43,800	4.3%	4.5%	4.5%
Vietnam	29,600	34,400	42,700	4.6%	4.1%	4.4%
Malaysia	24,100	31,600	39,100	3.7%	3.8%	4.0%
Nepal	19,800	26,500	33,000	3.1%	3.2%	3.4%
Korea	28,700	31,900	32,300	4.4%	3.8%	3.3%
Philippines	10,900	15,900	26,300	1.7%	1.9%	2.7%
Indonesia	19,300	20,600	17,400	3.0%	2.5%	1.8%
Taiwan	13,700	16,700	15,300	2.1%	2.0%	1.6%
Hong Kong	15,800	15,300	10,600	2.4%	1.8%	1.1%
Singapore	8,200	6,400	4,800	1.3%	0.8%	0.5%
Others	163,600	203,000	227,500	25.4%	24.2%	23.5%
<b>Total</b>	<b>645,100</b>	<b>838,700</b>	<b>967,600</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Notes: Rounded to the nearest hundred

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

**Table 28** High Scenario: Enrolments for Australia, by Source Country, 2015 to 2025

Nationality	2015	2020	2025	2015 Share	2020 Share	2025 Share
China	170,200	285,300	447,700	26.4%	29.0%	29.6%
India	72,500	102,300	161,600	11.2%	10.4%	10.7%
Brazil	24,700	47,800	86,300	3.8%	4.9%	5.7%
Thailand	28,000	47,800	81,800	4.3%	4.9%	5.4%
Vietnam	29,600	41,200	66,700	4.6%	4.2%	4.4%
Malaysia	24,100	38,100	63,000	3.7%	3.9%	4.2%
Korea	28,700	40,400	61,200	4.4%	4.1%	4.0%
Nepal	19,800	31,400	58,100	3.1%	3.2%	3.8%
Pakistan	16,100	28,200	56,900	2.5%	2.9%	3.8%
Philippines	10,900	18,900	43,300	1.7%	1.9%	2.9%
Indonesia	19,300	25,500	29,900	3.0%	2.6%	2.0%
Taiwan	13,700	22,000	29,700	2.1%	2.2%	2.0%
Hong Kong	15,800	20,100	19,900	2.4%	2.0%	1.3%
Singapore	8,200	7,100	6,200	1.3%	0.7%	0.4%
Others	163,600	226,400	302,100	25.4%	23.0%	19.9%
<b>Total</b>	<b>645,100</b>	<b>982,500</b>	<b>1,514,400</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Notes: Rounded to the nearest hundred

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

Under the low, baseline and high scenarios, China remains the primary source market for international student enrolments to Australia.

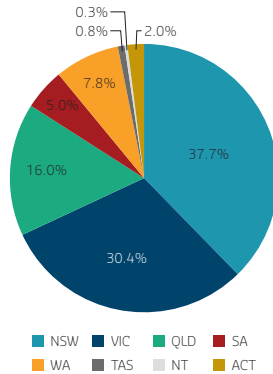
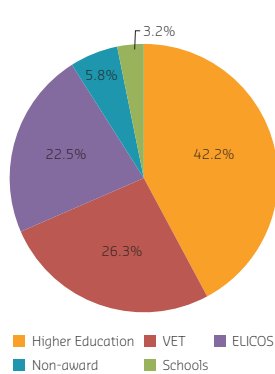
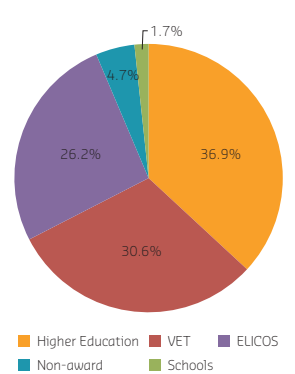
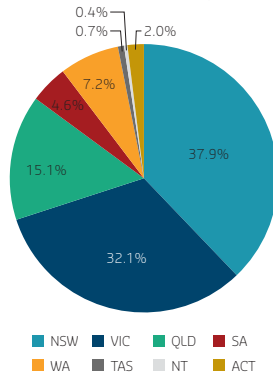
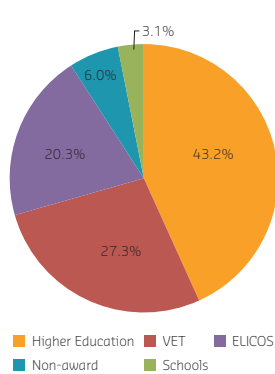
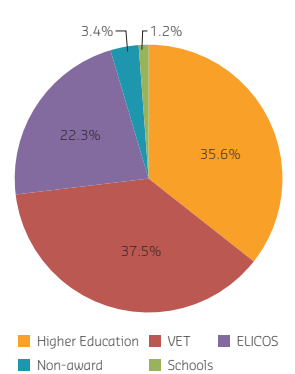
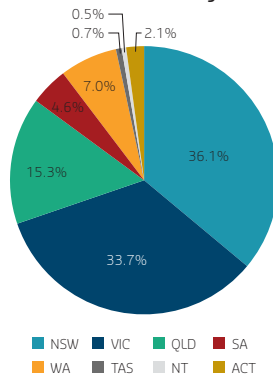
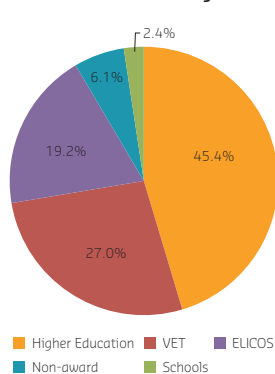
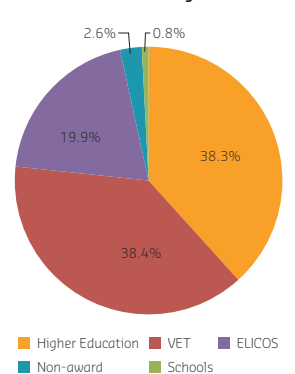
## Enrolment Projections: Western Australia

This section focuses on scenario projections for WA. For comparative purposes, Figure 31 contains a series of pie charts depicting the distribution of international student enrolments into the states and territories of Australia, and the breakdown by sector for Australia and WA. Actual 2015 enrolments are presented, as are baseline projections for 2020 and 2025.

In 2015, NSW, VIC and QLD held a combined share of international student enrolments in Australia of approximately 84 per cent. WA's share was 7.8 per cent. Under the baseline scenario, WA's share of enrolments declines to 7 per cent in 2025, with VIC seeing a gain of over 3 per cent.

By sector, higher education (42.2%) and VET (26.3%) are by far the largest sectors in Australia (2015), although for WA, higher education reports a lower percentage (36.9%), with a higher contribution from the VET sector (30.6%). Under the baseline scenario, the contribution of WA's VET sector (as a proportion of total enrolments) increases to 38.4 per cent, with declines in ELICOS, schools, and non-award. Higher education sees a 1.5 per cent increase in share.

Under the baseline scenario, WA's share of enrolments declines to 7% in 2025 (from 7.8% in 2015), with Victoria seeing a gain of over 3 per cent.

**Figure 31 Baseline Scenario Projection: Australian States and Sectors****2015****Australia Breakdown by State****Australia Breakdown by Sector****WA Breakdown by Sector****2020****Australia Breakdown by State****Australia Breakdown by Sector****WA Breakdown by Sector****2025****Australia Breakdown by State****Australia Breakdown by Sector****WA Breakdown by Sector**

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

WA has attracted an increasing number of Indian students over recent years.

Table 29 shows the number of international student enrolments in WA from 2015, along with the baseline projections for 2020 and 2025. Over the past five years, China has been the largest source of international students in WA though the growth rates have been declining. Going forward, enrolments from China increase to 7,600 by 2020 and to 8,500 by 2025. As a result China's share of WA international students decreases from 13.8 per cent in 2015 to 12.6 per cent by 2025.

WA has attracted an increasing number of Indian students over recent years. Under the baseline scenario, India overtakes China to be the state's top source of international students, with enrolments increasing to 9,900 by 2020 and 10,400 by 2025. This implies a steadily increasing share of Indian students into WA to reach a share of 15.5 per cent by 2025, rising from its 2015 share of 12.2 per cent.

Other countries experiencing an increasing share between 2015 and 2025 under the baseline scenario include, Vietnam, Pakistan, Taiwan, Philippines, Hong Kong, with a declining share reported for China, Brazil, Malaysia, Korea, Nepal, Singapore, Indonesia and Thailand.

**Table 29** Baseline Scenario: Western Australia Enrolments, by Country, 2015 to 2025

Nationality	2015	2020	2025	2015 Share	2020 Share	2025 Share
India	6,100	9,900	10,400	12.1%	16.4%	15.5%
China	7,000	7,600	8,500	13.9%	12.6%	12.6%
Vietnam	2,100	3,100	4,700	4.2%	5.1%	7.0%
Pakistan	1,500	2,600	4,500	3.0%	4.3%	6.7%
Brazil	2,600	2,900	3,200	5.1%	4.8%	4.8%
Taiwan	2,000	3,000	3,100	4.0%	5.0%	4.6%
Malaysia	3,500	3,200	2,800	6.9%	5.3%	4.2%
Korea	1,900	2,200	2,300	3.8%	3.6%	3.4%
Philippines	700	1,100	2,200	1.4%	1.8%	3.3%
Hong Kong	1,800	1,700	1,300	3.6%	2.8%	1.9%
Nepal	900	1,000	900	1.8%	1.7%	1.3%
Singapore	1,500	1,000	600	3.0%	1.7%	0.9%
Indonesia	1,400	900	600	2.8%	1.5%	0.9%
Thailand	900	700	500	1.8%	1.2%	0.7%
Others	16,400	19,600	21,900	32.5%	32.4%	32.5%
<b>Total</b>	<b>50,500</b>	<b>60,500</b>	<b>67,300</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Notes: Rounded to the nearest hundred

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

For reference purposes, Table 30 and Table 31 show the country share and rankings under the low and high scenarios. Under the low scenario, India's growth continues to increase to 2020, before declining below 2015 levels by 2025. Under the low scenario, there is a decline in the number of enrolments for all countries except Vietnam, Pakistan, Brazil, and Others. Under the High scenario, with the exception of Thailand, Singapore and Indonesia, all countries experience growth in enrolments to 2025. Given the geographical proximity of Thailand, Singapore and Indonesia to WA, and based on the fact that these projections are driven by recent historical declines in enrolments from these sources countries, further examination of the causes of such declines from these economies is warranted.

**Table 30** Low Scenario: Western Australia Enrolments, by Country, 2015 to 2025

Nationality	2015	2020	2025	2015 Share	2020 Share	2025 Share
China	7,000	6,900	6,200	13.9%	12.6%	12.2%
India	6,100	7,500	5,300	12.1%	13.7%	10.4%
Vietnam	2,100	2,700	3,500	4.2%	4.9%	6.9%
Pakistan	1,500	2,300	3,200	3.0%	4.2%	6.3%
Brazil	2,600	2,800	2,700	5.1%	5.1%	5.3%
Malaysia	3,500	3,000	2,300	6.9%	5.5%	4.5%
Taiwan	2,000	2,700	2,000	4.0%	4.9%	3.9%
Korea	1,900	2,000	1,700	3.8%	3.6%	3.3%
Hong Kong	1,800	1,600	1,300	3.6%	2.9%	2.6%
Philippines	700	900	1,200	1.4%	1.6%	2.4%
Nepal	900	900	700	1.8%	1.6%	1.4%
Singapore	1,500	900	600	3.0%	1.6%	1.2%
Indonesia	1,400	900	500	2.8%	1.6%	1.0%
Thailand	900	700	400	1.8%	1.3%	0.8%
Others	16,400	18,900	19,400	32.5%	34.5%	38.1%
<b>Total</b>	<b>50,500</b>	<b>54,800</b>	<b>50,900</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

**Table 31** High Scenario: Western Australia Enrolments, by Country, 2015 to 2025

Nationality	2015	2020	2025	2015 Share	2020 Share	2025 Share
India	6,100	11,900	15,500	12.1%	16.6%	15.0%
China	7,000	9,100	11,900	13.9%	12.7%	11.5%
Vietnam	2,100	3,800	8,100	4.2%	5.3%	7.8%
Pakistan	1,500	3,000	6,500	3.0%	4.2%	6.3%
Taiwan	2,000	3,600	6,400	4.0%	5.0%	6.2%
Brazil	2,600	3,600	5,300	5.1%	5.0%	5.1%
Korea	1,900	2,900	4,800	3.8%	4.0%	4.6%
Malaysia	3,500	3,800	4,400	6.9%	5.3%	4.3%
Philippines	700	1,300	3,300	1.4%	1.8%	3.2%
Hong Kong	1,800	2,200	2,500	3.6%	3.1%	2.4%
Nepal	900	1,400	1,900	1.8%	2.0%	1.8%
Thailand	900	900	800	1.8%	1.3%	0.8%
Singapore	1,500	1,000	800	3.0%	1.4%	0.8%
Indonesia	1,400	1,100	800	2.8%	1.5%	0.8%
Others	16,400	22,100	30,400	32.5%	30.8%	29.4%
<b>Total</b>	<b>50,500</b>	<b>71,700</b>	<b>103,500</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

## Enrolment Projections: Western Australia, by Sector

This section presents WA's enrolments by source country for each education sector under a baseline scenario. This reiterates the importance of the higher education and VET sectors for WA, which both experience strong growth under the baseline scenario.

Higher education experiences growth across seven of the top fourteen source countries, with VET showing growth across eight of the top fourteen source countries. However, higher education is very reliant on enrolments from its top five source countries. Together, these make up 73 per cent of enrolments in higher education by 2025. VET presents a greater level of diversification, with its top ten source countries only contributing approximately 50 per cent of overall enrolments in the VET sector by 2025.

Schools, and non-award experience a decline under the baseline scenario, with only limited growth for the ELICOS sector (of approximately 170 enrolments between 2015 and 2025).

**Table 32** Baseline Scenario: Higher Education Enrolments in WA, by Source Country, 2015 to 2025

Nationality	2015	2020	2025	Average Growth Rate 2015-2020	Average Growth Rate 2020-2025
China	4,220	5,000	6,300	3.5%	4.7%
India	2,240	4,360	6,290	14.3%	7.6%
Pakistan	520	1,460	2,590	8.2%	10.0%
Vietnam	740	1,390	2,460	13.5%	12.1%
Malaysia	2,060	1,580	1,190	-5.1%	-5.5%
Nepal	510	600	690	3.5%	2.7%
Philippines	210	300	490	8.2%	10.0%
Singapore	1,240	740	460	-9.9%	-8.9%
Hong Kong	720	560	390	-4.8%	-7.0%
Indonesia	830	510	300	-9.2%	-10.1%
Korea	210	120	80	-10.1%	-6.9%
Brazil	80	70	80	-2.3%	1.4%
Thailand	150	110	60	-6.2%	-10.5%
Taiwan	80	40	20	-11.9%	-11.4%
Others	4,830	4,690	4,360	-0.6%	-1.5%
<b>Total</b>	<b>18,620</b>	<b>21,550</b>	<b>25,770</b>		

Notes: Projections rounded to the nearest ten

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

**Table 33** Baseline Scenario: VET Enrolments in WA, by Source Country 2015 to 2025

Nationality	2015	2020	2025	Average Growth Rate 2015-2020	Average Growth Rate 2020-2025
Korea	980	1,540	1,850	9.6%	3.7%
Taiwan	710	1,600	1,780	18.0%	2.2%
India	2,560	3,760	1,720	8.7%	-14.4%
Philippines	450	790	1,610	11.8%	15.4%
Brazil	700	1,100	1,340	9.5%	3.9%
Pakistan	780	890	1,320	11.8%	15.4%
Vietnam	570	830	1,180	7.8%	7.3%
Malaysia	820	990	1,050	3.8%	1.2%
Hong Kong	440	750	770	11.8%	0.4%
Indonesia	380	330	240	-2.9%	-6.5%
China	470	270	190	-10.5%	-6.3%
Thailand	260	220	150	-3.9%	-7.4%
Nepal	270	300	140	2.4%	-14.5%
Singapore	140	130	110	-0.8%	-3.1%
Others	5,900	9,180	12,370	9.3%	6.1%
<b>Total</b>	<b>15,430</b>	<b>22,680</b>	<b>25,820</b>		

Notes: Projections rounded to the nearest ten

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)



**Table 34** Baseline Scenario: ELICOS Enrolments in WA, by Source Country 2015 to 2025

Nationality	2015	2020	2025	Average Growth Rate 2015-2020	Average Growth Rate 2020-2025
India	1,280	1,800	2,320	7.0%	5.3%
Brazil	1,590	1,720	1,790	1.6%	0.7%
China	1,630	1,670	1,370	0.6%	-3.9%
Taiwan	1,240	1,280	1,210	0.7%	-1.1%
Vietnam	660	690	890	1.0%	5.2%
Pakistan	150	270	530	1.1%	7.6%
Malaysia	460	490	490	1.5%	0.1%
Korea	690	510	310	-6.0%	-9.5%
Thailand	420	360	250	-2.9%	-7.3%
Hong Kong	570	270	120	-13.8%	-15.4%
Nepal	90	80	60	-2.0%	-5.7%
Philippines	40	40	50	1.1%	7.6%
Indonesia	110	50	30	-13.2%	-13.4%
Singapore	10	-	-	-12.3%	-26.2%
Others	4,300	4,260	3,960	-0.2%	-1.4%
<b>Total</b>	<b>13,220</b>	<b>13,490</b>	<b>13,380</b>		

Notes: Projections rounded to the nearest ten

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

**Table 35** Baseline Scenario: Non-award Enrolments in WA, by Source Country 2015 to 2025

Nationality	2015	2020	2025	Average Growth Rate 2015-2020	Average Growth Rate 2020-2025
China	430	440	460	0.8%	0.5%
Singapore	80	80	70	1.0%	-3.6%
Hong Kong	90	80	60	-1.5%	-4.6%
Taiwan	10	30	30	18.4%	1.5%
Malaysia	120	50	30	-15.8%	-12.4%
Korea	30	20	10	-5.4%	-6.9%
Indonesia	40	20	10	-10.0%	-12.6%
Brazil	250	40	10	-29.5%	-25.5%
Vietnam	30	10	-	-18.3%	-13.6%
Pakistan	10	10	-	-27.9%	-33.3%
India	30	-	-	-32.2%	-21.0%
Thailand	10	-	-	-22.5%	-21.8%
Philippines	10	-	-	-27.9%	-33.3%
Nepal	10	-	-	-43.0%	-50.5%
Others	1,220	1,260	1,070	0.6%	-3.3%
<b>Total</b>	<b>2,370</b>	<b>2,070</b>	<b>1,760</b>		

Notes: Projections rounded to the nearest ten. A blank indicates a number less than 5

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

**Table 36** Baseline Scenario: School Enrolments in WA, by Source Country 2015 to 2025

Nationality	2015	2020	2025	Average Growth Rate 2015-2020	Average Growth Rate 2020-2025
Vietnam	130	170	200	5.2%	3.6%
China	240	210	130	-2.4%	-9.1%
Malaysia	90	70	40	-5.9%	-10.5%
India	20	30	20	5.6%	-3.9%
Philippines	10	20	20	4.4%	1.4%
Thailand	40	20	10	-9.3%	-11.1%
Indonesia	40	20	10	-17.2%	-19.7%
Korea	50	10	-	-29.3%	-23.6%
Taiwan	10	-	-	-10.2%	-18.1%
Hong Kong	30	10	-	-24.7%	-26.7%
Singapore	20	-	-	-35.2%	-26.5%
Nepal	-	-	-	-28.2%	-24.2%
Brazil	-	-	-	-36.9%	-34.4%
Pakistan	-	-	-	4.4%	1.4%
Others	160	160	110	-0.1%	-7.2%
<b>Total</b>	<b>850</b>	<b>720</b>	<b>550</b>		

Notes: Projections rounded to the nearest ten. A blank indicates a number less than 5  
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

# Projected Economic Contribution of International Education to Western Australia

The implications of the baseline enrolment projections for the economic contribution of international education to WA to 2020 and 2025 are presented in Table 37. Applying the same methodology as that undertaken in constructing Table 13, under the baseline scenario, total education-related travel expenditure equates to \$1,834m in 2025<sup>17</sup>. This compares to \$1,381m under the low scenario and \$2,695m under the high scenario.

Higher education and VET remain as the dominant sources of revenue growth under the baseline scenario. The schools and non-award sectors see a decline in economic contribution (from \$30m to \$19m and \$44m to \$33m, respectively), compared to the 2015 revenue figures reported in Table 13. ELICOS sees a modest increase (from \$92m to \$93m).

Under the baseline scenario, total education-related travel expenditure equates to \$1,834m in 2025.

**Table 37** Baseline Scenario: Projected International Student Expenditure (\$m) in WA, 2020 and 2025, by Sector

2020	HE	VET	Schools	ELICOS	Non-award	Total
Goods and services	550	270	10	50	10	890
Fees	470	140	10	50	20	690
<b>Total</b>	<b>1,020</b>	<b>410</b>	<b>20</b>	<b>100</b>	<b>30</b>	<b>1,580</b>
2025	HE	VET	Schools	ELICOS	Non-award	Total
Goods and services	650	300	10	40	10	1,010
Fees	570	160	10	50	20	810
<b>Total</b>	<b>1,220</b>	<b>460</b>	<b>20</b>	<b>90</b>	<b>30</b>	<b>1,820</b>

Notes: Calendar Year; Projections have been rounded to the nearest ten or hundred, as appropriate, and therefore values may vary slightly to those reported elsewhere; 2015 prices.  
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from ABS Cat. 5368.0; ABS Cat. 5209.0; DET (2015)

The revenue, value-added and projected employment (FTE) implications for WA under the low, baseline and high scenarios by 2020 and 2025 are presented in Table 38. For 2025, the value added contribution to the economy under the low, base and high scenarios is \$790m, \$1,060m and \$1,550m respectively. This in turn implies employment contributions of 8,430, 11,170 and 16,600 under the low, baseline and high scenarios, respectively. This implies that every additional 100 international enrolments, adds approximately 16 full-time equivalents (FTEs) to the WA economy (direct and indirect).

Every additional 100 international student enrolments, adds approximately 16 FTEs to the WA economy.

**Table 38** Low, Baseline and High Scenarios: Value-Added Contribution (\$m) of International Students to WA, 2020 and 2025

	2015 (Actual)	2020 Low Scenario	2020 Base Scenario	2020 High Scenario
Number of Enrolments	50,500	54,800	60,500	71,700
Revenue \$m	1,300	1,400	1,600	1,900
Value Added (\$m)	800	800	900	1,100
Employment (FTE)	8,100	8,800	9,700	11,400
	2015 (Actual)	2025 Low Scenario	2025 Base Scenario	2025 High Scenario
Number of Enrolments	50,500	50,900	67,300	103,500
Revenue (\$m)	1,300	1,400	1,800	2,700
Value Added (\$m)	800	800	1,100	1,600
Employment (FTE)	8,100	8,400	11,200	16,600

Notes: Calendar Year; Projections have been rounded to the nearest ten or hundred, as appropriate, and therefore values may vary slightly to those reported elsewhere; 2015 prices.  
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from ABS Cat. 5368.0; ABS Cat. 5209.0; DET (2015)

<sup>17</sup> We assume constant 2015 prices for Fees and Goods and Services.

## Moving Beyond the Baseline

If WA was to receive its demographic share of Chinese enrolments into Australia by 2025, this implies 32,660 Chinese enrolments into WA, from a baseline of 8,500.

The purpose of this section is to analyse specific scenarios based on input from key stakeholders. The projected enrolments presented thus far have emerged based on historical growth trends. Here, the scenarios presented are based on some deviation from the baseline scenario. In a sense they represent what stakeholders would like to see over the short (2020) to long (2025) term. Such scenarios would require significant focus, coordination and well-designed strategies, inclusive of all major stakeholders. To achieve such scenarios requires a significant deviation from the 'business as usual' current state, with significant impacts on the supply of education, related quality provision, marketing, and accommodation, amongst others.

For each of these scenarios, we assume that enrolments in other states in Australia remain unchanged from the baseline. That is, these scenarios are developed without addressing the potential impact on other states. The three scenarios presented are compared to the baseline scenario.

**Scenario 1:** "By 2025, WA's share of Chinese enrolments equates to WA's current demographic share of Australia's population (10.9%)."

Earlier in this report we showed that WA's share of Chinese enrolments in Australia is low (4.1%) relative to other states (for example, SA has 7.5%) and has been declining. Here we look at the impact on WA's overall enrolments if the state's share of Chinese enrolments into Australia (across all education sectors) increased to 10.9 per cent (WA's share of the Australian population in 2015). The results are presented in the top two panels of Figure 32.

The top left hand panel shows projected Chinese enrolments into WA (orange dotted line), with the grey bars showing the percentage deviation from the baseline scenario (solid orange line). If WA was to receive its demographic share of Chinese enrolments into Australia by 2025, this implies 32,660 Chinese enrolments into WA, from a baseline of 8,500. That is, as depicted in the top right hand panel, WA would receive almost 25,000 additional enrolments (grey bars), bringing overall WA enrolments to 91,500, compared to 67,300 under the baseline scenario.

The lower two panels of Figure 32 present the implications of this scenario on WA's share of total enrolments into Australia. Under the baseline scenario, WA receives 7 per cent of enrolments by 2025. This increases to 9.2 per cent under the scenario presented here. This highlights the significant impact and potential of the Chinese market on WA's overall success in the international education market.

**Figure 32 Scenario 1: WA's Share of Chinese Enrolments Equates to WA's Current Demographic Share of Australia (10.9%)**

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

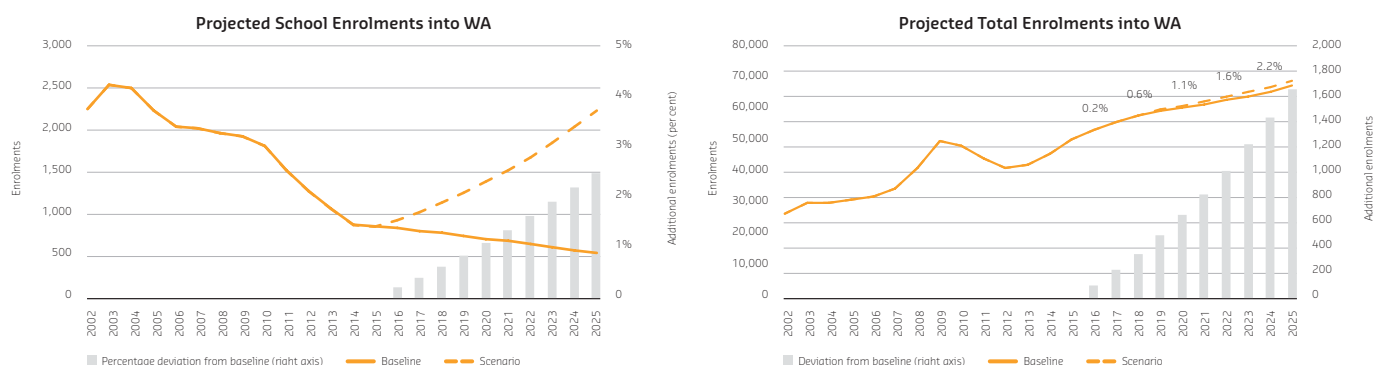
### Scenario 2: “International enrolments in WA’s schools reverse their downward trend, increasing by 10% each year through to 2025.”

Previously in this report the decline of WA’s share of enrolments in the schools sector was outlined. This is also shown in Figure 33 below. WA’s share of school enrolments in Australia currently lies at 4.1 per cent having been 9.5 per cent in 2002. Potential causes include a decrease in migration into WA, with stakeholders also noting concerns over the quantity of supply (i.e. school places) available in this sector, particular during periods of national growth, leading to a lost opportunity. SA, by contrast, has seen its national share grow from 5.7 per cent in 2002 to 10.4 per cent in 2015.

Under the baseline scenario, the decline in WA’s school sector continues. However, if WA were to reverse this downward trend, with an annual increase in enrolments of 10 per cent from 2015 to 2025, WA would have an additional 1,665 school enrolments in 2025.

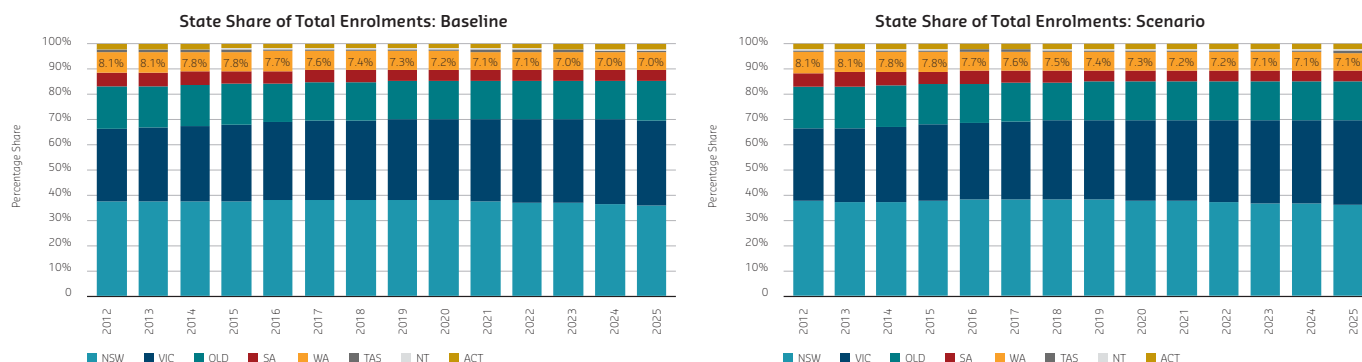
While the overall direct impact on WA’s total international student enrolments is modest (with a 0.1% increase in WA’s enrolment share in 2025 - see Figure 34), this scenario implies a cumulative increase of almost 8,000 enrolments on top of the baseline scenario projections over the period 2015 to 2025. Furthermore, should these students progress to tertiary education in WA, there would be an additional indirect benefit, which is not captured here.

**Figure 33 Scenario 2: International Enrolments in WA’s Schools Sector reverse their Downward Trend, increasing by 10% each year through to 2025**



Notes: For the baseline case, an add-factor has been applied to the long term growth rate to reflect the upturn from 2013  
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors’ calculations from DET (2015)

**Figure 34 Scenario 2: International Enrolments in WA’s Schools Sector reverse their Downward Trend, increasing by 10% each year through to 2025 – implications for WA’s share of Australian enrolments**

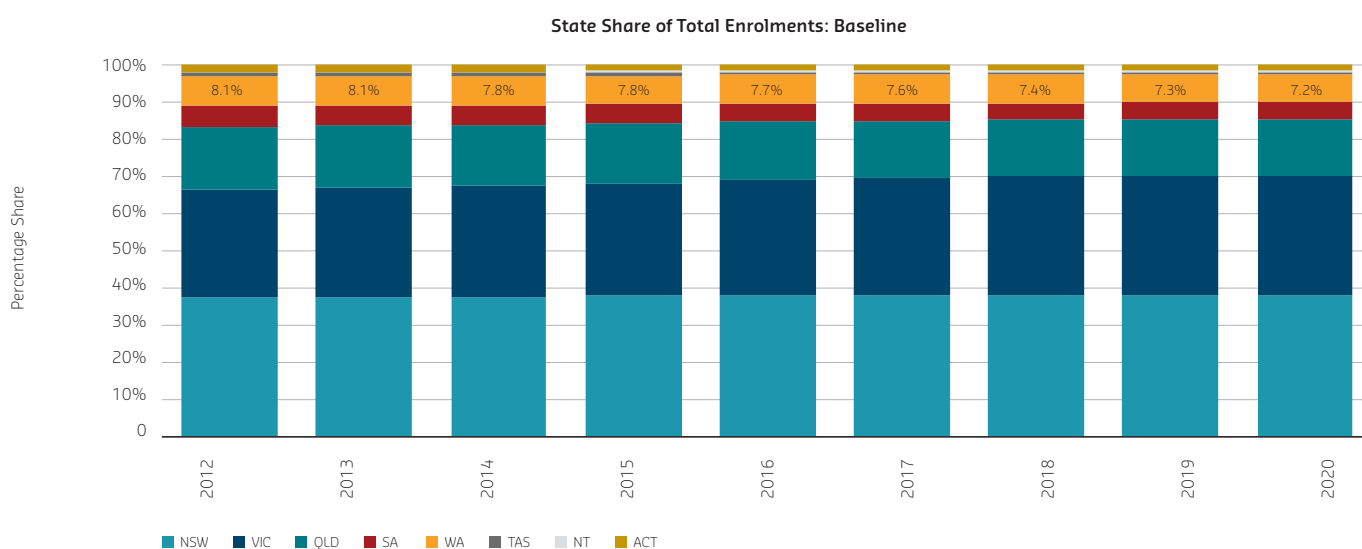


Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors’ calculations from DET (2015)

**Scenario 3:** “WA’s share of total enrolments in all sectors approaches WA’s 2015 demographic share of Australia’s population (10.9%) by 2020.”

This scenario looks at the impact on enrolments of WA receiving its demographic share of international student enrolments by 2020. That is, what is the impact on WA enrolments if the state received 10.9 per cent of total enrolments into Australia (across all education sectors) by 2020? Figure 35 shows that under the baseline scenario, WA’s share of total enrolments declines from 7.8 per cent in 2015 to 7.2 per cent in 2020. This highlights the need to reverse this downward trend.

**Figure 35** WA’s Share of Total Enrolments, Baseline to 2020



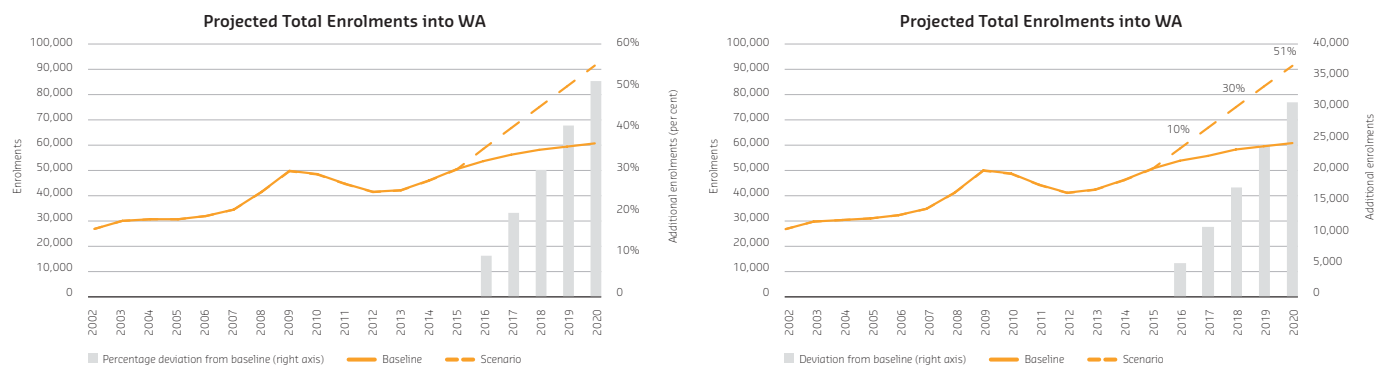
Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)

The results of Scenario 3 are presented in Figure 36. The top chart shows projected total enrolments into WA (orange dotted line), with the grey bars showing the percentage deviation from the baseline scenario (solid orange line). This scenario implies that WA would have 91,200 total enrolments by 2020, compared to 60,500 under the baseline scenario. That is, as depicted in the bottom chart, WA would receive almost 30,700 additional enrolments. This implies large increases in enrolments in addition to the baseline, with for example, a 51 per cent increase in enrolments on top of the baseline required in 2020 alone.

From a revenue, value added and employed contribution perspective, under this scenario, WA's export revenue from international education equates to \$2.65bn, with a value added contribution of \$1.54bn, and an employment contribution of 16,000 FTEs in 2020.

Under this scenario WA will have a total of 91,200 international student enrolments by 2020, compared to 60,500 under the baseline scenario.

**Figure 36 Scenario 3: WA's Share of Total Enrolments Equates to WA's Current Demographic Share of Australia (10.9%) by 2020**



Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from DET (2015)





# POLICY CONTEXT: INITIATIVES IN OTHER JURISDICTIONS

## Introduction and Initiatives in Other Jurisdictions

Over the past three years, international education has received significant attention from governments across Australia, both in policy terms and direct support. On 30 April 2016, the Commonwealth Government released the *National Strategy for International Education 2025*, which sets out a 10-year plan for developing Australia's role as a global leader in education, training and research, and provides a framework of priorities to strengthen and grow the sector. The Commonwealth committed \$12 million over four years from 2016-17 to implement the strategy.

It is not only the Commonwealth Government that appreciates the potential and importance of the international education sector. Box 1 summarises key reports recently released in each State and Territory other than WA.<sup>18</sup> These initiatives have many similarities in objectives and activities, although their scale varies. All jurisdictions provide support to enhance the student experience, assist market development, marketing and promotion, and to build partnerships and collaboration.

From an examination of these strategies as well as interviews with a range of people in South Australia (the most comparable state to WA in terms of numbers of international students and distance from the main east coast cities) and Victoria (widely acknowledged as the leading state in Australia for international education), a number of key points are noteworthy, as presented in *Box 1* and *Box 2* below.

### Box 1: South Australia

South Australia has been active in supporting international education for several years as part of its broader State Economic Strategy. In 2006 the State Government under Premier Mike Rann first provided significant financial support to assist the establishment of a Carnegie Mellon University campus in Adelaide as part of its broader strategy for Adelaide to become recognised as Australia's 'University City'. However, efforts to encourage international providers to establish operations in Adelaide have had only mixed success.

Government funding of StudyAdelaide was threatened in late 2013, but after a public and industry backlash the funding was restored and now complements significant investments from the City of Adelaide, the three public universities and other providers. StudyAdelaide now has 10 staff and is very active in supporting the sector through destination marketing and other initiatives, and receives strong backing from stakeholders.

The responsible department within government has shifted over time. Since February 2016, international education has been placed within the Department of State Development, where it works closely with the trade mission section and Austrade. The Department now has around 6 full time equivalent staff working on higher education, including international education. The schools sector, supported through the Education Department, is also seen as a particularly strong performer.

South Australia pays close attention to student engagement, with an airport welcome desk, Lord Mayor's welcome and farewell receptions, and increasing attention to post-study career options. The existence of CBD-based universities was seen as a key factor in Adelaide being attractive to international students, as well as lower living costs and a perceived safe and attractive environment.

<sup>18</sup> A list of the relevant reports is included in the Appendix (Table 40).

## Box 2: Victoria

Victoria is generally recognised as the leading state when it comes to international education. The sector is the state's largest export and Victoria has a long history of bipartisan support for international education, beginning with the Kennett Government in the mid-1990s.

The current strategy of the Andrews Labor government has many continuities with the strategy of the former Naphine Coalition government, albeit with a significant budget increase (from \$17.5 million to \$31.9 million over a four year period). Initiatives that have been continued include the Study Melbourne Student Centre, airport welcome desk, culture card, discounted public transport fares, internship program, expansion of cultural exchange opportunities for school students, and further development of its overseas-based Education Services Managers (ESM) network.

Discussions with State government officials and the City of Melbourne (which also employs staff dedicated to international education) indicate that there is a real sense of industry ownership of the strategy, following extensive consultations with the sector. Moreover, the sector itself is considered to be very collaborative.

The Department of Economic Development, Jobs, Transport and Resources is the lead agency within the State government, with around 20 staff working on international education. The main focus of the agency is higher education, but it acts as a lead agency across government and works closely with other agencies such as Planning and Education, who are involved in accommodation issues and support for other sectors, such as schools.

The main role for government is considered to be provision of leadership and support, rather than direct involvement in recruitment, which is seen as the responsibility of providers. Government also has a key role in developing government-to-government relationships and facilitating business-to-business links. Market development is being advanced through the ESMs and the development of in-bound trade missions to supplement the normal out-bound activity. It was remarked by one interviewee that government has helped to 'change the narrative' away from a focus on market development and towards an emphasis on a 'premium student experience' for international students in Victoria. This is underlined with activities such as the airport welcome, Melbourne Study Centre, cultural engagement activities (including working closely with the City of Melbourne), online career fairs, internships, etc. There has also been an increased focus on student welfare following the events of 2009-2010, and all stakeholders felt much more prepared now for any incidents that may arise.

## International education is an important part of a State's economic strategy

Significantly, every government – other than WA – has a current, operating strategy for international education, or has indicated that it will have one in the near future, with Tasmania recently releasing a draft for public comment.

Also notable is the fact that in most cases, ministerial and departmental responsibility for international education is now located in either the main economic development department (Victoria, Queensland, South Australia, Tasmania, ACT), or with the Premier (NSW), reflecting the priority being placed on international education as an economic growth sector. Victoria has appointed a Minister for International Education, who is also the Minister for Training and Skills. This contrasts with the situation in WA, where primary responsibility for international education remains with the Minister for Education and the Department of Education Services, although the Department of Training and Workforce Development, through TAFE International Western Australia, also plays an important role in developing the sector.

Determining government budgets for international education is difficult as not all governments have separate line items for it. Also, a number of agencies are often involved in addition to the lead agency – for example, Education (for schools), Training (for VET) and Transport (for public transport concessions). Two significant budget announcements in the past year have been Victoria, which announced a \$31.9m budget over 4 years from 2016-17, and South Australia, which increased its budget by \$5.7m to a total of \$9.9m over the same 4 year period. The SA total does not include substantial contributions totalling \$1.2m per annum from universities and the City of Adelaide for StudyAdelaide. In neither state do these budget figures include the cost of public transport concessions or free schooling for the children of international research students. In Victoria, a three year trial of transport concessions was introduced in 2014 costing \$5m per year.

## Destination marketing and market development

A key activity by all State and Territory governments is destination marketing. This is pursued through a variety of means, including:

- Websites and social media campaigns;
- Outbound trade missions;
- Support for trade offices in key markets; and
- Inbound missions.

Marketing through a dedicated website promoting the state or capital city aimed at potential international students, as well as regular social marketing campaigns, is undertaken by all states. Every State has a 'StudyX' brand such as StudyPerth or StudyMelbourne for this purpose, although in the case of StudyPerth and StudyAdelaide these are separate agencies whereas in NSW, Queensland and Victoria they are brands rather than discrete organisations.

Trade missions are a mainstay for most governments although Victoria has in recent years also supported inbound trade missions for foreign governments and education agents. These are seen as potentially more efficient and effective ways to demonstrate the attractiveness and capability of education in the State. The Victorian Government has also funded a network of eight education market officers who are located in trade offices in Asia and South America.

## Enhancing the student experience

All state governments are active in efforts to improve the experience of international students and to encourage greater support and understanding of the role played by international students in the wider community. This is important for student safety and wellbeing but also for enhancing the international reputation of the state and city as a place to live and study.

Several aspects that can be found to varying extent across the states and territories include the following:

- Welcome desks at major airports are becoming a common feature. In Melbourne, the welcome desk is now staffed year-round, whereas in other cities it is mainly focused on the peak student arrival periods.
- Welcome receptions by the Lord Mayor or equivalent are becoming commonplace.
- Victoria established the Study Melbourne Student Centre in the CBD as a 'one stop shop' providing information, advice and support for students on issues such as accommodation, health, employment, financial management and the law, in several languages.
- Some state governments and city councils have international student welfare officers to assist with issues that may arise such as health and safety, accommodation and employment problems, etc. Victoria has a \$4 million grants program and the City of Melbourne also has a dedicated officer involved in this area.
- Governments are increasingly running seminars and programs aimed at helping students with employment opportunities and to improve their employability skills, both to assist in their ability to get jobs while in Australia (including post-graduation) and also for when they return to their home countries. This can include liaison and cooperation with local employers.
- NSW provides grants (in partnership with industry) for projects to address issues in international education. StudyNSW provided \$318,000 for 7 projects worth over \$1.6 million in 2015-16 to tackle issues such as student accommodation, to provide free legal advice to international students, and to hold an employability forum. Queensland has recently announced a similar partnership fund.
- Recognition and awards. A number of governments have introduced awards for international students as a way of recognising their achievements.

**Table 39** Recent Policy Initiatives at State and Territory Level

	NSW	VIC	QLD
<b>Key Documents</b>	Study NSW International Education Strategy (2016)	International Education Sector Strategy (2016) (ALP Govt)	International Education and Training Strategy to Advance Queensland 2016-2026 (2016)
<b>Strategic Objectives</b>	<ol style="list-style-type: none"> <li>1. Improve the experience of international students</li> <li>2. Marketing and promotion</li> <li>3. Policy and advocacy</li> <li>4. International market development and support.</li> </ol>	<ol style="list-style-type: none"> <li>1. Quality, innovation and outstanding student experience in Victoria</li> <li>2. Market development and showcasing Victoria to the world</li> <li>3. Sustained growth across international education sectors</li> <li>4. Collaboration and broader benefits of international education.</li> </ol>	<ol style="list-style-type: none"> <li>1. Promote Queensland internationally</li> <li>2. Enhance the Student Experience</li> <li>3. Strengthening our Regions</li> <li>4. Connect the International Education and Training (IET) Industry.</li> </ol>
<b>Lead Minister</b>	Minister for Trade, Tourism & Major Events	Minister for International Education and Skills	Deputy Premier & Minister for Trade and Investment
<b>Other Ministers</b>		Minister for Industry; Minister for Education	Minister for Education; Minister for Training and Skills
<b>Lead Department</b>	Premier & Cabinet	Economic Development	Trade and Investment
<b>International Education Advisory Body</b>	Yes	Yes	Yes
<b>Private Sector Represented</b>	Yes	Yes	Yes
<b>Budget</b>		\$31.9m/4 years ('16-17 – '19-20) \$17.5m/4 years ('13-14 – '16-17)	\$25.3m/5 years
<b>Status of StudyX</b>	StudyNSW: Unit within Premier & Cabinet	StudyMelbourne: Brand	StudyQueensland: Brand Also note: Study Brisbane, Study Gold Coast, Study Cairns – supported by local governments
<b>Distinctive Features</b>	Partnership grants	<ul style="list-style-type: none"> <li>- Study Melbourne Student Centre</li> <li>- International Student Welfare Grants Program</li> <li>- Network of 8 Education Services Managers</li> <li>- Inbound trade missions</li> <li>- Victorian Young Leaders to China</li> </ul>	<ul style="list-style-type: none"> <li>- Regional Queensland focus</li> <li>- Annual IET Partnership Fund</li> <li>- Annual IET summit</li> </ul>

SA	TAS	NT	ACT
Destination Adelaide: A plan to strengthen, support and grow our international student sector (2015) International Students Action Plan (2016)	Tasmanian International Education Position Paper (2016)	Northern Territory International Education and Training Strategy 2014-2024 (2014)	Canberra: Australia's Education Capital: An International Education Strategy for Canberra (2016)
<ol style="list-style-type: none"> <li>1. Grow SA's international education footprint</li> <li>2. Provide a safe, vibrant and positive experience for international students</li> <li>3. Promote Adelaide as Australia's premier learning city.</li> <li>4. Support the international education sector.</li> </ol>	<ol style="list-style-type: none"> <li>1. Strengthen partnerships</li> <li>2. Enhance student experience</li> <li>3. Destination branding and marketing Tasmanian international education.</li> </ol>	<ol style="list-style-type: none"> <li>1. Establish Study NT</li> <li>2. High-quality education and training system</li> <li>3. Build on skills of our workforce, ensuring Asian cultural competencies</li> <li>4. New investment and infrastructure in student accommodation, public transport and affordable, direct flights.</li> </ol>	<ol style="list-style-type: none"> <li>1. Market and Promote Canberra</li> <li>2. Enhance the Student Experience</li> <li>3. Grow International Engagement</li> <li>4. Strengthen Partnerships and Collaboration</li> <li>5. Support Reforms to Enable Growth.</li> </ol>
Minister for Investment and Trade	Minister for State Growth	Minister for Education	Chief Minister
			Minister for Higher Education, Training and Research
State Development	State Growth	Education	Chief Minister, Treasury and Economic Development Directorate
Yes	No	No	No
Yes	N/A	N/A	N/A
\$9.9m/4 years ('16-17 – 19-20)			
StudyAdelaide: public corporation	StudyTasmania: Brand	StudyNT: Brand	StudyCanberra: Brand
Provider and city contributions to StudyAdelaide			Free, automatic, streamlined nomination of skilled migrant visa applications for PhD graduates from Canberra institutions – i.e. subject to meeting Commonwealth requirements, any international student awarded a PhD by a Canberra university will automatically be nominated to live and work in Canberra

## Partnerships - involving stakeholders

Supporting international students has become a cooperative endeavour in many states, with important roles being played by educational institutions and local governments as well as the state government. The four mainland states other than WA have, or in the case of Queensland are planning to have, an international education advisory group reporting to the Minister which involves public and private providers and other stakeholders. These are separate from general higher education or industry advisory councils.

Local governments have taken on particular responsibilities, especially in the capital cities (although in more decentralised Queensland, this is also true for Cairns and the Gold Coast). For example, Lord Mayor's welcome functions, the organisation of regular social and educational events, welfare support and in some cases, facilitation and support through planning schemes of affordable housing and student accommodation, are just some of the means by which city councils are providing assistance to international education.

This reflects the fact that students now form a large proportion of the total population resident within the boundaries of some capital cities. In Adelaide, for instance, it is estimated that 25 per cent of the City of Adelaide's population are students, with 9 per cent being international students. In Melbourne, the student proportion of the City of Melbourne's population of 110,000 people is even greater, at 45 per cent, with 20 per cent being international students.

## Western Australia's comparative position

WA appears to be under-developed in terms of the focus and resources being applied to international education and the governance surrounding its promotion and development. WA is the only State that does not yet have a public strategy for international education. It is also one of few jurisdictions that retains lead responsibility for international education within the education rather than an economic development portfolio. While it is difficult to compare budgets across States, WA government investment does not match that witnessed in Victoria (\$31.9m/4 years), Queensland (\$25.3m/5 years) or SA (\$9.9m/4 years). Best estimates indicate an annual budget of \$1.3m for StudyPerth from the Department of Education Services.





# SUMMARY AND CONCLUSIONS



## Summary and Conclusions

International education is a significant Australian industry. After experiencing rapid growth between 2002 and 2009, enrolments suffered a setback for three years but have since recovered to record levels. Education services are now the nation's largest services export and third largest export sector overall. With over 645,000 student enrolments in 2015, education-related travel expenditure was valued at 18.8bn and contributed towards an estimated 130,000 jobs.

WA has experienced a similar story but not to the same extent. There were over 50,000 international student enrolments in WA in 2015, the highest ever, with an estimated expenditure of \$1.39bn, with a value-added of \$766m contributing the equivalent of 8,065 full-time jobs, concentrated mainly in food, drink and accommodation; education; shopping; and several other industries.

However, WA's share of the international student market in Australia dropped from 9.9 per cent in 2002 to 7.6 per cent in 2008 (a period of rapidly increasing enrolments) and only slightly recovered to 7.8 per cent in 2015. All sectors – higher education, VET, ELICOS, schools, and non-award – lost national market share between 2002 and 2007, but only VET has staged a significant recovery (WA now has 9.1 per cent of national VET enrolments compared to 7.5 per cent in 2002 and just 5.2 per cent in 2007). ELICOS has slowly recovered but higher education and schools have continued to decline. In higher education – the most valuable and the biggest sector, with more than 42 per cent of all students nationally – WA now only has 6.8 per cent of national enrolments, compared to 11.2 per cent in 2002.

A primary factor explaining the fall in WA's share of the Australian international market is its relatively low share of Chinese students studying in Australia (4.1%). These students were the primary driver of the rapid increase in national enrolments from 2002, and now represent over a quarter (26.4%) of all international enrolments in Australia. WA did not capture a proportionate share from this source. Accordingly, Chinese students now represent only 13 per cent of WA's international enrolments, half the share for Australia as a whole (26%) and only one third of the figure for South Australia (39%). WA has in recent years done better with Indian students, the next largest cohort (11.2% of all students nationally), with WA having 8.5 per cent of this group.

In summary, WA has not managed to share proportionately in the two most significant trends influencing international enrolments in Australia over the past decade – the growth in higher education and in Chinese students. As a result, this has left WA with a reduced national share of enrolments and an even less than proportionate share of student expenditure, value added and employment arising from these enrolments.

The determinants of students' choice of study destination are numerous and varied. Statistical examination in this report shows that distance from home country to host state has the strongest influence on international student commencements into WA. Other influential factors include the strength of the state's labour market and the availability of future employment. We also find that unemployment rates in the students' home country is a strong push factor, influencing students' desire to seek education opportunities in Australia.

On current trends, a baseline (medium) growth scenario over the next ten years would see projected national enrolments rise from the current 645,000 to 838,700 in 2020 and 967,600 in 2025. WA's enrolments under this scenario would rise to 60,500 (from the current 50,500) in 2020 and 67,300 in 2025. WA's share of national enrolments would continue to decline to 7 per cent by 2025. Under this scenario, revenues would be \$1.8bn (compared to \$1.39bn in 2015), and employment would be 11,170 (compared to 8,065 in 2015). Under a high growth scenario, WA's enrolments would increase to 103,500 and revenue would rise to \$2.69bn with 16,600 jobs, more than double the 2015 figure.

The report also modelled three scenarios which appear, on first reading, to not be too onerous: (i) to achieve WA's 'demographically fair share' (i.e. 10.9%) of Chinese enrolments by 2025; (ii) to reverse the decline in school enrolments and increase them by 10 per cent per year; and (iii) to achieve WA's demographic share across all sectors within five years, i.e. by 2020.

The implications of these scenarios on enrolments and economic benefits are profound. Increasing WA's share of the Chinese market progressively over the next decade to reach 10.9 per cent by 2025 implies 32,660 Chinese enrolments, compared to a current figure of around 7,000 and a baseline forecast of 8,500 in 2025. Overall WA enrolments would increase to 91,500 compared to 67,300 under the baseline scenario and around 50,500 currently.

Increasing school enrolments by 10 per cent per year would mean an additional 1,655 enrolments above the baseline in 2025, and a cumulative increase of 8,000 over the ten year period.

Achieving WA's demographic share in all sectors by 2020 implies a rapid increase in enrolments to 91,200 compared to a projected 60,500 under the baseline – a more than 50 per cent increase. WA's export revenue would equate to \$2.6bn and an employment contribution of 16,000 FTEs, around double the current situation.

The point of these scenarios is not to predict the future or even guess what is likely to happen, but to indicate the implications if the outcomes were achieved, even partially. Could WA's school sector cope with an additional 1,655 enrolments? Could WA cope with the knock-on effect of an extra 30,000 international student enrolments across all sectors? Can Perth provide sufficient accommodation for a rising international student population? If we want to significantly increase our share of the national market, are our educational institutions and our general population prepared?

The brief summary of the strategies released in recent months by every other State and Territory government indicates that they are looking at the wider implications of an increased international student population in terms of student welfare and for integrating and welcoming these students into their communities, in addition to initiatives aimed at marketing and market development. Having a whole-of-government strategy and a collaborative approach involving partnerships with local government, public and private providers seems essential.

It is imperative that Western Australia takes lessons from the historical trends presented here, as well as best practice developed elsewhere in Australia and internationally. Western Australia must aim to obtain its fair share of international student enrolments. To achieve this requires a focussed, coordinated and inclusive state strategy. With international education expected to grow globally, WA must be positioned to take full advantage of the prospects presented.





# GLOSSARY



# Glossary

## Commencements

A commencement is a new student enrolment in a particular course, and at a particular institution (DET, 2016a).

## ELICOS

English Language Intensive Courses for Overseas Students.

## Enrolments

As per the Department of Education and Training (DET, 2016a), an enrolment counts the actual course enrolments, and therefore does not represent the number of overseas students in Australia or a given state.

## Value Added

This measures the contribution of a sector or industry to gross state product. It can be thought of as the increased contribution to welfare. Value added is comprised of three elements: labour income, gross operating surplus, and taxes on production less subsidies.

## VET

Vocational Education and Training.



# APPENDIX



**Table 40** Jurisdiction Strategy URLs

State	Strategy URL
<b>NSW</b>	<a href="http://www.industry.nsw.gov.au/___data/assets/pdf_file/0020/82334/StudyNSW-International-Education-Strategy.pdf">http://www.industry.nsw.gov.au/___data/assets/pdf_file/0020/82334/StudyNSW-International-Education-Strategy.pdf</a>
<b>VIC</b>	<a href="http://www.business.vic.gov.au/___data/assets/pdf_file/0010/1275499/International-Education-Strategy-web-version-20160308.PDF">http://www.business.vic.gov.au/___data/assets/pdf_file/0010/1275499/International-Education-Strategy-web-version-20160308.PDF</a>
<b>QLD</b>	<a href="http://www.tiq.qld.gov.au/download/business-interest/export/International-Education-Training-Strategy-to-Advance-Queensland-2016-2026.pdf">http://www.tiq.qld.gov.au/download/business-interest/export/International-Education-Training-Strategy-to-Advance-Queensland-2016-2026.pdf</a>
<b>SA</b>	<a href="http://www.statedevelopment.sa.gov.au/upload/skills/destination-adelaide/Destination-Adelaide-Plan-2015.pdf">http://www.statedevelopment.sa.gov.au/upload/skills/destination-adelaide/Destination-Adelaide-Plan-2015.pdf</a> <a href="http://www.statedevelopment.sa.gov.au/upload/education/International-Student-Action-Plan.pdf">http://www.statedevelopment.sa.gov.au/upload/education/International-Student-Action-Plan.pdf</a>
<b>TAS</b>	<a href="http://stategrowth.tas.gov.au/___data/assets/pdf_file/0008/136547/International_Education_Position_Paper.PDF">http://stategrowth.tas.gov.au/___data/assets/pdf_file/0008/136547/International_Education_Position_Paper.PDF</a>
<b>NT</b>	<a href="http://www.australiasnorthernnterritory.com.au/studynt/education-providers/Documents/international-education-training-strategy-2014-2024.pdf">http://www.australiasnorthernnterritory.com.au/studynt/education-providers/Documents/international-education-training-strategy-2014-2024.pdf</a>
<b>WA</b>	<a href="http://www.des.wa.gov.au/highereducation/Documents/Strategic%20Plan%20for%20Higher%20Education%20in%20Western%20Australia%202015.pdf">http://www.des.wa.gov.au/highereducation/Documents/Strategic%20Plan%20for%20Higher%20Education%20in%20Western%20Australia%202015.pdf</a>
<b>ACT</b>	<a href="http://www.business.act.gov.au/___data/assets/pdf_file/0006/980529/160830_International_Education_Strategy_WEB.pdf">http://www.business.act.gov.au/___data/assets/pdf_file/0006/980529/160830_International_Education_Strategy_WEB.pdf</a>
<b>Federal</b>	<a href="https://nsie.education.gov.au/sites/nsie/files/docs/national_strategy_for_international_education_2025.pdf">https://nsie.education.gov.au/sites/nsie/files/docs/national_strategy_for_international_education_2025.pdf</a>

Source: BANKWEST CURTIN ECONOMICS CENTRE | various sources, refer to URLs provided

**Table 41** The Categorisation of Expenditure Items by 2013-14 ABS Input-Output industries

Strategy URL	ABS Input-Output Industry Category
<b>Education Fees</b>	
Higher Education Fees	Technical, Vocational and Tertiary Education Services
VET Fees	Technical, Vocational and Tertiary Education Services
School Fees	Primary and Secondary Education Services
ELICOS Fees	Arts, Sports, Adult and Other Education Services
Non-award Fees	Technical, Vocational and Tertiary Education Services
<b>Goods and Services</b>	
Organised tours	Sports and Recreation
International airfares bought in Australia	Air and Space Transport
Domestic airfares	Air and Space Transport
Taxi and local public transport	Road Transport
Petrol and oil for self-drive cars or other vehicles	Petroleum and Coal Production Manufacturing
Shopping	Retail Trade
Food, drink and accommodation	Accommodation
Entertainment	Sports and Recreation
Motor vehicles	Road Transport
Phone, internet, fax and/or postage	Telecommunication Services
Other	Retail Trade

**Notes:** It is assumed that the majority of students in the non-award sector are enrolled in either a higher education or VET course. Given this, non-award education fees have been assigned to 'Technical, Vocational and Tertiary Education Services'.

**Source:** BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations based on assignments



**Table 42** Value-added Component Proportions by Selected 2013-14 ABS Input-Output Industries

ABS Input-Output Industry	Labour Proportion (%)	GOS Proportion (%)	Other Tax Less Subsidies (%)
Technical, Vocational and Tertiary Education Services	66.62	6.11	1.16
Primary and Secondary Education Services	69.51	7.56	0.97
Arts, Sports, Adult and Other Education Services	34.47	27.51	-0.01
Sports and Recreation	24.34	10.5	0.98
Air and Space Transport	19.08	7.4	0.86
Road Transport	24.68	15.09	2.53
Petroleum and Coal Production Manufacturing	2.7	12.72	-0.07
Retail Trade	39.29	19.61	2.23
Accommodation	27.8	14.23	3.07
Sports and Recreation	24.34	10.5	0.98
Telecommunication Services	13.17	28.69	0.15

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations from on ABS, (2016a)

**Table 43** Higher Education: Value-added Contribution, 2015 (\$m)

Expenditure Category	Higher Education	Labour Value	GOS Value	Other Tax Less Subsidies on Production Value	Total Value Added	Employment FTE	FTE per 1000 Enrolments
Organised tours	\$5,833,700	\$1,420,200	\$612,300	\$57,100	\$2,089,600	31	1.65
International airfares bought in Australia	\$25,809,800	\$4,923,300	\$1,910,800	\$222,400	\$7,056,500	54	2.91
Domestic airfares	\$4,466,100	\$851,900	\$330,600	\$38,500	\$1,221,000	9	0.50
Taxi and local public transport	\$21,309,000	\$5,259,100	\$3,216,400	\$538,700	\$9,014,200	58	3.11
Petrol and oil for self-drive cars or other vehicles	\$7,267,600	\$196,200	\$924,200	-5400	\$1,115,000	1	0.06
Shopping	\$57,811,800	\$22,714,900	\$11,336,700	\$1,291,000	\$35,342,600	490	26.32
Food, drink and accommodation	\$303,195,000	\$84,279,500	\$43,157,400	\$9,309,900	\$136,746,800	2,273	122.02
Entertainment	\$8,435,200	\$2,053,500	\$885,400	\$82,600	\$3,021,500	41	2.18
Motor vehicles	\$17,836,200	\$4,402,000	\$2,692,200	\$450,900	\$7,545,100	49	2.61
Phone, internet, fax and/or postage	\$12,273,400	\$1,616,800	\$3,520,900	\$19,000	\$5,156,700	16	0.88
Other	\$8,431,800	\$3,313,000	\$1,653,500	\$188,300	\$5,154,700	71	3.84
Education Fees	\$409,829,400	\$273,042,600	\$25,026,600	\$4,738,700	\$302,807,800	1,793	96.27
<b>Total</b>	<b>\$882,499,000</b>	<b>\$404,072,700</b>	<b>\$95,267,100</b>	<b>\$16,931,700</b>	<b>\$516,271,500</b>	<b>4,886</b>	<b>262.37</b>

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations based on ABS Cat. 5368.0; DET (2015); TRA (2015)

**Table 44** VET: Value-added Contribution, 2015 (\$m)

Expenditure Category	VET	Labour Value	GOS Value	Other Tax Less Subsidies on Production Value	Total Value Added	Employment FTE	FTE per 1000 Enrolments
Organised tours	\$2,241,200	\$545,600	\$235,300	\$21,900	\$802,800	12	0.76
International airfares bought in Australia	\$9,915,800	\$1,891,500	\$734,100	\$85,400	\$2,711,000	21	1.35
Domestic airfares	\$1,715,800	\$327,300	\$127,000	\$14,800	\$469,100	4	0.23
Taxi and local public transport	\$8,186,700	\$2,020,500	\$1,235,700	\$207,000	\$3,463,200	22	1.44
Petrol and oil for self-drive cars or other vehicles	\$2,792,100	\$75,400	\$355,100	-\$2,100	\$428,400	0	0.03
Shopping	\$22,210,700	\$8,726,800	\$4,355,500	\$496,000	\$13,578,300	188	12.21
Food, drink and accommodation	\$116,484,300	\$32,379,300	\$16,580,600	\$3,576,800	\$52,536,700	873	56.60
Entertainment	\$3,240,700	\$788,900	\$340,200	\$31,700	\$1,160,800	16	1.01
Motor vehicles	\$6,852,500	\$1,691,200	\$1,034,300	\$173,200	\$2,898,800	19	1.21
Phone, internet, fax and/or postage	\$4,715,300	\$621,100	\$1,352,700	\$7,300	\$1,981,100	6	0.41
Other	\$3,239,400	\$1,272,800	\$635,200	\$72,300	\$1,980,400	27	1.78
Education Fees	\$97,935,600	\$65,248,100	\$5,980,500	\$1,132,400	\$72,361,000	883	57.27
<b>Total</b>	<b>\$279,530,300</b>	<b>\$115,588,500</b>	<b>\$32,966,200</b>	<b>\$5,816,800</b>	<b>\$154,371,500</b>	<b>2,072</b>	<b>134.31</b>

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations based on ABS Cat. 5368.0; DET (2015); TRA (2015)

**Table 45 Schools: Value-added Contribution, 2015 (\$m)**

Expenditure Category	Schools	Labour Value	GOS Value	Other Tax Less Subsidies on Production Value	Total Value Added	Employment FTE	FTE per 1000 Enrolments
Organised tours	\$2,241,200	\$46,700	\$20,100	\$1,900	\$68,700	1	1.18
International airfares bought in Australia	\$9,915,800	\$161,800	\$62,800	\$7,300	\$231,900	2	2.09
Domestic airfares	\$1,715,800	\$28,000	\$10,900	\$1,300	\$40,100	0	0.36
Taxi and local public transport	\$8,186,700	\$172,800	\$105,700	\$17,700	\$296,200	2	2.23
Petrol and oil for self-drive cars or other vehicles	\$2,792,100	\$6,400	\$30,400	-\$200	\$36,600	0	0.04
Shopping	\$22,210,700	\$746,400	\$372,500	\$42,400	\$1,161,300	16	18.88
Food, drink and accommodation	\$116,484,300	\$2,769,200	\$1,418,100	\$305,900	\$4,493,200	75	87.54
Entertainment	\$3,240,700	\$67,500	\$29,100	\$2,700	\$99,300	1	1.56
Motor vehicles	\$6,852,500	\$144,600	\$88,500	\$14,800	\$247,900	2	1.87
Phone, internet, fax and/or postage	\$4,715,300	\$53,100	\$115,700	\$600	\$169,400	1	0.63
Other	\$3,239,400	\$108,900	\$54,300	\$6,200	\$169,400	2	2.75
Education Fees	\$97,935,600	\$10,162,800	\$1,104,600	\$142,300	\$11,409,800	138	161.31
<b>Total</b>	<b>\$279,530,300</b>	<b>\$14,468,200</b>	<b>\$3,412,600</b>	<b>\$543,000</b>	<b>\$18,423,700</b>	<b>239</b>	<b>280.46</b>

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations based on ABS Cat. 5368.0; DET (2015); TRA (2015)

**Table 46 ELICOS: Value-added Contribution, 2015 (\$m)**

Expenditure Category	ELICOS	Labour Value	GOS Value	Other Tax Less Subsidies on Production Value	Total Value Added	Employment FTE	FTE per 1000 Enrolments
Organised tours	\$2,241,200	\$133,100	\$57,400	\$5,400	\$195,800	3	0.22
International airfares bought in Australia	\$9,915,800	\$461,400	\$179,100	\$20,800	\$661,300	5	0.38
Domestic airfares	\$1,715,800	\$79,800	\$31,000	\$3,600	\$114,400	1	0.07
Taxi and local public transport	\$8,186,700	\$492,900	\$301,400	\$50,500	\$844,800	5	0.41
Petrol and oil for self-drive cars or other vehicles	\$2,792,100	\$18,400	\$86,600	-\$500	\$104,500	0	0.01
Shopping	\$22,210,700	\$2,128,800	\$1,062,500	\$121,000	\$3,312,300	46	3.48
Food, drink and accommodation	\$116,484,300	\$7,898,600	\$4,044,700	\$872,500	\$12,815,800	213	16.12
Entertainment	\$3,240,700	\$192,500	\$83,000	\$7,700	\$283,200	4	0.29
Motor vehicles	\$6,852,500	\$412,600	\$252,300	\$42,300	\$707,100	5	0.34
Phone, internet, fax and/or postage	\$4,715,300	\$151,500	\$330,000	\$1,800	\$483,300	2	0.12
Other	\$3,239,400	\$310,500	\$155,000	\$17,600	\$483,100	7	0.51
Education Fees	\$97,935,600	\$16,462,600	\$13,136,500	-\$6,700	\$29,592,300	223	16.86
<b>Total</b>	<b>\$279,530,300</b>	<b>\$28,742,600</b>	<b>\$19,719,400</b>	<b>\$1,136,000</b>	<b>\$49,598,000</b>	<b>513</b>	<b>38.80</b>

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations based on ABS Cat. 5368.0; DET (2015); TRA (2015)

**Table 47 Non-Award: Value-added Contribution, 2015 (\$m)**

Expenditure Category	Non-award	Labour Value	GOS Value	Other Tax Less Subsidies on Production Value	Total Value Added	Employment FTE	FTE per 1000 Enrolments
Organised tours	\$2,241,200	\$51,000	\$22,000	\$2,000	\$75,000	1	0.47
International airfares bought in Australia	\$9,915,800	\$176,700	\$68,600	\$8,000	\$253,300	2	0.82
Domestic airfares	\$1,715,800	\$30,600	\$11,900	\$1,400	\$43,800	0	0.14
Taxi and local public transport	\$8,186,700	\$188,800	\$115,500	\$19,300	\$323,600	2	0.88
Petrol and oil for self-drive cars or other vehicles	\$2,792,100	\$7,000	\$33,200	-\$200	\$40,000	0	0.02
Shopping	\$22,210,700	\$815,400	\$406,900	\$46,300	\$1,268,600	18	7.44
Food, drink and accommodation	\$116,484,300	\$3,025,300	\$1,549,200	\$334,200	\$4,908,600	82	34.49
Entertainment	\$3,240,700	\$73,700	\$31,800	\$3,000	\$108,500	1	0.62
Motor vehicles	\$6,852,500	\$158,000	\$96,600	\$16,200	\$270,800	2	0.74
Phone, internet, fax and/or postage	\$4,715,300	\$58,000	\$126,400	\$700	\$185,100	1	0.25
Other	\$3,239,400	\$118,900	\$59,400	\$6,800	\$185,000	3	1.09
Education Fees	\$97,935,600	\$18,027,300	\$1,652,300	\$312,900	\$19,992,500	244	103.20
<b>Total</b>	<b>\$279,530,300</b>	<b>\$22,730,700</b>	<b>\$4,173,700</b>	<b>\$750,500</b>	<b>\$27,654,900</b>	<b>355</b>	<b>150.15</b>

Source: BANKWEST CURTIN ECONOMICS CENTRE | Authors' calculations based on ABS Cat. 5368.0; DET (2015); TRA (2015)



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