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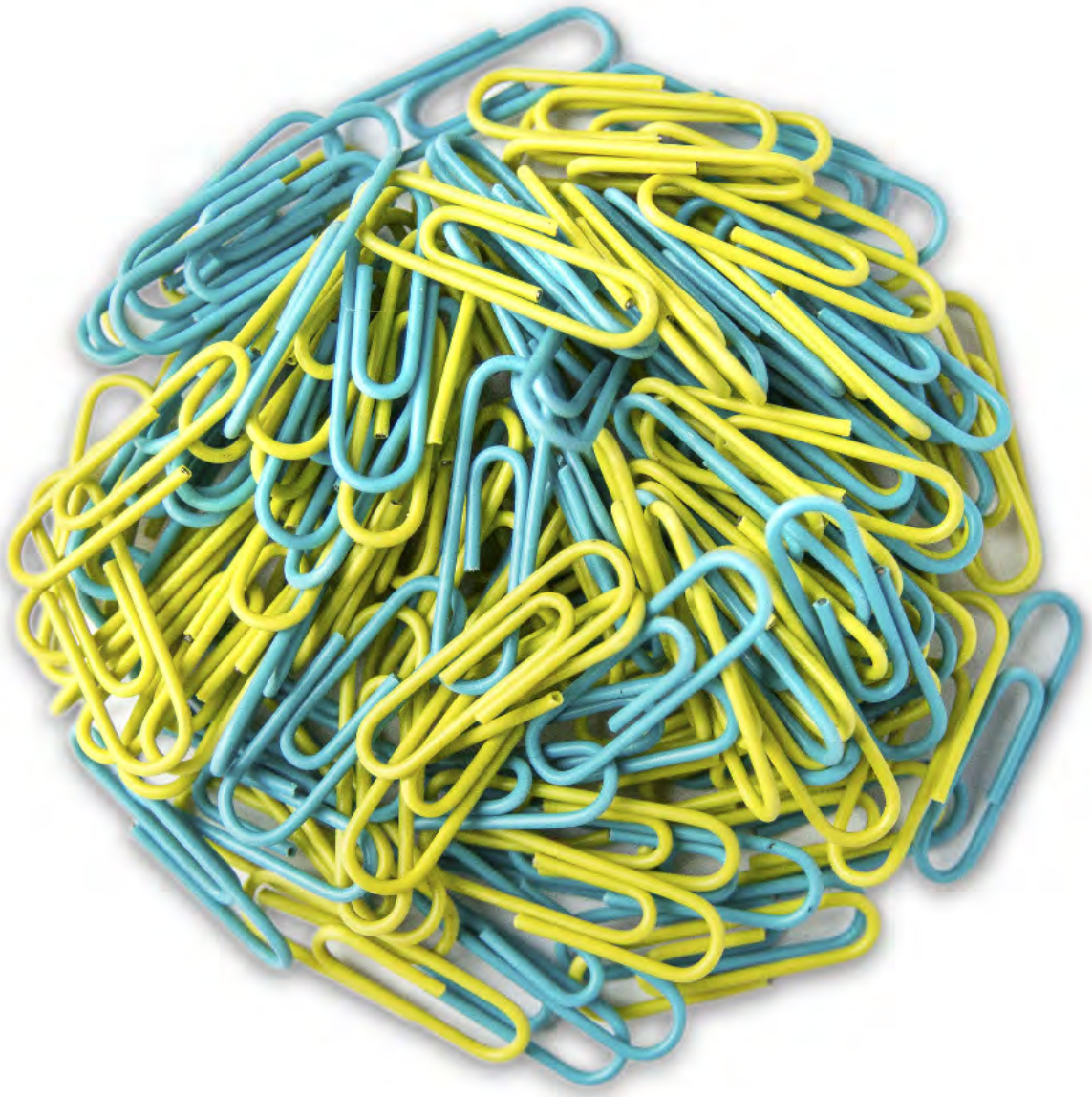

International education in South Australia

Department for Trade, Tourism and Investment

July 2018

Contents

List of acronyms

Acronym	Full term
ABS	Australian Bureau of Statistics
ANZSIC	Australian and New Zealand Standard Industrial Classification
CAGR	Compound Annual Growth Rate
CRICOS	Commonwealth Register of Institutions and Courses for Overseas Students
DET	Department of Education and Training
DTTI	Department for Trade, Tourism and Investment
ELICOS	English Language Intensive Courses for Overseas Students
FTE	Full-time equivalent
GOS	Gross operating surplus
GSP	Gross state product
IO	Input-output
IVS	International visitor survey
OECD	The Organisation for Economic Co-Operation and Development
TRA	Tourism Research Australia
TSA	Tourism Satellite Account
VET	Vocational education and training
VFR	Visiting friends and relatives

Executive summary

International education is South Australia's largest services export. There were nearly 36,000 international student enrolments in South Australian institutions in 2017, compared to 11,100 enrolments in 2002. Given the importance of the international education and training sector in South Australia, the Department for Trade, Tourism and Investment (DTTI) engaged Deloitte Access Economics to provide an up-to-date overview of the sector and its contribution to the South Australian economy.

Current international education and training sector in South Australia

A total of 35,733 onshore international enrolments studied at South Australian educational institutions in 2017. A breakdown of student enrolments is provided in Table i below. South Australia accounted for 4.5 per cent of Australia's international student enrolments in 2017.

Table i: South Australia's onshore international student enrolments by subsector, 2017

Subsector	Enrolments in 2017
Higher education	18,817
Vocational education and training (VET)	6,073
Schools	2,679
ELICOS	5,173
Non-award	2,991
Total	**35,733**

Source: Department of Education and Training[1]

According to Australian Bureau of Statistics (ABS) data, international students spent $1,468 million on education fees and other goods and services in South Australia in 2016-17[2]. International education is therefore South Australia's largest services export, and its second largest overall export behind alcoholic beverages.

Within the scope of this report, the international education and training sector also refers to visiting friends and relatives (VFRs[3]), in addition to onshore international students on student visas enrolled at South Australian institutions. Deloitte Access Economics estimates that the VFRs of onshore international students spent $7 million on goods and services while visiting South Australia in 2016-17.

While expenditure is a useful metric, it does not accurately represent the level of economic activity occurring within the state, since many goods and services purchased by international students and their VFRs are imported from either interstate or overseas. The importance of a sector to South Australia's economy is more appropriately captured through assessing its economic contribution.

1. Department of Education and Training, International Student Data (2018) <https://internationaleducation.gov.au/research/International-Student-Data/Pages/InternationalStudentData2017.aspx>.
2. Australian Bureau of Statistics, International Trade: Supplementary Information, Financial Year, 2016-17, cat. no. 5368.0.55.003 (24 November 2017).
3. Includes those who visit South Australia for the primary purpose of visiting an international student studying in the state.


Instagram
StudyAdelaide
Government House, South Australia
2387 likes
Sharing today with my friends. The future looks bright!
#StudyAdelaide #GovernorsFarewell
#StudyAdelaideAwards
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ent Ambassador 2017

Economic contribution of South Australia's international education and training sector

Economic contribution studies measure the level of economic activity associated with an existing entity – whether that be an event, company or sector – in a particular historical reference year. Economic contribution is a different concept to expenditure. Expenditure is the estimated amount spent by international student enrolments and their VFRs, while the economic contribution relates to the value added to the economy as a result of that spending.

Value added measures the value of output (i.e. goods and services) generated by the sector's factors of production (i.e. labour and capital) as measured by the income to those factors of production. The sum of value added across all entities in the South Australian economy, plus net taxes less subsidies on products, equals gross state product (GSP). Value added is not merely the cost of goods produced or the amount of money spent; rather, it is an estimate of how a sector directly adds value to the economy through returns to labour and capital, and indirectly through intermediate inputs sourced from other industries.

The international education and training sector in South Australia contributed $1,285 million in value added, and sustained a workforce of 8,853 full-time equivalent (FTE) jobs in 2016-17.

The average international student enrolment in South Australia contributes $36,600 in value added and 0.25 FTE jobs[4]**.** Enrolments in the higher education and schools sectors have the greatest contribution per enrolment at present, due to longer course length and higher fees:

- **One enrolment in higher education** contributes $51,500 in value added and 0.33 FTE jobs in South Australia
- **One enrolment in VET** contributes $21,900 in value added and 0.15 FTE jobs in South Australia
- **One enrolment in schools** contributes $45,700 in value added and 0.38 FTE jobs in South Australia
- **One enrolment in ELICOS** contributes $8,300 in value added and 0.09 FTE jobs in South Australia
- **One enrolment in the non-award sector** contributes $18,300 in value added and 0.14 FTE jobs in South Australia.

For this analysis, Deloitte Access Economics also considered the contribution to the economy by source market. The top three source markets for international students (China, India and Hong Kong) accounted for $830 million in value added – representing 65 per cent of the contribution to the South Australian economy, greater than their 58 per cent share of enrolments. Students from China contributed $625 million in value added to the South Australian economy, while students from India contributed $131 million and Hong Kong $75 million. It is estimated that, at present:

- **One enrolment from China** contributes $42,500 in value added and 0.29 FTE jobs in South Australia
- **One enrolment from India** contributes $35,200 in value added and 0.23 FTE jobs in South Australia
- **One enrolment from Hong Kong** contributes $37,200 in value added and 0.26 FTE jobs in South Australia
- **One enrolment from Malaysia** contributes $42,100 in value added and 0.27 FTE jobs in South Australia.

4. Excludes the economic contribution of students' VFRs.

Future international education and training sector in South Australia

Deloitte Access Economics forecasts international student enrolments in South Australia through to 2027, updating forecasts provided in the previous edition of this report. As was the case in 2016, growth in per-capita income across developed and developing countries, as well as an increasing student-aged population, are driving growth in the international education and training sector.

Under a baseline scenario, where enrolments follow a 'business-as-usual' growth path in the absence of major changes in policy settings or movements in the sector's supply and demand dynamics, enrolments in South Australia are expected to increase from 35,733 in 2017 to approximately 49,200 in 2027. This represents a compound annual growth rate (CAGR) of 3.3 per cent, with South Australia's share of international student enrolments in Australia slightly decreasing to 4.2 per cent.

In addition to forecasting a baseline, Deloitte Access Economics has also analysed scenarios where South Australia grows its market share of the international student market. These scenarios have been developed in a mechanical way to achieve either a targeted market share or growth rate. These scenarios incorporate no information on how South Australia would achieve these targets, or whether they are achievable.

If South Australia were to capture 6.5 per cent of the national market by 2027 – in line with its projected population share – enrolments would reach approximately 76,900 by 2027. The sector would have to achieve a CAGR of 8.0 per cent – nearly double the rate indicated under the baseline scenario – to reach this proportion.

Under a midpoint scenario which includes an additional 1.5 per cent annual growth to the baseline scenario for enrolments and commencements, enrolments are expected to increase from 35,733 in 2017 to 56,900 in 2027. This represents a CAGR of 4.8 per cent over this time, with the national share moving to 4.8 per cent.

Overall, baseline forecasts indicate the growing potential of the international education and training sector, while the economic contribution analysis shows the current level of economic activity associated with the sector in South Australia.

Deloitte Access Economics

1. Background

1.1 Purpose and scope of report

The number of students studying overseas has continued to increase globally, with an estimated 4.6 million tertiary students studying internationally in 2015 – well over double the 1.7 million students who did so in 1995[5]. There were almost 36,000 international student enrolments at South Australian educational institutions in 2017, with around half studying at the higher education level.

For South Australia, competition for enrolments has intensified, across Australian jurisdictions and overseas destinations. Both traditional competitors – such as the United Kingdom and Canada – and emerging competitors – such as China and Russia – have set ambitious targets for international student enrolments. As we noted in our 2016 report, key markets that have driven growth in the past may slow due to shifts in demographic and economic factors, and strategic new source markets will need to be identified to secure future growth. The OECD found that while international tertiary enrolments have increased significantly over the past 30 years, growth has slowed since 2010[6].

This report is an update of analysis produced by Deloitte Access Economics in 2016. Given the importance of the international education and training sector in South Australia, the Department for Trade, Tourism and Investment (DTTI) engaged Deloitte Access Economics to provide an up-to-date overview of the sector and its contribution to the South Australian economy.

Importantly, this report analyses the economic contribution of international students from different source markets, in addition to the sub-sector analysis provided in the previous edition of this report.

The international student forecasts provided in the 2016 edition are also updated using the most recent enrolment data, with enrolments forecasted under baseline, midpoint and population share scenarios.

1.2 Overview of the analytical approach

The report combines quantitative and qualitative methods that have been used in past Deloitte Access Economics reports for the Department of State Development, the Department of Education and Training (DET) and Austrade. Deloitte Access Economics' 2016 report for DET, ***The value of international education***, estimated the contribution of the sector to Australia in 2014-15, while ***Growth and opportunity in Australian International Education***, commissioned by Austrade, forecasted international student enrolments from 2015 to 2025.

5. Organisation for Economic Cooperation and Development, Education at a Glance 2017 (2017) <https://www.oecd-ilibrary.org/docserver/eag-2017-26-en.pdf?expires=1527039478&id=id&accname=guest&checksum=1732A959248C170CD71F85C02145B639>.

6. Ibid.

In particular, analysis is supported by:

- Economic contribution modelling using the Deloitte Access Economics' in-house input-output model in estimating the current contribution, as measured by value added and employment, of South Australia's international education and training sector. This includes both the contribution of onshore international students, and their visiting friends and relatives. Further detail on our methodology is contained in Appendix A and Appendix B.
- Forecast of future commencements and enrolments in South Australia's onshore student visa international education and training sector. Forecasts draw on short-term as well as long-term macroeconomic trends in source market demographics and income levels.
- Literature review and analysis of the decision drivers for international students in choosing their study destinations, and the comparative advantages of Australia. South Australian insights have been included where possible.

1.3 Report structure

The remainder of this report is structured as follows:

- Chapter 2 provides an overview of the current South Australia international education and training sector and draws out some distinct state features in comparison to the broader national market.
- Chapter 3 estimates the contribution of the international education and training sector to the South Australia economy in 2016-17.
- Chapter 4 explores the possible growth opportunity for South Australia by providing forecasts for onshore international education and training under baseline, midpoint and population share scenarios.

2. International education and training in South Australia

This section explores trends in the international education and training sector in South Australia. It focuses on onshore student enrolments at South Australian providers in higher education, vocational education and training (VET), schools, English Language Intensive Courses for Overseas Students (ELICOS) and non-award courses, for students studying on student visas only. It does not include overseas students (or their dependents) undertaking study while holding tourist or other temporary entry visas.

2.1 Enrolments by sub-sector

In 2017, there were 35,733 international student enrolments in South Australian education and training institutions. This represents an average annual increase of 5.6 per cent since our last report two years ago, or an additional 3,692 enrolments overall. Chart 2.1 shows South Australia's international student enrolments by sub-sector from 2005 to 2017.

From 2010 to 2013, all sub-sectors experienced a decline in enrolments due to national and international factors. These include:

- Changes to student visa regulations and the General Skilled Migration program that made the study admission process and transition to permanent residency more difficult[7]
- Incidents of violence against Indian international students in Melbourne which gained international attention and damaged Australia's reputation as a safe study destination[8]
- The Global Financial Crisis and slowdown in economic growth, which led to a slowdown in demand for international education[9]
- The strong Australian dollar, which makes study in Australia relatively more expensive compared to other competitor countries. Accounting for the appreciating Australian dollar, from 2009 to 2011, the cost of studying in Australia (in US dollars) increased by approximately 70 per cent, compared to 20 per cent for the United Kingdom and 16 per cent for the United States.[10]

Total enrolments have recovered since 2013, with the higher education sector in particular seeing stronger growth year on year. The ELICOS subsector has declined in recent years, although notably, around one in two ELICOS students do not hold student visas and are therefore not included in enrolment data. The non-award sub-sector has plateaued in recent years, while VET and school enrolments have increased. ELICOS is the first step in an Australian study pathway for nearly two-thirds of international students, with around 34 per cent moving to higher education and 23 per cent progressing to VET in 2014 across Australia.[11]

7. Deloitte Access Economics, Broader implications from a downturn in international students (2011) <https://www2.deloitte.com/content/dam/Deloitte/au/Documents/Economics/deloitte-au-economics-implications-from-international-students-downturn-300611.pdf>.

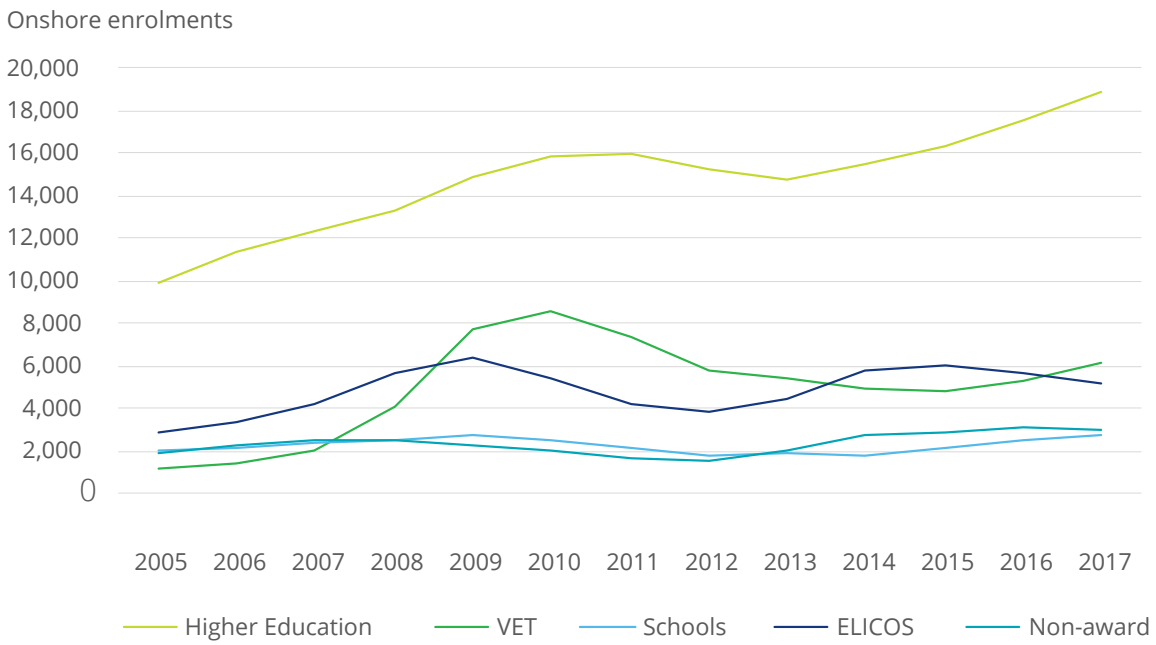
8. Deloitte Access Economics, Growth and Opportunity in Australian International Education (2016) <https://www2.deloitte.com/content/dam/Deloitte/au/Documents/Economics/deloitte-au-economics-growth-opportunity-australian-international-education-011215.pdf>.

9. Ibid.

10. International Education Advisory Council, Australia – Educating Globally (2013) <https://internationaleducation.gov.au/International-network/Australia/InternationalStrategy/theCouncilsReport/Documents/Australia%20%E2%80%93%20Educating%20Globally%20FINAL%20REPORT.pdf>.

11. Department of Education and Training, Study pathways of international students in Australia (2015) <https://internationaleducation.gov.au/research/research-papers/Documents/Study%20Pathways%202015_2.pdf>.

Chart 2.1: South Australia's enrolments by sub-sector, 2005-2017



Source: Department of Education and Training[12]

Since our last report, international student enrolments Increased at a slower rate in South Australia compared to the national average. Enrolments increased by an annual average of 12 per cent since 2015 across Australia, but only by 6 per cent in South Australia.

In the last two years, South Australia's market share of total Australian enrolments has slightly fallen from 5.0 per cent in 2015 to 4.5 per cent in 2017. New South Wales, Victoria and Tasmania accounted for the increased share[13]. Importantly, South Australia's international education enrolments have still continued to increase; however, its declining market share reflects the fact that its growth is based on a smaller base overall.

12. Department of Education and Training, International Student Data (2018) <https://internationaleducation.gov.au/research/International-Student-Data/Pages/InternationalStudentData2017.aspx>.

13. Ibid.

Chart 2.2 shows the growth in enrolments by sub-sector in Australia and South Australia between 2005 and 2017, with their respective 2005 enrolment levels indexed to 100. The blue line above the green line indicates that at a particular point in time, the cumulative growth in enrolments for a particular sub-sector is higher in South Australia than nationally.

Chart 2.2: South Australia and Australia's comparative enrolment growth, 2005 to 2017

Source: Department of Education and Training

Over the past two years, enrolments have increased across all sub-sectors in Australia. The higher education and schools sub-sectors have consistently increased more – in cumulative terms – in South Australia compared to Australia since 2005, although this trend recently reversed for higher education enrolments. International student enrolments in schools are close to 2009 levels in South Australia, after recovering following a period of decline.

Enrolments in VET have increased over the last decade, both nationally and in South Australia. South Australia's VET enrolments were seven times larger in 2010 compared to 2005, before declining in the subsequent five years. South Australia's enrolments have increased more in cumulative terms since 2005 compared to enrolments nationally.

In contrast, both ELICOS and non-award enrolments have increased more in cumulative terms nationally, compared to in South Australia. This gap only recently emerged in both subsectors, with national enrolments continuing to increase while South Australian enrolments have decreased slightly.

2.1.1 Higher education

In 2017, there were 18,817 international student enrolments at South Australian higher education institutions. This reflects 5.4 per cent of all higher education international student enrolments across Australia – a slight decrease from South Australia's 6.0 per cent share in 2015. Enrolments in higher education comprise a larger share of South Australia's total international student enrolments at 52.7 per cent, compared to 43.9 per cent of Australia's total enrolments.[15]

In 2017, 59.4 per cent of international students in South Australia were enrolled in undergraduate courses, compared to 50.9 per cent nationally.[16] A higher proportion of international students are enrolled in postgraduate courses[17] nationally at 49.1 per cent compared to 40.6 per cent in South Australia.

2.1.2 Vocational education and training

In 2017, 6,073 international student enrolments in VET courses in South Australia. South Australian VET enrolments peaked in 2010 then declined, although have recently started to recover, increasing by 13.9 per cent on average annually since 2015. South Australia's VET enrolments comprise only 2.8 per cent of total Australian VET enrolments.

TAFE SA and a group of smaller private training providers comprise the sub-sector. Approximately 14.6 per cent of international VET enrolments in South Australia are at TAFE, while the remaining 85.4 per cent of enrolments are at private training providers.[18] This is a slight increase from 85.1 per cent in 2015, showing the rise in international student enrolments at private providers over the past two years. This trend is consistent nationally, where 91.6 per cent of enrolments were with private providers in 2017, compared to 88.2 per cent in 2015.[19]

Enrolments in VET courses comprise 17.0 per cent of South Australia's total international education enrolments, compared to 27.2 per cent of total enrolments nationally.[20]

14. "Department of Education and Training, International Student Data (2018) <https://internationaleducation.gov.au/research/International-Student-Data/Pages/InternationalStudentData2017.aspx>."

15. Department of Education and Training, International Student Data (2018) <https://internationaleducation.gov.au/research/International-Student-Data/Pages/InternationalStudentData2017.aspx>.

16. Ibid.

17. Note: Postgraduate courses include, Doctoral Degree, Graduate Certificate, Graduate Diploma, Master's Degree (Coursework), Master's Degree (Extended) and Master's Degree (Research)

18. Department of Education and Training, International Student Data (2018) <https://internationaleducation.gov.au/research/International-Student-Data/Pages/InternationalStudentData2017.aspx>.

19. Ibid.

20. Ibid.

2.1.3 Schools, ELICOS, and non-award

Given the importance of the higher education sub-sector in South Australia, the possible pathways for international students – progressing from schools, ELICOS or non-award courses to other studies – also perform relatively well.

School enrolments comprise 7.5 per cent of South Australia's international student enrolments. In 2017, there were 2,697 international student enrolments in South Australian schools, equivalent to 10.4 per cent of Australian school enrolments.[21] Nationally, more than half of international school students progressed to another sub-sector following their studies in 2013, of which 33 per cent enrolled in higher education.[22]

ELICOS courses are designed for students who require English language training before commencing formal studies in Australia. South Australia's 5,173 ELICOS enrolments comprised 3.3 per cent of Australian ELICOS enrolments, a decline from 3.8 per cent in 2015[23]. Of all Australian enrolments in 2013, nearly two-thirds progressed to further studies in a different sub-sector in 2014.[24]

Non-award courses refer to those that do not result in a qualification under the Australian Qualifications Framework. They include foundation and other enabling courses that prepare students for higher education, study exchange and other short-term student mobility activities. In 2017, there were 2,991 enrolments in non-award courses in South Australia, representing 8.4 per cent of South Australia's international student enrolments. South Australian non-award courses comprise 6.3 per cent of national non-award enrolments.[6]

As shown in the following Chart 2.3, South Australia has proportionally more students enrolled in higher education, schools and non-award courses, although proportionally fewer in VET and ELICOS compared to the Australian composition of the sector.

21. Department of Education and Training, International Student Data (2018) <https://internationaleducation.gov.au/research/International-Student-Data/Pages/InternationalStudentData2017.aspx>.

22. Department of Education and Training, Study pathways of international students in Australia (2015) <https://internationaleducation.gov.au/research/research-papers/Documents/Study%20Pathways%202015_2.pdf>.

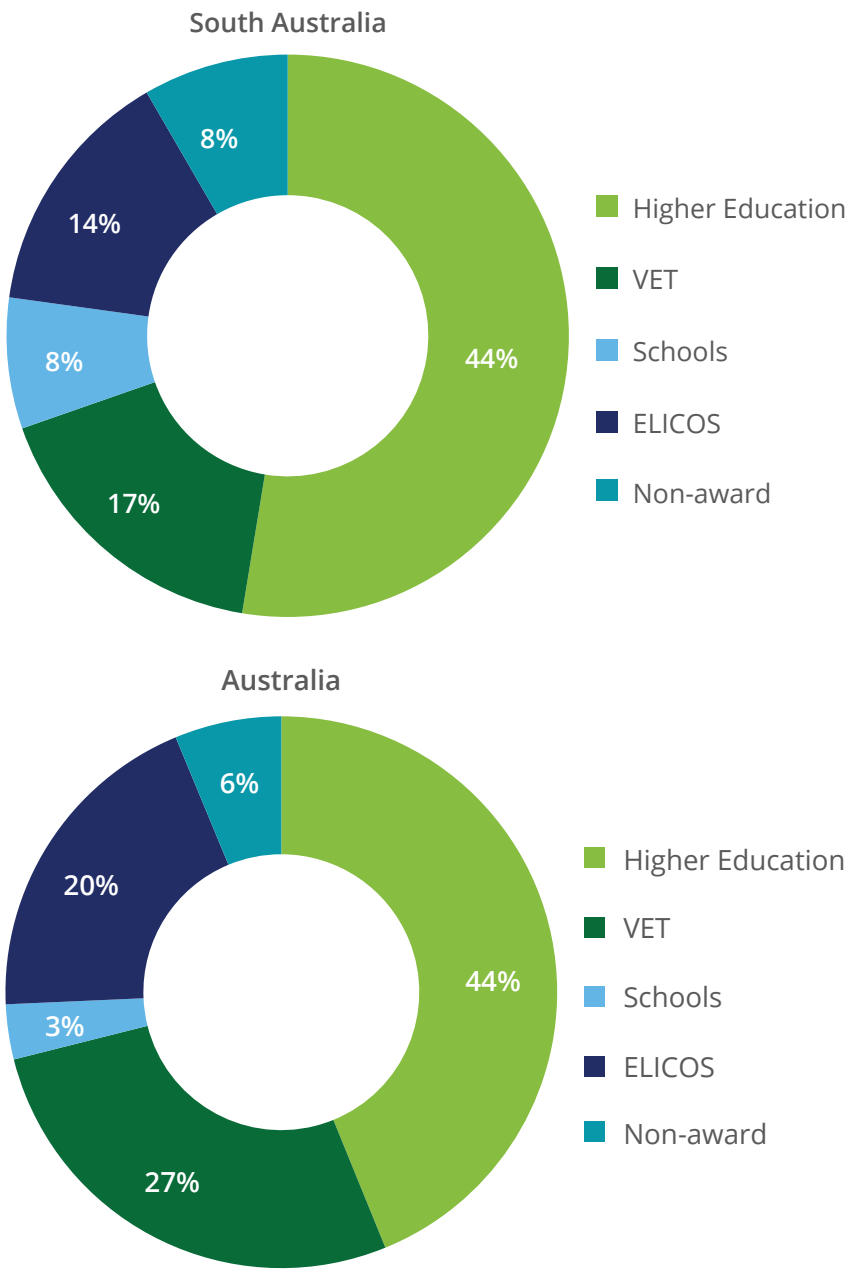
23. Department of Education and Training, International Student Data (2018) <https://internationaleducation.gov.au/research/International-Student-Data/Pages/InternationalStudentData2017.aspx>.

24. Department of Education and Training, Study pathways of international students in Australia (2015) <https://internationaleducation.gov.au/research/research-papers/Documents/Study%20Pathways%202015_2.pdf>.

25. Department of Education and Training, International Student Data (2018) <https://internationaleducation.gov.au/research/International-Student-Data/Pages/InternationalStudentData2017.aspx>.

26. Ibid

Chart 2.3: South Australia and Australia's onshore enrolments by sub-sector, 2017



Source: Department of Education and Training

21. Department of Education and Training, International Student Data (2018) <https://internationaleducation.gov.au/research/International-Student-Data/Pages/InternationalStudentData2017.aspx>.

22. Department of Education and Training, Study pathways of international students in Australia (2015) <https://internationaleducation.gov.au/research/research-papers/Documents/Study%20Pathways%202015_2.pdf>.

23. Department of Education and Training, International Student Data (2018) <https://internationaleducation.gov.au/research/International-Student-Data/Pages/InternationalStudentData2017.aspx>.

24. Department of Education and Training, Study pathways of international students in Australia (2015) <https://internationaleducation.gov.au/research/research-papers/Documents/Study%20Pathways%202015_2.pdf>.

25. Department of Education and Training, International Student Data (2018) <https://internationaleducation.gov.au/research/International-Student-Data/Pages/InternationalStudentData2017.aspx>.

26. Ibid.

2.2 Enrolments by field of education

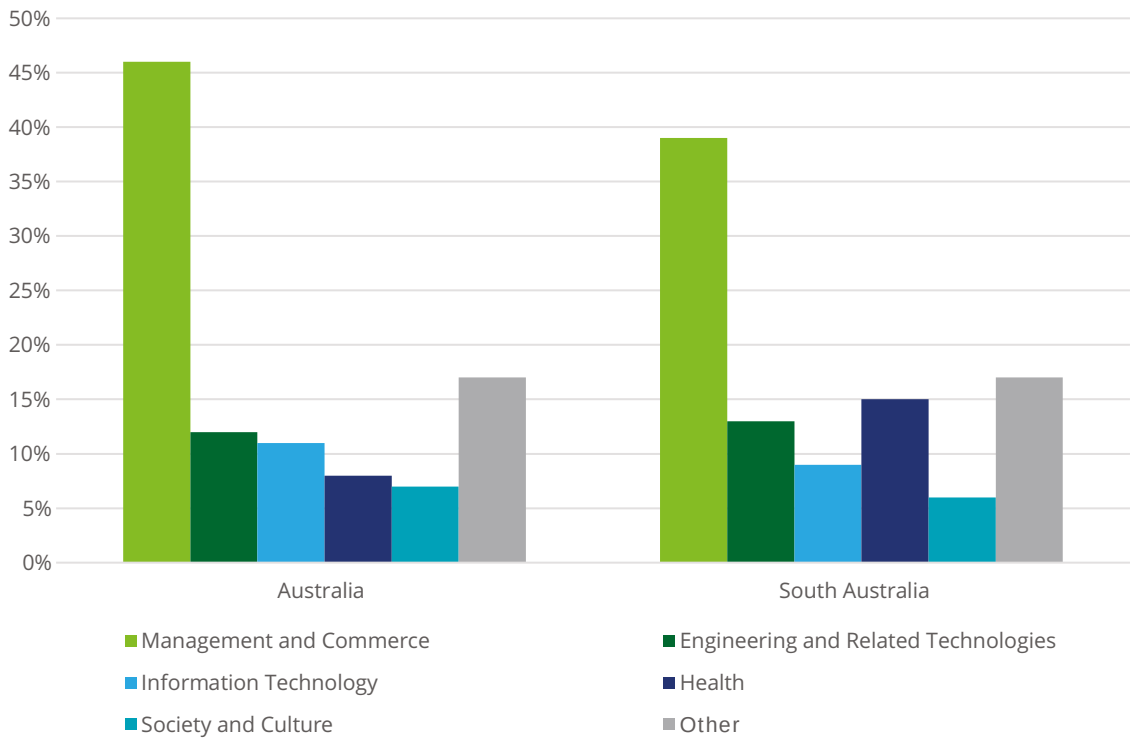
The most popular fields of education for international students in higher education are consistent at the national and South Australian levels, as well as over time. Health remained the third most popular field of study in South Australia in 2017, while being ranked fourth nationally. In 2017, the five most popular fields of education in South Australia and Australia were:

- Management and commerce (ranked first both nationally and in the state)
- Engineering and related technologies (ranked both second nationally and in the state)
- Information technology (ranked third nationally and fourth in the state)
- Health (ranked fourth nationally and third in the state)
- Society and culture (ranked fifth both nationally and in the state).

Enrolments in management and commerce courses remain high and have increased over the last two years, both nationally and in South Australia. However, the proportion of students enrolled in management and commerce courses decreased over the past two years. The share of enrolments in engineering and related technologies and information technology increased over the same period.

In South Australia, a higher proportion of higher education enrolments are in engineering and related technologies and health, compared to the national average. Around 14 per cent of student enrolments in South Australia are in health, compared to 7.7 per cent nationally. Management and commerce courses are the most popular field of education for international higher education students, with 46.0 per cent of students across Australia and 39.8 per cent of South Australian students studying the field.

Chart 2.4: South Australia and Australia's international higher education enrolments by field of education, 2017



Source: Department of Education and Training

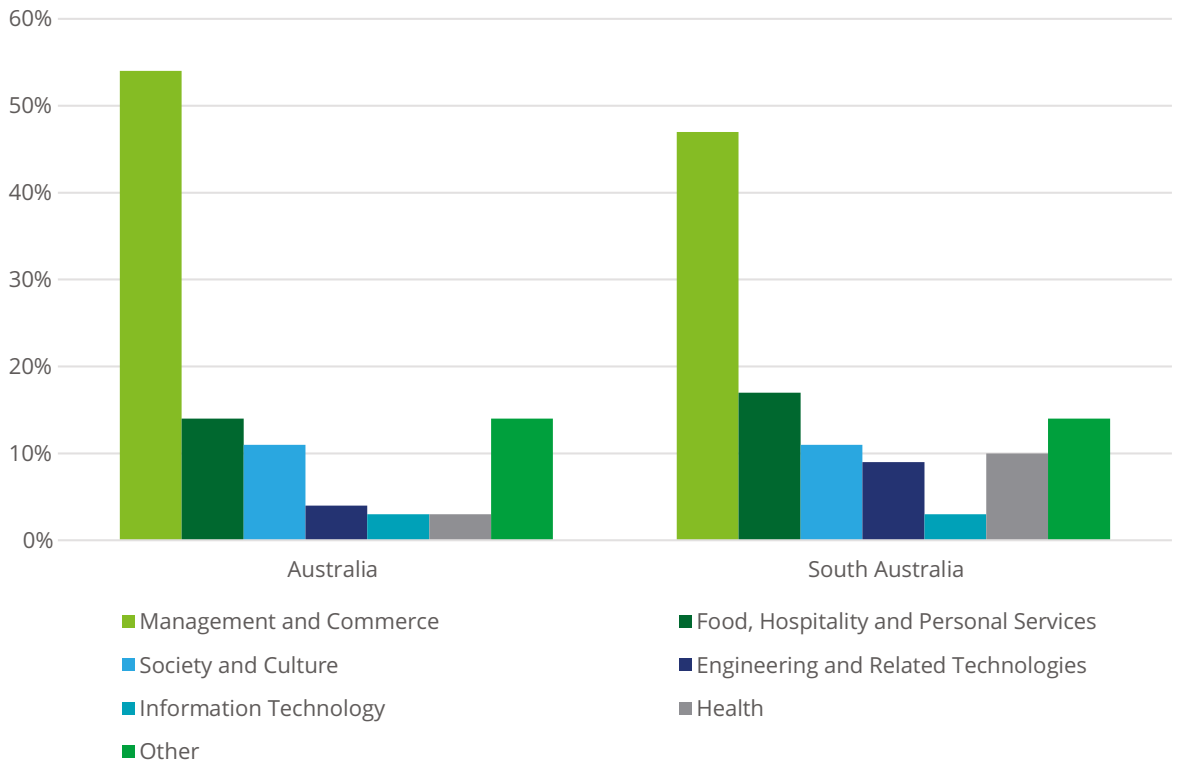
27. Department of Education and Training, International Student Data (2018) <https://internationaleducation.gov.au/research/International-Student-Data/Pages/InternationalStudentData2017.aspx>.

An analysis of trends in the VET sector finds that the five most popular broad fields differ in South Australia compared to the Australian average. Over the last two years, society and culture has increased in popularity in South Australia, increasing from 5.2 per cent of enrolments in 2015 to 11 per cent in 2017.[28] The five most popular broad fields for VET students in South Australia are:

- Management and commerce
- Food, hospitality and personal services
- Society and culture
- Health
- Engineering and related technologies.

Across Australia, the top five most popular fields of study differ slightly. Engineering and related technologies are ranked fourth in popularity, while information and technology courses are ranked fifth. Health courses are more popular in South Australia compared to the Australian average, comprising just 3.3 per cent of all Australian enrolments, but 10.4 per cent in South Australia.

Chart 2.5: South Australia and Australia's international VET enrolments by field of education, 2017



Source: Department of Education and Training

28. Ibid.

29. Department of Education and Training, International Student Data (2018) <https://internationaleducation.gov.au/research/International-Student-Data/Pages/InternationalStudentData2017.aspx>.

30. Department of Foreign Affairs and Trade (2018) Nepal country brief <http://dfat.gov.au/geo/nepal/pages/nepal-country-brief.aspx>.

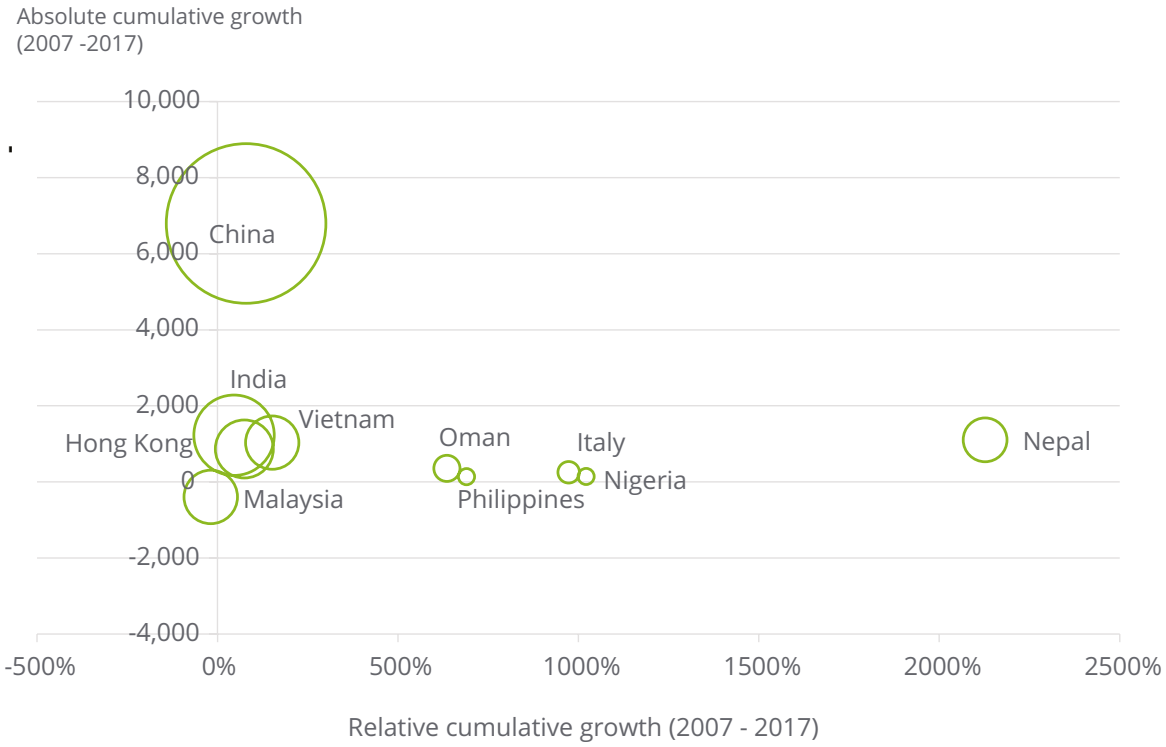
2.3 Enrolments by source market

From 2007 to 2017, the three fastest growing source markets in South Australia were Nepal, Nigeria and Italy. Enrolments from Nepal increased by around 20 times over the ten-year period. Enrolments from Nigeria increased by around 10 times and Italy by around nine times over the same period.

While those three markets have increased the fastest in relative terms, they represent a small proportion of total enrolments. Nigeria and Italy's growth equates to only 157 and 279 enrolments respectively. However, Nepal is the sixth largest source market in South Australia, as well as the fastest growing. Increases in Nepalese student enrolments were driven by increased relations between the Australia and Indo-pacific region, resulting in more Nepalese students choosing to study in Australia.[30]

Enrolments from China increased by 79 per cent in South Australia from 2007 to 2017; this equates to an increase of 6,795 enrolments over ten years, as Chinese student enrolments were already at high levels in 2007. The absolute and relative growth in enrolments between 2007 and 2017 for the five largest source markets and five fastest growing markets are shown in Chart 2.6.

Chart 2.6: Relative and absolute growth of select source markets, 2007-2017



Source: Department of Education and Training[31]
Note: only source markets with more than 10 enrolments in 2017 have been considered

The relatively fast growth from China over the last two years has resulted in its share of total enrolments in South Australia increasing from 39.4 per cent in 2015 to 42.8 per cent in 2017. China is followed by India (10.8 per cent), Hong Kong (5.6 per cent), Malaysia (4.8 per cent) and Vietnam (4.7 per cent) in 2017. Together, these markets comprise 68.7 per cent of all onshore enrolments in South Australia.

31. Department of Education and Training, International Student Data (2018) <https://internationaleducation.gov.au/research/International-Student-Data/Pages/InternationalStudentData2017.aspx>.

Table 2.1 shows the top five source markets in South Australia and Australia. In the last two years, South Australia's top five source markets have remained the same. However, individual national rankings have changed: Vietnam has fallen from third to eighth in Australia. Malaysia increased from seventh place in 2015 to fifth in 2017 across Australia.

Table 2.1 The top five source markets, South Australia and Australia

Ranking	Australia	South Australia
1	China	China
2	India	India
3	Brazil	Hong Kong
4	Nepal	Malaysia
5	Malaysia	Vietnam

Source: Department of Education and Training[32]

Table 2.2 shows a summary of South Australia's top source markets, including their preferred sub-sector. Higher education is the most popular sub-sector for all five of the top source markets, comprising over 50 per cent of total enrolments for the top five source markets.

Table 2.2: South Australia's top source markets for onshore enrolments, 2017

Source Market	Enrolments	Largest sub-sector	National rank	SA share of Aust
China	15,365	Higher education (8,461, 55%)	1	6.3%
India	3,898	Higher education (2,147, 55%)	2	3.9%
Hong Kong	2,029	Higher education (1,083, 53%)	12	12%
Malaysia	1,725	Higher education (1,353, 78%)	5	9.2%
Vietnam	1,714	Higher education (856, 49%)	8	5.6%

Source: Department of Education and Training[33]

32. Department of Education and Training, International Student Data (2018) <https://internationaleducation.gov.au/research/International-Student-Data/Pages/InternationalStudentData2017.aspx>.

33. Ibid.

3. Economic contribution of international students

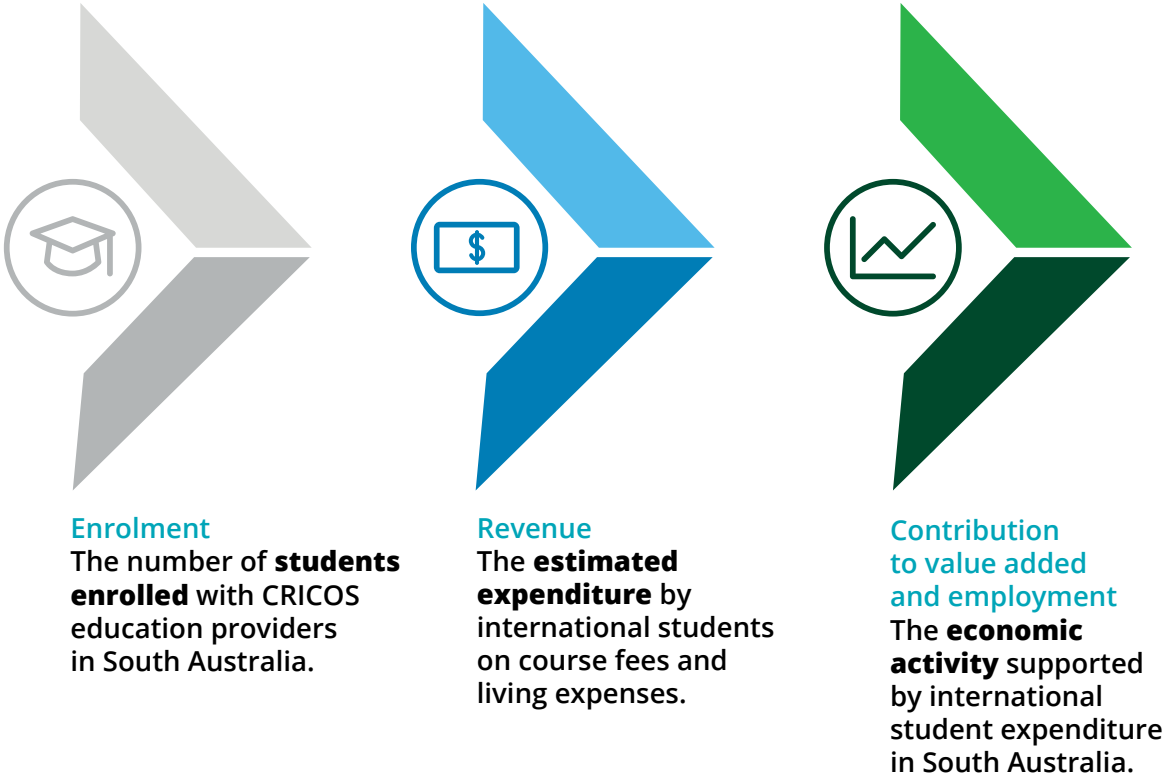
3.1 Approach

The contribution of the international education and training sector to the South Australian economy stems from the economic activities of international students. By taking courses at universities and buying groceries at local shops, international students bring income to South Australian educational institutions and businesses in their communities. Additionally, when visiting friends and relatives (VFRs) of international students visit South Australia, they participate in tourism activities such as sightseeing and dining out, hence generating additional income for the economy. As such, the economic contribution of the international education and training sector comprises of two components:

- Contribution from student expenditure
- Contribution from VFRs' expenditure.

Figure 3.1 illustrates the interrelated metrics that capture different aspects of the international education and training sector. For instance, enrolments offer a timely way of tracking growth in the sector, while the economic contribution indicates headline employment and value added estimates.

Figure 3.1: Conceptual approach to analysis



Source: Deloitte Access Economics

The modelling approach in this report is consistent with that used in Deloitte Access Economics' 2016 report, International education in South Australia. The initial modelling involves estimations of:

- student expenditure using Australian Bureau of Statistics export revenue data[34] and DET enrolment data[35]
- expenditure by their VFRs using Tourism Research Australia (TRA) data.

The expenditure of international students in South Australia and their contribution to the state economy is disaggregated by sub-sector and by source market. This approach draws on international visitor survey data from TRA and due to data limitations, assumes that the expenditure profile of an international student from a particular source market is similar regardless of whether they study in South Australia or another state.

To maintain a balance between a sufficient level of disaggregation and adequate sample sizes to support robust estimates, expenditure profiles by source market are aggregated across individual markets and averaged over time. Deloitte Access Economics provides estimates for six individual countries and four aggregate source markets. For source markets with fewer than 30 responses in the TRA survey (all source markets except for China), the expenditure profile provided is an average over the past three years.

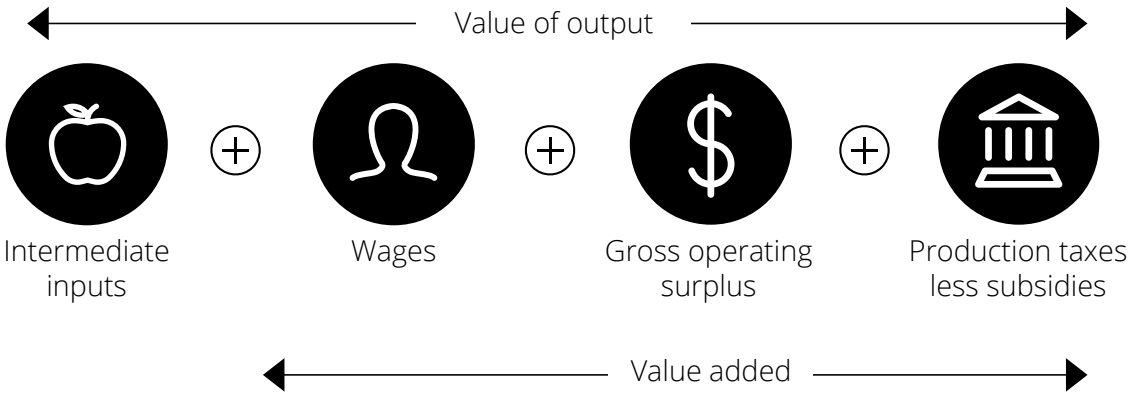
The contribution of the sector to the South Australian economy refers to its contribution to gross state product (GSP) (measured by valued added) and the number of jobs created. It is derived from the estimates of student expenditure, and the example provided in the box earlier illustrates the relationship between the concepts.

The relationships between the student expenditure and the economic contribution

Consider an international student who buys groceries from the supermarket while studying in South Australia. The expenditure is the amount of money spent on groceries. At the same time, the dollars spent can be disaggregated into the following four components:

- **Intermediate inputs:** the expenditure on goods that the supermarket buys from suppliers.
- **Wages:** payments to staff who work at the supermarket.
- **Gross operating surplus (GOS):** profits for the supermarket.
- **Production taxes (less subsidies):** to the government.

The last three components (wages, GOS and production taxes) represent **direct value added** to South Australia as a result of the student expenditure.



The first component (intermediate inputs) stimulates the economy by boosting demand for goods. This increase in demand allows suppliers to employ more people, enjoy higher profits and contribute a larger sum of tax. These additional contributions to the economy represent the **indirect value added** to South Australia.

34. Australian Bureau of Statistics, International Trade: Supplementary Information, Financial Year, 2016-17, cat. no. 5368.0.55.003 (24 November 2017).

35. Department of Education and Training, International Student Data (2018) <https://internationaleducation.gov.au/research/International-Student-Data/Pages/InternationalStudentData2017.aspx>.

Given that short-term international students and their VFRs can be considered tourists, the Tourism Satellite Account (TSA), which is the internationally recognised approach to valuing tourism activities, is used to estimate the economic contribution of the international education and training sector. TRA publishes the South Australian TSA annually, with 2016-17 as the latest available year.

While the TSA provides an overall indirect contribution multiplier, it does not provide industry specific ones. Consequently, Deloitte Access Economics supplements the indirect analysis with its own in-house regional input-output (IO) model of South Australia.

Further details on the economic contribution methodology, assumptions and framework can be found in Appendix A and Appendix B.

3.2 International education contribution

3.2.1 International student expenditure

The ABS reports that export revenue from onshore international students in South Australia was approximately $1,468 million in 2016-17[36]. It is South Australia's largest services export, and the second largest export overall for the state, behind alcoholic beverages.

Since 2014-15, export revenue from education-related services has increased by 26 per cent. Expenditure has increased at a faster pace compared to enrolments, resulting in a 15 per cent increase in per enrolment expenditure from $36,400 in 2014-15 to $42,000 in 2016-17. This growth in expenditure is potentially a result of the following factors:

- **The ABS revising its methodology** for estimating international student expenditure on goods and services in 2017. Indeed, it now bases its estimates on the TRA international visitor survey, rather than its own survey from 2010.
- **Changes to the composition of enrolments by sub-sector and source markets**, leading to higher expenditure per enrolment. In particular, South Australia has increased its share of enrolments in higher education and from China, both of which generate higher expenditure compared to the average international student enrolment.

Deloitte Access Economics estimates that $625 million (43 per cent of the total expenditure) can be attributed to student expenditure on fees, while the remaining $843 million can be attributed to students' expenditure on goods and services. A breakdown of export revenue by sub-sector and category is given in Table 3.1.

Table 3.1: International student expenditure by sub-sector, 2016-17

Source market	Higher education*	VET	Schools	ELICOS	Non-award	Total
Fees ($million)	$475 m	$40 m	$49 m	$21 m	$40 m	$625 m
Living expenses ($million)	$611 m	$97 m	$80 m	$30 m	$24 m	$843 m
Total expenditure ($m)	**$1,085 m**	**$137 m**	**$129 m**	**$52 m**	**$64 m**	**$1,468 m**
Average expenditure per enrolment ($)	*59,704*	*24,105*	*50,212*	*9,509*	*20,905*	*42,003*

Source: Deloitte Access Economics and Australian Bureau of Statistics[37]
Note: Export revenue from New Zealand and AusAid/Defence students have been counted under the higher education sub-sector, assuming that South Australia has a share of national revenue equal to their higher education enrolment share.

36. Australian Bureau of Statistics, International Trade: Supplementary Information, Financial Year, 2016-17, cat. no. 5368.0.55.003 (24 November 2017).
37. Ibid

Table 3.2 provides a breakdown of international student expenditure across source markets. With $639 million in total expenditure, China was the largest source market by value in South Australia, and accounted for 44 per cent of total international student expenditure. This is followed by India and Hong Kong – the second and third largest markets in South Australia by enrolments. The average international enrolment spent approximately $42,000 in 2016-17 in South Australia on tuition fees and goods and services. International students from Singapore and Indonesia have the highest average expenditure per enrolment, at approximately $54,800 and $46,200 respectively. The differences in student expenditure across source markets are mainly driven by:

- A variation in **sub-sector composition** across source markets. Students from one country might be more likely to study in a certain education sub-sector compared to students from another country. As different education sub-sectors are associated with different fees and lengths of stay, the subsequent economic contribution between students from different markets would be different.
- A variation in the **relative spending patterns** of students across source markets. Students from particular countries may, on average, spend more per day compared to students from other countries. Similarly, students from different source markets may also differ in the types of goods and services they consume.

Table 3.2: International student expenditure by source market, 2016-17

Source market	Rank by enrolment	Expenditure ($million)	Expenditure per enrolment ($)
China	1	$639 m	$43,476
India	2	$161 m	$43,316
Hong Kong	3	$87 m	$43,391
Malaysia	4	$87 m	$49,484
Singapore	12	$30 m	$54,762
Indonesia	14	$17 m	$46,178
Other Asia	NA	$309 m	$40,377
Europe	NA	$51 m	$30,873
America	NA	$36 m	$25,514
Other countries	NA	$53 m	$44,711
Total	**NA**	**$34,950 m**	**$42,003**

Source: Deloitte Access Economics
Note: The estimation of expenditure by source markets requires data on expenditure patterns from TRA. These markets are reported because the sample sizes for these markets are sufficiently large to provide a reasonable level of confidence on the reliability of the data.

3.2.2 International student contribution

Based on the estimated expenditure of international students in South Australia, Deloitte Access Economics estimate that international students studying in South Australia **contributed $1,281 million in value added and 8,799 full-time equivalent (FTE) jobs to the state.**

Of this, international students **directly contributed $838 million in value added and supported 6,362 FTE jobs in 2016-17.** This would include the payments to staff and capital for education providers (from international student fees) and industries where students spend money directly (from international student expenditure on goods and services).

Table 3.3: International student economic contribution to South Australia, 2016-17

Sub-sector	Direct contribution	Indirect contribution	Total contribution	Contribution per enrolment
Value added	$838 m	$442 m	$1,281 m	$36,645
Employment (FTE)	6,362	2,438	8,799	0.25

Source: Deloitte Access Economics

The vast majority of the direct economic contribution is likely to be retained in Adelaide. Given that around 98 per cent of international student nights within South Australia are spent in Adelaide,[38] it is likely that a similar proportion of expenditure will occur within the city.

The remaining **indirect contribution of $442 million in value added and 2,438 FTE jobs** is accrued to the upstream industries that provide intermediate inputs for production in the direct sectors. For instance:

- education providers require professional, scientific and technical services, building cleaning and maintenance, and other administrative services
- student living expenses require intermediate inputs from finance, real estate, and professional services.

While the direct contribution is likely to be concentrated in Adelaide, a greater share of the indirect contribution is likely to flow to regional South Australia. For instance, the Barossa, Clare Valley and the Adelaide Hills are suppliers of agriculture and other manufactured inputs into the food and beverage services demanded by international students. Regional modelling using Deloitte Access Economics' sub-regional tourism satellite accounting framework indicates that a million dollars of expenditure in Adelaide on the average bundle of goods and services demanded by international students leads to $11,900 in gross value added and 0.15 FTE jobs for regional South Australia.[39]

International student contribution by sub-sector

Table 3.4 provides a detailed breakdown of the contribution by type sub-sector and type of contribution. Higher education makes up the largest share of total contribution, with 73 per cent of total value added and 68 per cent of employment. This is a greater share than the sub-sector's 52 per cent share of total enrolments, reflecting higher fees per enrolment and longer course lengths compared to the other sub-sectors.

38. Tourism Research Australia, Results of The International Visitor Survey: Year Ending June 2017 (2017) <https://www.tra.gov.au/Research/International-visitors-to-Australia/international-visitor-survey-results>.

39. Deloitte Access Economics, Regional Tourism Satellite Account. Note that these contribution results are not directly comparable to the other contribution results reported as different multipliers, industry aggregations, and conversion factors from basic to purchasers' prices have been applied.

Table 3.4: Onshore international student contribution to South Australia by sub-sector, 2016-17

Sub-sector	Direct contribution	Indirect contribution	Total contribution	Contribution per enrolment
Value Added ($m)				
Higher education	$625 m	$311 m	$936 m	$51,510
VET	$73 m	$52 m	$125 m	$21,935
Schools	$74 m	$44 m	$118 m	$45,741
ELICOS	$26 m	$19 m	$45 m	$8,300
Non-award	$40 m	$16 m	$56 m	$18,347
Total	**$838 m**	**$442 m**	**$1,281 m**	**$36,645**
Employment (FTE)				
Higher education	4,325	1,696	6,020	0.33
VET	573	288	861	0.15
Schools	740	249	990	0.38
ELICOS	397	107	503	0.09
Non-award	327	98	425	0.14
Total	**6,362**	**2,438**	**8,799**	**0.25**

Source: Deloitte Access Economics

The average student enrolment in South Australia contributes $36,600 in value added and 0.25 FTE jobs. In comparison with the 2014-15 contribution results in Deloitte Access Economics' 2016 report International Education in South Australia, contribution per enrolment has increased by 23 per cent for value added and 8 per cent for employment. This increase is the net effect of:

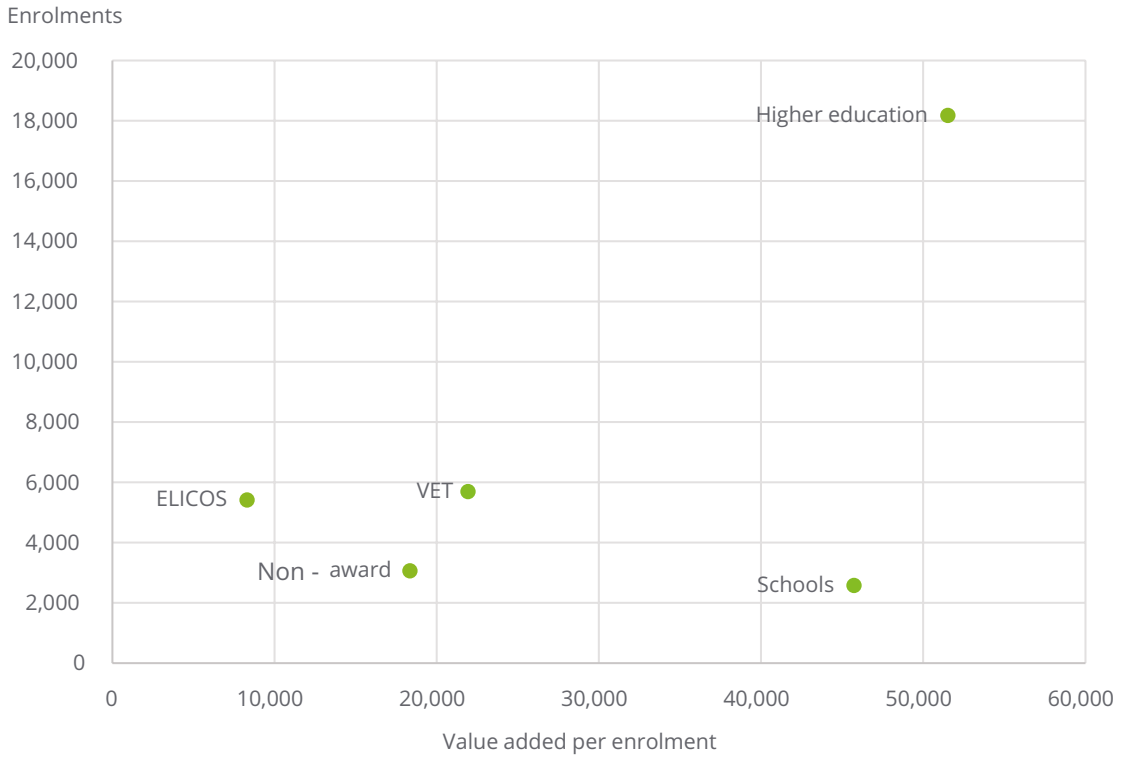
- **Increases in expenditure per enrolment** as discussed in the previous section.
- **Changes to the structure of the economy.** Contribution results are estimated based on the relationship between a particular industry (in this case, education, and other goods and services consumed by international students) and the amount of economic activity and employment supported. These results are based on the most up-to-date view of the economy – based on the 2014-15 IO tables released by the ABS – while the 2014-15 contribution results were based on the 2012-13 IO table.

Dividing the sub-sector contribution by enrolment figures, it is estimated that, at present:

- **One enrolment in higher education** contributes $51,500 in value added and 0.33 FTE jobs in South Australia
- **One enrolment in VET** contributes $21,900 in value added and 0.15 FTE jobs in South Australia
- **One enrolment in schools** contributes $45,700 in value added and 0.38 FTE jobs in South Australia
- **One enrolment in ELICOS contributes $8,300 in value added and 0.09 FTE jobs in South Australia**
- **One enrolment in the non-award sector** contributes $18,300 in value added and 0.14 FTE jobs in South Australia.

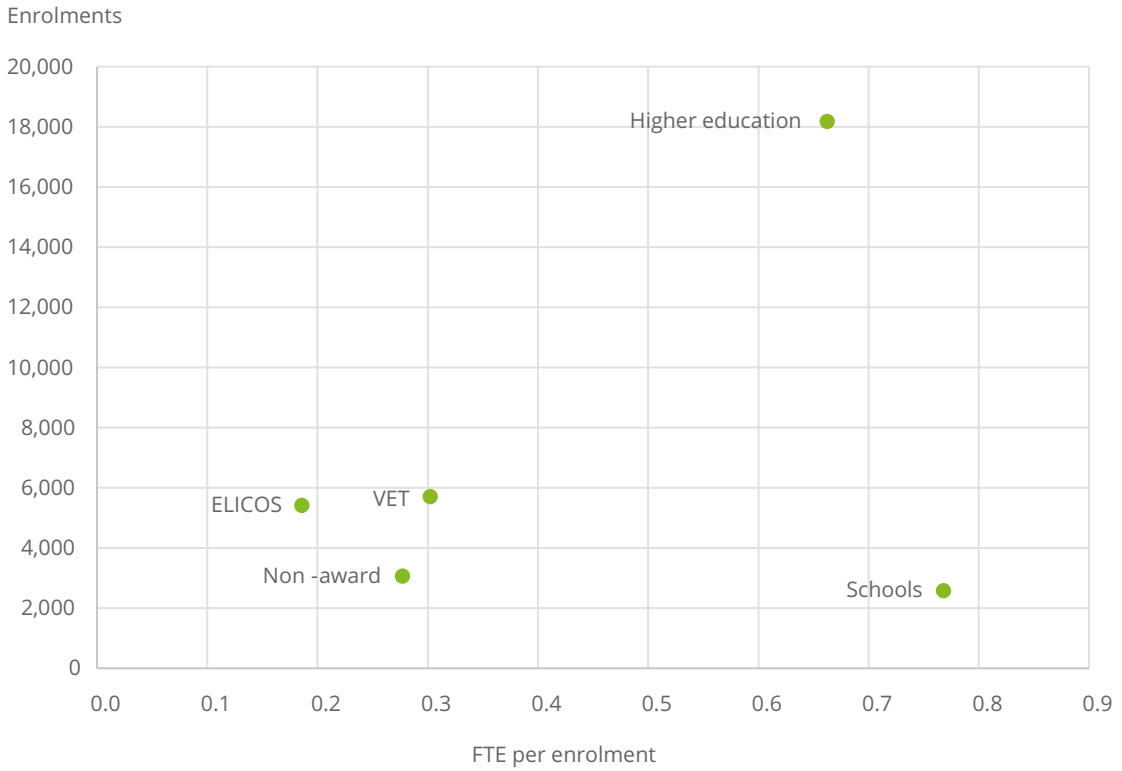
Charts 3.1 and 3.2 show the average contribution of international students by sub-sector compared to the size of the sub-sector in South Australia.

Chart 3.1: Value added contribution to South Australia by sub-sectors, 2016-17



Source: Deloitte Access Economics

Chart 3.2: Employment contribution to South Australia by sub-sector, 2016-17



Source: Deloitte Access Economics

International student contribution by source market

The top three individual source markets (China, India, and Hong Kong) accounted for 65 per cent of the total contribution of the international education sector to the South Australian economy. This is higher than their 58 per cent share of South Australian enrolments, suggesting that enrolments from these markets contributed more than average to the South Australian economy. Students from China, as the largest source market, contributed $625 million in value added to the South Australian economy. Students from India and Hong Kong are the second and third largest contributors, with $131 million and $75 million respectively.

In terms of employment, expenditure by international students from China supported 4,331 FTE jobs in South Australia. The expenditure by students from India and Hong Kong supported 853 and 515 FTE jobs respectively.

Detailed contribution results by source market are provided in Table 3.5.

Table 3.5: Total onshore international student contribution to South Australia by source market, 2016-17

Source market	($million)	Employment (FTE)	Value added per enrolment ($)	Employment per enrolment (FTE)
China	$625 m	4,331	$42,509	0.29
India	$131 m	853	$35,185	0.23
Hong Kong	$75 m	515	$37,182	0.26
Malaysia	$74 m	471	$42,117	0.27
Singapore	$30 m	195	$55,591	0.36
Indonesia	$14 m	88	$37,766	0.25
Other Asia	$233 m	1,640	$30,430	0.21
Europe	$36 m	268	$21,743	0.16
America	$27 m	196	$19,172	0.14
Other countries	$38 m	243	$32,030	0.21
Total	**$1,281 m**	**8,799**	**36,645**	**0.25**

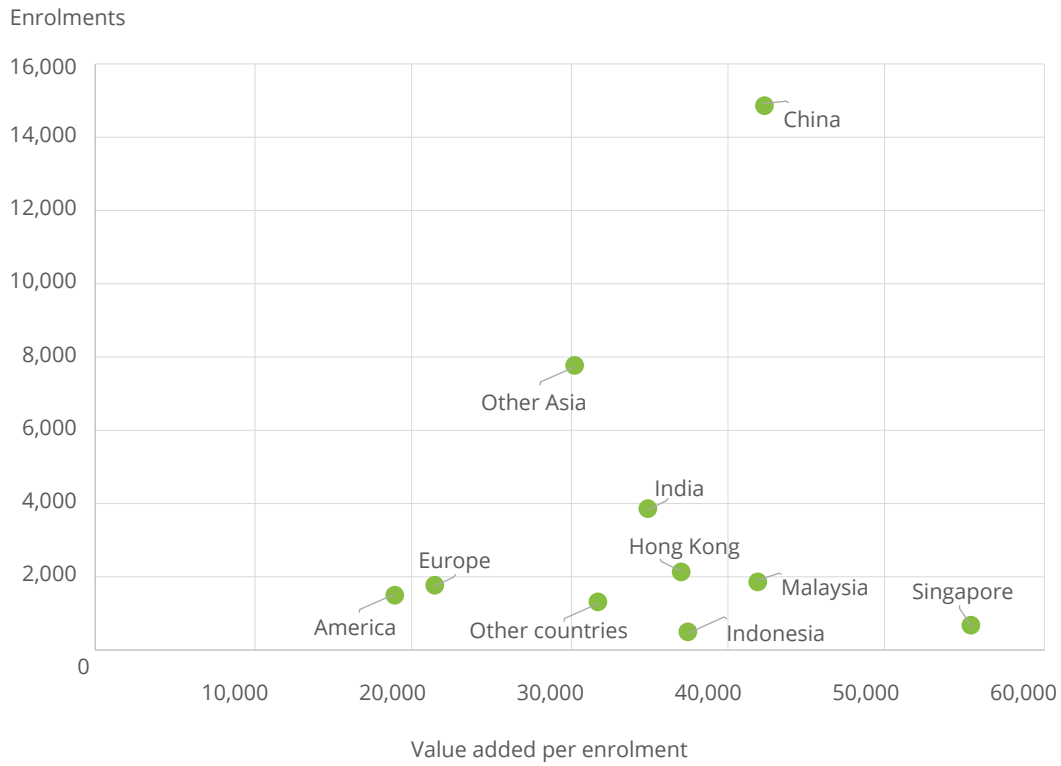
Source: Deloitte Access Economics

Dividing the contribution by enrolment figures, Singapore is the source market with the highest contribution per enrolment. It is also estimated that, at present:

- **One enrolment from China** contributes approximately $42,500 in value added and 0.29 FTE jobs in South Australia
- **One enrolment from India** contributes $35,200 in value added and 0.23 FTE jobs in South Australia
- **One enrolment from Hong Kong** contributes $37,200 in value added and 0.26 FTE jobs in South Australia
- **One enrolment from Malaysia** contributes $42,100 in value added and 0.27 FTE jobs in South Australia.

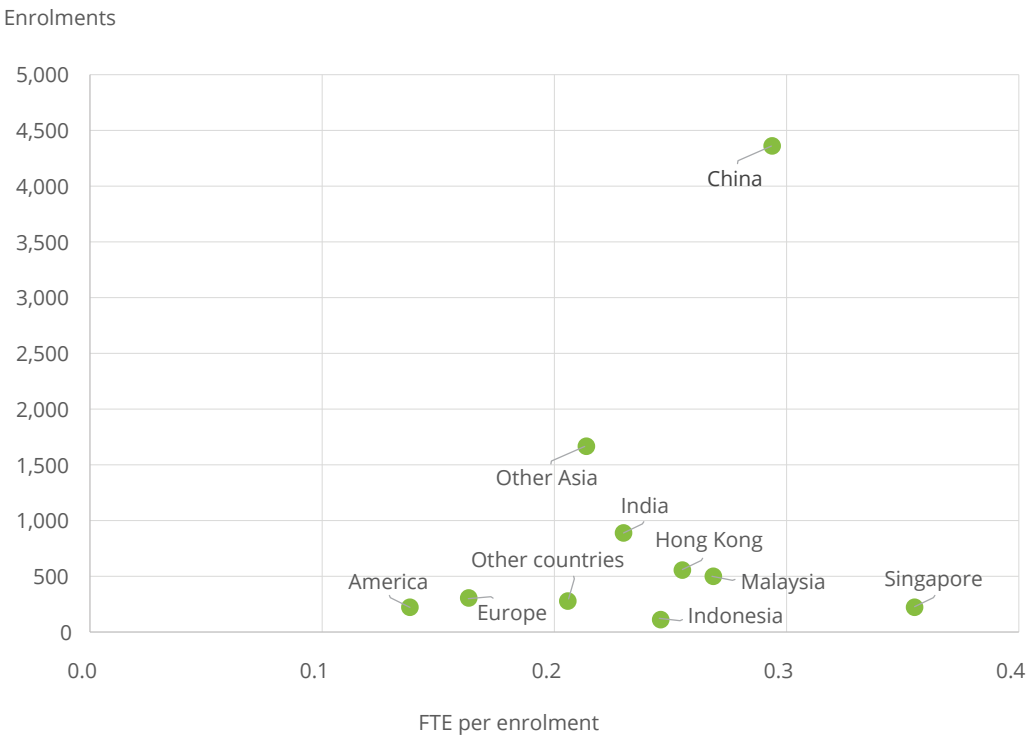
Chart 3.3 and Chart 3.4 show the average contribution of international students by source market compared to the size of the source market in South Australia.

Chart 3.3: Value added to South Australia by source market, 2016-17



Source: Deloitte Access Economics

Chart 3.4: Employment contribution to South Australia by source market, 2016-17



Source: Deloitte Access Economics

3.3 VFR contribution

International students studying in Australia are frequently visited by friends and family from abroad. Supplementary TRA data from the International Visitor Survey[40] indicates that in 2016-17, 6,128 people especially visited South Australia to visit an international student studying in South Australia. Each visitor spent on average 38 nights in the state. In total, they are estimated to have spent 235,000 visitor nights in South Australia, with expenditure of approximately $6.8 million.

While a large number of visitors visit an international student during their trip, the scope of the contribution analysis is limited to those who:

- indicate visiting an international student as their primary purpose for visiting Australia; and
- visit an international student who is studying in South Australia.

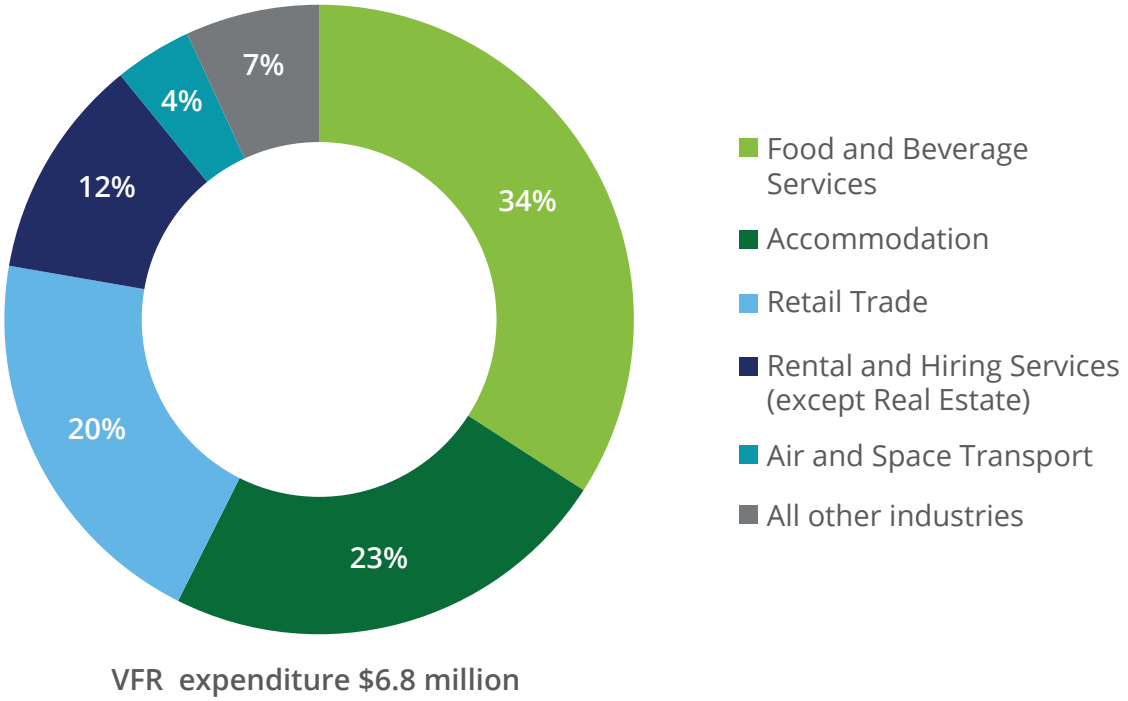
Only the contribution of these visitors can be truly attributed to the onshore international education and training sector in South Australia.

VFRs have similar consumption bundles to international student spending on goods and services, and spent the most in the following industries:

- food and beverage services (34 per cent)
- accommodation (23 per cent)
- retail trade (20 per cent).

The breakdown of international student expenditure on goods and services into the top five industries is shown in Chart 3.5.

Chart 3.5: Breakdown of VFR expenditure by industry, 2016-17



Source: Tourism Research Australia[41]

40. Tourism Research Australia, Results of The International Visitor Survey: Year Ending June 2017 (2017) <https://www.tra.gov.au/Research/International-visitors-to-Australia/international-visitor-survey-results>.

41. Ibid

Deloitte Access Economics estimates that in 2016-17, VFRs of international students studying in South Australia contributed $4.1 million in value added to the economy and supported 54 FTE jobs, as shown in Table 3.6.

Table 3.6: VFR contribution to South Australia, 2016-17

	Direct contribution	Indirect contribution	Total contribution
Value added ($m)	$3.0 m	$1.1 m	$4.1 m
Employment (FTE)	45	9	54

Source: Deloitte Access Economics

3.4 Total contribution

The overall state-wide economic contribution results are summarised in Table 3.7. Collectively, the onshore international education and training sector in South Australia contributed $1,285 million to value added, and supported 8,853 FTE jobs in 2016-17. This represents 1.3 per cent of gross state product (GSP) and state employment.

Table 3.7: Contribution of the international education sector to the South Australian economy, 2016-17

	Value added ($m)	Employment (FTE)
Contribution from student expenditure		
Direct	$838 m	6,362
Indirect	$442 m	2,438
Total	$1,281 m	8,799
Contribution from VFRs		
Direct	$3 m	45
Indirect	$1 m	9
Total	$4 m	54
Total		
Direct	$841 m	6,407
Indirect	$444 m	2,447
Total	$1,285 m	8,853

Source: Deloitte Access Economics

Furthermore, international students are likely to make an economic contribution to South Australia in other ways – either during or after their studies – that are outside the scope of this research. Some examples are listed in the box below.

Other economic contributions of international students

- International students support investment in the construction industry. For instance, it is possible that the parents of international students may buy properties for them to live in during their studies. As imputed rents (where students live in a property but may not pay market rates for them) are not captured in the TRA data, it is possible that international student expenditure on accommodation is higher than estimated.
- International students who have studied in Australia are also likely to revisit post-studies. For instance, a survey of more than 1,200 Chinese alumni found that 64 per cent had travelled back to Australia in the last five years, and almost all respondents (93 per cent) intend to travel to Australia in the next five years.[42] If the survey is representative of the wider alumni population, there could be significant legacy contribution from the international education and training sector that is currently not captured.
- International education and training can also have positive benefits on trade and investment. For instance, an IDP study of international graduates of the five Australian Technology Network universities found that over one fifth of graduates said that they managed or controlled an international supply chain involving an Australian business or industry.[43]

42. Joanne Pyke et al, The role and influence of China based Australian alumni on travel and tourism (Research Rport, Victoria University, 2013) <http://vuir.vu.edu.au/22397/1/the-role-and-influence-of-china-based-alumni-on-travel-and-tourism.pdf>.

43. Melissa Banks and Alan Olsen (eds), 'Outcomes and impacts of international education : from international student to Australian graduate, the journey of a lifetime' (IDP Education, 2008).

4. Future international education and training enrolments in South Australia

Deloitte Access Economics has forecast international student enrolments in South Australia through to 2027, updating forecasts provided in the previous edition of this report. As was the case in 2016, growth in per-capita income across developed and developing countries, as well as an increasing student-aged population, are driving growth in the international education and training sector.

4.1 Approach

To estimate the economic potential of the South Australia international education onshore sector, Deloitte Access Economics has estimated onshore commencements and enrolments using an in-house forecasting model, where:

- commencement refers to a new student enrolment in a particular course in a year
- enrolment refers to the total number of course enrolments (commencing and continuing) in a year.

Total commencements are calculated in two stages:

- **Stage 1:** a portion of total commencements in a given year (period ***t***) are estimated using enrolments in period ***t - 1***, based on the progression of students along recognised study pathways. For example, a certain share of students concluding study in the schools sector in period ***t - 1*** will go on to commence in the higher education sector in period.
- **Stage 2:** the remainder of total commencements is estimated using a forecast of student visa grants. This section of the model ensures that commencements reflect education-related economic fundamentals in source markets such as population and income growth.

Projected enrolments are calculated as a function of total commencements (direct and through study pathways) and course attrition rates. The model methodology is described in more detail in Appendix C.

Modelling has been undertaken for the following scenarios:

- A **baseline scenario**, where South Australia's onshore enrolments follow a 'business as usual' path in the absence of major changes in policy settings or movements in the sector's supply and demand dynamics.
- A **population share scenario**, where South Australia achieves 6.5 per cent of onshore national enrolments in 2027 (higher than the state's current chare of national enrolments), equal to its projected population share in 2027. This will represent a fall from the state's population share of 7.0 per cent in 2017. The growth is assumed to be proportionally spread across the source markets and sub-sectors.
- An **additional 1.5 per cent annual growth scenario**, where South Australian enrolments and commencements increase by an additional 1.5 per cent per annum to the baseline scenario annual growth. The growth is assumed to be proportionally spread across the source markets and sub-sectors, and is modelled at the South Australia level only, such that South Australia's enrolments as a share of Australia's moves relative to the baseline.

4.2 Baseline enrolments

From 2017 to 2027, enrolments in Australia are projected to increase from 797,200 to 1,176,400. This represents cumulative growth of 47.6 per cent, and a CAGR of 4.0 per cent. Over the same period, enrolments in South Australia are expected to grow from 35,700 to 49,200. This represents a cumulative growth of 37.8 per cent and a CAGR of 3.3 per cent. Consequently, South Australia's share of international enrolments in Australia is expected to fall from 4.5 per cent in 2017 to 4.2 per cent by 2027. This is likely to be due to relatively low exposure to faster growing sub-sectors, and the recent falls in exposure to larger (1) sub-sectors and (2) source markets, relative to the rest of Australia.

Forecast enrolments in South Australia are expected to be slower than the 4.3 per cent historical CAGR from 2007 to 2017, reflecting:

- demographic changes in key source markets, with ageing in China and Hong Kong shrinking the pool of student aged population
- a maturing market as increased domestic infrastructure and education supply in the source markets dampens demand for international education
- slower income growth in key markets, as the rate of GDP growth moderates from the rates seen during rapid industrialisation.

Intensifying competition from traditional competitors in North America and Europe, and emerging regional competitors such as China and Singapore, has not been explicitly modelled.

Further, the projections shown here assume constant preferences for Australia's international education product offerings. It does not account for the potential changing nature of products, for instance driven by digital disruption in education, or other changes in consumer preferences.

4.2.1 Enrolments by sub-sector

Higher education is expected to be the second fastest growing sub-sector, with enrolments projected to increase from 18,800 in 2017 to 24,900 in 2027. This represents cumulative growth of 32.6 per cent and a CAGR of 2.9 per cent.

Higher education enrolments in South Australia are expected to increase slower compared to the national average (CAGR of 4.5 per cent). This is due to:

- Lower than expected growth to 2017 from key source markets for higher education enrolments. Slower growth in coming years (relative to Australia) is expected following stabilising growth in commencements from higher education, and falls in ELICOS enrolments, a key pathway sub-sector (as those students are expected to progress through to higher education).
- While China is still among the relatively faster growing source markets, South Australia's share of enrolments from China has fallen in recent years.

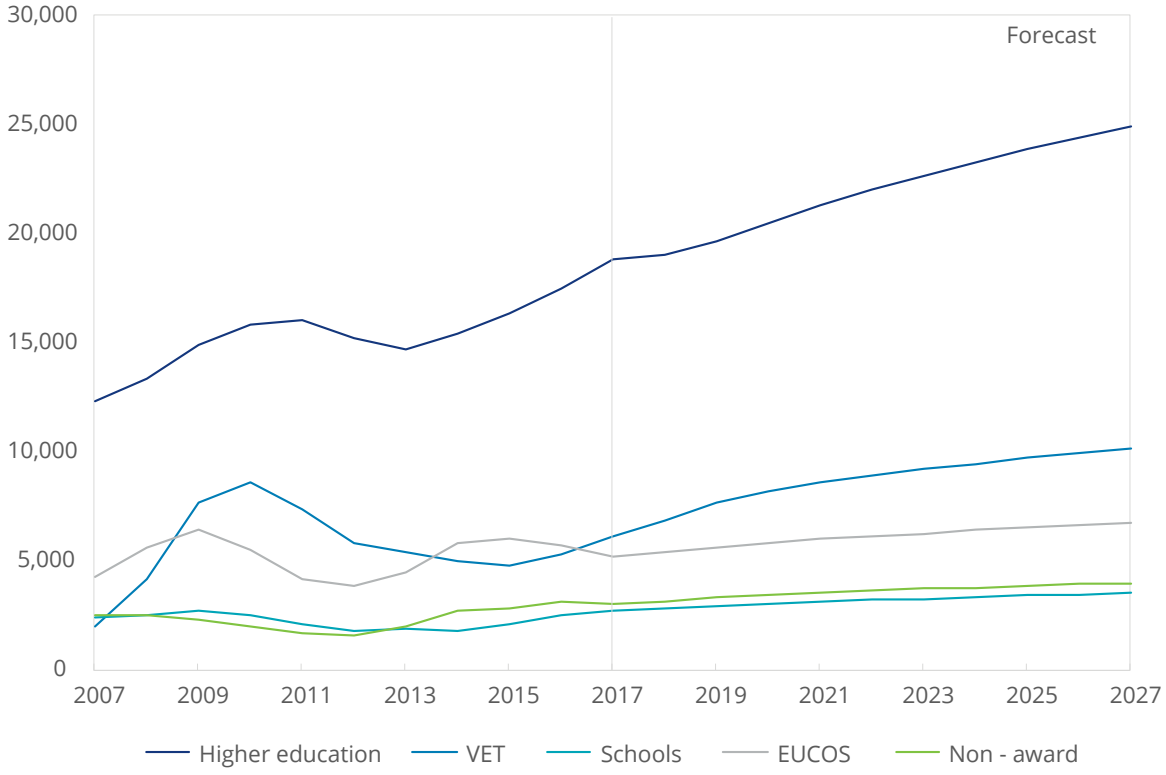
VET enrolments are the fastest growing sub-sector within South Australia, and are expected to increase faster than the national average. From 2017 to 2027, VET enrolments are forecast to increase from 6,100 to 10,100, representing a CAGR of 5.2 per cent. This is higher than the national growth rate of 4.3 per cent, as South Australia's share of key national markets has risen in recent years (including China).

By contrast, ELICOS is the slowest growing sub-sector, with enrolments projected to increase from 5,200 in 2017 to 6,700 by 2027 – a CAGR of 2.6 per cent. This is slightly behind the national average of 2.7 per cent, with Malaysia, Kenya and Nepal the fastest growing source markets. The slower pace of growth for the ELICOS sub-sector Australia-wide can be partially attributed to the modernisation of key ELICOS source markets, notably in China, where both the public and private sectors have invested heavily in developing advanced English-based offerings domestically. While improved advanced English learning offerings in source markets has a positive effect on direct enrolments (as opposed to pathway enrolments) in the tertiary sectors, it reduces the need to study ELICOS internationally.

Enrolments in the schools and non-award sub-sectors are also expected to grow slightly slower than the national average. Enrolments in the schools and non-award sub-sectors in South Australia are forecast to see CAGRs of 2.7 per cent and 2.9 per cent respectively. In particular, enrolments from the United Kingdom and Bangladesh will drive growth in schools, and Colombia, Nepal and Cambodia for non-award courses.

The baseline forecast for onshore enrolments in South Australia by sub-sector is given in Chart 4.1. As a result of continued growth in higher education, enrolments in this sub-sector are expected to make up over 50 per cent of total enrolments in South Australia by 2027 – a fall of two percentage points from 2017. This fall is offset by a rise in VET enrolments from 17 per cent of the total in 2017 to 20 per cent in 2027.

Chart 4.1: South Australia's onshore enrolments by sub-sector, 2017 to 2027



Source: Deloitte Access Economics

4.2.2 Enrolments by source market

The top five source markets in 2017 (China, India, Hong Kong, Malaysia and Vietnam) are expected to remain the top five markets in 2027. Enrolments from these source markets are expected to make up 74 per cent of total enrolments in South Australia in 2027, an increase of four per cent since 2017.

While the top five source markets are expected to remain stable, there is some movement in the rankings of other source markets in the top ten. In particular, enrolments from Saudi Arabia (9th in 2017) are forecast to slow, falling out of the top ten by 2027. Meanwhile, stronger expected growth for Taiwan (11th in 2017) is expected to see this market move into the top ten by 2027, and growth for Kenya (8th in 2017) is expected to result in movement upwards in the top ten ranking.

Growth in these emerging markets is likely to be driven by the following factors, which increase the population of students seeking an international education from each source market:

- **Relatively young demographic**: the 15 to 29 year old population in Kenya is expected to increase by 22 per cent from 2017 to 2027.
- **Increased urbanisation**: the proportion of the population living in Kenya's and Taiwan's urban areas is expected to increase by 18 per cent and four per cent respectively between 2017 and 2027.
- **Increase in per capita GDP:** GDP per capita is expected to increase by 46 per cent for Kenya between 2017 and 2027.

Looking at South Australia's share of Australian enrolments in 2027 for each of the source markets (Table 4.1) reveals whether growth is driven by volume (a large number of students studying in Australia overall) or penetration (a large number of students choosing to study in South Australia). For instance, while the Indian source market is the second largest market for South Australia (5,700 enrolments), it represents just 4.4 per cent of national enrolments by Indian students. This shows that South Australia is underperforming in the Indian source market. In comparison, enrolments from Kenya in South Australia (1,500) represent 19.1 per cent of the national market.

Higher education is expected to be the dominant sub-sector for the majority of the top ten source markets.

Table 4.1: Projected top ten source markets by enrolment in 2027

	Top source markets 2027	2027 enrolments	Share of Aus enrolments 2027	CAGR	Dominant sub-sector 2027
1.	China	24,300	6.6%	2.1%	HE (14,800; 61%)
2.	India	5,700	4.4%	3.2%	HE (3,400; 59%)
3.	Hong Kong	2,700	11.4%	1.8%	HE (1,500; 55%)
4.	Malaysia	2,100	4.4%	1.4%	HE (1,500; 71%)
5.	Vietnam	2,100	5.7%	2.3%	HE (1,000; 48%)
6.	Nepal	1,900	3.2%	3.1%	HE (1,000; 51%)
7.	Kenya	1,500	19.1%	5.2%	VET (700; 51%)
8.	South Korea	1,100	3.0%	1.3%	VET (500; 44%)
9.	Taiwan	1,100	3.2%	3.8%	VET (400; 42%)
10.	Japan	700	3.6%	1.1%	ELICOS (300; 42%)

Source: Deloitte Access Economics

The fastest growing source markets from 2017 to 2027 (in percentage terms) are expected to be Kenya, Taiwan, Brazil, Nepal and Cambodia. In these source markets, total enrolments are expected to increase by a cumulative 69 per cent to 93 per cent over this time. While the fastest five growing markets are expected to contribute an additional 2,300 enrolments over the 10 year forecast horizon, the five largest markets are forecast to contribute an additional 12,300 enrolments.

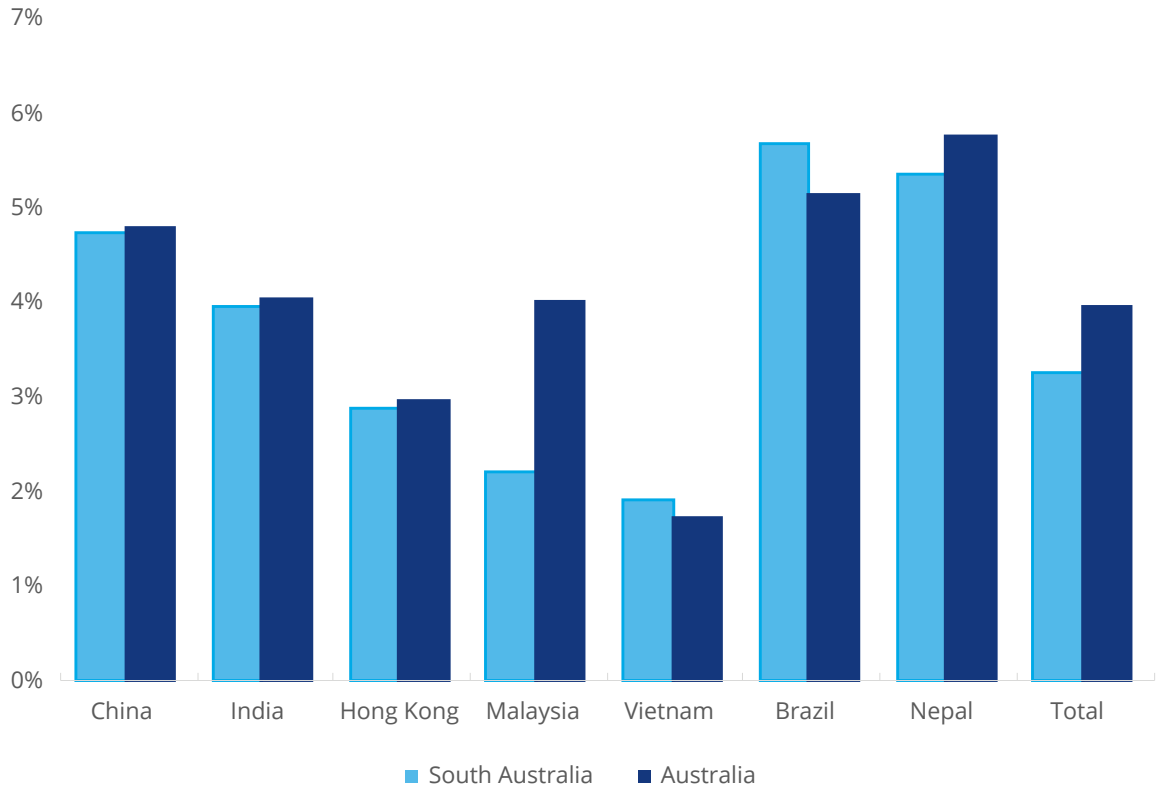
The absolute and relative cumulative growth in enrolments from 2017 to 2027 for the five largest source markets and five fastest growing markets are given in Chart 4.2.

Chart 4.2: Cumulative and absolute growth of select source markets, 2017 to 2027

Source: Deloitte Access Economics (2018)

Chart 4.3 compares the growth rates in total enrolments between the top five biggest markets for South Australia and Australia. It finds that South Australia is projected to outperform in Vietnam and Brazil only, and is expected to underperform in the two most significant source markets, China and India.

Chart 4.3: Growth in select source markets for South Australia and Australia, 2017 to 2027



Source: Deloitte Access Economics (2018)

A full breakdown of onshore enrolments in 2027 by sub-sector and source market, and South Australia's performance relative to Australia is given in Appendix D.

4.3 Market analysis

There is an extensive body of international and Australian literature on the student decision drivers in choosing an international study location. Consistent with the framework set out in Growth and opportunity in Australian International Education,[44] these can be grouped under three broad categories:

1. accessibility
2. experience
3. outcomes.

Students make their decisions based on the relative performance of different locations (and institutions) against these factors.

Given that there is no single type of international student, a nuanced understanding of the relative importance of the decision drivers for different student segments is required. This could then be mapped against South Australia's key strengths can to highlight future opportunities.

The key points from the literature review are summarised in the following sections. A detailed review of the literature on student decision drivers is provided in Appendix D.

44. Deloitte Access Economics, Growth and Opportunity in Australian International Education (2016) <https://www2.deloitte.com/au/en/pages/economics/articles/growth-opportunity-australian-international-education.html>.

International education is becoming more competitive, as countries recognise the economic and non-economic value of international students.

While the United States accounts for 18 per cent of total global enrolments in higher education,[45] it has the capacity to expand its international education market further given that international students currently make up 4 per cent of total enrolments in higher education. This compares to 19 per cent for Australia.[46] As the United States focuses on international students, with the removal of commissioned agent usage in international student recruitment in 2014, the country is likely to remain a key competitor for Australia.[47]

In addition to traditional competitors, new rivals are also emerging from Asia, with China, Singapore and Malaysia all setting ambitious international student enrolment targets. For instance, China is already the third largest outbound market for international students, and plans to expand its international enrolments from 200,000 to 300,000 by 2020. Similarly, Malaysia hopes to attract an additional 150,000 foreign students to reach 250,000 foreign students by 2025.

Accessibility to international education has many dimensions, including the costs of studying and living, the visa restrictions, ease of entering a course of choice, and the geographic and cultural proximity.

Price is an important accessibility driver, particularly for non-higher education onshore sectors, where students cannot readily access the rankings (and quality) of institutions and are consequently more sensitive to price.

International student ***experience*** covers students' time both inside and outside the classroom for the duration of their studies. This includes study, social and community participation, ability to work during studies, accommodation experience, and the overall lifestyle and safety in the study destination.

Overall, experience is likely to be most important for the ELICOS and school sub-sectors. In particular, ELICOS students from South America and Europe, who desire the Australian lifestyle as much as to learn English. In comparison, school students and their parents are likely to be more concerned with safety and accommodation given the young ages of the students.

Expected ***outcomes***, including the education outcomes, employability post-studies, and potential migration prospects, are important points of consideration for international students pursuing an international education.

Outcome is the most important of the three broad decision drivers, particularly for the onshore tertiary education (higher education and VET) sub-sectors.

As the education system of emerging competitor countries improve, it is likely to negatively affect Australia through: (1) decreasing the number of students seeking an international education, and (2) attracting international students from other source countries who might have otherwise have come to Australia.

Amidst the increasing competition, the **Australian** international education and training sector has the following advantages compared to global competitors.

- **Price accessibility:** the Australian dollar is projected to remain at lower levels in the short- to medium - term, which both increases competitiveness against rival destinations (substitution effect), and makes study more affordable in the students' home currencies (income effect).
- **Course accessibility:** Australia's clear pathway system offers students a low-risk course of study from schools and ELICOS to the tertiary sector. This is combined with a centralised and transparent admissions system into higher education, and in contrast to rival countries such as the United States and United Kingdom where learners are evaluated at the discretion of the individual institutions on a variety of factors, including personal statements and references.

45. British Council, Exploring the impacts of transnational education on host countries: a pilot study (2014) <https://www.britishcouncil.org/sites/default/files/tne_report_2014.pdf>.

46. Rahul Choudaha, 'Attracting international students: can American higher education maintain its leadership', Huffington Post (online), 6 December 2017 <http://www.huffingtonpost.com/rahul-choudaha-phd/can-us-higher-education-m_b_6161588.html>.

47. ICEF Monitor, Enormous Saudi scholarship programme extended to 2020 (2012) <http://monitor.icef.com/2012/02/enormous-saudi-scholarship-programme-in-the-spotlight/>.

- **Proximity:** Australia is geographically (and culturally) close to fast growing markets in the Asia-Pacific region, and is the preferred destination for students from South Asia and South East Asia markets including Bangladesh, India, Indonesia and Malaysia, when compared to the United Kingdom.[48] Australia is also the preferred destination for emerging source markets in Africa such as Ethiopia, South Africa and Zimbabwe.
- **Lifestyle:** Australia is overall perceived as a safe and multicultural destination suitable for international students. The Australian Institute of Criminology (2011) found that international students from Australia's biggest five source markets experienced incidents of physical assault at significantly lower rates than in the general population in each state or territory jurisdiction in 2009.[49] However, building a reputation based on safety could also be potentially risky in the advent of high profile incidents. For instance, the incidents of violence against international learners in Melbourne in 2009 and 2010 that gained widespread global media coverage, and decreased enrolments Australia-wide.
- **Quality:** while Australian universities are not as well-known as those in the United States or the United Kingdom, it has a large number of high quality universities for a country of its size. For instance, the University of Adelaide, University of South Australia, and the Flinders University are all ranked within the global top 550 universities.[50] As research suggests that most international students decide on a course of study, before choosing institutions, universities could also focus on subjects of strength[51]. For instance, South Australian universities rank relatively higher in subjects such as nursing, and social sciences and management. Further, Australia can leverage its experience in areas of industrial knowledge and expertise, such as mining, agriculture, gas, tourism, health, and wealth management.
- **Employability:** all higher education graduates in Australia have post-study work rights in Australia for two to four years depending on their level of study. The then Department of Immigration and Border Protection's research suggests that a large proportion of eligible learners – 80 per cent to 90 per cent – apply for post-study work visa, suggesting its importance to learners. Work-study experience in the country of study could allow students to gain valuable experience and make them more employable whether in Australia, their home country, or a third country. Australia's policy contrasts to the United Kingdom, where its post-study work programme was abolished in 2012.

The South Australian international education and training sector in particular has the following distinct features compared to both domestic and international competitors.

- **Price accessibility:** cost of living in South Australia is low compared to other major cities in Australia. Mercer's Cost of Living Rankings (2017) finds that Adelaide was the 77th most expensive major city to live in. This is lower than Sydney (24th), Melbourne (46th), Perth (50th), Canberra (71st) and Brisbane (71st[52]). However, it is possible that the lower cost of living is offset by fewer opportunities for employment during students' studies, with the unemployment rate in South Australia 6.5 per cent compared to 5.5 per cent for Australia, in April 2018[53].
- **Accommodation:** Adelaide has a large overseas market student accommodation penetration rate, at around 22 per cent in 2016. This is among the highest across Australia[54]. However, other accommodation options are needed to support growth in different sub-sectors. For instance, a reliable network of host families are required to support growth in the schools sub-sector, given that 39 per cent of surveyed international secondary students in 2014 stayed with host families. (DET, 2014[55]).
- **Employability:** Although it could be perceived that South Australia has fewer employment opportunities due to its weaker economy relative to other Australian jurisdictions in recent times, this is not necessarily the case for international student outcomes. The unemployment rate for both domestic and international students aged between 15-24 years old attending tertiary education full-time in South Australia is 11.9 per cent (12-month

48. Hobsons, International Student Survey (2015) <https://www.hobsons.com/resources/entry/white-paper-international-student-survey-2015-value-and-the-modern-internat>.

49. Australian Institution of Criminology, Crimes against International Students in Australia (2011) <https://aic.gov.au/publications/special/001>.

50. QS Top Universities, QS rankings (2018) <https://www.topuniversities.com/university-rankings>; Times Higher Education, World University Rankings (2018) <https://www.timeshighereducation.com/world-university-rankings/2018/>.

51. Hobsons, International Student Survey (2015) <https://www.hobsons.com/resources/entry/white-paper-international-student-survey-2015-value-and-the-modern-internat>.

52. Mercer, Cost of Living Rankings (2015) <https://mobilityexchange.mercer.com/Portals/0/Content/Rankings/rankings/col2017b147852/index.html>

53. Australian Bureau of Statistics, Labour Force, Australia, May 2018, cat. no. 6202.0 (14 June 2018).

54. JLL, Australian student accommodation market review (2016) <http://www.jll.com.au/australia/en-au/Research/JLL%20AU%20Student%20Accommodation%202016.pdf?0a9d1cb8-162f-4f5d-a2d7-f0d33bbfba5d>.

55. Department of Education and Training, International Student Survey 2014 – Overview Report (2015) <https://internationaleducation.gov.au/research/research-papers/Documents/ISS%202014%20Report%20Final.pdf>.

average). While this is comparable to the national average (11.6 per cent[56]), it is higher compared to New South Wales (10.4 per cent) and lower compared to Victoria (12.9 per cent). The 2017 International Student and Alumni Satisfaction Survey, conducted by the International Alumni Job Network, found that South Australian universities provided the most support to international students to find a job, and South Australia alumni took the shortest amount of time to find their first job, on average 2.2 months.[57]Recently, the general unemployment gap in South Australia has narrowed, with the state's unemployment rate at 5.7 per cent in trend terms, compared to 5.5 per cent for Australia.[58]

- **Migration:** although migration regulations are set by the Federal Government and outside of the control of the States, applicants who commit to living and working in South Australia (for two years from arrival with a view to long-term settlement) qualify for five additional points when applying for permanent residency. Given that 19 per cent of international students obtain permanent residency post-studies; this is likely to be a point of consideration from some students.[59]

The key decision drivers for international students of different sub-sectors, and the relative strengths of the Australian and South Australian international education and training sector are summarised in Figure 4.1. This table has been developed through a review of the existing body of literature on the choice drivers, a comparison of the key metrics across the jurisdictions, and the judgement of Deloitte Access Economics based on our experience across the sector.

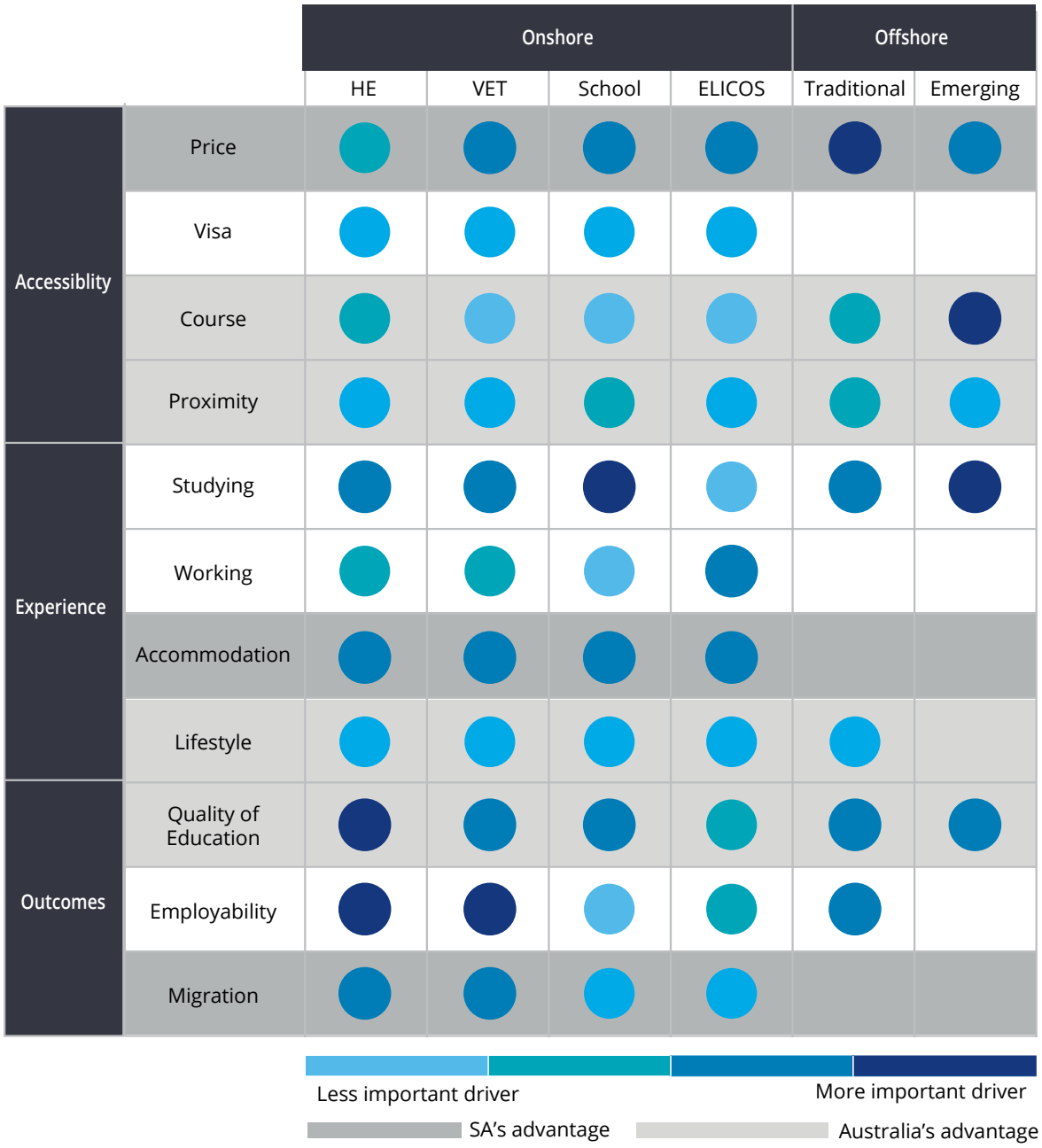
56. Australian Bureau of Statistics, Labour Force, Australia, May 2018, cat. no. 6202.0 (14 June 2018).

57. International Alumni Job Network, International Student & Alumni Satisfaction Survey – South Australian comparison (November 2017)

58. Australian Bureau of Statistics, Labour Force, Australia, May 2018, cat. no. 6202.0 (14 June 2018).

59. Melissa Banks and Alan Olsen (eds), 'Outcomes and impacts of international education : from international student to Australian graduate, the journey of a lifetime' (IDP Education, 2008).

Figure 4.1: Relative importance of student decision drivers and South Australia's advantage



Source: Deloitte Access Economics[60]

4.4 Scenario analysis

The baseline forecasts presented in Section 4.2 depict a central path for the evolution of the South Australian international education and training sector in the absence of major changes in policy settings or movements in the sector's supply and demand dynamics. These scenarios have been developed in a mechanical way to achieve either a targeted market share or growth rate. These scenarios incorporate no information on how South Australia would achieve these targets, or whether they are achievable. The two stylised scenarios that have been constructed:

60. Adapted from Deloitte Access Economics, Growth and Opportunity in Australian International Education (2016) <https://www2.deloitte.com/au/en/pages/economics/articles/growth-opportunity-australian-international-education.html>.

- **Population share scenario:** a path where South Australia's market share of onshore enrolments grows to align with the State's projected share of the national population – 6.5 per cent – by 2027.
- **Additional 1.5 per cent annual growth scenario:** a path that includes an additional 1.5 per cent annual growth to the baseline scenario at the state level for enrolments and commencements.

Under the population share scenario, enrolment (and commencement) growth is assumed to increase gradually from 2018 to reach the population share target by 2027. The increase is assumed to be split across the source markets and sub-sectors based on their market share under the baseline scenario.

The additional 1.5 per cent annual growth scenario is applied at the total enrolment and commencement level at the South Australia level. The change is assumed to be split across the source markets and sub-sectors based on their market share under the baseline scenario.

Under the population share scenario, enrolments are projected to reach approximately 76,900 by 2027. This implies a CAGR of 8.0 per cent, over double the rate achieved under the baseline scenario (3.3 per cent). The additional 27,600 enrolments achieved under this scenario is equivalent to around 77 per cent of the current international enrolments in South Australia (as at 2017).

Under the additional 1.5 per cent annual growth scenario, enrolments are expected to increase from 35,700 in 2017 to 56,900 in 2027. This represents a CAGR of 4.8 per cent over this time, and market share moving to 4.8 per cent.

The results of the additional growth scenarios are summarised in Table 4.2.

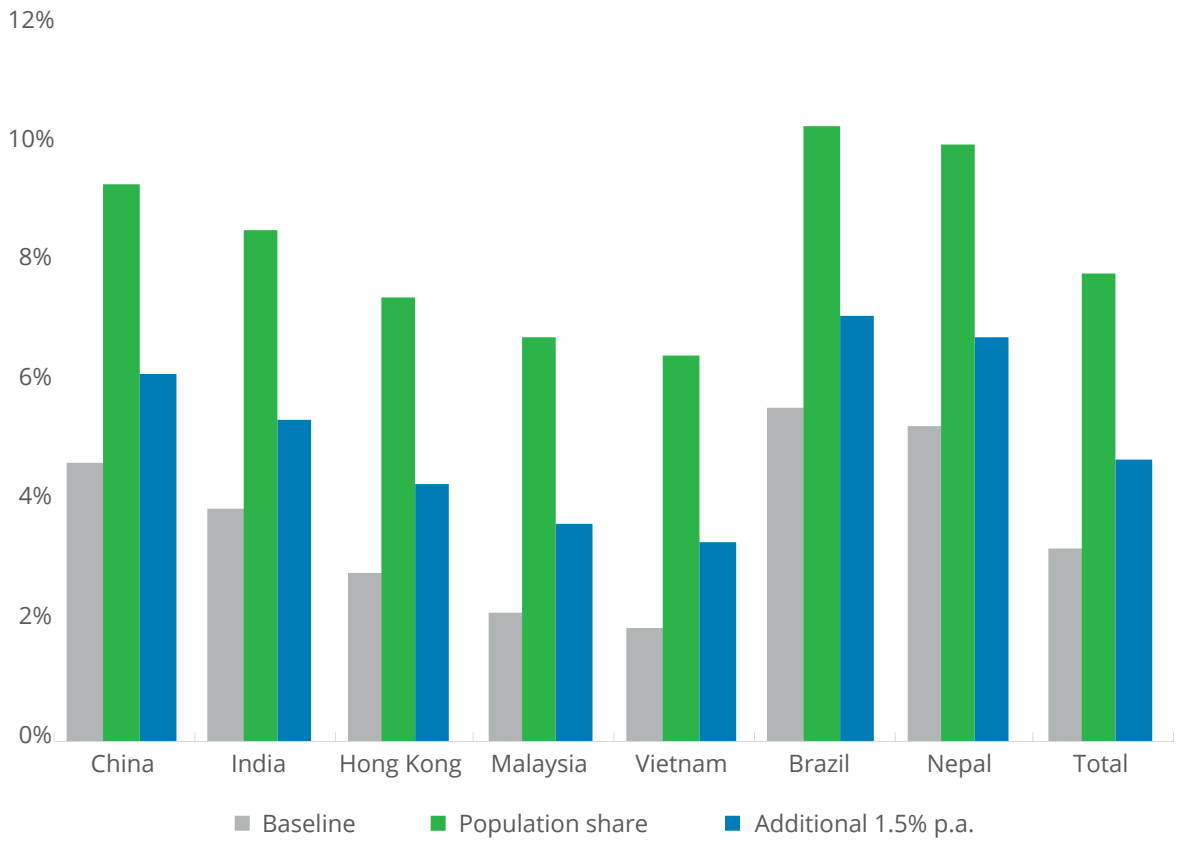
Table 4.2: Scenario analysis of South Australia's onshore international education, 2017-2027

South Australia	2017	2022	2027	Change from baseline (2027)	CAGR (%)	National share (%)
Baseline scenario						
Commencements	18,700	23,000	25,600	-	3.2	4.1
Enrolments	35,700	43,900	49,200	-	3.3	4.2
Scenario 1 'population share'						
Commencements	18,700	30,500	40,800	15,200	8.1	6.5
Enrolments	35,700	57,300	76,900	27,600	8.0	6.5
Scenario 2 'additional 1.5% annual growth'						
Commencements	18,700	24,700	29,600	4,000	4.7	4.7
Enrolments	35,700	47,100	56,900	7,600	4.8	4.8

Source: Deloitte Access Economics

Chart 4.4 shows the average annual growth rates that would occur as a result of these scenarios for a select group of source markets between 2017 and 2027.

Chart 4.4: Growth in select source markets under scenarios, 2017 to 2027



Source: Deloitte Access Economics

Achieving the population share target would mean that for South Australia's five largest source markets:

- Enrolments from China would reach 10.3 per cent of national share (compared to 6.6 per cent in the baseline), growing at an average annual rate of 9.5 per cent over the 10 years to 2027
- Enrolments from India would reach 6.9 per cent of national share (compared to 4.4 per cent in the baseline), growing at an average annual rate of 8.7 per cent over the 10 years to 2027
- Enrolments from Hong Kong would reach 17.8 per cent of national share (compared to 11.4 per cent in the baseline), growing at an average annual rate of 7.6 per cent over the 10 years to 2027
- Enrolments from Malaysia would reach 6.9 per cent of national share (compared to 4.4 per cent in the baseline), growing at an average annual rate of 6.8 per cent over the 10 years to 2027
- Enrolments from Vietnam would reach 8.9 per cent of national share (compared to 5.7 per cent in the baseline), growing at an average annual rate of 6.5 per cent over the 10 years to 2027.

Achieving an additional 1.5 per cent annual growth to the baseline would result in the below for South Australia's five largest source markets.

- Enrolments from China would reach 7.6 per cent of national share growing at an average annual rate of 6.2 per cent over the 10 years to 2027
- Enrolments from India would reach 5.1 per cent of national share, growing at an average annual rate of 5.5 per cent over the 10 years to 2027
- Enrolments from Hong Kong would reach 13.2 per cent of national share, growing at an average annual rate of 4.4 per cent over the 10 years to 2027
- Enrolments from Malaysia would reach 5.1 per cent of national share, growing at an average annual rate of 3.7 per cent over the 10 years to 2027
- Enrolments from Vietnam would reach 6.6 per cent of national share, growing at an average annual rate of 3.4 per cent over the 10 years to 2027.

The parameters of these scenarios have been selected to show what the number of international enrolments might be in 2027 given increased market share or increased growth targets relative to the baseline scenario. Deloitte Access Economics has not conducted analysis to determine whether either of these scenarios would be achievable in practice. For that reason, these scenarios should not be viewed as forecasts.

This analysis does not consider supply side constraints required to support international students during their studies. More accommodation options, employment opportunities, and larger campuses are likely to be required to support further growth. Further, there are legislative restrictions on the 'maximum capacity' for international students in all Commonwealth Register of Institutions and Courses for Overseas Students (CRICOS) education providers.

Detailed snapshots of enrolments under the scenarios can be found in Appendix F.

Appendix A: Economic contribution modelling framework

A.1. Overview and definitions

Economic contribution studies are intended to quantify measures such as value added, exports, imports and employment associated with a given industry or firm, in a historical reference year. The economic contribution is a measure of the value of production by a firm or industry.

All direct, indirect and total contributions are reported as gross operating surplus (GOS), labour income, value added and employment (with these terms defined in Table A.1).

Table A.1: Definitions of economic contribution estimates

Estimate	Definition
Gross operating surplus (GOS)	GOS represents the value of income generated by the entity's direct capital inputs, generally measured as the earnings before interest, tax, depreciation, and amortisation (EBITDA).
Labour income	Labour income is a subcomponent of value add. It represents the value of output generated by the entity's direct labour inputs, as measured by the income to labour.
Value added	Value added measures the value of output (i.e. goods and services) generated by the entity's factors of production (i.e. labour and capital) as measured in the income to those factors of production. The sum of value added across all entities in the economy equals gross domestic product. Given the relationship to GDP, the value added measure can be thought of as the increased contribution to welfare.
Employment (FTE)	Employment is a fundamentally different measure of activity to those above. It measures the number of workers (measured in full-time equivalent terms) that are employed by the entity, rather than the value of the workers' output.
Direct economic contribution	The direct economic contribution is a representation of the flow from labour and capital committed in the economic activity.
Indirect economic contribution	The indirect contribution is a measure of the demand for goods and services produced in other sectors as a result of demand generated by economic activity.
Total economic contribution	The total economic contribution to the economy is the sum of the direct and indirect economic contributions.

When calculating the GOS for a typical for-profit firm or industry, income streams from government (such as transfers or production subsidies) are excluded as they are a transfer of public funds, not reflective of income generated by the activities of the firm or industry.

Similarly, value added is typically calculated as GOS plus labour income plus taxes minus subsidies on production.

A.2. Value added

The measures of economic activity provided by a contribution study are consistent to those provided by the Australian Bureau of Statistics. For example, value added is the contribution the sector makes to total factor income and gross domestic product (GDP) and gross state product.

There a number of ways to measure GDP:

- **Expenditure approach** – measures the expenditure; of households, on investment, government and net exports
- **Income approach** – measures the income in an economy by measuring the payments of wages and profits to workers and owners.

Below is a discussion measuring the value added by an industry using the income approach.

A.2.1. Measuring the economic contribution – income approach

There are several commonly used measures of economic activity, each of which describes a different aspect of an industry's economic contribution. One measure is value added.

Value added measures the value of output (i.e. goods and services) generated by the entity's factors of production (i.e. labour and capital) as measured by the income to those factors of production. The sum of value added across all entities in the economy plus net taxes less subsidies on products equals gross domestic product. Given the relationship to GDP, the value added measure can be thought of as the increased contribution to welfare.

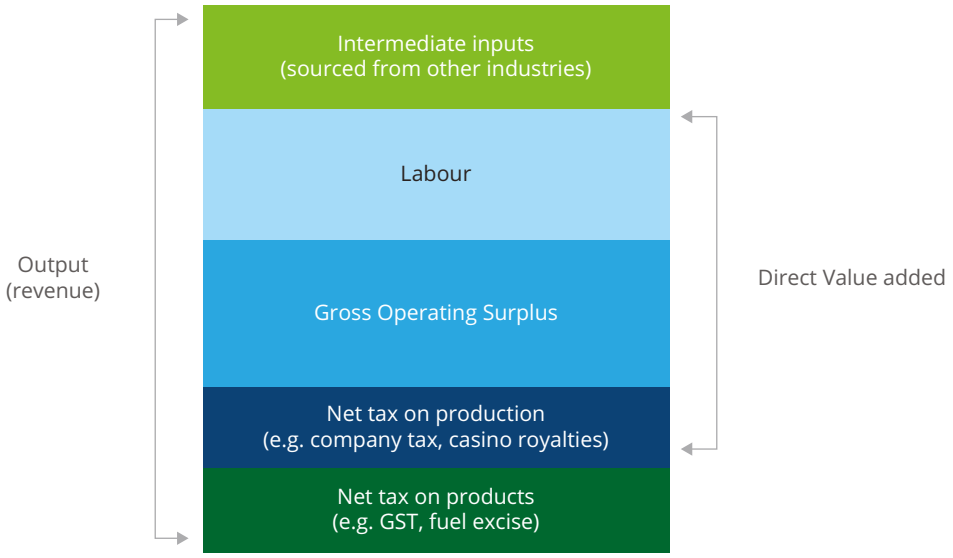
Value added is the sum of:

- Gross operating surplus (GOS). GOS represents the value of income generated by the entity's capital inputs, generally measured as the earnings before interest, tax, depreciation and amortisation (EBITDA)
- Tax on production less subsidy provided for production. Note: given the returns to capital before tax are calculated, company tax is not included or this would double count that tax. In addition, it excludes goods and services tax, which is a tax on consumption (i.e. levied on households)
- Labour income is a subcomponent of value added. It represents the value of output generated by the entity's direct labour inputs, as measured by the income to labour.

Figure A.1 shows the accounting framework used to evaluate economic activity, along with the components that make up output. Output is the sum of value added and the value of intermediate inputs used by the company. Net taxes on products are not included in value added but are included in GDP.

The value of intermediate inputs can also be calculated directly by summing up expenses related to non-primary factor inputs. For instance, expenditure on professional, scientific, and technical services, administrative, travel and employment services, and buildings are key intermediate inputs used by the education providers. While international student expenditure on retail trade is likely to indirectly stimulate intermediate input demand from the finance, professional, scientific, and technical services, and non-residential real estate sectors.

Figure A.1: Economic activity accounting framework



Source: Deloitte Access Economics

Contribution studies generally also estimate employment attributable to a sector. Employment is a fundamentally different measure of activity to those above. It measures the number of workers that are employed by the entity, rather than the value of the workers' output.

Direct and indirect contributions

The **direct** economic contribution is a representation of the flow from labour and capital in the company.

The **indirect** contribution is a measure of the demand for goods and services produced in other sectors as a result of demand generated by an industry or firm. Estimation of the indirect economic contribution is undertaken in an IO framework using Australian Bureau of Statistics IO tables which report the inputs and outputs of specific sectors of the economy.

The total economic contribution to the economy is the sum of the direct and indirect economic contributions.

Other measures, such as total revenue or total exports are useful measures of economic activity but these measures alone cannot account for the contribution made to GDP. These measures overstate the contribution to value added because they include activity by external companies supplying inputs, in addition they do not discount the inputs supplied from outside Australia.

Limitations of economic contribution studies

While describing the geographic origin of production inputs may be a guide to a firm or industry's linkages with the local economy, it should be recognised that these are the type of normal industry linkages that characterise all economic activities.

Unless there is unused capacity in the economy (such as unemployed labour) there may not be a strong relationship between a firm's economic contribution as measured by value added (or other static aggregates) and the welfare or living standard of the community. The use of labour and capital by demand created from the industry comes at an opportunity cost as it may reduce the amount of resources available to spend on other economic activities. This is not to say that the economic contribution, including employment, is not important. As stated by the Productivity Commission in the context of Australia's gambling industries[61]:

Value added trade and job creation arguments need to be considered in the context of the economy as a whole income from trade uses real resources, which could have been employed to generate benefits elsewhere. These arguments do not mean that jobs, trade and activity are unimportant in an economy. To the contrary they are critical to people's well-being. However, any particular industry's contribution to these benefits is much smaller than might at first be thought, because substitute industries could produce similar, though not equal gains.

61. Productivity Commission, Australia's Gambling Industries (Report No 10, 1999) 4.19.

In a fundamental sense, economic contribution studies are simply historical accounting exercises. No 'what-if', or counterfactual inferences – such as 'what would happen to living standards if the firm or industry disappeared?' – should be drawn from them.

The analysis – as discussed in the report – relies on a national IO table modelling framework and there are some limitations to this modelling framework. The analysis assumes that goods and services provided to the sector are produced by factors of production that are located completely within the region defined and that income flows do not leak to other regions.

The IO framework and the derivation of the multipliers also assume that the relevant economic activity takes place within an unconstrained environment. That is, an increase in economic activity in one area of the economy does not increase prices and subsequently crowd out economic activity in another area of the economy. As a result, the modelled total and indirect contribution can be regarded as an upper-bound estimate of the contribution made by the supply of intermediate inputs.

Similarly, the IO framework does not account for further flow-on benefits as captured in a more dynamic modelling environment like a Computable General Equilibrium (CGE) model.

Input-output analysis

Input-output tables are required to account for the intermediate flows between sectors. These tables measure the direct economic activity of every sector in the economy at the national level. Importantly, these tables allow intermediate inputs to be further broken down by source. These detailed intermediate flows can be used to derive the total change in economic activity associated with a given direct change in activity for a given sector.

A widely used measure of the spill-over of activity from one sector to another is captured by the ratio of the total to direct change in economic activity. The resulting estimate is typically referred to as 'the multiplier'. A multiplier greater than one implies some indirect activity, with higher multipliers indicating relatively larger indirect and total activity flowing from a given level of direct activity.

The IO matrix used for Australia is derived from the ABS 2012-13 IO tables (2015). The industry classification used for IO tables is based on ANZSIC, with 114 sectors in the modelling framework.

Appendix B: Contribution modelling methodology

B.1. Student contribution

This section describes the methodology and data used to estimate the contribution of onshore international students studying in South Australia in 2016-17 to the state. The contribution of international students studying in other states and territories to South Australia through indirect supplier links (such as through agriculture, or domestic tourism activity) is outside the scope of this analysis. Further, the contribution of revenue from other forms of international education and training (including royalties, education consultancy services and other education services, and the non-student visa markets) has not been considered.

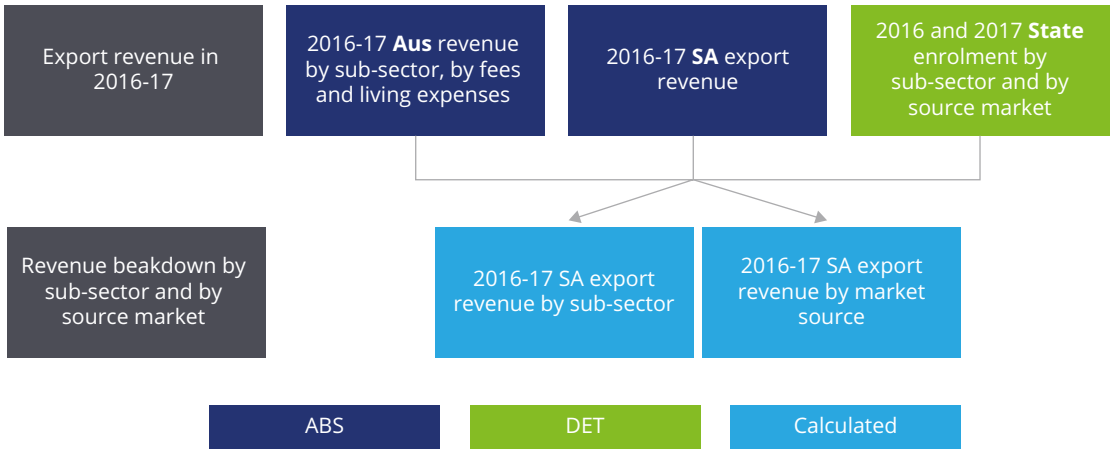
Revenue by sub-sector, by market sources, by expenditure on fees, and goods and services

While the ABS export revenue is available at the state and territory level in total, it does not break down revenue into the sub-sector components of higher education, VET, schools, ELICOS and non-award. Consequently, the national ABS data, which breaks down the total export revenue into fees, and goods and services for the relevant education sub-sector categories, and the 2017 DET enrolment figures by sub-sector, have been used to attribute revenue to the sub-sectors in South Australia. For instance, given that higher education enrolments in South Australia comprises 5 per cent of national total, it is assumed that the revenue from fees is also equal to 5 percent of the national total. The fee revenue from the other education sub-sectors is similarly apportioned.[62] This assumes that average fee for an enrolment in each sub-sector is the same across the states.

The estimated national expenditure on goods and services by sector is similarly attributed to South Australia based on enrolments. However, re-balancing adjustments have been made to ensure that the sum of expenditure on fees and goods and services equals the state total. This can be thought of as accounting for the price differentials for living between states.

A flow diagram of the data and methodology for estimating the export revenue attributable to South Australia international students in 2016-17 (by sub-sector, and category of expenditure) is shown below in Figure B.1.

Figure B.1: Estimating export revenue for international students in South Australia



Source: Deloitte Access Economics

Contribution

From the estimated export revenue from international students in South Australia in 2016-17, the contribution from fees and goods and services are estimated using the methodology described below.

62The revenue from the ABS educational sector categories 'AusAid/Defence' and 'New Zealand', which doesn't map into the five sub-sectors of international education and training, has been attributed to higher education. This is because a higher proportion of these students are likely to be enrolled in higher education.

Fees

The fees of each education sub-sector are assigned to the relevant ANZSIC industries[63]. The schools are put under the ***'Primary and Secondary Education Services (incl Pre-Schools and Special Schools)'*** sub-sector; and ELICOS under ***'Arts, Sports, Adult and Other Education Services (incl community education)'.***
These are listed below in Table B.1.

Table B.1: IO categorisation by education provider mode and sub-sector

Mode/Sub-sector	IO category
Higher education	Direct calculation
VET	Technical, Vocational and Tertiary Education Services
Schools	Primary and Secondary Education Services
SV ELICOS	Arts, Sports, Adult and Other Education Services
Non-Award	Technical, Vocational and Tertiary Education Services

Source: Deloitte Access Economics

For higher education, the revenue and expenses of the sub-sector are taken from the ***DET 2016 Finance Publication.***[64] The direct value added and employment multipliers are calculated directly from DET data and applied to the Deloitte Access Economics estimate of fees from international students in higher education in South Australia. DET financial data is used instead of the aggregate 'Technical, Vocational and Tertiary Education Services' industry as it gives a more accurate and up-to-date picture of the production structure of higher education institutions compared to the IO tables.

This method assumes that for the universities, a dollar from international students is the same as a dollar from any other sources, and does not make any distinction of what international student fees are likely to be spent on.

The universities' expenditure on intermediate inputs draws on both the available DET data and past contribution studies by Deloitte Access Economics for universities in Australia. [64]

Adjustments are also made to account for the proportion of expenditure that is likely to occur within individual states and in the rest of Australia, based on past analysis by Deloitte Access Economics. It finds that approximately 60 per cent of expenditure on intermediate inputs will occur within the state that the university is located in, 30 per cent within the rest of Australia, with the remaining 10 per cent sourced directly from overseas.

Using proportions based on past studies, the simplifying assumption that each university has the same reliance on local, interstate, and international intermediate inputs, have been made. While it is likely that local services, such as building maintenance, utilities, are all sourced locally, it possible that larger states will rely relatively more on domestic businesses.

It is also assumed that each University spends the same proportion of total ***'other expenditure'*** on different intermediate inputs. Universities with different focuses, such as research versus teaching, could potentially have different spending profiles.

The intermediate expenditure is then analysed through the Deloitte Access Economics IO model under the relevant industries.

63. Non-award is assigned to 'Technical, Vocational and Tertiary Education Services', as it is assumed that the majority of students from those categories are likely to be enrolled with either a higher education or VET provider.

64. Department of Education and Training, Financial Reports of Higher Education Providers (January 2018) <https://www.education.gov.au/finance-publication>.

65. DET data used for the categories of 'repairs and maintenance', 'non-capitalised equipment', 'advertising, marketing and promotional expenses', while University of New South Wales proportions used to split 'other expenditure'.

Goods and services

For student expenditure on goods and services, the total is on goods and services of $843 million was apportioned to individual spending categories using TRA data on the spending of international students by source markets in Australia. The process is outlined as below:

- Total expenditure is divided across the source markets based on their enrolment share in South Australia
- Expenditure by each source market is adjusted by a 'price differential' factor that has been calculated based on the average per night spending by a source market compared to the average international student in Australia
- The total is rebalanced to ensure that the total expenditure on goods and services equals $843 million
- For each source market, expenditure is apportioned into individual categories based on TRA data for the spending patterns of international students from that particular source market.

Note that this implicitly implies that students in each sub-sector have the same consumption bundle. It also assumes that for each nationality, their consumption bundle in South Australia is the same as their consumption in Australia as a whole.

The TRA tourism expenditure categories are then assigned to the relevant IO or ANZSIC industries, and adjusted for:

- The price received by the domestic producers (basic price) by removing consumption taxes from the price paid by consumers (purchaser's price)
- The proportion of expenditure that is likely to be directly imported. Both are derived using the ABS 2014-15 IO tables.

These figures are then used to model both the direct and indirect value added and employment contribution related to the living expenses of students during their studies in South Australia. By using the 2014-15 IO tables, it is implicitly assumed that:

- The production structure in the overall sectors have remained constant[66]
- The production structure is linear and an additional dollar of production will use the same resources as the average production in 2014-15.

VFR contribution estimation

Estimating the number of visitors who came to South Australia to visit an international student, and their respective expenditure in the state, was analysed using TRA data.

Firstly, visitors were filtered by those who indicated that visiting an international student was a reason for their trip to Australia. When filling out the International Visitor Survey, visitors were first asked their main reason[67] for coming into Australia and are subsequently asked any other reasons. The list of other reasons includes 'visiting an international student friend or relative in Australia'.

This analysis takes a conservative approach and focuses on those who indicated that a reason for coming to South Australia was to 'visit a friend or relative studying here' and whose main reason was either to 'visit friends and relatives' or to 'have a holiday'. It is assumed that those whose main reason for coming to South Australia is not to have a holiday or visit friends and relatives are less likely to have been driven to come to South Australia by the presence of a friend or relative studying here.

As the main objective of this study is to obtain the contribution of international students in South Australia to South Australia's economy, it is important to determine the number of visitors in South Australia who came to South Australia to visit an international student in **South Australia.**

This is proxied by focusing on the visitors to South Australia who choose visiting an international student relative or friend studying in Australia as a 'stopover reason'. This excludes those visitors who might have come to Australia for the primary purpose of visiting a student in Melbourne, but choose to spend time in South Australia either for leisure or other reasons.

66. This is a reasonable assumption given that whole sectors are unlikely to change production processes over the short term.

67. Visitors can choose one of the six reasons: holiday, visiting friends and relatives, business, employment, education, or other.

Visitor nights are then derived by multiplying **South Australia** visitor arrivals by the average nights in **Australia** by VFRs with the stopover reason of visiting an international student. Given the smaller sample size of South Australian visitors in the International Visitor Survey compared to the larger states, analysis was undertaken to prevent volatility in the results that reflect sampling biases rather than actual trends. Consequently, the results here are not directly comparable to the state results reported in ***The Value of International Education to Australia*** report.

Total tourism expenditure was calculated by applying the average nightly expenditure of international student VFRs in Australia. Expenditure on recreational, cultural and sporting services was adjusted upwards to account for non-market consumption based on ratios contained in the 2013-14 ABS Tourism Satellite Account. Subsequently, imputation is used by the ABS to adjust consumption by tourists for certain goods and services for which they do not make a payment such as non-market goods and services and goods and services provided by host family/friends including accommodation. However, in this context, it is possible that some imputed expenditure associated with a visitor's host family or friends may be captured elsewhere in the expenditure of international students themselves. For this reason, only imputed expenditure ratios for recreational, cultural and sporting services are included here since expenditure on these items are likely to reflect expenditure on non-market goods and services.

After the adjustments, expenditure by tourism product category was revised downwards to convert purchaser prices to basic prices, by excluding net taxes on products. The expenditures are then analysed through the Deloitte Access Economics IO model under the relevant industries.

Appendix C: Onshore enrolment projections methodology

Onshore commencements and enrolments

To estimate the economic potential of the South Australia international education onshore sector, Deloitte Access Economics has estimated onshore enrolments using an in-house forecasting model. Projected enrolments are calculated as a function of total commencements and course attrition rates. Total commencements are in turn calculated in two stages:

- Stage 1: a portion of total commencements in a given year (period t) are estimated using enrolments in period t-1, based on the progression of students along recognised study pathways. For example, a certain share of students concluding study in the Schools sector in period t-1 will go on to commence in the Higher Education sector in period t
- Stage 2: the remainder of total commencements is estimated using a forecast of student visa grants. This section of the model ensures that commencements reflect education-related economic fundamentals in source markets such as population and income growth.

Key drivers for the number of international students sourced directly by country are:

- The number of people aged 15-29 in the country (i.e. the broad pool). While the age group of students can arguably encompass those aged 14-30 data limitations contain the ability to capture these fringe cohorts;
- The rate of urbanisation in the country (the relevant pool of potential students);
- Changing economic growth in the country (a proxy for the likelihood of potential students to pursue education)
- Benchmark share of international education provision captured by South Australia in the past (to benchmark the likelihood of students choosing South Australia); and
- Competitiveness impacts driven by exchange rates (influencing the relative cost of service provision to students).

While Deloitte Access Economics maintains forecasts for a number of the variables used in the model, such as key international exchange rates and economic growth in the world's largest economies. However, where proprietary forecasts were not available, variables were obtained from external sources, including:

- Population history & forecasts – United Nations World Population Prospects
- Urbanisation history & forecasts – United Nations World Urbanisation Forecasts
- Economic growth history & forecasts – IMF World Economic Outlook
- Exchange rate history & forecasts – Thomson Reuters Datastream

Demographic changes in the Asian region suggest the number of 15-29 year olds will decline over the coming decade – mainly due to significant falls in China, Hong Kong and South Korea offsetting expected rises in India, Malaysia and Nepal. Within the relevant pool, economic effects will drive the take-up of international education. In this model, the faster the rate of economic growth – measured relative to the number of 15-29 year olds – the greater the take-up of education.

Price changes provide a further influence over the international education decision. While it is extremely difficult to capture the entire effect of competitive pressures from other providers of international education, the exchange rate does represent the relative price competitiveness of education between Australia and other source countries (which is one factor in overall competitiveness). The coefficients that link international student demand with movements in economic fundamentals have been estimated based on observation of historical movements, and the professional judgement of Deloitte Access Economics. They have not been estimated using a regression analysis, as the drivers of international student demand and supply are both numerous and highly variable across source markets. As such, an attempt to isolate the impact of movements in selected economic variables is fraught with complexity, and a significant exercise that is beyond the scope of this project.

Based on these drivers, projections of student visa grants by source country are developed as the basis to estimate direct commencements. That is the number of commencements resulting from students arriving directly from overseas, excluding commencements from international students already in Australia.

Visas are granted under a number of categories, which correspond to the different education sectors: higher education, VET, ELICOS, schools and other (i.e. enabling and non- award courses). However, students do not necessarily commence in the sector for which they have a visa. They may enter a sector further down the hierarchy first. Indeed a significant proportion of visa recipients in all sectors enrol in an ELICOS course first. For this reason, study paths are mapped for each key source market.

A final consideration in the modelling framework is the size of the South Australian international education sector relative to the national sector. International student enrolments in South Australia are estimated independently from the national forecast, and the State share total enrolments will therefore fluctuate. While in the short run (to 2019), South Australia's share of the national total fluctuates due to State specific factors, from 2019 onwards, the State share of the national total is held constant. This is primarily due to the fact that the national forecast is more robust, as commencements from smaller source markets are less volatile, and it is therefore a more reasonable assumption that South Australian enrolments will reflect national trends in the medium- to long-run.

Due to data limitations, other forms of learning that can be undertaken without a student visa, such as through study tours, professional and executive programs, and English language training have not been captured in the forecasting.

Appendix D: Findings from the literature on student drivers

This appendix provides an overview of the literature in relation to three key student decision drivers – accessibility, experience and outcomes. It is sourced from Deloitte Access Economics' 2016 edition of this report, updated for the most recent literature. Deloitte Access Economics also acknowledges the work of DTTI in their report ***Literature review on the factors influencing international students' choice of study destination*** in contributing to this section.

D.1. Accessibility

Accessibility to international education has many dimensions, including monetary, geographic, and political, which determine the ease of which students can access international education relative to local education. Out of all the accessibility drivers, literature on the topic consistently states that price is considered the most important on average across the sector.[68]

Price factors

Students weigh up the cost of studying (and living in the case of onshore education) in a particular international jurisdiction, relative to the source country and other international jurisdictions when deciding between study alternative destinations. Research suggests that cost of study and living is one of the more important factors for international students for determining a study destination.[69]

However, while price is important, more important again is the value proposition and whether a higher price is justified through a higher quality education experience. Therefore, in sub-sectors such as higher education where the quality of institutions are reported on and compared against, enrolments tend to be less sensitive to price changes. Conversely, for sub-sectors such as schools, ELICOS and VET where quality is harder to discern, price changes can lead to students choosing cheaper alternatives. The ease with which students can move between providers in VET and ELICOS is also greater. Consequently, during the decline in onshore commencements and enrolments in South Australia (and across Australia) over the 2009 to 2011 period, the VET and ELICOS sub-sectors experienced the most dramatic falls in enrolments.

68. Hobsons, Beyond the Data: Influencing International Student Decision Making (2014) <https://www.hobsons.com/resources/entry/beyond-the-data-influencing-international-student-decision-making>; i-graduate, International Student Barometer – Entry Wave (2012) <https://www.i-graduate.org/services/international-student-barometer/>; Orth, Ashley, International students perceptions of their experience in their first year of a business course in a major Australian University (2015), Faculty of Education, Queensland University of Technology <https://eprints.qut.edu.au/84623/4/Ashley_Orth_Thesis.pdf>; Kho Pooh Tee Jimmy, International Student Perceptions of the Quality of Learning Experiences in Vocational Education and Training (2014), Edith Cowan University <http://ro.ecu.edu.au/cgi/viewcontent.cgi?article=2287&context=theses>.

69. Ibid.

Visa requirements

The ease and cost of obtaining a student visa is a driver that is only applicable to onshore students, and those visiting to study on a student visa. While this is outside of the direct control of the states, Commonwealth Government decisions regarding visa settings nevertheless have an important impact on student choice, ranking as one of the top five most important factors by research from Hobsons (2014).[70]

More than the restrictiveness of visa policies themselves, it is also possible for students to be sensitive to the volatility and uncertainty in the settings. For instance, the Australian Government has adjusted its student visa policy relatively frequently, often in an attempt to rebalance the growth of the sector and to maintain the integrity of the visa system.[71]

Visa considerations are expected to be less important in the future, as the global trend towards freer movements of people between borders, with visa-free mobility increasing over the past 40 years (Mau et al, 2015), is likely to continue. For instance, the launch of the Association of Southeast Asian Nations (ASEAN) Economic Community at the end of 2015 is hoped to allow the free flow of skilled labour between the ten member nations.[72]

There is research that suggests the prospect of gaining a permanent visa to remain in Australia acts as an attractive element for a large number of international students, especially those from Asian countries.[73] However, this assumption is not however supported by the evidence; as little as 16 per cent of international students in Australia between 2000 and 2014 became permanent residents.[74]

Course accessibility

Course accessibility includes a host of factors, such as the language requirements to enter a course, the recognition of home country qualifications, subjects of interest, and the availability of courses which can affect the degree of access international students have to offerings of choice in a particular destination.

The availability of a course of interest is especially important for higher education students at the postgraduate levels. This is evidenced through the higher concentration of students doing research (which tends to be in more specialised areas) in regional universities compared to Australia as a whole. [75] For instance, 22 per cent of international students in the University of New England are completing a doctorate by research, compared to 5.0 per cent for Australia as a whole. This is one example that illustrates the impact the availability of a particular course or program can have on 'pulling' students towards a region or institution.

70. Hobsons, Beyond the Data: Influencing International Student Decision Making (2014) <https://www.hobsons.com/resources/entry/beyond-the-data-influencing-international-student-decision-making>.

71. Productivity Commission, International Education Services (2015) <http://www.pc.gov.au/research/completed/international-education/international-education.pdf>.

72. Association of Southeast Asian Nations, ASEAN Economic Community – At a glance (2015) <http://asean.org/storage/2015/11/AEC-at-a-Glance-2016.pdf>.

73. Geoff Maslen, 'Foreign students' economic contribution soars by 22%' (2018) University World News, <http://www.universityworldnews.com/article.php?story=20180410110537639&query=international+students>.

74. Department of Home Affairs, Shaping A Nation: Population growth and immigration over time (2018) <https://cdn.tspace.gov.au/uploads/sites/107/2018/04/Shaping-a-Nation.pdf>.

75. Department of Education and Training, Selected higher Education Statistics – 2016 Student Data (2018) <https://www.education.gov.au/selected-higher-education-statistics-2016-student-data>.

Proximity

Proximity covers not just the geographic distance between the international students' home countries and their choice destination for study, but also include time zone differences, cultural, alumni and political ties, as well as the presence of relatives living locally.

Evidence suggests that there is a strong correlation between geographical distance and international student choice of destinations.[76] Study regions that are closer to a student's home country increase the likelihood that travel is more accessible and affordable; thus it is easier for students and their families to visit one and other. However, most students do not consciously rate proximity as an important factor, with proximity not ranked among the top drivers from research by i-graduate (2012) and Hobsons (2014).[77] Proximity is also likely to be less important at the post-secondary school level, where students are often older and more independent.

Proximity also has the potential to be a strong factor driving students to study in their home countries. For instance, 28 per cent of offshore international students in higher education studied part-time in 2014.[78] In comparison, there are tight restrictions around part-time studies for onshore students. This suggests that offshore students are likely to have other family and work commitments and would not be willing move abroad for onshore study.[79] A high-quality foreign qualification offered in proximity of their residence can hence be an important advantage for a particular institution delivering offshore.

While there is less research focussed on the non-geographic ties, such as bilateral trade relationships between source and host international education markets, they could also be important factors for student decision making. For instance, research has shown that word of mouth referral is one of the most powerful forms of promotion for higher education institutions.[80] This could be promoted through alumni networks and closer trade and cultural links between countries.

Further research has stated that offshore delivery will impact on student mobility patterns. In 2016, there were 391,136 international students studying Australian higher education courses of which 29 per cent were studying offshore. More than half of these were delivered through partnerships between Australian and foreign institutions.[81]

76. Hobsons, Beyond the Data: Influencing International Student Decision Making (2014) <https://www.hobsons.com/resources/entry/beyond-the-data-influencing-international-student-decision-making>.

77. Hobsons, Beyond the Data: Influencing International Student Decision Making (2014) <https://www.hobsons.com/resources/entry/beyond-the-data-influencing-international-student-decision-making>; i-graduate, International Student Barometer – Entry Wave (2012) <https://www.i-graduate.org/services/international-student-barometer/>.

78. Department of Education and Training, International Student Survey 2014 – Overview Report (2015) <https://internationaleducation.gov.au/research/research-papers/Documents/ISS%202014%20Report%20Final.pdf>.

79. Department of Education and Training, Research snapshot – offshore delivery of Australian higher education courses (2018) <https://internationaleducation.gov.au/research/Research-Snapshots/Documents/Offshore%20HE%20_2016.pdf>.

80. ChingHuei Chen, 'Understanding Taiwanese students' decision making factors regarding Australian international higher education' (2006) 20(2) International Journal of Educational Management 91; Suh Li Phang, Factors influencing international students' study destination decision abroad (Masters Thesis, University of Gothenburg, 2013).

81. Department of Education and Training, Research Snapshot - February 2018 <https://internationaleducation.gov.au/research/Research-Snapshots/Documents/Offshore%20HE%20_2016.pdf>.

D.2. Experience

International student experience covers students' time both inside and outside the classroom for the duration of their studies. While a positive experience in the classroom is generally the most important on average across the sector, there are other considerations that enter the decision-making process, particularly for less independent and younger non-tertiary students.[82]

Studying

The study experience is important for students, with many international students choosing to pursue a foreign qualification (either onshore or offshore) because they want to experience a foreign pedagogy. Whilst it is impossible for students to know what a study experience is really like until after they enrol, it has a significant impact on satisfaction which in turn affects word of mouth referrals. Word of mouth referrals can form a trusted source of information and influence prospective students.

The emphasis placed on such interactions with lecturers could potentially vary between course markets. For instance, Hobsons (2015) finds that face-to-face interaction is particularly important for higher education students from Malaysia, India, United States and Nigeria (rating it above the global respondent average), while it is comparatively less important for students from Canada, China, Singapore and Hong Kong.[83]

The study experience is likely to be particularly important for students in the school sub-sector as they will spend, on average, the most amount of time within the classroom. For instance, whereas the average school student is required to be at school for a minimum 30 hours per week during the school term, there is only a required minimum of 20 contact hours for ELICOS students, and between 10 to 20 hours for full time university students enrolled in the arts, business, law, or social sciences.[84]

Social and community participation

The value of an international education also lies in the experiences gained outside of studies. In particular, it includes intangible factors, such as the local people and the community attitudes towards international learners, or the safety and lifestyle. Recent research suggests that younger students, between 13 and 18, are motivated by an interest in cultural exploration, as well as safety and security.[85]

Many international students also highly value interactions and 'making personal connections' as a part of their international education experience.[86] In addition to social interactions with other students, many international students may also hope for opportunities to participate in the broader community. The Council of International Students in Australia recognises the importance of promoting 'cross-cultural awareness and interactions in Australia' as a part of its mission statement. They highlight the participation of international students in voluntary and social development work in its "I'm not Australian but I have an Australian story" initiative.

Safety

Safety is a key concern for international students and is consistently raised in various research on student decision drivers.[87] Of the 2014 survey of international tertiary students, 92 per cent of respondents indicated that personal safety was a main factor in choosing to study in Australia over other destinations.[88]

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82. Hobsons, International Student Survey (2015) <https://www.hobsons.com/resources/entry/white-paper-international-student-survey-2015-value-and-the-modern-internat>.

83. Ibid.

84. Griffith University, A typical week at uni (2015) <https://www.griffith.edu.au/family-friends/find-answers/a-typical-week-at-uni>.

85. AFS Intercultural Programs, Mapping Generation Z: Attitudes Toward International Education Programs (2016) <https://afs.org/research/>.

86. Hobsons, International Student Survey (2015) <https://www.hobsons.com/resources/entry/white-paper-international-student-survey-2015-value-and-the-modern-internat>.

87. International Education Advisory Council, Australia – Educating Globally (2013) <https://internationaleducation.gov.au/International-network/Australia/InternationalStrategy/theCouncilsReport/Documents/Australia%20%E2%80%93%20Educating%20Globally%20FINAL%20REPORT.pdf>.

88. Department of Education and Training, International Student Survey 2014 – Overview Report (2015) <https://internationaleducation.gov.au/research/research-papers/Documents/ISS%202014%20Report%20Final.pdf>.

The important link between the safety and the attractiveness of a country was observed in the decrease in enrolments (particularly from India) following the incidents of violence against Indian international learners in Melbourne in 2009 and 2010 that gained widespread global media coverage and resulted in sharp declines in enrolments from this source market across Australia. Safety is particularly an important point of consideration for parents as, and consequently is likely to be more relevant for the school sub-sector where parents often act as the primary decision maker.

Across the sub-sectors, ELICOS students (particularly those on non-student visas from Europe and South America) are likely to be attracted to a study destination primarily for the lifestyle.[89] This is seen in the higher proportion of non-student visa ELICOS students in South Australia compared to other States, helped by its strong image as a tourism destination.[90] The stakeholder noted that metropolitan destinations such as Sydney, Melbourne and the Gold Coast, are particularly popular with non-student visa students. However, it is also recognised that preferences for lifestyle can depend on the individual student and their circumstances. For instance, international students with families, those looking for strong local community connections, or concerned for safety, may prefer a regional lifestyle over a metropolitan one.

Working during studies

Both the ability to work and the ease of finding work during studies are important decision drivers for international students considering study within a particular country, with surveyed respondents from India and China ranking 'job opportunities' among the top five most important factors for their decision making.[91] It is highly valued as it allows students both to support themselves financially as well as improve their language skills and interact with the local community. The importance of work can be seen through the structure of some the courses. For instances, some ELICOS providers offer night classes to accommodate the desire of students to work during the day.

ELICOS students, particularly those on non-student visas, are often in Australia on Working Holiday Maker visas (an estimated 17,840 students in 2014 according to English Australia). For this cohort, the availability of jobs in a particular region during and after their studies is an important factor for choosing to study English in a particular region.

Accommodation and infrastructure

Accommodation is one of the basic infrastructures needed to support growth in the onshore international student market. Accommodation is also one of the first arrangements international students set up on arrival in a foreign country, and can positively or negatively impact their first impressions of their selected institution and study destination.

However, high quality accommodation is not just limited to traditional on-campus or private accommodation for higher education and VET students. There needs to be a range of appropriate accommodation that meets the more fluid needs of the ELICOS and non-award sub-sectors and safety concerns in the schools sub-sector. Given that 39 per cent of surveyed international secondary students in 2014 stayed with host families, a reliable network of host families will be necessary to support the onshore schools sub-sector.[92] Similarly, given the shorter course length of ELICOS studies, there needs to be suitable short-term accommodation options to suit their needs.

D.3. Outcomes

International students also judge study destinations based on the expected outcomes, including educational, employment and other outcomes, which motivated their desire for international education. Outcome is the most important of the three broad decision drivers, particularly for the onshore tertiary education sector.

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89. English Australia, Survey of major ELICOS regional markets in 2015 (2016) <http://www.englishaustralia.com.au/>.

90. Ibid.

91. British Council, Exploring the impacts of transnational education on host countries: a pilot study (2014)

92. Department of Education and Training, International Student Survey 2014 – Overview Report (2015) <https://internationaleducation.gov.au/research/research-papers/Documents/ISS%202014%20Report%20Final.pdf>.

Quality of education

Above all else, it is the perception of quality across selected overseas destinations international students compare. In most instances, students already perceive, and are led to believe that an overseas qualification is of higher quality, or will lead to a better employment outcome relative to local options.

Therefore, in their selecting of an overseas destination, it is the perception of quality of education across other possible destinations that drive final choices (particularly in higher education).

While overall institutional rankings are important, international students are increasingly aware of specific subject rankings.[94]

Students are also giving greater weight to an institution's reputation especially in specific disciplines rather than overall institutional standing.[94] In fact, discipline popularity is now a leading factor for students in their decision-making process and this applies to school students as well.[95] The most popular response, at 95 per cent, for deciding to study in Australia for international students was the reputation of the qualification, followed by 94 per cent indicating the reputation of the education system in Australia.[96]

Australia could potentially leverage its comparative advantage gained through its idiosyncratic climatic, industrial, geographic context, and compete on the provision of world-class education in related fields. In its third edition of Building the Lucky Country published in 2014, Deloitte Access Economics identified five potential 'super sectors' in which Australia is likely to hold a comparative advantage. This includes resources, agribusiness, wealth management, tourism and international education. Other sectors found to hold sizable potential included geology, engineering and ecology.

Promotion of Australian education can be achieved through the dissemination of information about the quality of Australian providers. Websites such as the Quality Indicators of Teaching and Learning provide potential students with information about individual institutions. It will be vital to ensure that the information on these websites is sufficiently detailed and up-to-date so that students can determine, with confidence, whether training will meet their needs.

Post-study employability

Research finds that one of the key drivers for international students choosing to study abroad is to improve their employment prospects, whether in the study country, the home country, or a third country.[97]

The importance of employability-related prospects varies between source markets. For instance, higher education for those from Nigeria, Malaysia and India rated higher earning potential more important than the average international respondent. Respondents from China, Hong Kong and Singapore rated this aspect as less important. This suggests that there is likely to be a negative relationship between GDP per capita and the importance placed on higher earnings. ***Therefore, as the momentum of international education moves towards emerging markets in Africa and Latin America due to their favourable demographic trends, the emphasis on earning potential resulting from studies is likely to grow.***

While individual education providers may not be able guarantee students a job at the end of their studies, t is imperative for the provider to equip students with the knowledge, experience, and 'soft' skills necessary to succeed in the global work force. Further, the World Economic Forum (2015) emphasises the importance of '21st century skills' such as communication, problem solving and collaboration, in addition to the fundamental literacy and numeracy skills. A curriculum suited to developing these skills throughout the study period will be an important 'pull' factor for many international students.

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Migration prospects

The prospect of migration and permanent residency post-studies is an important motivator for many international students (particularly from India) choosing between study destinations. However, similar to visa restrictions, migration is outside of the control of State governments.

In 2011, 19 per cent of international learners in Australia obtained permanent residency following their degrees (lagging behind the United States and the United Kingdom, where 25 per cent and 21 per cent of learners, respectively, obtain permanent residency).[98] As such, migration prospects is a driver that could be further leveraged in some markets, particularly given that international higher education graduates in Australia are eligible to apply for post-study work visas, regardless of their field of study. The potential for this eligibility to be expanded to VET training graduates could also increase Australia's attractiveness as a study destination.

Recent search states that the majority of international graduates from Australian universities return to their home country following graduation. Just under 50 per cent has returned to their home country, while 43 per cent remained in Australia.[99]

Given the wide range of decision drivers and differences in their relative importance for students in each education sector, there needs to be multilayered strategies for each sector to incorporate the idiosyncrasies of the target students.

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99. International Education Association of Australia, International Employment Outcomes: Where are they now? (2017) <https://www.ieaa.org.au/documents/item/1043>.

Appendix E: Onshore baseline enrolment projections

Table E.1: Baseline forecast enrolments by key source markets, 2027

Country	China	India	Hong Kong	Malaysia	Vietnam	Oman	Saudi Arabia	Kenya	Brazil	South Korea
Source market context										
Urban 15-29 year old population (2027)	165,000	142,700	1,100	6,500	9,100	1,000	7,700	5,600	42,600	6,700
Compound annual GDP growth rate per capita (2017-27) (%)	5.7	6.6	-0.6	3.7	5.7	1.5	0.7	3.8	1.6	-0.3
South Australia snapshot										
Enrolments (2027)	24,300	5,700	2,700	2,100	2,100	200	500	1,500	600	1,100
Higher education	14,800	3,400	1,500	1,500	1,000	200	300	700	200	300
VET	1,800	1,900	600	300	300	0	0	700	200	500
Schools	1,800	0	300	100	400	0	0	0	0	200
ELICOS	3,700	300	200	100	300	0	200	0	200	200
Non-award	2,200	100	200	100	100	0	0	0	0	0
Australia comparison										
South Australia rank in 2027	1	2	3	4	5	24	13	7	12	8
Australia rank in 2027	1	2	12	5	9	29	25	23	4	7
South Australia CAGR (2017-27) (%)	4.7	3.9	2.9	2.2	1.9	3.6	-2.2	6.8	5.7	1.5
Australia CAGR (2017-27) (%)	4.8	4.0	3.0	4.0	1.7	3.3	-2.0	6.7	5.1	2.0
Share of Australian enrolments in 2027 (%)	6.6	4.4	11.4	4.4	5.7	12.6	10.1	19.1	0.9	3.0

Country	Nepal	Japan	Taiwan	Italy	Singapore	Indonesia	Pakistan	United Kingdom	United States	Colombia
Source market context										
Urban 15-29 year old population (2027)	2,100	16,200	3,000	6,100	1,000	42,500	28,900	10,600	42,600	9,300
Compound annual GDP growth rate per capita (2017-27) (%)	2.9	1.3	0.0	1.0	1.8	4.6	3.2	1.3	1.6	2.8
South Australia snapshot										
Enrolments (2027)	1,900	700	1,100	300	600	500	500	400	300	500
Higher education	1,000	100	400	0	600	300	400	100	100	100
VET	600	100	400	200	0	100	0	100	0	100
Schools	0	200	0	100	0	0	0	0	0	0
ELICOS	400	300	200	100	0	0	0	0	0	200
Non-award	0	100	100	0	0	0	0	200	100	0
Australia comparison										
South Australia rank in 2027	6	10	9	21	11	15	14	17	22	16
Australia rank in 2027	3	14	10	17	21	11	13	18	15	8
South Australia CAGR (2017-27) (%)	5.4	2.1	6.5	2.2	1.2	2.9	3.7	3.4	2.4	5.3
Australia CAGR (2017-27) (%)	5.7	2.3	6.5	2.3	1.2	2.5	3.5	3.9	2.5	5.7
Share of Australian enrolments in 2027 (%)	3.2	3.6	3.2	2.7	6.6	1.9	2.2	4.0	1.7	1.2

Country	Sri Lanka	Thailand	Bangladesh	Iran	Canada	Germany	Philippines	France	Cambodia	Other countries
Source market context										
Urban 15-29 year old population (2027)	900	7,100	20,100	14,200	5,800	9,000	14,300	9,800	1,200	n/a
Compound annual GDP growth rate per capita (2017-27) (%)	4.5	3.6	5.9	-0.8	1.0	1.6	5.4	1.4	4.8	n/a
South Australia snapshot										
Enrolments (2027)	400	300	200	200	200	200	400	200	200	2,200
Higher education	300	100	200	100	100	0	200	0	100	1,100
VET	100	100	0	0	0	0	200	0	0	400
Schools	0	100	0	0	0	100	0	0	0	200
ELICOS	0	100	0	0	0	0	0	0	0	200
Non-award	0	0	0	0	100	0	0	100	0	300
Australia comparison										
South Australia rank in 2027	18	20	23	29	27	25	19	26	28	n/a
Australia rank in 2027	16	6	20	28	26	24	19	22	27	n/a
South Australia CAGR (2017-27) (%)	3.8	3.2	3.8	1.2	2.0	1.2	-0.5	3.7	5.4	2.7
Australia CAGR (2017-27) (%)	3.7	4.3	3.7	1.1	1.9	1.6	-0.6	4.7	5.3	2.7
Share of Australian enrolments in 2027 (%)	2.7	0.7	2.5	4.9	3.4	3.3	3.8	2.2	4.7	2.2

Source: Deloitte Access Economics

Appendix F: Onshore scenario enrolment projections

Table F.1: Scenario forecast enrolments by key source markets, 2027

Country	China	India	Hong Kong	Malaysia	Vietnam	Oman	Saudi Arabia	Kenya	Brazil	South Korea
Baseline										
2022 snapshot										
Enrolments	21,900	4,900	2,500	2,000	1,800	200	500	1,100	500	1,100
CAGR (2017-2022) (%)	7.4	4.7	4.0	3.0	1.5	4.1	-6.4	8.4	10.2	1.7
National share (%)	6.6	4.4	11.4	4.5	5.7	12.5	10.2	19.1	0.9	3.1
2027 snapshot										
Enrolments	24,300	5,700	2,700	2,100	2,100	200	500	1,500	600	1,100
CAGR CAGR (2022-2027) (%)	2.1	3.2	1.8	1.4	2.3	3.1	2.1	5.2	1.3	1.3
National share (%)	6.6	4.4	11.4	4.4	5.7	12.6	10.1	19.1	0.9	3.0
Scenario 1										
2022 snapshot										
Enrolments	28,600	6,400	3,200	2,600	2,400	300	600	1,500	700	1,400
CAGR (2017-2022) (%)	13.3	10.5	9.7	8.6	7.1	9.8	-1.3	14.3	16.3	7.3
National share (%)	8.6	5.8	14.9	5.8	7.5	16.4	13.3	24.9	1.2	4.0
2027 snapshot										
Enrolments	37,900	8,900	4,200	3,300	3,200	300	800	2,300	900	1,800
CAGR (2022-2027) (%)	5.8	6.9	5.5	5.1	6.0	6.8	5.8	9.0	5.0	5.0
National share (%)	10.3	6.9	17.8	6.9	8.9	19.6	15.8	29.8	1.5	4.7
Scenario 2										
2022 snapshot										
Enrolments	23,500	5,300	2,700	2,100	2,000	200	500	1,200	600	1,100
CAGR (2017-2022) (%)	9.0	6.2	5.5	4.5	3.0	5.6	-5.0	10.0	11.8	3.2
National share (%)	7.1	4.8	12.3	4.8	6.1	13.5	10.9	20.5	1.0	3.3
2027 snapshot										
Enrolments	28,000	6,600	3,100	2,500	2,400	300	600	1,700	700	1,300
CAGR (2022-2027) (%)	3.6	4.7	3.2	2.9	3.8	4.6	3.6	6.8	2.8	2.8
National share (%)	7.6	5.1	13.2	5.1	6.6	14.5	11.7	22.0	1.1	3.5

Country	Nepal	Japan	Taiwan	Italy	Singapore	Indonesia	Pakistan	United Kingdom	United States	Colombia
Baseline										
2022 snapshot										
Enrolments	1,700	700	900	300	600	400	400	400	200	400
CAGR (2017-2022) (%)	7.7	3.1	9.3	2.4	1.1	2.9	3.6	4.3	2.8	7.7
National share (%)	3.2	3.6	3.2	2.7	6.6	1.9	2.2	4.0	1.7	1.2
2027 snapshot										
Enrolments	1,900	700	1,100	300	600	500	500	400	300	500
CAGR (2022-2027) (%)	3.1	1.1	3.8	2.0	1.4	2.9	3.9	2.5	2.1	2.9
National share (%)	3.2	3.6	3.2	2.7	6.6	1.9	2.2	4.0	1.7	1.2
Scenario 1										
2022 snapshot										
Enrolments	2,200	900	1,200	400	800	500	500	500	300	500
CAGR (2017-2022) (%)	13.6	8.7	15.3	8.0	6.6	8.5	9.2	10.0	8.4	13.6
National share (%)	4.1	4.8	4.1	3.5	8.6	2.5	2.9	5.2	2.2	1.6
2027 snapshot										
Enrolments	3,000	1,100	1,700	500	1,000	800	800	700	400	700
CAGR (2022-2027) (%)	6.8	4.8	7.5	5.7	5.1	6.6	7.7	6.2	5.8	6.6
National share (%)	4.9	5.7	4.9	4.2	10.3	2.9	3.5	6.2	2.7	1.9
Scenario 2										
2022 snapshot										
Enrolments	1,800	700	1,000	300	600	500	400	400	300	400
CAGR (2017-2022) (%)	9.2	4.6	10.8	3.8	2.5	4.4	5.1	5.8	4.3	9.3
National share (%)	3.4	3.9	3.4	2.9	7.1	2.0	2.4	4.3	1.8	1.3
2027 snapshot										
Enrolments	2,200	800	1,200	400	700	600	600	500	300	500
CAGR (2022-2027) (%)	4.6	2.6	5.3	3.5	2.9	4.4	5.4	4.0	3.6	4.4
National share (%)	3.6	4.2	3.6	3.1	7.7	2.2	2.6	4.6	2.0	1.4

Country	Sri Lanka	Thailand	Bangladesh	Iran	Canada	Germany	Philippines	France	Cambodia	Other countries
Baseline										
2022 snapshot										
Enrolments	400	300	200	100	200	200	400	200	200	2,000
CAGR (2017-2022) (%)	5.6	3.5	4.5	1.2	2.0	1.2	-1.7	4.7	8.4	3.3
National share (%)	2.7	0.8	2.5	4.9	3.4	3.3	3.8	2.2	4.7	2.2
2027 snapshot										
Enrolments	400	300	200	200	200	200	400	200	200	2,200
CAGR (2022-27) (%)	2.0	2.9	3.1	1.1	2.0	1.3	0.8	2.8	2.5	2.1
National share (%)	2.7	0.7	2.5	4.9	3.4	3.3	3.8	2.2	4.7	2.2
Scenario 1										
2022 snapshot										
Enrolments	500	400	300	200	200	300	500	200	200	2,600
CAGR (2017-2022) (%)	11.3	9.2	10.2	6.8	7.6	6.7	3.7	10.4	14.3	9.0
National share (%)	3.5	1.0	3.3	6.4	4.5	4.4	5.0	2.9	6.1	2.9
2027 snapshot										
Enrolments	600	500	400	200	300	300	600	300	300	3,400
CAGR CAGR (2022-2027) (%)	5.7	6.6	6.8	4.8	5.7	4.9	4.5	6.5	6.2	5.8
National share (%)	4.2	1.2	3.9	7.6	5.3	5.2	6.0	3.4	7.3	3.5
Scenario 2										
2022 snapshot										
Enrolments	400	300	200	200	200	200	400	200	200	2,100
CAGR (2017-2022) (%)	7.1	5.0	6.0	2.7	3.4	2.6	-0.3	6.2	9.9	4.8
National share (%)	2.9	0.8	2.7	5.3	3.7	3.6	4.1	2.4	5.0	2.4
2027 snapshot										
Enrolments	500	400	300	200	200	200	500	200	200	2,500
CAGR (2022-2027) (%)	3.5	4.4	4.6	2.6	3.5	2.7	2.3	4.3	4.0	3.6
National share (%)	3.1	0.9	2.9	5.7	3.9	3.9	4.4	2.5	5.4	2.6

Source: Deloitte Access Economics

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