The opportunity and imperative for Queensland’s international education and training sector

Trade and Investment Queensland

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The opportunity and imperative for Queensland’s international education and training sector

Contents

Acronyms........................................................................................................................................... i

Executive Summary.............................................................................................................................. ii

1 Introduction....................................................................................................................................... 1

2 Queensland’s international education and training sector today .................................................. 4
   2.1 Onshore international education and training ............................................................................ 4
       2.1.1 Commencements and enrolments .................................................................................... 4
       2.1.2 Source market composition ............................................................................................... 7
       2.1.3 Non-student visa learners .................................................................................................. 8
       2.1.4 Providers of international education and training ............................................................ 10
       2.1.5 Regional distribution of activity ........................................................................................ 12
   2.2 Offshore international education and training ......................................................................... 15
       2.2.1 Current offshore delivery .................................................................................................. 15

3 The contribution of international education and training to the Queensland economy ............... 26
   3.1 Student expenditure .................................................................................................................. 27
   3.2 Visiting friends and family ....................................................................................................... 28
   3.3 Non-student visa ELICOS revenue .......................................................................................... 29
   3.4 State-wide economic contribution .......................................................................................... 29
   3.5 Regional contribution ............................................................................................................... 31

4 The global growth opportunity .................................................................................................... 36
   4.1 Projected growth in onshore international education and training ........................................... 36
       4.1.1 Baseline commencements and enrolments .................................................................... 37
       4.1.2 Regional analysis .............................................................................................................. 39
       4.1.3 Sub-sector analysis ............................................................................................................ 40
       4.1.4 Key source markets .......................................................................................................... 41
       4.1.5 Sensitivity and scenario analysis ....................................................................................... 43
   4.2 Scale and scope of offshore opportunities ................................................................................. 48
       4.2.1 Higher education ............................................................................................................... 48
       4.2.2 VET ................................................................................................................................. 48
       4.2.3 Schools ............................................................................................................................ 50
       4.2.4 English language learning ............................................................................................... 51
       4.2.5 Online learning ................................................................................................................ 52
       4.2.6 Professional development ................................................................................................. 54

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The opportunity and imperative for Queensland’s international education and training sector

4.2.7 Potential growth................................................................. 55

5 Queensland’s comparative advantages in international education and training............ 58
  5.1 Accessibility ........................................................................... 61
    5.1.1 Price .............................................................................. 62
    5.1.2 Visa requirements.......................................................... 65
    5.1.3 Course accessibility ........................................................ 65
    5.1.4 Proximity ........................................................................ 66
  5.2 Experience ............................................................................ 68
    5.2.1 Social and community participation ................................. 68
    5.2.2 Working during studies ................................................. 68
    5.2.3 Lifestyle ........................................................................ 69
    5.2.4 Accommodation and infrastructure ............................... 70
  5.3 Outcomes ............................................................................ 72
    5.3.1 Quality of education ....................................................... 72
    5.3.2 Post-study employability.................................................. 74

6 Realising the growth opportunities .................................................. 79
  6.1 Accessibility ........................................................................ 80
  6.2 Experience ........................................................................... 80
  6.3 Outcomes ............................................................................ 81

7 Conclusions and next steps ................................................................ 82

Appendix A : Further detail on the Queensland international education and training sector’s profile ........................................................... 86
Appendix B : Economic contribution modelling framework ................................. 89
Appendix C : Student contribution estimation methodology ................................... 92
Appendix D : VFR contribution estimation ..................................................... 96
Appendix E : Non-student visa ELICOS student contribution ............................... 99
Appendix F : Regional student contribution methodology ................................ 102
Appendix G : Onshore projections methodology ........................................... 105
Appendix H : Economy-wide modelling ...................................................... 108
Appendix I : Offshore profiling and projections ............................................. 113
Appendix J : Consistency with other Deloitte Access Economics reports ............... 115
Appendix K : Findings from the literature on student decision drivers .................... 117
Appendix L : Competitor international education targets ..................................... 124
Appendix M : Routes of travel for key source markets ....................................... 125
References .................................................................................. 126
  Limitation of our work .................................................................. 135
The opportunity and imperative for Queensland’s international education and training sector

Charts

Chart 2.1: Queensland onshore commencements by sub-sector, 2005-2015 .........................5
Chart 2.2: Queensland onshore enrolments by sub-sector, 2005-2015 ..........................6
Chart 2.3: Queensland share of onshore enrolments in Australia by sub-sector, 2005-2015 .....6
Chart 2.4: Surveyed non-student visa ELICOS enrolments by selected States, 2014 ..............9
Chart 2.5: Queensland regional export revenue by selected (non-Brisbane) regions, 2013 .......15
Chart 2.6: Queensland offshore student enrolments, 2005-2013 ..................................17
Chart 2.7: Annual offshore student enrolment growth rates, 2006-2013 ............................18
Chart 2.8: Queensland offshore student enrolments market share, 2013-14 ........................18
Chart 4.1: Queensland onshore commencements by sub-sector, 2016-2026 .....................38
Chart 4.2: Queensland international education enrolments by sub-sector, 2016-2026 ...........39
Chart 4.3: Potential additional capacity in English-speaking countries, 2020 .......................46
Chart 4.4: Queensland’s offshore reach potential, 2015-2025 .......................................56
Chart 5.1: Average cost of living, by select States, 2015 ..................................................62
Chart 5.2: Median weekly rent, by select Local Government Areas – 2011-12 .....................63
Chart 5.3: Comparison of course costs in higher education, by State .............................65
Chart 5.4: Comparison of international rankings of select universities, 2015 ....................73
Chart A.1: Queensland onshore public VET provision by qualification level, 2014 .............86
Chart A.2: Queensland onshore higher education enrolments by field of education, 2014 ......87
Chart A.3: Queensland onshore public VET enrolments by field of education, 2014 ..........88

Tables

Table 2.1: Queensland’s share of the top Australian onshore source markets, 2015 ...............7
Table 2.2: Top Queensland source markets by onshore enrolments and sub-sector, 2014 ......8
Table 2.3: Public and private market share by sub-sector .................................................10
Table 2.4: Visitor nights by tourism regions, 2014-15 .......................................................13
Table 3.1: International student expenditure in Queensland by sub-sector, 2015 .................27
Table 3.2: Expenditure on goods and services by international students in Queensland, 2015 28
Table 3.3: Expenditure on goods and services by VFR in Queensland, 2015 .....................29
Table 3.4: Distribution of the student-related economic contribution by sub-sector, 2015 ......30
Table 3.5: State-wide economic contribution, 2015 .........................................................31
Table 3.6: Regional importance of student-related and VFR expenditure, 2015 ...................32
The opportunity and imperative for Queensland’s international education and training sector

Table 3.7: Regional economic contribution of student-related expenditure, 2015 ............... 32
Table 3.8: Regional economic contribution of VFR expenditure, 2015 ......................... 33
Table 4.1: Queensland international education enrolments by region, 2016-2026 ............. 40
Table 4.2: Projected top eight source markets in Queensland in 2026, by enrolments ...... 41
Table 4.3: Overview of top eight source markets in Queensland by sub-sector, 2016-2026 .... 42
Table 4.4: Overview of emerging source markets in Queensland by sub-sector, 2016-2026 .... 43
Table 4.5: Sensitivity analysis of Queensland onshore international education, 2016-2026 .... 45
Table 4.6: Scenario analysis of Queensland onshore international education, 2016-2026 .... 47
Table 5.1: Median weekly rents in Queensland, December 2015 ................................... 63
Table 5.2: Routes of travel for key future source markets to Queensland ......................... 66
Table 5.3: Lifestyle points of differentiation for Queensland regions ............................ 69
Table 5.4: Accommodation supply analysis and forecast by State capital ....................... 71
Table 5.5: Residential accommodation capacity by Queensland regions ....................... 71
Table 5.6: Comparison of State FTE employment by industry, 2014 .............................. 75
Table 5.7: Key labour market indicators for Queensland regions ................................. 77
Table C.1: International student expenditure in Queensland by sub-sector, 2015 ............ 93
Table C.2: IO categorisation by education provider mode and sub-sector ...................... 94
Table D.1: Expenditure on goods and services by VFR in Queensland, 2015 ................. 98
Table F.1: Regional effects of indirect flow on effects from consumption in Brisbane ..... 103
Table F.2: Top five supply sectors of retail trade in Brisbane ....................................... 104
Table F.3: Share of regional economy for main retail trade sectors .............................. 104
Table G.1: Growth in average student yield by sub-sector by scenario, 2016-2026 ......... 107
Table J.1: Summary of key results from Deloitte Access Economics reports .................. 115
Table L.1: Target source countries and international education targets of competitors .... 124

Figures

Figure 2.1: Higher education campuses by tourism regions ........................................... 14
Figure 2.2: Queensland offshore summary, 2014 .......................................................... 16
Figure 2.3: Offshore higher education programs by select countries ............................. 20
Figure 2.4: Offshore public VET programs by select countries ..................................... 23
Figure 5.1: Relative importance of drivers and Queensland’s advantage ....................... 61
Figure B.1: Economic activity accounting framework .................................................. 90
Figure C.1: Estimating export revenue for Queensland international students ............... 93
The opportunity and imperative for Queensland’s international education and training sector

Figure D.1: Summary of visitation and expenditure by visiting friends and relatives .................. 97
Figure E.1: Estimating export revenue for Queensland NSV ELICOS students .......................... 100
Figure F.1: Significant supply flows for the retail, accommodation and food sectors ............. 103
Figure H.1: Key components of DAE-RGEM ....................................................................... 108
# Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
</tr>
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<tbody>
<tr>
<td>ABS</td>
<td>Australian Bureau of Statistics</td>
</tr>
<tr>
<td>ARWU</td>
<td>Academic Ranking of World Universities</td>
</tr>
<tr>
<td>ASEAN</td>
<td>Association of Southeast Asian Nations</td>
</tr>
<tr>
<td>ANZSIC</td>
<td>Australian New Zealand Standard Industrial Classification</td>
</tr>
<tr>
<td>APTC</td>
<td>Australia-Pacific Technical College</td>
</tr>
<tr>
<td>CRICOS</td>
<td>Commonwealth Register of Institutions and Courses for Overseas Students</td>
</tr>
<tr>
<td>DET</td>
<td>Department of Education and Training</td>
</tr>
<tr>
<td>EFTSL</td>
<td>Equivalent Full Time Student Load</td>
</tr>
<tr>
<td>ELICOS</td>
<td>English Learning Intensive Courses for Overseas Students</td>
</tr>
<tr>
<td>FTE</td>
<td>Full-time equivalent</td>
</tr>
<tr>
<td>GSP</td>
<td>Gross state product</td>
</tr>
<tr>
<td>IO</td>
<td>Input-Output</td>
</tr>
<tr>
<td>IVS</td>
<td>International Visitor Survey</td>
</tr>
<tr>
<td>JCU</td>
<td>James Cook University</td>
</tr>
<tr>
<td>MOOEC</td>
<td>Massive Open Online English Course</td>
</tr>
<tr>
<td>MOOC</td>
<td>Massive Open Online Course</td>
</tr>
<tr>
<td>NCVER</td>
<td>National Centre for Vocational Education Research</td>
</tr>
<tr>
<td>NSV</td>
<td>Non-student Visa</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
</tr>
<tr>
<td>QGSO</td>
<td>Queensland Government Statistician’s Office</td>
</tr>
<tr>
<td>THE</td>
<td>Times Higher Education</td>
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<tr>
<td>TIQ</td>
<td>Trade and Investment Queensland</td>
</tr>
<tr>
<td>TRA</td>
<td>Tourism Research Australia</td>
</tr>
<tr>
<td>TVET</td>
<td>Technical vocational education and training</td>
</tr>
<tr>
<td>UAE</td>
<td>United Arab Emirates</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organisation</td>
</tr>
<tr>
<td>UQ</td>
<td>University of Queensland</td>
</tr>
<tr>
<td>USQ</td>
<td>University of Southern Queensland</td>
</tr>
<tr>
<td>VET</td>
<td>Vocational education and training</td>
</tr>
<tr>
<td>VFR</td>
<td>Visiting Friends and Relatives</td>
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<td>WHM</td>
<td>Working Holiday Maker</td>
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Executive Summary

As the State’s fourth largest export sector, international education and training is a major contributor to the Queensland economy today. The scope for it to make an even greater contribution into the future is underwritten by the burgeoning demand for education being generated by the rapidly expanding middle class population across, in particular, emerging Asia. This demand is projected to see international education and training among the fastest growing global sectors over the next two decades.

The imperative for Queensland to harness this growth – and translate it into increasing prosperity for the State’s economy and community – is amplified by the fact that growth in the State’s resources industries is slowing and the ability of these sectors to continue to spur growth in living standards is diminishing.

Recognising both this opportunity and this imperative, the Queensland Government has committed to developing an International Education and Training Strategy. The purpose of this report, prepared for Trade and Investment Queensland (TIQ), is to provide evidence and analysis to inform the development of the Strategy. It considers the scale and value of the sector today, the size and nature of growth opportunities into the future and the factors most critical to Queensland seizing these opportunities.

Queensland’s international education and training sector today

In 2015, 62,300 onshore international students commenced education in Queensland and 103,300 students were currently enrolled. Both figures put Queensland’s current market share at 16% of the Australian total. Over the last ten years, the number of onshore international education and training enrolments in Queensland has grown at an average pace of 6.3% annually. While this rate of growth is a healthy one, it is nevertheless slower than that observed nationally. Consequently, the State’s share of the Australian onshore international education and training market has fallen (from a peak of 16.7% in 2010).

Compared with the international education and training sector nationally, onshore international education and training in Queensland has a number of defining features:

- Queensland has a more diversified onshore student profile, in terms of source market mix, field and course of study, as well as location of study.
- Queensland has a higher proportion of students from South Korea, Brazil, Japan and the United States, but a slightly lower proportion of students from China.
  - One in five students in Queensland are from these four countries, compared to just one in ten nationally.
- English Learning Intensive Courses for Overseas Students (ELICOS) is a larger share of Queensland’s onshore international enrolments (25%) relative to Australia (23%); while higher education is a smaller share of Queensland’s onshore international market (38%) relative to Australia (42%).
- Queensland has a larger share of international student nights spent outside of the State capital (34%) compared to New South Wales (12%) and Victoria (4%).
- Queensland is also popular with students not on student visas, particularly those in ELICOS courses and study tours.
In 2014, an estimated 7,713 **offshore** students enrolled with Queensland higher education providers and 2,881 with Queensland public VET providers. Combined, this equates to approximately 6% of total offshore tertiary enrolments with Australian offshore providers. While Queensland is the third most popular state for onshore study, it is the fourth most popular for offshore study, behind Victoria, New South Wales, and Western Australia.

The Queensland offshore tertiary sector is active in South Asia and the Pacific region, while Australian offshore activity as a whole is concentrated in East Asia, with some presence into the Middle East. For instance, Queensland higher education providers are active in New Zealand, India, Sri Lanka and Mauritius, while Queensland VET providers are active in Papua New Guinea, Fiji, Samoa, and the Solomon Islands.

**Box 1: Characterising international education and training**

International education and training is an increasingly diverse sector that covers a range of services, including students studying and receiving a formal qualification or other educational services from an overseas provider. This education can be received in the provider’s home country (characterised as ‘onshore’ from Queensland’s perspective) or in the student’s home country (characterised as ‘offshore’ from Queensland’s perspective).

Historically, international education and training has been predominantly onshore-based and formal, requiring students to hold a student visa while studying in one of the four sub-sectors: schooling, English language courses (that is, ELICOS), vocational education and training (VET) and higher education. However, there are also short courses and study tours which might not require the student to hold a student visa.

Offshore models include both overseas campuses and other forms of overseas provision (such as through correspondence courses or partnership arrangements). Increasingly, the term international education and training is also used to characterise emerging forms of offshore activity, such as content provision, learning platforms, and non-accredited professional courses.

Activity measurement and data quality across these areas varies, with the more established, traditional modes and models the more commonly monitored and measured.

**Value and contribution of the sector**

The contribution of international education and training to the Queensland economy takes a variety of forms and materialises across an array of sectors. Students contribute via their expenditure on tuition fees and study materials as well as their expenditure on accommodation, transport and their broader living costs. International education and training also spurs economic activity via the flow-on tourism it stimulates. This includes, most directly, expenditure by friends and relatives who travel to Australia to visit an international student. But it also includes post-study visitation and word of mouth promotion that can produce longer term legacy impacts.

The most readily measurable component of the sector’s economic contribution to the Queensland economy is the activity generated by **international students on student visas** studying in Queensland. Modelling by Deloitte Access Economics indicates that, in 2015, the combined $2.9 billion of expenditure by these students contributed $2.3 billion in total value added to the Queensland economy, supporting around 18,651 full-time equivalent (FTE) jobs.

Reflecting the physical distribution of enrolments across the State as well as the geographical dispersion of the sectors that supply inputs to the international education and training supply chain, 36% of the sector’s economic contribution accrued to sectors outside of Brisbane. Major
beneficiaries outside the State’s capital included Gold Coast (17%) and Tropical North Queensland (5%).

In addition to the economic activity generated by these students themselves, their visiting friends and relatives spur further expenditure. Deloitte Access Economics modelling estimates that, in 2015, visiting friends and relatives of international students in Queensland contributed another $11 million in value added and 120 FTE jobs to the State economy.

The economic contribution of Queensland’s sizable onshore non-student visa ELICOS market has also been estimated. Deloitte Access Economics modelling suggests that, in 2015, this segment contributed around $47 million in value added to the State economy, sustaining 700 FTE jobs. The available data indicates that the non-student visa market, including both ELICOS students and study tours, is likely to contribute proportionally more to the regions of Tropical North Queensland and the Sunshine Coast.

In aggregate, therefore, the economic contribution of the international education and training sector in Queensland is estimated at $2.3 billion in total value added, with associated employment of 19,470 FTE jobs.

Reflecting business model differences and differences in the economic environment in which they operate, offshore models of international education and training contribute proportionally less to the Australian – and Queensland – economy. Wages, for example, will in many cases accrue to overseas workers and study materials are often sourced locally. However, there is still a material flow of economic value to the Queensland economy. Indeed, Deloitte Access Economics estimates than in 2014, the 10,594 offshore public VET and higher education students enrolled with Queensland providers generated total revenue of $56.6 million, equivalent to approximately 5% of the fee revenue from international students studying onshore with Queensland tertiary institutions. The employment and value-added associated with this revenue is not readily calculated.

Beyond its direct export earnings, international education and training also delivers a host of cultural, social and strategic benefits to Queensland. Beyond the tourism activity generated via visiting friends and family, international education and training also spurs visitation over the longer term. For instance, a survey of Chinese alumni found that 64% had travelled back to Australia in the last five years, and 93% intended to travel to Australia in the next five years. More widely, the sector helps to reinforce Queensland’s global engagement and outward focus. Relationships formed by students also help encourage the exchange of knowledge, culture, innovation and business ideas, long after formal education is completed. Offshore delivery can also support the broader internationalisation agenda of institutions (creating brand recognition offshore), developing new partnerships, tapping into new talent and improving public diplomacy.

Origins and scale of the future growth opportunity

The scope for international education and training to be one of the big beneficiary sectors of emerging Asia’s rapid economic development is now well established. Growing incomes afford households many opportunities, and the ability to obtain a quality education is chief among these. While the population growth outlook across key source markets varies, its strength overall combines with rapid growth in per-capita incomes to generate a burgeoning middle class

The opportunity and imperative for Queensland’s international education and training sector

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population eager to engage with international education and training providers. While global competition is increasing sharply, the size of the projected demand growth presents significant opportunities for Queensland in both onshore and offshore international education and training.

**Onshore international education and training potential**

While international student enrolments in Queensland (and Australia more broadly) have been growing strongly since 2013, with 9% annual growth in Queensland and 11% in Australia, forward growth rates are predicted to be more conservative than in the recent past. This primarily reflects changes in the global international education and training landscape – such as intensifying global competition and demographic trends – rather than Queensland-specific dynamics. Nevertheless, international education and training remains poised to be a significant driver of growth for the Queensland economy. Central case forecasts for Queensland – produced by Deloitte Access Economics for the purposes of this project – indicate a strong growth outlook:

- The number of onshore international enrolments in Queensland is projected to increase 33% over the next decade, or at an average annual rate of 2.9%.
  - This growth would see an estimated 150,600 students enrolled across Queensland in 2026.
- International onshore student enrolments in Queensland are projected to grow slower than the national average of 3.2% annually, or 37% in cumulative terms over the forecast period.
  - Accordingly, and in a continuation of recent trends, Queensland’s share of national enrolments is projected to contract from an estimated 16% in 2015 to 15.7% in 2026.
  - As well as recent trend performance, Queensland’s declining market share is driven by the State’s relatively greater levels of reliance on slower growing markets like Brazil, South Korea and Japan and – as a corollary of this – its relatively lower levels of reliance on faster growing markets like India and Vietnam.
- The source markets contributing most significantly to Queensland’s forecast onshore international education and training growth are India, China and Brazil.
  - India is forecast to overtake China as the State’s top source market by 2026.
- The rate of growth among source markets is projected to be fastest in emerging Asian and African source markets
  - Enrolments from the Philippines and Nigeria are expected to double from 2016 to 2026.
- Among the segments, VET is projected to exhibit the fastest enrolment growth (3.8% per annum), leading higher education (3.1% per annum), ELICOS (1.9% per annum) and schooling (1.8% per annum)
  - Of these, ELICOS is the segment projected to depart most materially from its recent historical trend, as students from traditional source markets elect to directly enrol into VET and higher education.

**Box 2: Drivers of the global opportunity in international education and training**

International education and training is a highly (and increasingly) diverse sector. While a range of variables determine an individual’s study decisions, global demand for international education and training is driven by three broad parameters: (1) size of relevant populations; (2) per-capita incomes; and (3) availability of quality education domestically.

- Deloitte Access Economics projects that the global population of 15 to 29 year olds living in urban
areas will increase from 960 million in 2015 to 1.1 billion in 2025.

- Average incomes are also projected to continue to grow – particularly in developing economies – boosting participation in formal education and exposing a vast new population cohort to the possibility of acquiring a world class international education.
  - Globally, Deloitte Access Economics projects that Gross Domestic Product (GDP) per capita will grow at around 3% per annum over the next ten years, with markets such as China and India expected to grow much faster, at 6% and 7%, respectively.
  - The impact of this income growth on participation in formal education will be significant. For instance, previous analysis by Deloitte Access Economics indicates that a 1% increase in GDP per capita leads to an increase in the rate of participation in higher education in the order of 1.1%.

- The international education and training opportunity created by the world’s growing middle class will be moderated by the pace at which quality provision emerges in source countries. There is a growing consensus among analysts and industry observers that domestic and regional education systems both in and near large international education and training source markets like China, Malaysia and Singapore will expand and improve in quality over the coming decade. This increases the likelihood that residents seeking a foreign qualification can secure one locally or at least closer to home.

Since this onshore enrolment growth is expected to be driven most significantly by the higher yielding sub-sectors and segments, growth in student expenditure is likely to be faster again. Indeed, onshore international student expenditure – equivalent to international education and training exports – is projected to rise from $2.9 billion in 2015 to $4.6 billion in 2026. The rate of growth this implies is almost double that expected to be generated by enrolments alone.

Naturally, there are both upside and downside risks to the scale and realisation of these baseline projections – economic conditions may change course; market dynamics may evolve unexpectedly; or supply-side constraints may bind. Sensitivity analysis presented in the body of this report explores these risks.

**The scope for higher onshore performance and greater economic returns**

While factors like exchange rate movements and income growth will bear on the future prospects of Queensland’s international education and training sector, policy and strategy has a major role to play in determining the sector’s future. While the precise measures and initiatives to be implemented under Queensland’s International Education and Training Strategy are yet to be determined, scenario modelling illustrates the size of the potentially achievable upside. If Queensland could effectively capture greater levels of international education and training activity, such that its share of the national market aligns with its share of the Australian economy (20.1%), the projected 2.9% annual growth in enrolments under ‘business as usual’ conditions would increase sharply to 5.5% per annum – or 70% in cumulative terms over the next decade. This would see onshore enrolments reach 193,250 in ten years’ time— an increase of 42,700 enrolments, or 28% above the baseline in 2026.

**Realisation of this growth would yield material economic dividends relative to a ‘business as usual’ outlook. Modelling conducted by Deloitte Access Economics indicates than an additional $1.7 billion in value added and 6,800 FTE jobs would be created across the Queensland economy.**

The upside potential from international education and training could be higher still, when considering the reinforcing effects of the national international education strategy. Deloitte Access
Economics’ forecasting at the national level indicates that effective implementation of a national strategy could see international student visa enrolments in Australia surpass the 1 million mark. Growth of this magnitude could create even greater potential for Queensland.

**Offshore international education and training potential**

The potential and outlook in offshore international education and training is both fast growing and rapidly evolving. New technologies and innovative delivery models are opening up opportunities for students from around the world to engage with the offerings of international education and training providers in ever-changing ways. Indeed, emerging sectors – such as online learning, education technology (edTech), and professional development – could drive the majority of potential growth in future offshore enrolments.

The innovative and dynamic nature of this sector makes reliably quantifying the scale and scope of the opportunity challenging (relative to the onshore market). Nevertheless, the size of the opportunity can be illustrated with reference to the population Australian providers are capable of engaging with:

- Across Australia’s key source markets, 1.1 billion learners (aged between 25-64 years old) are expected to be participating in education by 2026. Of these, nearly 1 billion learners will be engaged in some form of non-formal education, which could potentially cover these emerging sectors.
  - If Australia reaches 1% of these global learners, and Queensland maintains its current share of the offshore Australian market (at 6%), Queensland providers could reach over 675,000 learners by 2026.

- Another key segment that Queensland could target is the 15-24 year old population, who are important consumers of both formal school and post-secondary education, and non-formal education (and not included in the projection of 675,000 referred to above).
  - The potential significance of this segment may be even greater, given the State’s current curriculum licensing agreements with seven schools in four countries, and the high likelihood of offshore students transitioning to onshore tertiary studies.

**Harnessing Queensland’s comparative strengths to realise the growth potential**

Realising the growth opportunities in international education and training requires a *strategy that aligns the comparative advantages of the State, its providers and its regions with the demands and preferences of the growing international student population*. International research shows that the study and destination decisions of potential students are influenced by a variety of factors. These encompass the overall appeal of the destination including factors such as cost, proximity, ease of entry (visa conditions), opportunities to work during study and on completion of study, potential migration pathways and perceptions of safety, as well as the appeal of a particular institution (including factors such as cost, perceptions of quality, ranking and the overall study experience).

As the relative importance of different decision drivers varies across sub-sectors, segments and source markets, a nuanced understanding of, and approach to, the differing needs of the student segments is essential to an effective targeted strategy. For instance, international research suggests that tertiary students are driven primarily by outcomes and that perceived quality could
diminish their sensitivity to higher prices and other accessibility drivers. In contrast, school students (and their parents) are more likely to be concerned whether an effective school and community support network exists, given the younger ages of these students.

Of course, a deep understanding of student decision drivers is only part of the growth realisation equation. For Queensland to be successful in attracting greater numbers of international enrolments in an increasingly competitive market, it must play to its strengths and ensure policy and industry settings are conducive to growth.

**Queensland’s comparative strengths**, which extend beyond its well-recognised beach lifestyle and culture, are outlined below under the three broad banners of accessibility, experience and outcomes.

**Accessibility**

- A lower average cost of studying and living in Queensland, particularly in regional areas, combined with the State’s strong regional aviation infrastructure, supports accessibility by international students to both the capital city and regional centres.
  - This is further supported by Australia’s strong education pathway system and large education alumni network offshore.

- **How can Queensland ensure the right enablers are in place?**
  - Though key accessibility drivers such as visa settings are largely beyond the direct control of the Queensland international education and training sector, it is important that institutions in the State continue to promote and open up education pathways and ensure course costs are competitively priced.
    - This includes developing source market strategies that look to retain a greater share of students through the academic spectrum in Queensland, both onshore and offshore.
  - Encouraging a supportive framework for start-ups, new technologies and Queensland businesses to collaborate and partner with one another across education sectors can also serve to increase accessibility in emerging markets – and, by extension, enrolments and returns.

**Experience**

- Quality experiences that match the needs of a range of student segments could be supported by Queensland’s current and future supply of accommodation and transportation infrastructure, the availability of casual jobs in tourism and hospitality, its varied lifestyles and natural attractions and, above all, its friendly and multicultural communities.
  - This is further supported by the overall image of Australia as a safe and appealing place for international students.

- **How can Queensland ensure the right enablers are in place?**
  - It is important for students to feel genuinely welcomed, safe, respected and valued in the broader community. Adopting a streamlined ‘whole user’ experience model that increases the ease with which students acclimatise to life in Queensland, from arrival to departure, can greatly enhance not only student experience, but also the perceptions relayed to their friends and family abroad in this highly digital era.
Outcomes

- While Queensland may not have as many universities ranked as highly as New South Wales and Victorian institutions – and Australia as a whole lags behind the United States and United Kingdom – its providers can compete on outcomes, perhaps most particularly in areas of industrial advantage.
  - For instance, Queensland universities as a whole rank strongly in agriculture and forestry, biological sciences, and environmental sciences. The State can also leverage its industrial advantage in mining, construction, and health care and training, as well as expertise in tropical fields.
- How can Queensland ensure the right enablers are in place?
  - There is potential to increase the number of employment opportunities available to international students in Queensland after graduation (depending also on the Commonwealth’s migration policy).
  - Education-related professional internships with businesses can also be a strong drawcard internationally.
  - Leveraging the presence of multinational businesses to connect students with employment opportunities that can be transferred back to source markets is also gaining momentum in competitor markets.

Enhancing a destination’s standing against the key decision factors that lead to the realisation of the international education and training opportunity – both onshore and offshore – requires a collaborative strategy that brings together and reinforces the various endeavours by government, industry, businesses and the wider community. Drawing the evidence together, the key elements of a successful international education and training strategy are outlined in the box below.

**Box 3: Key elements of a successful Queensland International Education and Training Strategy**

Based on the experience of competitors across Australia and abroad, a successful international education and training strategy for Queensland should be supported by:

- State Government leadership in intelligence gathering, industry coordination and promotion under a common ‘brand Queensland’, while simultaneously acknowledging and highlighting the unique industrial and cultural/lifestyle features of Queensland’s regions;
- a quality, streamlined and rewarding student experience from arrival to departure, and during the progression between education sub-sectors, providing formal and informal support services that strengthen learner ties with the local social and business communities; and
- collaboration between government, the four education sub-sectors, business and the community to promote internship and post-study workplace opportunities for international students, particularly in fields of industrial advantage for Queensland.

Next steps: Where opportunity meets advantage

Queensland has the third largest international education and training market in Australia. In the face of intense and growing competition, both domestically and from traditional and emerging providers overseas, State-specific comparative advantages need to be strengthened in order to realise the significant global opportunity that exists. To help achieve this, the diversity and unique value propositions of Queensland’s regions need to be highlighted and harnessed under a common brand and framework. The basic tension between ensuring that Queensland’s international
The opportunity and imperative for Queensland’s international education and training sector

education and training strategy is sufficiently aligned with the national strategy, while at the same time ensuring it provides a sufficiently differentiated basis for competition, must also be navigated.

**To help opportunity meet advantage, further research and evidence gathering could be undertaken to:**

- segment key source markets to understand the different decision making drivers and also allow for customisation of product and messaging by audience;
- understand onshore and offshore supply-side constraints (including capacity and capability) and support business models and products that take advantage of these opportunities and avoid supply constraints;
- identify markets most open to partnering in international education and training with Queensland institutions in terms of research and student mobility;
- develop a process framework for collaborating and sharing lessons learned among the State’s regional providers (onshore and offshore, established and emerging), for instance, by profiling Queensland and other domestic success stories to see what lessons can be drawn from their experiences;
- explore opportunities for providers to collaborate with industry to ensure the currency of qualifications with skills demanded and provide integrated work programs, given the importance of employment outcomes to learners in both Queensland’s metropolitan and regional areas; and
- develop a consistent and detailed regional evidence base that can support ongoing targeting and differentiation initiatives at the regional level.

This work would allow Queensland’s strongest advantages to be better understood and, in combination with the findings of this report, further inform the success of a Queensland International Education and Training Strategy. Ultimately, however, success will rest on effective implementation. In this regard, the development of an *implementation plan* which assigns clear responsibilities; articulates robust governance arrangements; ensures adequate capability and resourcing; establishes mechanisms for ongoing monitoring and refinement; and engenders stakeholder buy-in will be vital to the successful development and deployment of Queensland’s International Education and Training Strategy.

If implementation can be approached in this fashion – such that a well-crafted Strategy is implemented and executed with purpose, coordination and vigour – the analysis presented in this report demonstrates the significant role that international education and training can play in driving economic prosperity and future living standards in Queensland.

**Deloitte Access Economics**
1 Introduction

Over the coming decades, international education and training will be among the fastest growing sectors globally. A growing global middle class population is driving demand for a range of services – one of which is education and training. As incomes grow, so too does the ability to participate in formal education and training – including international education and training. The number of tertiary learners seeking international education and training is projected to increase from 4.5 million in 2012 to over 7 million by 2025 – and there is of course significant demand growth likely outside of the tertiary sector. Analysis by UNESCO (2012) indicates that more than 50% of these learners are expected to seek an English language education.

The economic opportunity that this presents comes at a time when there is an imperative to transition the Australian economy away from reliance on mining and resources towards offerings that meet the growing consumption appetite of developing Asia and other emerging markets.

Accordingly, an increasing amount of policy attention is being directed towards the international education and training sector, notably through the Australian Government’s Draft National Strategy for International Education and Industry, Innovation and Competitiveness Agenda. State governments have also put their weight behind the sector as evidenced through the development of a five-year International Education Strategy by the Victorian Government and the New South Wales Industry Action Plan for International Education and Research.

In Queensland, the international education and training sector is an important contributor to the State economy. International education is Queensland’s second largest services export behind tourism, and ranks fourth among all traded goods and services, with coal and beef taking the top spots (Department of Foreign Affairs and Trade, 2015). In light of the projected growth of international education and training over coming years, and the importance of transitioning the Queensland economy away from its reliance on mining sector activity, there is significant opportunity for Queensland to expand its international education and training footprint and reap the economic and social benefits that this is capable of generating.

Purpose of this report

A deliberate and coordinated approach from industry and government will be required to realise this opportunity, with Trade and Investment Queensland (TIQ) leading the Queensland Government’s efforts to develop an International Education and Training Strategy. This report by Deloitte Access Economics, commissioned by TIQ, contributes to the evidence base that will support development of the Strategy and the achievement of TIQ’s market development objectives.

Reflecting this context and purpose, this report:

- examines the international education and training sector’s current role in and contribution to the Queensland economy – both at a State-wide level and across its regions;
- dimensions the scale and scope of the economic opportunity that lies ahead for Queensland international education to 2026, through benchmarking current activity and projecting future activity; and
The opportunity and imperative for Queensland’s international education and training sector

- assesses the characteristics that underpin Queensland’s comparative strengths in the international education and training market and explores how these relate to the global demand opportunity.

The scope of this report covers both established, onshore international education and training provision, as well as offshore opportunities, including current transnational face-to-face delivery, online learning, non-formal learning and education technology offerings from Queensland companies.

- **Onshore international education and training** is defined as the provision of education and training content or services by an Australian provider to an international student in Australia.

- **Offshore international education and training** is defined as the provision of education and training content or services by an Australian provider to an international student in the student’s home country.

**Overview of the analytical approach**

The report uses a range of quantitative and qualitative methods, reflecting both the broad scope of analysis and differences in data availability. The approaches, which are described in greater detail in the relevant sections of this report, include:

- **Economic contribution** modelling to estimate the current value, as measured by value added and employment, of the Queensland international education and training sector to the State and its regions. This includes both the direct contribution through Queensland international student (and their visiting friends and relatives) expenditure on goods and services, and the indirect flow-on contribution in other sectors. Further details on the economic contribution framework can be found in Appendix B.

- **Forecasting** of future commencements and enrolments in Queensland’s onshore student visa international education and training sector by its top 30 source markets by sub-sector to identify key markets for the future. Forecasts draw on short-term as well as long-term macroeconomic trends in source market demographics and income levels. Further details on the economic contribution framework can be found in Appendix G.

- **Literature analysis** and consultation workshop with TIQ and industry stakeholders to identify the key comparative advantages for Queensland international education and training compared to domestic and international rivals. The focus of research includes:
  - non-economic economic benefits of international education and training;
  - international student decision drivers;
  - the current strategies and targets of domestic and international competitors; and
  - the strengths of education providers in Queensland and its regions.

The assumptions and limitations underlying the quantitative analysis are outlined in the relevant sections (and appendices). The economic contribution and forecasting methodology applied here is consistent with the Deloitte Access Economics reports for the Department of Education and Training and Austrade. *The value of international education* (Deloitte Access Economics, 2016a) estimates the contribution of the sector to Australia in financial year 2014-15 and *Growth and opportunity in Australian International Education* (Deloitte Access Economics, 2016b) forecasts international student enrolments from 2015 to 2025. Differences between the results of this report and the national reports can be explained by the difference in the modelling horizon and the frame of reference (with this report’s analysis limited to international students in Queensland).
Deloitte Access Economics uses the latest available data. However, as it is not always possible for the data years to align for the various data sources, there are some discrepancies in the base year of analysis.

**Report structure**

The remainder of this report is structured as follows:

- Chapter 2 provides an overview of Queensland’s international education and training sector today, including onshore and offshore education and training, source market composition and the regional distribution of activity.
- Chapter 3 demonstrates the contribution of international education and training to the Queensland economy, including its contribution to value added and employment and its social and cultural contributions.
- Chapter 4 explores the global growth opportunity, providing forecasts for onshore international education and training and dimensioning the offshore opportunity.
- Chapter 5 examines Queensland’s comparative advantages in international education and training through the student decision making lenses of accessibility, experience, and outcomes.
- Chapter 6 outlines the strategies required to ensure Queensland realises the identified growth opportunities in both onshore and offshore international education and training.
- Chapter 7 offers a conclusion, and outlines tasks for the future, including future research and implementation considerations.
2 Queensland’s international education and training sector today

Key points – Queensland’s international education and training sector today

- The onshore international education and training sector in Australia is comprised of higher education, vocational education and training (VET), schools, English learning intensive courses for overseas students (ELICOS) and other training (non-award or non-student visa).
- In 2015, 62,300 international students commenced education and training in Queensland – 16% of the Australian total – leading to 103,300 enrolments (also 16% of the national total).
- Queensland has a more diversified onshore student profile compared to Australia in terms of: source market composition, location of study (state capital versus other) and sub-sector of study.
- For instance: higher education is a smaller share of Queensland’s market (38%) relative to Australia (42%) and Victoria (47%), while ELICOS is a larger share of Queensland’s enrolments (25%) relative to Australia (23%), New South Wales (24%) and Victoria (20%).
- Compared to the national average, Queensland has a higher proportion of students from South Korea, Brazil, Japan and the United States, with approximately one in five students in Queensland from these four countries, compared to just one in ten for Australia. Queensland also has a slightly lower proportion of students from China.
- While Queensland is Australia’s third most popular State for onshore students in the higher education and VET sub-sectors, it is the fourth most popular for offshore enrolments in both higher education and VET.
- Deloitte Access Economics estimates that 7,713 offshore students were enrolled with Queensland higher education providers and 2,881 with Queensland VET providers in 2014. Total revenue for the offshore sub-sector was estimated at $56.6 million.
- The Queensland tertiary (higher education and VET) offshore sub-sector is more active in the South Asia and Pacific region, with New Zealand, India, Sri Lanka and Mauritius popular markets for offshore activity. In contrast, Australian offshore activity as a whole is concentrated in East Asia, with some penetration into the Middle East.
- While activity to date has been focused in formal education (higher education and VET), new technologies and innovative delivery models are opening up opportunities for students from around the world to engage with the offerings of international education and training providers in ever-changing ways.

2.1 Onshore international education and training

2.1.1 Commencements and enrolments

While annual commencements have grown strongly in Queensland in recent years, they have not returned to their historical highs (67,000 commencements in 2009). This is consistent with the broader Australian trend. In 2015, approximately 16% (62,300 students) of the Australian onshore international education and training market commenced at a Queensland institution. As Chart 2.1 illustrates, some sub-sectors have recovered more strongly than others. For instance, higher education and VET commencements have returned to 2009 levels, whereas ELICOS is yet to regain their ground.
In 2015, there were 645,200 international enrolments – defined as a student enrolled with a particular registered course and progressing towards the completion of the course requirements – in Australia, with 16% (103,300) of those in Queensland. Although this broadly accords with the commencements trajectory, there are some minor differences:

- Firstly, the global financial crisis had a lagged effect on enrolments compared to commencements, particularly for higher education and VET (given the length of courses and continuing students), that led to a slower initial fall in the number of enrolments.
- Secondly, the rebound in international onshore enrolments in recent years (2012 to 2015) has been weaker than for commencements. This is because enrolment figures show the cumulative commencement choices made by students over time. While commencements may recover for a particular year, that cohort makes up only a small proportion of total enrolments in a particular sector. This is particularly true for longer courses in higher education. Consequently, commencements are a useful leading factor for total enrolments.

Enrolments by sub-sector between 2005 and 2015 are shown below in Chart 2.2.
Chart 2.2: Queensland onshore enrolments by sub-sector, 2005-2015

Chart 2.3 illustrates Queensland’s share of onshore enrolments in Australia between 2005 and 2015. Over the past decade, Queensland has increased its market share of onshore VET enrolments, from 10% in 2005 to 16% in 2015. The schools sub-sector has also increased its share of the national total, from 17% to 21% over the same period. However, Queensland has lost the most ground in the ELICOS and non-award sub-sectors.

Chart 2.3: Queensland share of onshore enrolments in Australia by sub-sector, 2005-2015

Source: DET (2015e)
Further information on qualification levels and the field of education for Queensland enrolments in higher education and VET is provided in Appendix A.

2.1.2 Source market composition

The largest four source markets – China, India, South Korea and Brazil – contribute approximately 44% of Queensland’s onshore international students, as shown in Table 2.1. Brazil is the fourth largest source market for Queensland and the sixth largest for Australia; and Thailand is the eighth largest source market for Queensland and the fifth largest for Australia.

Table 2.1: Queensland’s share of the top Australian onshore source markets, 2015

<table>
<thead>
<tr>
<th>Country</th>
<th>Total enrolments</th>
<th>Largest sub-sector (enrolments; % of country total)</th>
<th>National rank</th>
<th>Qld share of Aus</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. China</td>
<td>19,300</td>
<td>Higher education (11,200; 58%)</td>
<td>1</td>
<td>11%</td>
</tr>
<tr>
<td>2. India</td>
<td>12,700</td>
<td>VET (5,500; 44%)</td>
<td>2</td>
<td>18%</td>
</tr>
<tr>
<td>3. South Korea</td>
<td>6,600</td>
<td>VET (3,100; 47%)</td>
<td>4</td>
<td>23%</td>
</tr>
<tr>
<td>4. Brazil</td>
<td>7,100</td>
<td>ELICOS (3,800; 53%)</td>
<td>6</td>
<td>29%</td>
</tr>
<tr>
<td>5. Vietnam</td>
<td>2,600</td>
<td>ELICOS (700; 28%)</td>
<td>3</td>
<td>9%</td>
</tr>
<tr>
<td>6. Malaysia</td>
<td>2,900</td>
<td>Higher education (2,100; 70%)</td>
<td>7</td>
<td>12%</td>
</tr>
<tr>
<td>7. Nepal</td>
<td>2,000</td>
<td>Higher education (1,300; 67%)</td>
<td>8</td>
<td>10%</td>
</tr>
<tr>
<td>8. Thailand</td>
<td>2,400</td>
<td>VET (1,000; 42%)</td>
<td>5</td>
<td>8%</td>
</tr>
</tbody>
</table>

Source: DET (2015e)

These differences are driven in part by the markets that are targeted by providers in Queensland versus the rest of Australia. Other States (particularly New South Wales and Victoria) have also had undertaken significant effort in marketing their international education and training sectors, and Queensland may be perceived as a holiday destination, rather than a place to study or work. These challenges are discussed in further detail in Chapter 5.

China is a key source market for Queensland across the higher education, VET, schools and ELICOS sub-sectors (see Table 2.2). Malaysia, Hong Kong and Singapore are key source markets for higher education only; other Asian countries (Japan and Korea) and South America (Brazil and Colombia) are the biggest source markets for ELICOS. India and South Korea are the largest source markets for the VET, and China, Germany and Papua New Guinea are the key source markets for the schools sub-sector.
Table 2.2: Top Queensland source markets by onshore enrolments and sub-sector, 2014

<table>
<thead>
<tr>
<th>Country</th>
<th>Higher education</th>
<th>VET</th>
<th>Schools</th>
<th>ELICOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>11,200</td>
<td>1,900</td>
<td>900</td>
<td>4,900</td>
</tr>
<tr>
<td>India</td>
<td>5,500</td>
<td>5,500</td>
<td>30</td>
<td>1,500</td>
</tr>
<tr>
<td>Malaysia</td>
<td>2,100</td>
<td>600</td>
<td>40</td>
<td>200</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>1,600</td>
<td>700</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>Singapore</td>
<td>1,400</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>South Korea</td>
<td>1,400</td>
<td>3,100</td>
<td>400</td>
<td>1,700</td>
</tr>
<tr>
<td>Japan</td>
<td>N/A</td>
<td>2,300</td>
<td>200</td>
<td>3,800</td>
</tr>
<tr>
<td>Taiwan</td>
<td>800</td>
<td>2,000</td>
<td>100</td>
<td>1,400</td>
</tr>
<tr>
<td>Germany</td>
<td>N/A</td>
<td>N/A</td>
<td>600</td>
<td>N/A</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>400</td>
<td>300</td>
<td>500</td>
<td>N/A</td>
</tr>
<tr>
<td>Brazil</td>
<td>400</td>
<td>1,200</td>
<td>300</td>
<td>2,100</td>
</tr>
<tr>
<td>Colombia</td>
<td>N/A</td>
<td>900</td>
<td>N/A</td>
<td>2,800</td>
</tr>
</tbody>
</table>

Source: TAFE QLD International (2015a, b, c, d)

Note: Green highlighted cells where the country is a top 5 source for a given sub-sector in Queensland; N/A where a country is not a top 20 source market for a given sub-sector in Queensland.

Notably, the key source markets for the non-award sub-sector differ from those of the other sub-sectors for Queensland — being the United States (1,700 enrolments); Brazil (600); Germany (500); and Norway (500) (DET, 201e). This is because students in the non-award sub-sector often study abroad or are exchange students and the specific linkages that Queensland universities have with overseas institutions, which are related to different student decision drivers.

2.1.3 Non-student visa learners

Non-student visa learners refer to visitors in Australia who participate in education while holding a Visitor, Working Holiday Maker (WHM), or other non-student visa. They could be participating in either ELICOS or study tours. As they do not hold a student visa, these learners are not included in the student enrolment data or the student expenditure figures presented above.

Chart 2.4 shows that the non-student visa sub-sector is larger in Queensland than in other States and Territories. New South Wales has a greater share of visas other than WHM and Visitor visas, whereas Queensland has the largest proportion of WHM and Visitor visas enrolled in ELICOS.
This larger share of the non-student visa market represents a significant advantage and opportunity for Queensland. This advantage lies primarily within the potential of the WHM visa program, as outlined below.

**Potential opportunity for Queensland – the Working Holiday Maker visa program**

The WHM program is targeted at young adults and aims to foster closer ties and culture exchanges between Australia and partnering countries. The program comprises those travellers holding the Working Holiday (subclass 417) and the Work and Holiday (subclass 462) visas. Only those from eligible partnering countries are permitted to hold one of these two visas (Department of Immigration and Border Protection, 2014).

In 2013, there were approximately 139,000 WHMs that visited Queensland (TRA, 2014). WHMs are an important contributor to the Queensland economy, as they spend money on tourism, accommodation and transport. According to the international visitor survey, the average expenditure of WHMs in Australia was $12,500 in 2011. The majority of this expenditure was on accommodation, tourism, transportation and tuition fees, and older aged groups tended to spend more than younger age groups.

About a third of WHMs in Australia choose to study, most choosing English courses to improve their skills. For example WHM visa holders who find their English to be inadequate for immediate work may choose to enrol in an ELICOS course to improve their employment prospects. *In 2014-15, an estimated 23,615 international students enrolled in the Queensland ELICOS sector while on a non-student visa, generating $62 million in export revenue for the State* (Deloitte Access Economics, 2016a). Others undertake formal training to gain the accreditation necessary to work in hospitality or construction (Tan et al, 2009).

WHM travellers are generally limited to holding one Working Holiday visa. However, changes were introduced in 2005 to enable visa holders who undertake 88 days of specified work in regional Australia to obtain a second WHM visa. This initiative is limited to certain regions in Queensland. Since then, the number of working holiday grants in Queensland has increased rapidly from 2,692 in 2005-06 to 45,950 in 2013-14 (Department of Immigration and Border Protection, 2014).
Students on international school study tours are also classified as non-student visa learners. Participants can study in Queensland for up to three months with a valid Visitor Visa issued by the Department of Immigration and Border Protection (Education Queensland International, 2015). In 2015, 12,280 international school students toured through Queensland, with the average length of stay being five days. Data from the Queensland Department of Education and Training (2015) shows that in 2015, the majority (73%) of school study tour learners were from Japan. Students touring from China made up 15% of this market share, Taiwan 7% and Hong Kong 3%.

However, global ratios of outbound (study abroad) students indicate that Australia, along with the United Kingdom and the United States, send insignificant numbers of their domestic students abroad for study. This is measured against both total higher education enrolments as well as the percentages of inbound international students to those sources countries (UNESCO, 2009).

2.1.4 Providers of international education and training

There are a wide variety of public and private providers delivering international education and training onshore in Queensland. Currently, 289 institutions are registered with the Commonwealth Register of Institutions and Courses for Overseas Students (CRICOS) (Department of Education and Training, 2015c). Any provider that intends to deliver education to international students studying onshore on student visas must register with CRICOS. Table 2.3 compares the international student market share between public and private providers by sub-sector.

<table>
<thead>
<tr>
<th>Sector</th>
<th>% public</th>
<th>% private</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher education</td>
<td>86%</td>
<td>14%</td>
</tr>
<tr>
<td>VET</td>
<td>10%</td>
<td>90%</td>
</tr>
<tr>
<td>Schools</td>
<td>57%</td>
<td>43%</td>
</tr>
<tr>
<td>ELICOS</td>
<td>32%</td>
<td>68%</td>
</tr>
</tbody>
</table>

Source: TAFE Queensland (2015a, b, c, d)

There are eight universities and six non-university higher education providers with international enrolments (Department of Education and Training, 2015e). Eight of these higher education providers are public, and the majority of students are enrolled at public providers (85.7%). The two largest source markets for students are China and India across both public and private providers (TAFE QLD International, 2015a).

In contrast, the onshore VET sub-sector in Queensland is far more fragmented, with the primary public provider being TAFE Queensland and the majority of private VET providers (which number approximately 100) being small-medium sized enterprises. These private providers serve the majority of the Queensland onshore VET sub-sector (89.7% market share in 2015). Across public and private providers, the largest source markets are India and South Korea. There are more than 280 schools registered with CRICOS, and 56.8% of international onshore students attend Government schools (which is lower than the national market share of 64.2%). The biggest source markets for Government school enrolments are Germany, China, Italy, Brazil and South Korea. 60% of international Government
school enrolments are in senior secondary, with 33% in junior secondary, and the remaining 7% in primary school (TAFE QLD International, 2015c).

For the non-Government school international market, there are some marked differences in source market and enrolment composition. China, Papua New Guinea, South Korea, Hong Kong and Japan are the largest source markets, with a smaller proportion of students enrolled in senior secondary (46%) and larger proportion in primary secondary schools (44%).

**Case study: Mountain Creek State High School**

Mountain Creek State High School is a modern, innovative school with state of the art facilities. This school offers a high quality education program, which includes the International Baccalaureate Diploma (IBD). IBD is an internationally recognised pre-university course designed for secondary students from Year 10 to 12, and is available to international students. Students completing the IBD curriculum receive an IB score which is translated by Australian university admission centres for entry into university courses.

Mountain Creek State High School is one of more than 70 schools that deliver the Department of Education and Training’s (DET) International Student Programs (ISP) in Queensland. International students at Mountain Creek can choose between a broad range of subjects, and enjoy a dynamic learning environment supported by quality facilities and equipment and a coastal lifestyle. The school has an enrolment of 1,800 students, including 71 international students from countries such as Germany, Mexico, Italy, Japan, Brazil, France, Turkey, USA, Belgium, the Czech Republic, South Korea, Macau and Thailand.

The majority of the international students enrolled in Mountain Creek State High School undertake the DET Study Abroad Program. The school is one of only two DET ISP schools participating in a project with the Instituto Tecnologico y de Estudios Superiores de Monterey, a high performing Mexican school that sends students to the Study Abroad Program in Queensland state schools.

International onshore enrolments in ELICOS (for learners on student visas) are mostly with private providers (67.7%, compared to 78.9% nationally), and the top two source markets for public providers are China and India (who together comprise 57.9% of enrolments at public providers). In contrast, the largest two source markets for private providers are Brazil and Colombia (together comprising 34.7% of enrolments at private providers; TAFE QLD International, 2015d). The differing source markets across public and private providers may reflect the fact that some universities (which are predominantly public) also offer ELICOS courses, thereby providing pathways to higher education for these students.
The Cairns College of English and Business (CCEB)

The Cairns College of English and Business is a private English language and business college located in Cairns, and was established in 2010. They offer accredited VET courses and non-accredited courses that prepare students for travel and work in Queensland, English exam preparation (including Cambridge and IELTS).

The college draws the majority of its students from North Asia (40% of students), Western Europe (35%) and Eastern Europe (10%; CCEB, 2016). CCEB focuses on providing a well-supported experience for students both in and outside of the classroom, with courses that integrate sightseeing and scuba diving instruction with English language teaching, a travel agency on campus and the opportunity to live in a sharehouse or homestay style accommodation. The college also offers students the opportunity to tailor their needs.

CCEB illustrates how education and tourism offerings complement each other and can be bundled together to create a compelling offering for students that provides them with the skills and knowledge that they desire, alongside the lifestyle and sightseeing experiences of Queensland. There are many opportunities for collaboration across the two industries, and this is explored in further detail in Section 6.2.

Regional distribution of activity

Compared to other jurisdictions, international students in Queensland on student visas are more likely to be studying outside the capital city, with approximately 34% of student nights spent outside of Brisbane in the financial year 2014-15. This compares to 12% of student nights spent outside of Sydney for New South Wales and 4% outside of Melbourne for Victoria (TRA, 2015c). International student visitor nights come from Tourism Research Australia (TRA) data on visitor nights by visitors with ‘education’ as the main purpose of travel. Given the limitations in the data, the results should be interpreted with some caution. For instance, it is possible that this data underrepresents non-student visa ELICOS and study tour visitors, who might have chosen ‘holiday’ or ‘work’ as their primary purpose of visit. Consequently, popular study destination for those cohorts, such as the Gold Coast, Brisbane, and Cairns, might be underrepresented.

Following Brisbane, the next most popular destination is the Gold Coast, which received over 20% of student visitor nights in Queensland. This is followed by Tropical North Queensland, with nearly 4% of student visitor nights. Table 2.4 shows the breakdown of total visitor nights spent by international students in Queensland by the twelve tourism regions.

---

2 Deloitte Access Economics has used the tourism regions as defined by the Tourism Research Australia’s Tourism Region Profiles 2013-14. The 12 regional classifications for Queensland are Brisbane, Bundaberg, Central Queensland, Darling Downs, Fraser Coast, Gold Coast Mackay, Northern, Outback, Sunshine Coast, Tropical North Queensland, and Whitsundays.
The opportunity and imperative for Queensland’s international education and training sector

Table 2.4: Visitor nights by tourism regions, 2014-15

<table>
<thead>
<tr>
<th>Region</th>
<th>Student visitor Nights</th>
<th>% State total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brisbane</td>
<td>7,133,200</td>
<td>65.8%</td>
</tr>
<tr>
<td>Bundaberg</td>
<td>25,100</td>
<td>0.2%</td>
</tr>
<tr>
<td>Central Queensland</td>
<td>33,100</td>
<td>0.3%</td>
</tr>
<tr>
<td>Darling Downs</td>
<td>345,400</td>
<td>3.2%</td>
</tr>
<tr>
<td>Fraser Coast</td>
<td>31,900</td>
<td>0.3%</td>
</tr>
<tr>
<td>Gold Coast</td>
<td>2,241,200</td>
<td>20.7%</td>
</tr>
<tr>
<td>Mackay</td>
<td>3,000</td>
<td>0.0%</td>
</tr>
<tr>
<td>Northern</td>
<td>272,100</td>
<td>2.5%</td>
</tr>
<tr>
<td>Outback</td>
<td>12,800</td>
<td>0.1%</td>
</tr>
<tr>
<td>Sunshine Coast</td>
<td>277,700</td>
<td>2.6%</td>
</tr>
<tr>
<td>Tropical North Queensland</td>
<td>409,700</td>
<td>3.8%</td>
</tr>
<tr>
<td>Whitsundays</td>
<td>59,700</td>
<td>0.6%</td>
</tr>
<tr>
<td><strong>Queensland</strong></td>
<td><strong>10,844,900</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: Tourism Research Australia (2015)

While total visitor nights in the regions can be useful when aggregating across the entire international education and training sector, it does not recognise the nuances of each region. For instance, it is likely that some regions may be more active in the higher education sub-sector, while others are more popular with school students, resulting in different visitor nights per student across regions.

Higher education providers are concentrated in the south east of the State (Figure 2.1). However, there are also international students studying in other regions – whether at regional campuses of Brisbane based institutions, or institutions located outside of Brisbane. For instance, James Cook University had 5,436 international Equivalent Full Time Student Load (EFTSL) studying onshore in 2013. Of this, approximately 44% were based in Brisbane, with the remaining 43% in Townsville and 13% in Cairns. Only 0.4% of domestic students (EFTSL) were based in Brisbane, while 65% were in Townsville. In addition to Cairns (24%), domestic students also studied in the campuses at Mackay, Mount Isa, and Thursday Island (James Cook University, 2016).
Consistent with visitor nights, there is a higher proportion of international students studying in the urban regions of Queensland – Brisbane and the Gold Coast. It must be noted that while only a small number of international students choose to study in regional areas, they can still make up a sizeable proportion of the local campus and community populations.

Non-student visa activity, including from study tours and ELICOS, can have a different distribution across the regions compared to student visa activity. For instance, research suggests that in 2013, while 55% of export revenue from students on student visas in regional Queensland can be attributed to the Gold Coast, it is only responsible for 37% of non-student visa export revenue (Giles Consulting International, 2015). Similarly, while Townsville and Toowoomba are relatively more popular with students on student visas, Cairns and the Sunshine Coast are more popular with students holding non-student visas or on study tours. Given the preferences of non-student visa holders and study tours, it is possible that the TRA data, which focuses solely on student visa holders, underestimate the true contribution of international education to regions such as the Sunshine Coast and Tropical North Queensland.

The breakdown of export revenue within regional Queensland for international students with student visas and without student visas is given in Chart 2.5.
2.2 Offshore international education and training

Australian Education International (DET, 2005) defines offshore education, also known as transnational or cross-border education and training, as the marketing, enrolment processes, and delivery and/or assessment of programs or courses in a country other than Australia by an Australian-approved provider, where delivery includes a face-to-face component. Increasingly, offshore international education and training is being conceptualised in broader terms, capturing emerging offshore activity like content provision and learning platforms.

Current activity in the offshore sector can be classified under one of the two business models:

- the international branch campus, which is an entity that is owned, at least in part, by a foreign education provider, operated in the name of the foreign education provider, and provides access to an entire academic program that leads to a credential awarded by the foreign education provider (C-BERT, 2015); and

- partnerships or twinning programs, where a partner organisation in the target country uses their own staff to teach the Australian degrees alongside its own offerings. The degree of cooperation and involvement can vary, with ranging from the Australian institution providing quality assurance and oversight, to the Australian institution delivering the course in full; and

- offshore higher education enrolments classified under ‘distance education’ can also be under partnership arrangements. Offshore students are technically registered under the Australian campus, but can receive education from the partner institution in their home countries (Davis and Mackintosh, 2011).

2.2.1 Current offshore delivery

Deloitte Access Economics estimates that in 2014 there were 7,713 offshore students enrolled with Queensland higher education providers and 2,881 with Queensland VET providers. As a result of these
activities offshore, total revenue for the sector was $56.6 million, equivalent to approximately 5% of the fees revenue from international students studying onshore with Queensland tertiary institutions.

**Figure 2.2: Queensland offshore summary, 2014**

<table>
<thead>
<tr>
<th>2014 Queensland offshore summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Offshore students</strong></td>
</tr>
<tr>
<td>10,594 enrolments</td>
</tr>
<tr>
<td>7,713 Higher Ed</td>
</tr>
<tr>
<td>2,881 VET</td>
</tr>
<tr>
<td><strong>Offshore revenue</strong></td>
</tr>
<tr>
<td>$56.6 million</td>
</tr>
<tr>
<td>$54.1m Higher Ed</td>
</tr>
<tr>
<td>$2.5m VET</td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016)

Over the period 2005 to 2013, offshore enrolments have demonstrated periods of both expansion and contraction, with growth averaging 3% per annum. Between 2005 and 2010, enrolments grew from 5,864 to 10,143, buoyed by strong growth in the public VET sub-sector. This is in contrast to the experience of onshore international education, which experienced a sharp dip in enrolments in 2010 as a result of domestic policy changes and a depressed global economic climate. However, offshore enrolments have been in decline since 2010, driven largely by a contraction in the public VET sub-sector. Again, this is in contrast to the resurgence of the onshore sector from 2012 onwards. Chart 2.6 shows the offshore campus-based enrolment figures in the Queensland tertiary sector over the period 2005 to 2013.

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3 The period 2005 to 2013 has been chosen as offshore enrolment data for both higher education and public VET institutions are available over this period. While 2014 university data is available, consistent public VET data has not yet been released. Similarly, while university data is available for 2004, it is not available for public VET providers.
The divergent trends between onshore and offshore enrolments highlight the distinct drivers between them (explored further in Appendix K) and emphasise that opportunities may differ between these segments.

Performance has been varied between the sub-sectors, with enrolments in campus-based Queensland higher education institutions remaining largely steady over the 2005 to 2009 period, and then experiencing steady growth. Over the entire period, enrolments have grown from 3,485 in 2005 to 5,203 in 2009, equivalent to a 49% expansion. However, enrolments with Queensland public VET providers have been volatile, increasing by over 160% from 2005 to 2010, with enrolments increasing from 2,361 to 6,195, before declining to 2,117 by 2013.

The movements in Queensland offshore enrolments have reflected broader trends faced by offshore Australian providers. Whereas Australian higher education providers have generally experienced steady growth, public VET providers faced the same paradigm of expansion followed by consolidation. The year-to-year annual growth rates at the Queensland and Australian levels over the 2006 to 2013 period are given in Chart 2.7.
The opportunity and imperative for Queensland’s international education and training sector

Chart 2.7: Annual offshore student enrolment growth rates, 2006-2013

While Queensland is Australia’s third most popular State for onshore students in the higher education and VET sub-sectors respectively, it is the fourth most popular for offshore enrolments. Victoria is the leading State in offshore activity, making up 47% and 78% of total enrolments in the higher education and public VET sub-sectors. Enrolments with Queensland offshore institutions make up 6% and 4% of total enrolments with Australian providers in the higher education and public VET sub-sectors respectively (Chart 2.8). This is despite Queensland making up 15% and 16% in the onshore market (DET, 2014a).

Chart 2.8: Queensland offshore student enrolments market share, 2013-14

Despite the mixed growth in offshore enrolments over the 2005 to 2013 period and Queensland’s small market share compared to the other States, there is a general sense of optimism for the future offshore opportunities available globally. This is driven by positive trends in demographics, income
growth, increased access to technology, and an increasing need for skilled workers. Queensland’s success in the offshore sector will depend on its ability to capitalise on these emerging trends.

The sections below profile the current offshore markets in the higher education and VET sub-sectors, and detail how the estimates for enrolments and revenue have been reached.

2.2.1.2 Higher education

In 2014, seven Queensland higher education institutions offered 173 programs in 24 countries (Universities Australia, 2014). James Cook University (JCU) is the only institution with an international branch campus, while all of the universities offer their programs through partnership arrangements.

Location

As data for offshore student enrolments is not available by country of residence, the program numbers are used as a proxy for the geographic dispersion of the offshore market.

Of the 173 programs, 48 of these are offered in Malaysia (equivalent to 28% of the total). This is followed by other countries in the Asia Pacific region, including Singapore, Hong Kong and New Zealand. A total of 83% of programs are offered in the top eight countries. This is shown below in Figure 2.3. Queensland’s targeted offshore markets are broadly consistent with Australia as a whole. Malaysia is also the most popular country at the national level, with 197 programs (24% of total programs) available. This is then followed by Singapore, Hong Kong, and China. This is driven by the ambitions of those countries in being education hubs and governments offering assistance and support to attract offshore providers.

Despite these similarities, Queensland also has its points of difference, being more active in the South Asia and Pacific region, with New Zealand, India, Sri Lanka and Mauritius popular markets for offshore activity. In contrast, Australian offshore activity as a whole is concentrated in East Asia, with some penetration into the Middle East.

Although providing only a small number of programs in absolute terms, Queensland higher education institutions are also strongly placed in Fiji, Indonesia, and Papua New Guinea, providing more than 30% of all offshore programs by Australian providers in each market.

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4 The seven universities are: Bond University; Central Queensland University; Griffith University; James Cook University; Queensland University of Technology; Queensland University; and the University of Southern Queensland.
Enrolments

In 2014, there were at least 7,713 offshore student enrolments with Queensland universities. Of this, 5,007 students were enrolled at offshore campuses (either international branch campuses or the campuses of partners) of Queensland institutions. James Cook University had the largest share, with 3,265 student enrolments, or approximately 65% of total higher education offshore enrolments.
The opportunity and imperative for Queensland’s international education and training sector

Case study: James Cook University

James Cook University (JCU) has an offshore branch campus in Singapore (James Cook Singapore) that is fully owned by the University. From just 34 student enrolments in 2003, the University has grown to 3,001 students in 2014. The Singapore branch offers a full program of courses, spanning both undergraduate and postgraduate degrees, and across multiple faculties (Business, Education, Psychology and Information Technology). JCU Singapore has been recognised by the Singapore Council for Private Education for its commitment to high quality education.

JCU also has a partnership arrangement with the Beijing Institute of Technology, with 286 students enrolled in the Bachelor of Information Technology.

The University’s offshore operations are also significant for non-economic reasons. It has been able to emphasise its position as the premier university of the tropics, under the slogan of ‘one university, two countries, three tropical campuses’. JCU has also used its Singapore campus as a foothold in the Asia-Pacific region, using it to develop ties with the University of South Pacific and the Beijing Institute of Technology.

JCU believes its success has based on its long-term commitment and internationalisation strategy rather than being motivated by short-term monetary incentives.

Additionally, there were another 2,706 students enrolled offshore with the University of Southern Queensland, which is counted under offshore distance delivery. The term ‘distance delivery’ is an artificial distinction made through the data reporting in process, and do not necessarily reflect differences in delivery modes (i.e. face-to-face versus online or distance education). For instance, students enrolled in distance education may be attending face-to-face lessons in the partner institution.

The total number of enrolments under offshore distance delivery mode is likely to be higher, as the University of Queensland and the Queensland University of Technology also provide offshore programs. However, they are smaller in scale than the University of Southern Queensland, offering 11 programs in total compared to the 123 programs from the University of Southern Queensland (Universities Australia, 2014).
Case study: University of Southern Queensland

The University of Southern Queensland (USQ) is the Australian pioneer in the offshore provision of higher education. In 1981, the External Studies Department of the Darling Downs Institute of Advanced Education (DDIAE), which later became USQ, partnered with the University of the South Pacific in Fiji, to provide an engineering diploma program (Davis and Mackintosh, 2011). By 1986, DDIAE is reported to have enrolled two-thirds of all fee paying foreign students undertaking Australian-based tertiary courses.

Currently, USQ has a global network of offshore partners in thirteen countries, with the majority concentrated in the Asia Pacific region. Notable offshore programs include the Bachelor of Commerce delivered in China with the Zhejiang University City College.

The offshore operations are a major part of the University’s operations, with offshore international students making up 56% of the total international student enrolments in 2014.

Revenue

While there is no authoritative measure of fee revenue for students at offshore campuses, Australian public universities did include information on revenue received offshore in their 2014 annual reports. Deloitte Access Economics has aggregated information from all public universities, and the following analysis shows it at a consolidated level (which accounts for the fact that many offshore operations are jointly controlled entities of the parent university).

It is estimated that the student tuition fee revenue from the Queensland higher education sub-sector’s activities offshore in 2014 is approximately $54.1 million. This includes the tuition fees from the delivery of courses through branch campuses and partnerships, but excludes the revenue from licencing and franchising agreements and the delivery of courses online. Revenue from Queensland institutions make up approximately 14% of total offshore revenue ($382 million) generated by higher education providers in Australia.

However, as the activity is based overseas, not all of the revenue will flow back to Australia. 90% of the offshore fee revenue is likely to translate to value added for the host country, such as through the hiring of local teaching staff, and only a small proportion, the gross operating surplus, is likely to flow back to Australia. An analysis of university financial reports found the gross operating surplus of overseas campuses varies considerably by campus (ranging from -4% of revenue to 26% of revenue), with some making net losses and others making significant profits (Deloitte Access Economics, 2016a). It is hard to conclude from the available data how Queensland institutions are faring.

2.2.1.3 VET

In 2013, the Queensland Public VET sub-sector, made up of 11 TAFE institutions, had offshore operations in nine countries. Assuming the Queensland market is similar to the Australian market, the majority of these would have been delivered under partnership arrangements. In 2013, only 5% of all offshore Australian courses were delivered stand-alone, while the remainder where through partnerships (DET, 2014a).
Location

Of the 2,117 students enrolled offshore with Queensland public VET institutions in 2013, 47% or 999 enrolments were based in China. Compared to Queensland, Australian providers as a whole are more focused on China, with 72% of total enrolments, or 35,641 students based there. Enrolments for Queensland were then based in Papua New Guinea with 21% of enrolments, and Fiji with 13% of enrolments (Figure 2.4).

Queensland providers are active in the Pacific region, with sizeable enrolments in Papua New Guinea, Fiji, Samoa, and the Solomon Islands. Queensland providers also serve the majority of Australian enrolments in Papua New Guinea, New Zealand and Indonesia, with market shares of 69%, 76% and 75% respectively.

**Figure 2.4: Offshore public VET programs by select countries**

Source: DET (2014a)
Note: Size of circles based on the share of offshore courses in that particular market by a particular jurisdiction as a proportion of total offshore courses offered by the jurisdiction.

The State’s strong presence in the region is underpinned by TAFE Queensland’s significant stake in the Australia-Pacific Technical College (APTC), which delivers technical training to workers in the Pacific Island Forum member countries with the aim of enabling labour mobility within the region (Bailey, 2010).

Broad field of education

Student enrolments by broad field of education are analysed from two data sources. Queensland data is based on the 2014 National Centre for Vocational Education Research (NCVER) total VET activity (TVA) survey, which breaks down field of education at the state-level for the first time. However, this is compared to Australian data is based on the 2013 Department of Education report, Delivery of VET offshore by public providers 2013, as the 2014 survey is in its first year of collection and only received responses from an estimated 76% of organisations (NCVER, 2015b). The accuracy of the analysis will
depend upon the extent to which students’ choice of courses have remained consistent between 2013 and 2014, and how well the Queensland survey respondents are reflective of the VET provider population.

The NCVER TVA survey finds that of the survey respondents, Queensland VET providers (including both public and private VET) delivered highest proportion of programs in engineering and related technologies (42%). This is then followed by society and culture with 24%, and architecture and building with 20%. The TVA survey found that there were 1,727 program enrolments from public VET (TAFE), compared to 2,117 in 2013.

Of total offshore enrolments from Australian providers in 2013, 54% were in the field of management and commerce. This is driven by the largest offshore market, China, where 62% of enrolments were in the field.

**Enrolments**

Enrolments for Queensland have been based on the NCVER 2014 TVA results. It is estimated that in 2014, there were 2,881 students enrolled in VET institutions from Queensland. Of this, 1,727 are from TAFE, while the remaining 1,138 from private providers. It is likely that this is an underestimation of total offshore activity within the sub-sector, with the discrepancy due to the limited coverage of the survey.

**Revenue**

There is no data directly available for the revenue generated by the Queensland VET providers offshore. However, Deloitte Access Economics has estimated the revenue based on the data available for Victorian public VET providers. The Victorian Auditor-General’s Report on Technical and Further Education Institutes (2014) finds that student fees from the offshore operations of Victorian TAFEs comprised $33.7 million in 2013. This is equal to approximately $871 per course enrolment.5

Applying this per enrolment figure to the Queensland enrolment figures in 2014 finds that student tuition fee from the Queensland VET (public and private) sub-sector’s activities offshore in 2014 is approximately $2.5 million. The accuracy of the results is dependent on the similarity in fees per offshore student for Victorian and Queensland providers, and results should be interpreted with caution. The assumptions associated with this modelling are discussed in Appendix I.

**2.2.1.4 Other benefits of offshore international education and training**

While the offshore student fee revenue and resultant gross operating surplus is likely to be small for the higher education and VET sub-sectors, education providers may choose to expand overseas for other monetary and non-monetary benefits.

A survey of universities with international branch campuses found that one of the main motivators was prestige, and visibility as an international institution with global ambitions (The Conversation, 2015). An international branch campus allows universities to tap into new talent and develop new partnerships. For instance, the JCU Singapore Campus “is a gateway to Asia, and is a cornerstone for JCU to deliver on its objective of creating a brighter future for life in the Tropics world-wide” (JCU, 5).
2015), with JCU leveraging its Singapore Campus to sign its partnership agreement with the Beijing Institute of Technology.

Offshore campuses and partnerships can also support the finance of the university in indirect ways. For instance, they potentially offer fresh sources of research funding from the host countries, and can also help to attract students onshore to Australia later in their studies. For instance, the OECD concludes that offshore campuses are not necessarily substitutes for onshore study, but tend to stimulate student mobility between the institutions’ domestic and foreign campuses. In Australia, most providers have adopted a three-year study model, with students starting abroad and finishing in Australia (New South Wales Government, 2012). Research from the United Kingdom suggest that in 2012-13, over a third of all international entrants to first degree programs in higher education transferred directly from offshore programs (Ilieva, 2015).

The benefits of offshore international education and training can also extend beyond the financial. For instance, Australia’s offshore public VET activities, either through teaching or capacity building exercise, have often been in collaboration with AusAID programs, and can have public diplomacy benefits.
3 The contribution of international education and training to the Queensland economy

Key points – The contribution of international education and training to the Queensland economy

- In the calendar year 2015, total measured revenue from the Queensland international education and training sector was equal to $2.9 billion, making it the State’s fourth largest trade export sector, and second amongst largest service exports behind the tourism industry.
- In 2014-15, visiting friends and relatives (VFRs) of international students studying in Queensland spent approximately 114,500 nights in the State leading to tourism expenditure worth $14.6 million.
- Collectively, the economic contribution of the international education and training sector in Queensland is estimated at $2.3 billion in total value added, sustaining a workforce of 19,470 FTE jobs.
- Reflecting the physical distribution of enrolments across the State as well as the geographical dispersion of the sectors that supply inputs to the international education and training supply chain, 36% of the sector’s economic contribution accrued to sectors outside of Brisbane. Major beneficiaries outside the State’s capital included Gold Coast (17%) and Tropical North Queensland (5%).
- The partial information that is available in relation to non-student visa activity occurring in Queensland (which is not captured in the above figures) suggests that there is a larger proportion of this activity occurring in Queensland compared to other jurisdictions in Australia, primarily through WHMs and tourists that enrol in an ELICOS course during their stay in the State.
- Beyond its economic value, international education and training delivers an array of wider social and cultural benefits to Queensland including cultural capital and diversity and international collaboration and thought sharing.

The international education and training sector plays a deep and broad role in the Queensland economy, by directly generating employment and economic activity among providers as well as the chain of businesses that support the daily lifestyle of students during their stay. The visiting friends and relatives (VFR) of international students have a similar stimulatory effect on the Queensland tourism industry. In addition, as international education activity expands, flow-on or indirect, economic benefits are experienced in upstream industries that supply the raw materials and services that allow business and institutions to support students and VFRs during their stay in Queensland.

The estimates presented in this section represent the economic contribution to Queensland from international students on student visas studying in Queensland. This does not include the contribution of international students on non-student visas since data required to reliably quantify the value of this sub-sector is not available. The partial information that is available suggests that there is a larger proportion of non-student visa activity occurring in Queensland compared to other jurisdictions in Australia, primarily through WHMs and tourists that enrol in an ELICOS course during their stay in the State.
A detailed description the contribution framework can be found in Appendix B. The methodology of the contribution analysis is consistent with the approach used in the national contribution estimation for financial year 2014-15 (Deloitte Access Economics, 2016a).

3.1 Student expenditure

In the calendar year 2015, total revenue from the Queensland international education and training sector was equal to $2.9 billion, making it the State’s fourth largest export sector, and second largest service export behind the tourism industry.6

Export revenue for the international education and training sector fall under two main types:

- fees to the education providers; and
- expenditure on goods and services, including both students’ living expenses in Queensland and personal travel.

The breakdown of revenue by the five onshore international education and training sub-sectors is provided in Table 3.1. The national fees have been attributed to the sub-sectors based on Queensland’s share of enrolments in each sector as a proportion of the national total, with the remaining goods and services attributed to ensure that the total State export revenue is maintained. Appendix C outlines the full assumptions, data, and methodology behind the export revenue and contribution estimation.

As shown in Table 3.1, in 2015, onshore Queensland international students on student visas are estimated to have paid a total of $1,436 million in fees, $1,405 million in goods and services, and an additional $88 million in international airfares. The greatest share of expenditure ($1,979 million or 68%) can be attributed to the higher education sub-sector, followed by VET ($465 million or 16%) and ELICOS ($201 million or 7%).

Table 3.1: International student expenditure in Queensland by sub-sector, 2015

<table>
<thead>
<tr>
<th></th>
<th>HE</th>
<th>VET</th>
<th>Schools</th>
<th>ELICOS</th>
<th>Non-award</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fees (SM)</td>
<td>989</td>
<td>178</td>
<td>76</td>
<td>112</td>
<td>81</td>
<td>1,436</td>
</tr>
<tr>
<td>Goods and services (SM)</td>
<td>932</td>
<td>270</td>
<td>72</td>
<td>84</td>
<td>48</td>
<td>1,405</td>
</tr>
<tr>
<td>International airfares (SM)</td>
<td>58</td>
<td>17</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>88</td>
</tr>
<tr>
<td><strong>Total (SM)</strong></td>
<td>1,979</td>
<td>465</td>
<td>153</td>
<td>201</td>
<td>131</td>
<td>2,929</td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016); ABS (2015a); TRA (2015c)

TRA data on the spending patterns of international students in Australia by source market (education as the main purpose of travel) has been weighted by the relative prevalence of source markets in Queensland enrolments to estimate the ‘average bundle’ of goods and services consumed by an international student in Queensland.7 Of international student expenditure on goods and services in Queensland, food (28%) and housing through private rentals (26%) and retail goods (14%) accounted for the largest shares of student expenditure (Table 3.2). International students also directly stimulate the Queensland tourism industry by undertaking personal travel within the State during their stay through the air transport, accommodation and sports and recreation expenditure categories.

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6 Deloitte Access Economics estimates a total export revenue figure of $2.8 billion from education related personal travel for the Calendar Year 2015, with an additional $87.6 million in estimated revenue from international airfares. See Appendix C for a detailed explanation.

7 Due to limitations in TRA data, it is assumed that students of different sub-sectors have the same consumption profile. Full methodology can be found in Appendix C.
The opportunity and imperative for Queensland’s international education and training sector

Table 3.2: Expenditure on goods and services by international students in Queensland, 2015

<table>
<thead>
<tr>
<th>Expenditure industry category</th>
<th>$M</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food and beverage services</td>
<td>438</td>
<td>31.2</td>
</tr>
<tr>
<td>Ownership of dwellings</td>
<td>403</td>
<td>28.7</td>
</tr>
<tr>
<td>Retail trade</td>
<td>214</td>
<td>15.2</td>
</tr>
<tr>
<td>Air and space transport</td>
<td>110</td>
<td>7.8</td>
</tr>
<tr>
<td>Accommodation</td>
<td>72</td>
<td>5.1</td>
</tr>
<tr>
<td>Road transport</td>
<td>61</td>
<td>4.3</td>
</tr>
<tr>
<td>Rental and hiring services</td>
<td>57</td>
<td>4.1</td>
</tr>
<tr>
<td>Sports and recreation</td>
<td>25</td>
<td>1.8</td>
</tr>
<tr>
<td>Petrol</td>
<td>15</td>
<td>1.1</td>
</tr>
<tr>
<td>Gambling</td>
<td>4</td>
<td>0.3</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,405</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016); ABS (2015a); TRA (2015b)

Note that ownership of dwellings includes home ownership, along with students living with friends or relatives, living in private rented houses and staying with host families, whilst accommodation includes those living in private halls/student hostels, in colleges and student houses.

3.2 Visiting friends and family

International education and training is an important facilitator of tourism to Queensland, both through students’ own expenditure on holidays and by encouraging VFRs. While the travel of students is captured in the above figures, the spending patterns of VFRs have been estimated using detailed ‘purpose of trip’ and expenditure data from TRA. In 2014-15, VFRs of international students studying in Queensland spent approximately 114,500 nights in the State leading to tourism expenditure worth $14.6 million.

This only captures the contribution from those who visited Queensland for the primary purpose of seeing a student studying within the state. These visitors represent only approximately 8% of the total number of visitors to Queensland who visit an international student during their trip. To the extent that visitors do not report visiting international students as a primary purpose of their trip in the TRA survey, the revenue figure attributed to the international education and training sector would be an underestimation. Further discussion on the methodology and assumptions behind the contribution of VFRs can be found in Appendix D.

As with international students, VFR spending is predominantly directed towards the retail trade (28%), food (28%), and accommodation (17%) sectors. Table 3.3 outlines the industries that directly benefit from the spending of VFRs of international students studying in Queensland.
Table 3.3: Expenditure on goods and services by VFR in Queensland, 2015

<table>
<thead>
<tr>
<th>Expenditure industry category</th>
<th>$M</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail trade</td>
<td>4.0</td>
<td>27.4</td>
</tr>
<tr>
<td>Food and beverage services</td>
<td>4.0</td>
<td>27.4</td>
</tr>
<tr>
<td>Accommodation</td>
<td>2.5</td>
<td>17.1</td>
</tr>
<tr>
<td>Rental and hiring services (except real estate)</td>
<td>1.3</td>
<td>8.9</td>
</tr>
<tr>
<td>Air and space transport</td>
<td>1.3</td>
<td>8.9</td>
</tr>
<tr>
<td>Sports and recreation</td>
<td>0.5</td>
<td>3.4</td>
</tr>
<tr>
<td>Road transport</td>
<td>0.5</td>
<td>3.4</td>
</tr>
<tr>
<td>Gambling</td>
<td>0.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Automotive and coal product manufacturing</td>
<td>0.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Travel agency and tour operator services</td>
<td>0.1</td>
<td>0.7</td>
</tr>
<tr>
<td>Total</td>
<td>14.6</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016); TRA (2015b, 2015c)

3.3 Non-student visa ELICOS revenue

The economic revenue of Queensland’s sizable non-student visa (NSV) ELICOS market has been estimated separately as their revenue is not captured in the ABS data. In 2015, the NSV ELICOS market in Queensland is estimated to have been worth $66 million, or equal to approximately 33% of the Student visa ELICOS market in Queensland.

It is assumed that these students have the spend expenditure profile as international students in Queensland as a whole. The estimation data, methodology and underlying assumptions are described in Appendix E.

3.4 State-wide economic contribution

An input-output framework has been used to estimate how the expenditure of international students (on student visas), their VFRs, and the NSV ELICOS market on fees and daily expenses contributes to economic value added and employment in Queensland. This approach is based on ABS input-output tables that trace sources of expenditure to interrelated supplier industries.

Deloitte Access Economics modelling indicates that, in 2015, expenditure by international students with student visas studying in Queensland generated $2,252 million in value added to the Queensland economy, and sustained around 18,651 full-time equivalent (FTE) jobs.

The composition of the $2,252 million in international student-related value added has also been analysed at a sub-sector level (Table 3.4). Higher education accounts for 66% of the economic contribution made by international students in 2015, reflecting the sub-sector’s 40% share of total onshore enrolments in Queensland, higher fees and longer course length. In contrast, the short term nature and lower admission fees of ELICOS courses means this this sub-sector comprises only 7% of international student-related value added despite holding a 23% share of the Queensland onshore student visa enrolment base in 2015 (DET, 2015e).
The opportunity and imperative for Queensland’s international education and training sector

Table 3.4: Distribution of the student-related economic contribution by sub-sector, 2015

<table>
<thead>
<tr>
<th>Sub-sector</th>
<th>Value added ($M)</th>
<th>Value added (%)</th>
<th>Employment (FTE)</th>
<th>Employment (%)</th>
<th>Share of enrolments (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher education</td>
<td>1,487</td>
<td>66</td>
<td>11,422</td>
<td>61</td>
<td>40</td>
</tr>
<tr>
<td>VET</td>
<td>372</td>
<td>17</td>
<td>2,901</td>
<td>16</td>
<td>28</td>
</tr>
<tr>
<td>Schools</td>
<td>123</td>
<td>5</td>
<td>1,237</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>ELICOS</td>
<td>163</td>
<td>7</td>
<td>2,237</td>
<td>12</td>
<td>23</td>
</tr>
<tr>
<td>Non-award</td>
<td>107</td>
<td>5</td>
<td>854</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>2,252</td>
<td>100</td>
<td>18,651</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016)

VFRs of international students **studying in Queensland** are estimated to contribute another $11 million in value added to the economy and support around 120 FTE jobs.

The **Queensland NSV ELICOS sub-sector** was estimated to generate around $47 million in value added to the State economy, and sustained 700 FTE jobs in 2015. Due to limited information on the regional distribution of non-student visa ELICOS students in Queensland, the analysis has been restricted to the State-level (rather than a regional level). This is still likely to be an underestimation of the total contribution the international education and training sector is likely to be making to Queensland as it does not include the contribution from other students on non-student visas, such as through study tours.

The overall state-wide economic contribution results are summarised in Table 3.5. Collectively, **the economic contribution of the international education and training sector in Queensland is estimated at $2,310 million in total value added, sustaining a workforce of 19,470 FTE jobs. This represents 0.7% of Gross State Product (GSP) and 0.9% of the Queensland workforce in 2015.**

Differences between these results and those reported by *The Value of international education to Australia* (Deloitte Access Economics, 2016a) reflect differences in the modelling reference year and the fact that this report analyses the contribution of international education and training in Queensland to the Queensland economy, whereas the national report also captures the flow-on contribution from international education and training which takes place in other jurisdictions. Further details are given in Appendix J.
### Table 3.5: State-wide economic contribution, 2015

<table>
<thead>
<tr>
<th>Contribution from student-related expenditure</th>
<th>Value added ($M)</th>
<th>Value added (%)</th>
<th>Employment (FTE)</th>
<th>Employment (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>1,831</td>
<td>81</td>
<td>15,453</td>
<td>83</td>
</tr>
<tr>
<td>Indirect</td>
<td>421</td>
<td>19</td>
<td>3,198</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>2,252</td>
<td>100</td>
<td>18,651</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contribution from visiting friends and relatives</th>
<th>Value added ($M)</th>
<th>Value added (%)</th>
<th>Employment (FTE)</th>
<th>Employment (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>7</td>
<td>70</td>
<td>97</td>
<td>81</td>
</tr>
<tr>
<td>Indirect</td>
<td>3</td>
<td>30</td>
<td>22</td>
<td>19</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>100</td>
<td>120</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contribution for non-student visa ELICOS student expenditure</th>
<th>Value added ($M)</th>
<th>Value added (%)</th>
<th>Employment (FTE)</th>
<th>Employment (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>37</td>
<td>78</td>
<td>625</td>
<td>89</td>
</tr>
<tr>
<td>Indirect</td>
<td>10</td>
<td>12</td>
<td>75</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>100</td>
<td>700</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total</th>
<th>Value added ($M)</th>
<th>Value added (%)</th>
<th>Employment (FTE)</th>
<th>Employment (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>1,875</td>
<td>81</td>
<td>16,175</td>
<td>83</td>
</tr>
<tr>
<td>Indirect</td>
<td>434</td>
<td>19</td>
<td>3,295</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>2,310</td>
<td>100</td>
<td>19,471</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016)
Note: total may not be equal to the sum of direct and indirect contributions due to rounding.

The regional economic contribution of international students on student visas, and their VFRs, is outlined in Appendix F.

### 3.5 Regional contribution

The section below breaks down international student expenditure in Queensland into the twelve tourism regions based on TRA’s geographic classification. To highlight the supply chain links, the contribution includes both the benefits from international students studying within a region, as well as the benefits from international students studying in another Queensland region. A detailed description of the modelling methodology is provided at Appendix F.

The distribution of contribution accord largely with campus locations with much of the economic contribution concentrated in Brisbane, Gold Coast and Tropical North Queensland, three of the locations with the highest proportion of international students. Consequently, the value added and employment from international students and their VFR make up a greater proportion of the Brisbane and Gold Coast regional economies than the State average.
Table 3.6: Regional importance of student-related and VFR expenditure, 2015

<table>
<thead>
<tr>
<th>Regions</th>
<th>Share of GRP</th>
<th>Share of labour force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brisbane</td>
<td>0.9%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Bundaberg</td>
<td>0.4%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Central Queensland</td>
<td>0.1%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Darling Downs</td>
<td>0.4%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Fraser Coast</td>
<td>0.5%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Gold Coast</td>
<td>0.9%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Mackay</td>
<td>0.1%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Northern</td>
<td>0.4%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Outback</td>
<td>0.3%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Sunshine Coast</td>
<td>0.3%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Tropical North Queensland</td>
<td>0.6%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Whitsundays</td>
<td>0.7%</td>
<td>0.8%</td>
</tr>
<tr>
<td><strong>Queensland</strong></td>
<td><strong>0.7%</strong></td>
<td><strong>0.9%</strong></td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016)

In regions such as Tropical North Queensland, Darling Downs, Northern, and Sunshine Coast, relatively high proportions of value added are direct spending by students. This could be because student expenditure on auxiliary goods and services (including personal travel) within these areas is either lower or accrued to other regions as they do not have the productive capacity to supply the goods and services themselves. Secondly, these particular small regions do not have strong primary industries. In comparison, the agricultural centres in Queensland, including Bundaberg, and Outback, have a higher share of indirect economic contribution. While they do not have many international students studying in the regions directly, they indirectly supply the food and groceries demanded by international students studying in other regions (Table 2.12).

Table 3.7: Regional economic contribution of student-related expenditure, 2015

<table>
<thead>
<tr>
<th>Regions</th>
<th>Total value added ($M)</th>
<th>Share of direct</th>
<th>Total employment (FTE)</th>
<th>Share of direct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brisbane</td>
<td>1,447.6</td>
<td>86%</td>
<td>12,076</td>
<td>87%</td>
</tr>
<tr>
<td>Bundaberg</td>
<td>21.2</td>
<td>31%</td>
<td>158</td>
<td>35%</td>
</tr>
<tr>
<td>Central Queensland</td>
<td>22.2</td>
<td>37%</td>
<td>172</td>
<td>42%</td>
</tr>
<tr>
<td>Darling Downs</td>
<td>67.7</td>
<td>72%</td>
<td>547</td>
<td>74%</td>
</tr>
<tr>
<td>Fraser Coast</td>
<td>21.2</td>
<td>35%</td>
<td>163</td>
<td>40%</td>
</tr>
<tr>
<td>Gold Coast</td>
<td>387.3</td>
<td>85%</td>
<td>3,268</td>
<td>87%</td>
</tr>
<tr>
<td>Mackay</td>
<td>15.9</td>
<td>17%</td>
<td>116</td>
<td>21%</td>
</tr>
<tr>
<td>Northern</td>
<td>64.6</td>
<td>74%</td>
<td>519</td>
<td>76%</td>
</tr>
<tr>
<td>Outback</td>
<td>15.9</td>
<td>18%</td>
<td>119</td>
<td>20%</td>
</tr>
<tr>
<td>Sunshine Coast</td>
<td>69.8</td>
<td>71%</td>
<td>576</td>
<td>74%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,252</strong></td>
<td><strong>81%</strong></td>
<td><strong>18,651</strong></td>
<td><strong>83%</strong></td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016)

The economic contribution made by VFR is more dispersed across Queensland, particularly outside of Brisbane. As would be expected, traditional tourist hot spots such as Gold Coast, Tropical North Queensland, and Whitsundays have relatively higher economic contribution of VFR expenditure as shown in Table 2.13.
Aside from intra-regional supply sources, the primary contributor to indirect contribution from tourism is demand from international education in Brisbane. In 2015, Brisbane generated $12.5 billion in direct value added through student consumption, thus indirect supply requirements for this sector have significant flow-on effects for regional Queensland. Whether flow-on economic opportunities are captured at the local level hinges on an individual region’s capacity to supply intermediate inputs necessary to support international student expenditure on goods and services (i.e. the industrial economic structure of a region).

The two main drivers of cross border indirect contribution are the region’s proximity to the consumption source and the strength of the region’s economy in the key supply industries for key consumption sectors. For example, 95% of Queensland employment in primary agriculture and 50% of employment in processed foods occurs in regions outside Brisbane.

Table 3.8: Regional economic contribution of VFR expenditure, 2015

<table>
<thead>
<tr>
<th>Regions</th>
<th>Total value added ($M)</th>
<th>Share of direct</th>
<th>Total employment (FTE)</th>
<th>Share of direct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brisbane</td>
<td>4.9</td>
<td>69%</td>
<td>57</td>
<td>81%</td>
</tr>
<tr>
<td>Bundaberg</td>
<td>0.0</td>
<td>57%</td>
<td>0</td>
<td>70%</td>
</tr>
<tr>
<td>Central Queensland</td>
<td>0.0</td>
<td>37%</td>
<td>0</td>
<td>53%</td>
</tr>
<tr>
<td>Darling Downs</td>
<td>0.2</td>
<td>69%</td>
<td>3</td>
<td>80%</td>
</tr>
<tr>
<td>Fraser Coast</td>
<td>0.1</td>
<td>70%</td>
<td>1</td>
<td>81%</td>
</tr>
<tr>
<td>Gold Coast</td>
<td>2.1</td>
<td>71%</td>
<td>25</td>
<td>81%</td>
</tr>
<tr>
<td>Mackay</td>
<td>0.0</td>
<td>9%</td>
<td>0</td>
<td>16%</td>
</tr>
<tr>
<td>Northern</td>
<td>0.2</td>
<td>66%</td>
<td>2</td>
<td>78%</td>
</tr>
<tr>
<td>Outback</td>
<td>0.0</td>
<td>45%</td>
<td>0</td>
<td>60%</td>
</tr>
<tr>
<td>Sunshine Coast</td>
<td>0.4</td>
<td>69%</td>
<td>5</td>
<td>80%</td>
</tr>
<tr>
<td>Tropical North</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queensland</td>
<td>1.8</td>
<td>72%</td>
<td>21</td>
<td>83%</td>
</tr>
<tr>
<td>Whitsundays</td>
<td>0.4</td>
<td>74%</td>
<td>4</td>
<td>83%</td>
</tr>
<tr>
<td><strong>Queensland</strong></td>
<td><strong>11</strong></td>
<td><strong>70%</strong></td>
<td><strong>120</strong></td>
<td><strong>81%</strong></td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016)
Social, cultural and strategic contributions of the international education and training sector

Deloitte Access Economics (2016) recently conducted a detailed analysis of the non-economic contributions of international education and training. Key findings from this work are provided below and greater detail is available in the full report.

Cultural capital

• By creating opportunities for local students to interact with foreign cultures, international education and training enhances their development as responsible global citizens – that is, it builds cultural capital. This has been identified as one of the integral focuses for UNESCO’s Education Programme (UNESCO, 2014). In a time where internationally recognised qualifications are in demand, students who have had international education experiences are more likely to pursue careers with international content, as seen in the previous participants of the Erasmus exchange program in Europe (Murray et al., 2011). The increased cultural capital that Queensland generates through international education and training can develop local students’ skills, the innovation potential of the State’s industry and the overall globalisation of Queensland society.

Cultural diversity

• International education and training enhances diversity in communities, contributing to a more multicultural and inclusive society. Multiculturalism generates social benefits through limiting the social marginalisation and exclusion migrants could potentially face (Castles and Miller, 2009). By removing barriers to employment such as racism, discrimination and intolerance, cultural diversity helps to improve individuals’ productivity and contributions in the workforce and beyond, supporting a rich and harmonious society.

Public diplomacy

• International education and training, particularly at the tertiary level, yields significant public diplomacy benefits by creating opportunities for exchange of information, relationship building, and increased global profiling of the Queensland brand. The United States, the United Kingdom and Canada have successfully invested in public diplomacy to link global reputation, education and foreign affairs (Murray et al., 2011), while the Colombo Plan, which sponsors students from neighbouring Asian countries to study in Australia, is a prominent local example. Alumni from this program hold leadership positions in overseas government and industry while maintaining strong connections to and networks in Australia.

International collaboration and thought sharing

• International education and training plays a significant role in developing Queensland’s global reputation for research, future job creation, and knowledge sharing. Recent years have seen an emphasis on Queensland’s knowledge economy which can be enhanced through international education ties. International education promotes long lasting cross-border research relationships. This is particularly pertinent as internationally collaborated research is most highly regarded and widely read (Oh et al., 2010).
Research also suggests that international education and training enhances innovation and job creation with findings from the US indicating an increase in foreign graduate students is associated with an increase in patent applications (Chelleraj et al, 2004). Beyond research, international education drives innovation and productivity through cross-country collaboration and information and ideas exchange. Relationships formed through participation in education can give rise to long term commercial ventures while, at the same time, international education can serve as a stimulant to inbound investment.

Legacy visitation and investment

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% of them had travelled back to Australia in the last five years, and almost all respondents, 93%, intend to travel to Australia in the next five years (Pyke et al, 2013). The majority, 54%, said that they intend to travel two or more times. 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. For instance, if 64% of the 18,000 Chinese students currently enrolled with Queensland institutions visited Queensland again in the next five years, they would spend approximately $100 million in Australia.

Furthermore, international education and training can also have positive benefits on trade and investment. For instance, an IDP Research study (2008) 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. International students can also develop preferences for Australian products during their study, which they will continue demand even when they return to their home countries.
4 The global growth opportunity

Key points – The global growth opportunity

• Deloitte Access Economics projects that onshore international education and training enrolments in Queensland will increase to 150,600 by 2026 under a baseline scenario.

• In a continuation of recent trends, Queensland’s share of national enrolments is projected to contract from an estimated 16% in 2016 to 15.7% in 2026. However, international education export revenue is expected to rise from $2.9 billion in 2005 to $4.6 billion in 2026.

• India is forecast to overtake China as the State’s top source market by 2026, with Brazil, South Korea, and Nepal rounding out the top five.

• While making up a smaller share of enrolments, growth is expected to be fastest from emerging Asian and African source markets, with enrolments from the Philippines and Nigeria expected to double from 2016 to 2026.

• If Queensland could effectively capture greater levels of international education and training activity, such that its share of the national market aligns with its share of the Australian economy (20.1%), onshore enrolments would reach 193,250 in 2026. This would create an additional $1.7 billion in value added and 6,800 FTE jobs across the Queensland economy, relative to the ‘business-as-usual’ baseline scenario.

• There is an estimated 0.9 billion people aged 25-64 years old from Australia’s source markets participating in either formal or non-formal education, based on relationships between GDP per capita and propensities to participate in education. By 2025, the number of people participating in education is expected to reach 1.1 billion.

• If Queensland’s share of the overall offshore market achieves parity with its current market share of traditional offshore tertiary education – equivalent to 6.1% of the Australian total – it is expected that the State could reach over 675,000 learners by 2025.

4.1 Projected growth in onshore international education and training

To dimension the size of the economic potential for the Queensland onshore international education and training sector across higher education, VET, schools and ELICOS and other non-award student visa segments, Deloitte Access Economics’ in-house projection model has been used. The forecasts are based on a two-stage methodology:

• **Stage 1**: In the short-run, commencements are determined by the existing pool of international students already in Queensland (on student visas) and their progression along recognised study pathways into other education sub-sectors; and

• **Stage 2**: In the medium to long-run, the granting of new student visas are incorporated and commencements start to 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
The opportunity and imperative for Queensland’s international education and training sector

I, and is consistent with the national forecast modelling undertaken for Austrade (Deloitte Access Economics, 2016b).8

Appendix J outlines the differences in results between the Austrade national modelling and the State modelling for TIQ.

The results below show actual commencement and enrolment data between 2008 and up to September 2015 for Queensland international education, with 2015 representing the first full projection year. To maintain consistency with the horizon of the upcoming Queensland International Education Strategy, growth figures are reported for the period 2016 to 2026. Due to data limitations, the forecasting exercise is limited to student visa related onshore activity.

Two scenarios have been modelled:

- A baseline scenario, where Queensland’s onshore enrolments follows a ‘business as usual’ path in the absence of major changes in policy settings or movements in the sector’s supply and demand dynamics.
- An aspirational scenario, where Queensland’s market share of onshore enrolments grows to become in line with the State’s share of the national economy, or 20.1%, by 2026.

While international student enrolments have been growing and in Australia by 11% and Queensland by 9% annually since 2013, forward growth rates under the baseline and aspirational scenarios are more conservative than the recent historical growth. These reflect changes in the global international education and training landscape, such as intensifying competition from both emerging and traditional forces, along with factors such as population ageing in key source markets and Australia’s relative capacity to accommodate growth in the sector. The order of magnitude of the forecasts presented here align with the publicly available outlooks for international education, such as those produced by the British Council.

4.1.1 Baseline commencements and enrolments

In the coming decade, there is projected to be a slightly slower, but steady, increase in international learner commencements in Queensland of around 2.5% per annum under the baseline assumptions. In comparison, commencements at the national level are forecast to growth at 2.7% per annum between 2016 and 2026. In 2026, 89,000 international students will commence study in Queensland (Chart 4.1).

The baseline forecasts are largely a continuation of recent trends that have seen Queensland lose its onshore international education and training market share to other jurisdictions in Australia, particularly in the Chinese source market. Slowing economic growth rates in the State’s traditionally strong source markets such as Brazil, South Korea and Japan also play a role in moderating the pace of growth in Queensland’s onshore international education and training sector. The relative size of the ELICOS sub-sector in Queensland and potential for demand from key markets to slow also has an influence on moderating growth. Of course, the very purpose of developing an international education strategy is to arrest these trends and out-perform this ‘business as usual’ outlook.

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8 The national forecast period is 2015 to 2025, while the Queensland forecast period is 2016 to 2026. Consequently, results may not be directly comparable.
From an enrolment perspective, the story is similar, with Queensland’s share of all international student enrolments in Australia projected to contract slightly, from just over 16% in 2016 to 15.7% in 2026. However, there are a few modest differences. First, due to the time taken to complete courses, 2013 marked the corresponding low point for onshore international enrolments in Queensland. This trend was predominantly driven by lower international uptake in the higher education and VET sub-sectors by Indian learners.

The strong rebound in international onshore enrolments since 2014 is expected to hold until 2018, before converging to a long-term trend growth path. These projections are anticipated to see onshore international learner enrolments in Queensland increase from 113,400 in 2016, to 135,700 in 2021 and 150,600 by 2026 under the baseline assumptions. This translates to a 10-year compounding annual growth rate in state-wide onshore international enrolments of 2.9%, or a cumulative increase of 33%. Applying the forecasted cumulative increase in onshore student visa enrolments, the value of total exports from this sector in Queensland is estimated to rise from $3.3 billion in 2016 to $4.6 billion in 2026.9 In comparison, international onshore student enrolments to Australia (for students on student visas) are forecast to grow at 3.2% annually — equating to a cumulative increase of 37% over the forecast period.

---

9 This assumes that average yield per sub-sector follows historical trends. Full methodology given in Appendix G.
4.1.2 Regional analysis

Forecasts have been approximated at the sub-state level using a combination (i) TRA data on source market composition of international students in each of Queensland’s 12 tourism regions (TRA, 2015c) and (ii) Deloitte Access Economics’ projections for onshore international enrolment growth in Queensland by source market. The full methodology can be found in Appendix G.

As can be seen in Table 4.1, Central Queensland, Outback Queensland and Brisbane are projected to be the fastest growing onshore international education and training markets in Queensland, with total enrolments in these regions growing at 3.3%, 3.2% and 3.1% per annum, respectively, between 2016 and 2026.

In the case of Central Queensland, these results are driven by the region’s relatively higher proportion of students from Italy and other Asian countries (including Myanmar, Vietnam, Pakistan, and the Philippines), which are among the two fastest growing source markets. In comparison, Brisbane has a high proportion of students from Asia, including Singapore, Malaysia, Thailand, and other Asian countries, which is growing at above average rates. Growth in the Queensland Outback is particularly driven by a higher presence of Indian students in its small enrolment base, with the Outback accounting for 1% of the total number of Indian students in the State.

In contrast, other regions such as Whitsundays, Tropical North Queensland, and Sunshine Coast are experiencing slower growth because they have more students from traditional ELICOS markets, such as Germany (which is the slowest growing source market), and Japan. It should be noted that these are high level estimates, and that ultimately enrolments by region will also be influenced by changes in the sub-sector focus and the targeting of institutions and the location of their campuses.
## Table 4.1: Queensland international education enrolments by region, 2016-2026

<table>
<thead>
<tr>
<th>Region</th>
<th>2016</th>
<th>2021</th>
<th>2026</th>
<th>Annual average growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brisbane</td>
<td>50,970</td>
<td>61,860</td>
<td>69,270</td>
<td>3.1%</td>
</tr>
<tr>
<td>Bundaberg</td>
<td>750</td>
<td>910</td>
<td>1,010</td>
<td>3.0%</td>
</tr>
<tr>
<td>Central Queensland</td>
<td>2,490</td>
<td>3,060</td>
<td>3,450</td>
<td>3.3%</td>
</tr>
<tr>
<td>Darling Downs</td>
<td>1,660</td>
<td>1,990</td>
<td>2,210</td>
<td>2.9%</td>
</tr>
<tr>
<td>Fraser Coast</td>
<td>3,850</td>
<td>4,490</td>
<td>4,890</td>
<td>2.4%</td>
</tr>
<tr>
<td>Gold Coast</td>
<td>25,280</td>
<td>30,030</td>
<td>33,110</td>
<td>2.7%</td>
</tr>
<tr>
<td>Mackay</td>
<td>740</td>
<td>890</td>
<td>990</td>
<td>3.0%</td>
</tr>
<tr>
<td>Northern</td>
<td>3,440</td>
<td>4,140</td>
<td>4,620</td>
<td>3.0%</td>
</tr>
<tr>
<td>Outback Queensland</td>
<td>440</td>
<td>540</td>
<td>600</td>
<td>3.2%</td>
</tr>
<tr>
<td>Sunshine Coast</td>
<td>5,420</td>
<td>6,360</td>
<td>6,960</td>
<td>2.5%</td>
</tr>
<tr>
<td>Tropical North Queensland</td>
<td>13,890</td>
<td>16,190</td>
<td>17,700</td>
<td>2.5%</td>
</tr>
<tr>
<td>Whitsundays</td>
<td>4,490</td>
<td>5,260</td>
<td>5,740</td>
<td>2.5%</td>
</tr>
<tr>
<td><strong>Queensland total</strong></td>
<td>113,420</td>
<td>135,700</td>
<td>150,560</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016)

### 4.1.3 Sub-sector analysis

Over the period to 2026, the fastest growing sub-sectors in onshore international education and training are projected to be VET and higher education, which are also the two largest sub-sectors.

International learner commencements in the Queensland VET sub-sector are projected to grow at an annual rate of 3.3%, with a 2.6% annual growth rate for higher education. This flows on to drive growth in enrolments of around 3.8% and 3.1% respectively. These two sub-sectors are estimated to account for 72% of all onshore international learner enrolments in Australia by 2026, expanding on their current share of 69%. Higher education institutions offering VET qualifications can also be attractive to students seeking pathways into higher education degrees, and in some cases, credit for study undertaken in a VET qualification can be transferred to a subsequent higher education degree, increasing its attractiveness for students.

The medium term growth in the tertiary international education and training sub-sectors is partly driven by the recent growth in ELICOS commencements and enrolments in Queensland, as the sub-sector serves as a key progression pathway into tertiary education. For instance, DET data suggests that more than 70% of Chinese learners who complete an intensive English-language course continue on to study at an Australian higher education provider and around 69% of Indian learners and 60% of Brazilian learners studying English transfer to either higher education or VET courses. A similar proportion of Korean, Thai, Colombian, Japanese and Saudi learners continue up this study pathway (DET, 2014d).

In the baseline scenario, enrolments in ELICOS are projected to grow at 1.9% per annum, one percentage point below the Queensland onshore international sector average. The slower pace of growth for the ELICOS sub-sector relative to the international education and training industry as a whole is an Australia-wide feature and one that has been showing signs for a number of years. In part, this can be 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 Queensland’s tertiary sectors, it reduces the need to study ELICOS internationally. In the very long term, as the present group of emerging ELICOS source markets begin to mature (i.e. Thailand, Brazil and Colombia), the demand for ELICOS is likely to continue to moderate, with more learners electing to enrol further up the education hierarchy directly.

Non-award education in the onshore international education and training sector has been captured by tracing student visas used for exchange programs and courses or components of a course that do not lead to an award. This is represented through the other sub-sector category. Onshore international enrolments in this group are projected to grow at the same rate of the ELICOS sub-sector – 1.8% per annum to 2026. This is comparable to non-award enrolment rates at the national level.

4.1.4 Key source markets

By 2026, six of the top eight source markets in 2026 will be from Asia (Table 4.2), with growth driven by their sustained economic development. For instance, the middle class in the Asia-Pacific region is expected to rise from 0.5 billion in 2009 to 3.2 billion people by 2030 (OECD, 2010). As the middle class are more likely to demand international education, source markets in the Asia-Pacific will contribute 89,700 enrolments (60%) to Queensland’s onshore international education sector in 2026.

Table 4.2: Projected top eight source markets in Queensland in 2026, by enrolments

<table>
<thead>
<tr>
<th>Top source markets 2026</th>
<th>Share of Aus 2026</th>
<th>2021</th>
<th>2026</th>
<th>Annual growth rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. India</td>
<td>20%</td>
<td>20,000</td>
<td>23,700</td>
<td>4.4%</td>
</tr>
<tr>
<td>2. China</td>
<td>9%</td>
<td>20,800</td>
<td>22,300</td>
<td>1.9%</td>
</tr>
<tr>
<td>3. Brazil</td>
<td>28%</td>
<td>8,700</td>
<td>9,000</td>
<td>1.8%</td>
</tr>
<tr>
<td>4. South Korea</td>
<td>25%</td>
<td>7,600</td>
<td>7,900</td>
<td>1.4%</td>
</tr>
<tr>
<td>5. Nepal</td>
<td>15%</td>
<td>5,100</td>
<td>6,400</td>
<td>6.4%</td>
</tr>
<tr>
<td>6. Vietnam</td>
<td>10%</td>
<td>4,500</td>
<td>5,200</td>
<td>4.0%</td>
</tr>
<tr>
<td>7. Japan</td>
<td>34%</td>
<td>4,900</td>
<td>5,100</td>
<td>1.4%</td>
</tr>
<tr>
<td>8. Colombia</td>
<td>28%</td>
<td>4,500</td>
<td>4,800</td>
<td>1.9%</td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016)

**India is forecast to overtake China as the State’s top source market by 2026.** Much of this growth is underpinned by India’s relatively young demographic base and this source’s strong demand for secondary schools in particular, along with higher education and VET in Queensland. According to the British Council’s latest forecasts (2015), by 2025 India will have the largest 18 to 22 year old population in the world. Taking into consideration household wealth projections, the British Council also forecasts India to become the largest source of demand for tertiary international education, and that overall demand for international tertiary education will grow by 21 million between 2011 and 2020, with students continuing to favour Australia’s traditional competitors (the United States, the United Kingdom, Canada, France and Germany).

The top eight source markets in Queensland are forecast to make up 56% of enrolments, compared to 64% for the national market. **This suggests that the student base of onshore international education and training in Queensland is more diversified.** For instance, by 2026 China is forecast to comprise 25% of the national onshore market, while the source market’s share in Queensland is projected to be
15% at the same point in time. Relative to the Australian average, students from India, Brazil, Colombia, South Korea, Japan and the United States represent a larger share of the State learner base.

Diversity of source markets could be a positive feature, which could allow students to have a true ‘international experience’ during their stay, while help insulate Queensland’s international providers from experiencing sharp downturns due to swings in demand from key source markets.

However, with the exception of India, the source markets in which Queensland have a high onshore penetration rate are also the ones where enrolments are forecast to grow at a below-average pace. For example, over the next decade, Queensland’s onshore enrolments from South Korean, Japanese and Colombian students are forecast to increase by between 1.4% and 1.9% a year.

As Table 4.3 shows, there is considerable variation in projected source market enrolment growth across international education and training sub-sectors. For example, through the majority of Brazilian learners (49%) are expected to enrol in ELICOS in 2026, an increasing number of students from this source market are projected to enrol in higher education, with source market enrolments for this sub-sector growing at 3.5%. A similar trend is forecast for learners coming to Queensland from Colombia, as enrolment growth moves away from ELICOS up the education hierarchy to the VET and higher education sub-sectors.

Table 4.3: Overview of top eight source markets in Queensland by sub-sector, 2016-2026

<table>
<thead>
<tr>
<th>Top source markets 2026</th>
<th>Share of Aus 2026</th>
<th>HE 2026</th>
<th>VET 2026</th>
<th>Schools 2026</th>
<th>ELICOS 2026</th>
<th>Dominant sub-sector 2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. India</td>
<td>20%</td>
<td>4.1%</td>
<td>5.0%</td>
<td>5.0%</td>
<td>3.6%</td>
<td>HE: 44%</td>
</tr>
<tr>
<td>2. China</td>
<td>9%</td>
<td>2.0%</td>
<td>1.9%</td>
<td>2.0%</td>
<td>1.5%</td>
<td>HE: 62%</td>
</tr>
<tr>
<td>3. Brazil</td>
<td>28%</td>
<td>3.5%</td>
<td>2.2%</td>
<td>1.3%</td>
<td>1.5%</td>
<td>ELICOS: 49%</td>
</tr>
<tr>
<td>4. South Korea</td>
<td>25%</td>
<td>-0.4%</td>
<td>2.6%</td>
<td>0.4%</td>
<td>0.5%</td>
<td>VET: 51%</td>
</tr>
<tr>
<td>5. Nepal</td>
<td>15%</td>
<td>5.8%</td>
<td>8.1%</td>
<td>0.0%</td>
<td>4.8%</td>
<td>HE: 56%</td>
</tr>
<tr>
<td>6. Vietnam</td>
<td>10%</td>
<td>4.8%</td>
<td>3.4%</td>
<td>4.0%</td>
<td>3.0%</td>
<td>HE: 53%</td>
</tr>
<tr>
<td>7. Japan</td>
<td>34%</td>
<td>2.2%</td>
<td>1.9%</td>
<td>1.5%</td>
<td>1.0%</td>
<td>ELICOS: 46%</td>
</tr>
<tr>
<td>8. Colombia</td>
<td>28%</td>
<td>2.2%</td>
<td>2.6%</td>
<td>2.2%</td>
<td>1.6%</td>
<td>ELICOS: 68%</td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016)

Much of the increasing diversity in Queensland’s international education and training sector over the next decade is expected to come through the rise of emerging economies where the families of millions of potential learners are expected to transition to middle to upper middle class income brackets. This means that going forward, Queensland’s mature and largest volume markets are not necessarily the ones projected to grow the fastest, especially in the longer term.

It is frontier economies (with strong growth prospects and large populations) such as Kenya, Nigeria, the Philippines and Pakistan that are projected to increase total enrolments by between 5% and 8% per annum — albeit from a smaller base — over the 2016-2026 modelling horizon (see Table 4.4). This finding is consistent with the British Council’s latest demand projections for tertiary education between 2012 and 2025. The British Council argues that as incomes increase and the middle classes grow in these countries, and as local policies on basic and international education are further developed, institutions that are currently engaged in these markets that will benefit most.
Though Queensland is forecast to maintain an appreciable share of Australian onshore enrolments from Italy (16%) and the Philippines (14%), there is scope to increase the State’s exposure to other high growth sources such as Pakistan and Kenya. Reflecting their stage of economic advancement and the lower availability of quality English course options domestically, there is projected to be strong demand for ELICOS for emerging international education source markets.

However, much like the trends observed for Queensland’s historically dominant source markets, the VET sub-sector is forecast to experience the strongest growth in demand among the emerging country cohort. The onshore international education opportunity in schooling – which, as the forecasts and profiling data in Section 2.1.1 indicates, accounts for a relatively small share of international education activity in Queensland both now and into the future.

### 4.1.5 Sensitivity and scenario analysis

Building on the baseline projections of onshore learner commencements and enrolments in Queensland, two sensitivities and one aspirational scenario each has been constructed to demonstrate: (i) how sensitive the projections are to changes in macro disruptors (either favourable or adverse); and (ii) the upside potential of successfully developing and implementing the Queensland International Education and Training Strategy.

As reiterated in this chapter, at its core, the scope of the economic opportunity in onshore international education and training provision depends on the size of the potential pool of learners in source markets and the capacity of their family to fund study overseas. A destination’s comparative advantages in international learner-decision factors then bear influence on where the learner will choose to study (i.e. which country/jurisdiction and institution).

Future changes in the global learner demographic profile in source markets can be predicted with a reasonable degree of accuracy based on current population count data. It is therefore factors such as GDP per capita (a proxy for income levels), the bilateral exchange rate (a proxy for the relative cost of studying internationally), and the availability of quality education alternatives at home that will determine the size of the international student market that Australia through the national strategy and then Queensland through the State strategy will compete for.
Sensitivity analysis results

To reflect these inherent uncertainties, two sensitivities based on optimistic/conservative assumptions around the outlook for economic fundamentals in Queensland’s international education source markets have been developed:

- **Sensitivity 1 ‘GDP per capita’**: GDP per capita is varied by ± 10% to provide a lower and upper bound sensitivity of the baseline projections to changes in income growth in source markets.
- **Sensitivity 2 ‘Exchange rate’**: The bilateral exchange rate is varied by ± 10% to provide a lower and upper bound sensitivity of the baseline projections to changes in the purchasing power of source market currencies against the Australian dollar.

For Sensitivities 1 and 2, factors such as a high exchange rate and slower GDP per capita growth have a negative correlation with the level of onshore international commencements and enrolments, as would be expected. Under Sensitivity 1, a 10% decrease in GDP per capita in source markets relative to the baseline leads to a 2.3% drop in onshore international learner activity by 2026. This translates to around 1,700 and 2,700 fewer commencements and enrolments respectively in 2026. At the same point in time, a 10% appreciation in the Australian dollar under Sensitivity 2 is projected to lead to a 2.2% decrease in onshore international commencements (2,500) and 2.6% decrease in enrolments (3,900) in 2026.

Conversely, when GDP per capita in source markets rises or the exchange rate depreciates, onshore international enrolments in Queensland are projected to increase by between 3,300 and 4,400 above the baseline under Sensitivities 1 and 2 respectively. This suggests the demand for international education and training in Queensland is more sensitive to changes in cost than to changes in income growth in source markets — a consistent outcome with the literature on international student decision drivers.
Table 4.5: Sensitivity analysis of Queensland onshore international education, 2016-2026

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2021</th>
<th>2026</th>
<th>Annual growth rate</th>
<th>Change from baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baseline</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commencements</td>
<td>69,800</td>
<td>81,000</td>
<td>89,100</td>
<td>2.5%</td>
<td>--</td>
</tr>
<tr>
<td>Enrolments</td>
<td>113,400</td>
<td>135,700</td>
<td>150,550</td>
<td>2.9%</td>
<td>--</td>
</tr>
<tr>
<td><strong>Sensitivity 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commencements</td>
<td>69,600</td>
<td>79,600</td>
<td>87,300</td>
<td>2.3%</td>
<td>-1,700</td>
</tr>
<tr>
<td>Enrolments</td>
<td>113,200</td>
<td>133,600</td>
<td>147,900</td>
<td>2.7%</td>
<td>-2,700</td>
</tr>
<tr>
<td>Commencements</td>
<td>70,100</td>
<td>82,600</td>
<td>90,900</td>
<td>2.6%</td>
<td>1,800</td>
</tr>
<tr>
<td>Enrolments</td>
<td>113,700</td>
<td>138,300</td>
<td>153,800</td>
<td>3.1%</td>
<td>3,300</td>
</tr>
<tr>
<td><strong>Sensitivity 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commencements</td>
<td>70,200</td>
<td>83,200</td>
<td>91,600</td>
<td>2.7%</td>
<td>2,500</td>
</tr>
<tr>
<td>Enrolments</td>
<td>113,800</td>
<td>139,200</td>
<td>155,000</td>
<td>3.1%</td>
<td>4,400</td>
</tr>
<tr>
<td>Commencements</td>
<td>69,500</td>
<td>79,000</td>
<td>86,600</td>
<td>2.2%</td>
<td>-2,500</td>
</tr>
<tr>
<td>Enrolments</td>
<td>113,000</td>
<td>132,600</td>
<td>146,700</td>
<td>2.6%</td>
<td>-3,900</td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016)

In addition to sensitivities in the Australian dollar and average GDP per capita on the demand for international education and training services from Queensland, the performance of the sector could also be potentially affected by increased competition from other countries (that is, competition that is above levels implicit in the baseline scenario).

While research by the British Council (2015) suggests that over the next decade, the United States and the United Kingdom will see their market shares of globally mobile students – which currently stand at 18% and 11%, respectively – decline, it is likely that they will be able to accommodate a larger number of additional international students in absolute terms than Australia. For instance, Boston Consulting Group estimates that Australia has the ability to increase its potential supply by an additional 0.2 million international students by 2020, compared to 0.5 million for the United Kingdom, and 2.3 million for the United States (International Education Advisory Council, 2013). The potential additional capacity supply in the higher education sub-sector of major English-speaking countries is shown in Chart 4.3.
This is based on a current lower ratio of international students to domestic students on average in those countries, with international students accounting for 4% of total enrolments in higher education institutions of the United States, compared to 19% for Australia (Huffington Post, 2014). The greater supply capacity is combined with more active recruiting international students by the United States, through the removal commissioned agent usage in international student recruitment in 2014, is likely to help the sector grow (ICEF Monitor, 2014).

Traditional competitors are also increasing focus on many of Australia’s key student source markets. For instance, Germany signed agreements in 2013 with India to promote the German language in India and promote further corporation in education and research (ICEF Monitor, 2013).

In addition to the increased focus on international education in traditional competitors, new rivals are also emerging from Asia, with China, Singapore and Malaysia all setting ambitious international student enrolment targets. For instance, China has already become the third biggest outbound market for international students, and is planning to expand its enrolments of foreigners from 200,000 today to 300,000 by 2020. Similarly, Malaysia hopes to attract an additional 150,000 foreign students to reach 250,000 foreign students by 2025.

**Scenario analysis results**

The baseline forecasts presented in Section 4.1.1 depict a central case path for the evolution of the Queensland international education and training sector in the absence of major changes in policy settings or movements in the sector’s supply and demand dynamics. While a base level of investment would still be required to achieve these forecasts, the impacts from better industry coordination, more investment and collaboration under a targeted sector strategy are not incorporated in the baseline.

Therefore, to highlight the potential upsides of harnessing the intersection between the global opportunity in international education and Queensland’s comparative advantages in this market, a stylised ‘aspirational’ scenario has been constructed:

- **Aspirational scenario:** a path where Queensland’s market share of onshore enrolments grows to align with the State’s share of the national economy – or 20.1% – by 2026.
The opportunity and imperative for Queensland’s international education and training sector

The results of the aspirational scenario analysis are described in Table 4.6. Under the aspirational scenario, enrolment growth is assumed to initially occur slowly, reflecting the time taken for Strategy initiatives to manifest into improved sector outcomes. This is followed by higher growth in the second half of the modelling horizon as the impact of the initiatives implemented under the Strategy increasingly materialises. The aspirational scenario demonstrates that achieving an international education enrolment market share that is equal to the State’s share of the Australian economy of 20.1% would see onshore enrolments reach 193,250 by 2026 — an increase of 42,700 enrolments, or 28% above the baseline in 2026.

Table 4.6: Scenario analysis of Queensland onshore international education, 2016-2026

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2021</th>
<th>2026</th>
<th>Annual growth rate</th>
<th>Change from baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baseline</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enrolments</td>
<td>113,400</td>
<td>135,700</td>
<td>150,550</td>
<td>2.9%</td>
<td>--</td>
</tr>
<tr>
<td><strong>Scenario 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aspirational market share of 20.1%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enrolments</td>
<td>113,400</td>
<td>176,700</td>
<td>193,250</td>
<td>5.5%</td>
<td>42,700</td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016)

This corresponds to a trajectory of 5.5% enrolment growth per annum (or 70% in cumulative terms) and provides an indication of the magnitude of the international education and training opportunity that could be unlocked by Queensland under a successful Strategy. With much of the future growth in Queensland’s international education and training sector projected to occur in higher yield sub-sectors such as higher education and VET, preliminary modelling indicates that an aspirational 70% increase in onshore student enrolments over 2016-2026 could be associated with student expenditure growth of between 120%-145%.

The economic return to achievement of the aspirational scenario

Realisation of this growth – i.e. achievement of the aspirational scenario – would yield material economic dividends relative to a ‘business as usual’ outlook (i.e. the baseline scenario). Economy-wide modelling conducted by Deloitte Access Economics indicates that, by 2026, an additional $1.7 billion in value added and 6,800 FTE jobs would be created across the Queensland economy.

The upside potential from international education and training to Queensland may be higher still when the reinforcing effects of the national international education strategy are factored in. Deloitte Access Economics’ forecasting at the national level prepared for the Commonwealth Government indicate the effective implementation of The National Strategy for International Education 2025 could see onshore international student visa enrolments in Australia surpass the 1 million mark. Under these optimistic assumptions, increasing Queensland’s share of the larger Australian international education and training market would result in a significant increase in onshore enrolments across the State.

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10 For methodology on average student yield growth in the aspirational scenario, refer to Appendix G.

11 See Appendix H for an overview of Deloitte Access Economics’ computable general equilibrium model, which was employed for this exercise.
4.2 Scale and scope of offshore opportunities

While the majority of current activity in the offshore space is concentrated in the provision formal tertiary education such as higher education and VET and well captured under the present definition of offshore education, this definition could become limiting as new opportunities in the sector develop. In particular, the definition:

- only recognises delivery with a face-to-face component, overlooking the potential disruptive impact of digital based teaching methods and platforms; and
- only recognises delivery by Australian-approved provider, which excludes informal or non-accredited courses and programs, and non-traditional ‘students’.

4.2.1 Higher education

Opportunities in the provision of offshore formal tertiary education are expected to remain strong, driven by strong fundamentals such as global population and income growth. However, given domestic constraints in meeting that demand, and studying overseas being limited to a minority of students, there is a huge opportunity for offshore activity, whether through branch campuses or partnerships.

While there are opportunities in the offshore space, there are also challenges for higher education institutions hoping to capitalise on them. There are already 213 higher education branch campuses operating globally in 2015, and likely many other partnership programs (C-BERT, 2015), with the majority concentrated in Malaysia, Singapore, China and UAE. Given the saturation in these markets, new entrants might find it difficult to establish themselves. Furthermore, given that three Queensland universities have unsuccessfully opened branch campuses in the past, due to a combination of unfavourable policy changes, and low enrolment figures, it is important not to view offshore expansion as a short term venture for profits. Instead, successful offshore operations require both a long term strategy for internationalisation, and a targeted approach that meets the needs of the local environment.

4.2.2 VET

There are similarly opportunities in VET offshore, as the demand for medium-skill and high-skill workers is likely to increases as the world economy has transformed from a primarily agriculture based one to a services based one. Consequently, research by McKinsey Global Institute (2012) suggests that there could be a global shortage of 85 million medium-skill and high-skill workers by 2020.

Offshore VET provision can help meet those skills challenges. For instance, the Indian Government is hoping to provide training for 500 million people by 2022 with the local capacity to train just 4.3 million people per year (Ernst & Young, 2013). However, local fit is important for success. For instance, Australian accredited courses may not be the best fit for India where there is strong competition from lower-cost domestic providers and less value associated with an international qualification (SANNAM S4, 2013). Instead there could be potential in delivering Australian quality courses if not necessarily Australian qualifications. Furthermore, the ambiguity surrounding regulation has prevented foreign investment, particularly from degree-granting institutions. Given these

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12 The Central Queensland University in Fiji (closed 2007), Bond University in South Africa (closed in 2004), and the University of Southern Queensland in the UAE (closed in 2005).
difficulties, there could be potential in delivering Australian quality courses if not necessarily Australian qualifications instead.

The opportunities are not just limited to public VET providers, with many Australian private VET providers, including the Australian Retail College, Talisman Health, and the Engineering Institute of Technology, expanding offshore.

**Case study: Queensland Skills and Education Consortium**

The Queensland Skills and Education Consortium is comprised of five Queensland VET providers (both public and private) that have agreed to work together to deliver vocational training programs internationally. Recently, the Queensland Skills and Education Consortium signed a significant agreement with the Government of Kerala, to support India’s ambitious training agenda – Skilling India – which aims to train 500 million people by 2022.

This agreement signals significant potential for the members of the Queensland Skills and Education Consortium to expand their offshore provision and reach a far broader group of students, particularly given that only 2.3 per cent of the Indian workforce has currently undertaken formal skill training.

The Queensland Skills and Education Consortium will develop a viable business model for delivering courses in India without government subsidies, and is working with key stakeholders and organisation in the Indian vocational training sub-sector to ensure success. The Queensland Skills and Education Consortium intends to deliver qualifications across many disciplines including fashion retail, robotics programming, dietician courses, aged care training, fitness coaching and electrical skills.

In addition, the Australian Government is committed to supporting the development of vocational skills and the establishment of a strong technical vocational education and training sub-sector (TVET) in the Pacific region. This is seen through its ongoing funding for the Australia-Pacific Technical College.
The opportunity and imperative for Queensland’s international education and training sector

**Case study: Australia-Pacific Technical College (APTC)**

The ATPC’s mandate is to assist the development of a more competitive regional workforce through enabling access for learners in the Pacific region to a range of internationally recognised Australian vocational qualifications. APTC is currently managed by TAFE Queensland and is the largest Australian Government funded project in the region, with $144 million of funding granted for the period from 2011 to 2015, and up to a further $96 million granted for the 2015 to 2018 period.

Over 9,500 Pacific Island citizens have already graduated from the APTC with vocational qualifications, and graduates achieve a post-training employment rate of 92%, suggesting that it is successfully improving the knowledge and skills of the regional workforce.

This project, alongside other Australian Government and donor funded TVET projects in the Pacific present significant opportunities for Queensland international education and training to expand its global reach.

4.2.3 **Schools**

The offshore schools sub-sector is currently dominated by the United Kingdom, with an estimated 1.4 million pupils studying at nearly 3,000 British schools overseas (HM Government, 2013). To a much lesser degree, there are also Australian school providers active offshore, with activity taking on a variety of forms. For instance, individual schools can choose to either partner with existing schools or set up an independent offshore campus in a host country. The State and Territory authorities can also expand their curriculum and certification globally, and can include the provision of additional education services such as professional teacher development and quality assurance, in addition to licensing.

Much like the tertiary education sub-sector, Victoria is currently the leading State in its expansion offshore at the schools level. For instance, Haileybury International School has set up an international campus in Tianjing, China, and currently teaches over 400 students through from K to 12. Furthermore, there were 680 students studying VCE offshore in one of 15 schools overseas in 2015 (Dixon, 2015).

Offshore schools are an important pathway for students to progressing to tertiary studies onshore. For instance, of the VCE graduates in 2013, 90% have gone on to study at tertiary providers in Victoria and elsewhere in Australia (Dixon, 2015).

In Queensland, Education Queensland International also has curriculum licensing agreements with seven schools offshore, located in Papua New Guinea, Nauru, China and the UAE, which allows them to offer a Queensland Year 11 and 12 program, including Year 12 certification (Education Queensland International, 2015).
Case study: The Australian International School (UAE)

The Australian International School (AIS) is a co-educational school delivering the Queensland curriculum located in the UAE. It was the first Australian school in the Middle East, and the first partnership for the Queensland State Government to provide its curriculum offshore. The school staff is made up of predominantly expatriate Queensland teachers.

Growing from 100 students in 2005, the school had over 1,100 students by 2015 (Abu Dhabi Education Council, 2015). While 40% of students are from local Emirati families, 20% are from Australian, United States and Canadian expatriate families, with the remainder from both Arabic speaking countries such as Egypt, Jordan and Lebanon, and other countries, including China, Korea, and India (Davis and Mackintosh, 2011).

A possible advantage for Queensland schools in providing school curriculum and the Queensland Certificate of Education is that grading is predominantly based on classroom assessments. This would make it potentially easier to administer in offshore markets, particularly in the Northern Hemisphere, which often begin school years at different times. Consequently, it is difficult for the offshore students to sit the required external examinations (such as the Higher School Certificate or the Victorian Certificate of Education) at the same time as their onshore counterparts.

However, as noted by the Queensland Catholic Education Commission (2015), “the support required for schools to get involved in offshore programs would include financial, market analysis and identification of contacts, promotion, effecting communication and overcoming barriers, clearly defined stakeholder roles and responsibilities, and provision of teaching accommodation and services”.

4.2.4 English language learning

English is the international language for business and research. As such, there is an estimated 1.5 billion people learning English, with only around 1.5 million studying outside their home markets (HM Government, 2013). Consequently, there is a huge opportunity to bring English learning to students in their home countries, either through face-to-face classrooms and colleges, or more flexible delivery models.

Known offshore activity by Queensland institutions in English language learning has been largely driven by the higher education sub-sector. For instance, JCU Singapore has English Language Preparatory Programs, which perform a similar function to ELICOS onshore, in preparing students for university study in English. Similarly, the University of Queensland has set up English language Institutes in Chile through joint ventures with public and private sector partners.

In addition to class-room based English language learning, there is also potential to teaching English through digital or online media, including Education Technology (edTech) products. For instance, Chatty Kidz and Funetics are instances of Australian companies offering unaccredited edTech products aimed at improving English learning. A Queensland example of an edTech company operating offshore is List Premier Education.
Case study: List Premier Education

List Premier Education, based in Queensland, is an edTech company that is a world leader in the development and provision of interactive touch board education and training. Its programs feature educational materials that are projected onto interactive white boards or data projectors that students can touch, select, drag, and manipulate. The software programs are complemented by comprehensive teachers and student support materials, and classroom activities.

The Jungle Beat Child Development programs, which aim to teach children English, are being used by tens of thousands of schools in 29 countries. Other programs by List Premier Education are used by a variety of industries including the Mining Industry, Education Departments, Vocational Education Organisations, and the VET sub-sector, and can reach students of all ages. Overall, List Premier Education programs are used in 34 countries, including China, South Africa, South Korea, Taiwan, Indonesia, Australia and South America.

New South Wales is the current leader in the edTech space (including products outside of English language learning). StudyNSW works closely with edTech developers, sponsoring trips abroad and allowing edTech companies the opportunity to build relationships with interested local parties. Further, Sydney is also home to muru-D, a start-up accelerator sponsored by Telstra that supports the global ambitions of technology companies. In Queensland, the Brisbane-based video game developer Halfbrick Studios is at the forefront of the Australian game development industry, and has recently ventured into the edTech space.

Case study: Halfbrick Studios

Founded in 2001, the Brisbane-based video game developer Halfbrick is best known for its video game Fruit Ninjas, which had achieved over 300 downloads by 2012.

Capitalising on the popularity of Fruit Ninjas, the studio has released Fruit Ninja Academy: Math Master, which aims to teach grade 1 curriculum maths skills, including addition and subtraction, multiplication by skip counting, number comparison and sequences, and shapes and fractions, to children aged 5 to 7 years of age. The app combines learning with stickers, comic-style storytelling, and unlockable rewards to help keep users engaged.

With around 96,000 employees across Queensland holding an information and communications technology occupation, the State has the capability to develop its edTech offerings further (Deloitte Access Economics, 2015a).

4.2.5 Online learning

Online learning has been gaining increasing attention in the age of digital disruption. Many global regions with well-developed higher education infrastructure are experiencing a shift in momentum from traditional classrooms to the online environment, with an estimated 25% of all higher education students in India, along with 30% in the United States and 40% in Turkey, enrolling in distance education programs (Bannier, 2016).
While online learning has limited onshore international potential, with stipulations in the National Code (DET, 2015b) limiting the amount of courses that can be delivered through distance education (including online learning to international students), it has the potential to reach new students in their home countries. For instance, massive open online courses (MOOCs) are large-scale online courses available to anyone, which break down the traditional barriers to participation, including cost, geography, and qualifications.

The Queensland MOOC market remains small compared to Australia as a whole, with three Queensland universities offering a total of 14 courses, compared to a total of 25 Australian universities and nine other vocational and professional educators currently host 108 MOOCs on the Australian platform, Open2Study, and overseas platforms, including edX and Coursera. Within the State, the University of Queensland is a successful example of the potential reach of MOOC courses.

Case study: The University of Queensland

The University of Queensland (UQ) began offering MOOC courses through the edX platform since 2014, and currently offers a total of 11 courses.

The University of Queensland has been successful in its courses focused on English Language learning. Its eight-week *English Grammar and Style* course attracted 50,000 student enrolments in 2014 (Australian Financial Review, 2015), while its MOOC course *IELTS Academic Test Preparation* attracted over 100,000 student enrolments from more than 190 countries. It was particularly popular with students from Brazil, Colombia, Egypt, India, Indonesia, and Pakistan (UQ, 2015c).

Non-higher education providers are also increasingly active in the MOOC space, with the Massive Open Online English Course (MOOEC) based in Brisbane, aiming to teach English.

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14 The three Universities are UQ (edX), Griffith and JCU (Open2Study). While slightly different to MOOCs, USQ also provides OpenCourseWare online.
Case study: Massive Open Online English Course (MOOEC)

MOOEC (Massive Open Online English Course) was founded in Brisbane with the support of the Queensland Government, and is a platform dedicated to teaching English language at all levels through open online courses. At present, there are more than 50 courses available online from institutions across Australia, on a range of topics including lifestyle, academic preparation and grammar. Courses have a variety of lengths, and allow students to learn at their own pace and make use interactive exercises in order to help students remain engaged in their English learning.

MOOEC hopes to serve students in Australia and internationally, particularly those in the Asia-Pacific region. They hope to complement, rather than replace face-to-face instruction, by providing access to high quality English teaching to a wider audience of students globally. MOOEC also allows institutions to showcase their content, identify potential students, and have an understanding of student progress and achievement if they enrol at an institution subsequent to completing a MOOEC; highlighting the potential benefits (beyond reaching a larger group of students) that participation in a massive open online course can have for institutions.

While MOOC courses can provide a source of revenue for institutions, costing approximately US$50 per certificate of achievement, the main value of MOOCs will ultimate lie in its ability to brand the university and reach new audiences.

4.2.6 Professional development

The changing nature of work in the 21st century has placed an increasing emphasis on continuous lifetime professional development. While these courses may not be accredited, they are important for allowing workers to remain competitive.

Australia could potentially transfer knowledge and best practices to developing countries as they move up the value chain and develop new industries. In particular, the focus should be on industries where Australia is a world-leader in expertise and experience, such as mining and resources, agriculture, tourism (McKinsey Australia, 2014). This can be a source of opportunity as multinational corporations with geographically dispersed workforces require skilled local labour. For instance, SkillsDMC, is an Australian leading provider of workforce solution products and services for the Coal and Metalliferous Mining, Quarrying (extractive), Drilling and Civil Infrastructure sectors. They have partnered with local stakeholders to develop VET programs and national standard frameworks that create a skilled local workforce in meeting industry needs. In particular, they have been active in capacity building exercises in Zambia, Mozambique, Vietnam and the Philippines.

For instance, Rail Skills Australasia, is a Queensland based company that provides organisations within the rail industry, both in Australia and overseas, with workforce, education and training advice and solutions across the sector, ensuring a safe, skilled and resilient rail workforce capable of sustaining and growing the industry well into the future. For instance, they trained 50 local workers in Abu Dhabi in 2013. Other Queensland examples include the Becker Helicopters Pilot School based in the Sunshine Coast, and Aviation Australia, located in Brisbane and Cairns, which provides aviation-related training and accreditation for both domestic and international students.
4.2.7 Potential growth

Given the diverse range of opportunities across the various sub-sectors, and a lack of available data on the level of activities by Australian and Queensland providers, it is difficult to build up offshore demand forecasts from a bottom up approach in the manner done for the onshore forecasts. Nevertheless, this section aims to quantify the number of individuals in Australia’s key source markets likely to be participating in:

- **formal education**, or planned education received in schools, VET, universities and other formal education institutions; and
- **non-formal education**, or sustained education received outside of formal institutions. Of the opportunities explored above, it could potentially cover online learning, English language learning, and professional development.

Based on the positive relationship between a country’s average GDP per capita and the 25-64 year old population’s propensity to participate in formal and non-formal education (OECD, 2014), the size of the 25-64 year old population likely to be participating in education from Australia’s 29 key source markets has been estimated over the 2015 to 2025 period.

Note that as these estimates do not include the 15-24 year old population, many of whom are actively participating in formal and non-formal education; it could be a slight underestimation of the total number of people participating in education. The methodology, assumptions and limitations of the forecast figures are described in Appendix I.

**Offshore participation projection**

There are an estimated 0.9 billion people in Australia’s top 29 source markets participating in formal and/or non-formal education. By 2025, the number of people participating in education is expected to reach 1.1 billion. Assuming that Australia reaches just 1% of these learners, then 11 million students would be reached by 2025 (Deloitte Access Economics, 2015a).

If Queensland’s share of the overall offshore market is the same as its current market share in formal offshore tertiary education, equivalent to 6.1% of the Australian total, it is expected that the State will reach over 675,000 learners by 2025.\(^\text{15}\)

Given the uncertainty surrounding Australia’s ability to reach these offshore learners, low and high sensitivity has been conducted with Australia reaching either 0.5% or 10% of all students. Assuming that Australia reaches 0.5% of learners in these markets (5.5 million by 2025), Queensland would reach 338,000 learners. Alternatively, if Australia was able to reach 10% of global learners (111 million by 2025), Queensland would reach 6.1 million learners.

\(^{15}\text{Queensland share based on higher education enrolments in both campus and distance delivery based methods (2014) and public VET enrolments (2013).}\)
Realisation of opportunities

While the projections offer a look at the scale of opportunities that are available for the Queensland education sector, they are indicative figures only. Queensland’s ability to capitalise on these opportunities will depend on future conditions in both the host countries and competitor jurisdictions. These will include the strategies implemented by Queensland, the appeal of brand ‘Queensland’ and brand ‘Australia’ relative to its competitors.

For instance, while there is expected to strong demand for skilled workers around the world, the ability for foreign institutions to meet those needs will be limited by the policies and regulatory frameworks in the host countries. For instance, although there are significant opportunities in Indonesia, the current legislative frameworks have not proved conducive to facilitating offshore initiatives from overseas providers (British Council, 2013).

Further, Queensland will not be the only jurisdictions actively trying to reach offshore students. Queensland faces competition both from other States within Australia, as well as global competitors such as the United Kingdom and the United States, with these jurisdictions all committed to offshore expansions.

For instance, in the International Education Strategy for Victoria 2013-2018, Victoria has recognised the importance of offshore activity to Victoria’s international education and training sector, and aims to ensure the future delivery of high quality offshore delivery, including within the non-accredited sector.

Other States around Australia more broadly are also likely to focus on offshore education under advice from the International Education Advisory Council (2013), which made recommendations to encourage further activity in the education hubs in South East Asia and the Middle East, and through AusAID’s foreign aid programs.

Globally, the United Kingdom is the world leader in the delivery of offshore education, with over 630,000 students studying with a United Kingdom higher Education institution from outside of the...
country in 2013-14, primarily through partnership arrangements. In many cases, Australia would be competing head to head with the United Kingdom in many markets including Malaysia and Singapore, with approximately 20% of all offshore higher education enrolments based in Malaysia and Singapore (Higher Education Statistics Agency, 2015). The *United Kingdom 2013 International Education Strategy* also emphasises the importance of offshore delivery for the schools (the biggest source of transnational education revenue) and English language learning sub-sectors.

While the United States does not have a comprehensive international education strategy, it is nonetheless active in the offshore space, with over 45 international branch campuses located around the world, the highest of any country (Cross-Border Education Research Team, 2015), with a strong presence in the UAE. While many American branch campuses were originally aimed at offering domestic students an opportunity to study abroad, American universities are increasingly looking outwards as a part of their broader internationalisation strategies.

Given the strong competition in the sector, Queensland’s performance will depend on its ability to differentiate itself from competitors. The following chapter focuses on the drivers behind student choice, and the areas of comparative advantage that the Queensland international education and training sector could potentially focus on.
5 Queensland’s comparative advantages in international education and training

There is an extensive body of international and Australian literature on the student decision drivers in choosing an international study location. These can be grouped under three broad categories: (1) accessibility; (2) experience; and (3) outcomes, with students making their decisions based on the relative performance of different locations (and institutions) against these factors. An identification and understanding of the core set of decision drivers influencing student decision making is important as these can be mapped against Queensland’s strengths to highlight future opportunities. A detailed review of the literature on student decision drivers is provided in Appendix K.

The key points from the literature review are summarised in the box below.

**Key points – Student decision drivers**

- 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. Understanding the relative importance of various decision factors is the first step in identifying future opportunities for Queensland, where the State’s comparative strength meets ability to influence students.

- **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 both onshore and offshore, 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, typically due to the socio-economic audiences who are enrolling. Overall, accessibility is most important for the offshore sector, as Australian institutions need to establish themselves abroad in relatively new markets.

- 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.
Deloitte Access Economics has assessed the relative importance of the factors for each sub-sector of education, including both onshore and offshore, and reached an initial view of Queensland’s areas of comparative advantage, against both domestic competitors in New South Wales and Victoria, and international competitors.

Queensland’s comparative advantage in international education and training is a function of those features and characteristics of its value proposition that represent a unique strength relative to competitors. Some of these will be State-wide; others will emanate from particular regions. It is in part a function of the demand and decision drivers presented above. Queensland’s ability to position itself to capitalise on opportunities in new and emerging markets and segments will also play a significant role. At the national level, some of Australia’s identified comparative advantages include:

- **Proximity to key markets** and increasingly open trade relations and direct airline access to those markets – alongside price competitiveness of the Australian dollar.
- **A quality education** offering, particularly the prevalence of a large number of mid-tier universities that could be effective when aimed at the ‘middle segment’.
- Well-established **pathways from schooling and ELICOS to higher education and VET**.
- Emerging **ability to deliver new and innovative products** tailored to the needs of individual consumers (particularly for offshore).
- **Post-study work experience and skilled migration opportunities** for graduates, in a multi-cultural and multi-lingual society.

Drawing on the discussion in the remainder of this chapter, the key points regarding Queensland’s comparative advantages are summarised in the box below.
Key points – Queensland’s comparative advantages in international education and training

- A successful strategy will align the comparative advantages of the State, its providers and its regions with the demands and preferences of the growing international student population (recognising the differing needs of the student sub-sectors).

- Queensland’s comparative advantage lies beyond just its perceived beach lifestyle and culture, encompassing a host of other advantages across the spectrum of accessibility, experience, and outcomes.

- The average lower cost of studying and living in Queensland combined with the State’s strong regional aviation infrastructure support accessibility by international students to both the capital city and regional centres. This is complemented by the overall Australian advantage of a strong pathway system, and large alumni network.

- A quality experience, matching the needs of a range of student segments, could potentially be supported by Queensland’s capacity for physical infrastructure, availability of casual jobs in tourism, varied lifestyles and natural sights, and above all else, its friendly and multicultural communities. This is supported by the overall international image of Australia as a safe place for international students compared to international competitors.

- While Queensland may not have as many universities ranked as highly as domestic competitors such as New South Wales and Victoria, and Australia as a whole lags behind the United States and United Kingdom, it can compete on outcomes in niche areas of advantage. For instance, Queensland universities as a whole are ranked strongly in agriculture and forestry, biological sciences, and environmental sciences. The State can also leverage its industrial advantage in mining, construction, and health care and training.

- The differences in industrial strengths and employment opportunities between the regions should also be emphasised to target the appropriate market segments.

A full list of the drivers’ relative importance for the different sub-sectors, including onshore and offshore, overlaid against Queensland’s comparative advantages is presented in Figure 5.1. 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 professional judgement of Deloitte Access Economics.
Queensland specific advantages and areas of development are discussed below.

### 5.1 Accessibility

Accessibility to education is a key student decision driver, and encompasses price, visa requirements, course accessibility and proximity considerations. While student visa policy is outside of the control of the State, Queensland could leverage its comparative advantage in affordability and proximity (particularly for its non-capital regions) to key source markets of growth in the South East Asia region.
5.1.1 Price

*Affordability* is a key theme across existing onshore international education strategies. Cost of living is an important factor to international education students both when deciding where to undertake their studies and also in determining their overall experience whilst away. The estimated cost of living provided by the highest ranked university in each State has been used as a proxy for the cost of living for a student living on campus (UQ 2015a; USyd 2015; UMelb, 2015).\(^{16}\) Chart 5.1 shows that the cost of living is the highest in Victoria and the lowest in Queensland.

![Chart 5.1: Average cost of living, by select States, 2015](image)

Given the large number of students living off campus in both the higher education and other sub-sectors, the median weekly rent in select Local Government Areas in each jurisdiction has also been examined (Chart 5.2). On average, weekly rent is likely to be the lowest in the Greater Brisbane region, and highest in the Greater Sydney region.

\(^{16}\) Based on 2015 QS rankings, with information provided by the University of Queensland (46\(^{th}\)), University of Sydney (45\(^{th}\)) and the University of Melbourne (42\(^{th}\)).
Compared to Brisbane, rent in regional Queensland is likely to be more affordable still. In particular, the median rent for a 2 bedroom house over the December 2015 quarter was the lowest in the Whitsundays, Mackay, Bundaberg and Central Queensland (Residential Tenancies Authority, 2015). Median rents for representative regional council areas with key education institutions are given below in Table 5.1.

**Table 5.1: Median weekly rents in Queensland, December 2015**

<table>
<thead>
<tr>
<th>Tourism Region</th>
<th>Regional Council Area</th>
<th>Median weekly rent ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brisbane</td>
<td>Brisbane</td>
<td>380</td>
</tr>
<tr>
<td>Bundaberg</td>
<td>Bundaberg</td>
<td>250</td>
</tr>
<tr>
<td>Central Queensland</td>
<td>Rockhampton</td>
<td>250</td>
</tr>
<tr>
<td>Darling Downs</td>
<td>Toowoomba</td>
<td>260</td>
</tr>
<tr>
<td>Fraser Coast</td>
<td>Fraser Coast</td>
<td>260</td>
</tr>
<tr>
<td>Gold Coast</td>
<td>Gold Coast</td>
<td>380</td>
</tr>
<tr>
<td>Mackay</td>
<td>Mackay</td>
<td>235</td>
</tr>
<tr>
<td>Northern</td>
<td>Townsville</td>
<td>265</td>
</tr>
<tr>
<td>Outback</td>
<td>Mt Isa</td>
<td>330</td>
</tr>
<tr>
<td>Sunshine Coast</td>
<td>Sunshine Coast</td>
<td>350</td>
</tr>
<tr>
<td>Tropical North Queensland</td>
<td>Cairns</td>
<td>320</td>
</tr>
<tr>
<td>Whitsundays</td>
<td>Whitsunday</td>
<td>200</td>
</tr>
</tbody>
</table>

Source: Residential Tenancies Authority (2015)

Further, due to the current restrictions around public transport concessions for international students in Victoria and New South Wales, Queensland’s advantage in cost is likely to extend beyond accommodation. For instance, international students in New South Wales are generally not entitled to transport concession. However, they are eligible for potential discounts of up to 35 per cent on
quarterly and annual MyMulti passes (Transport for New South Wales, 2015). As a part of its international education strategy, Victoria has also similarly introduced 50% concession limited to annual myki passes (Public Transport Victoria, 2015). In contrast, Queensland students studying onshore full time with either the school or tertiary sub-sectors are eligible to receive a 50% concession on all TransLink public transport services, regional qconnect bus services and approved regional ferry services (TransLink, 2015). This is more flexible given that students are still eligible for concessions when travelling to one-off destinations for leisure.

*Workshop participants have also recognised the potential for further extension of the concession system in Queensland, for instance including students in ELICOS, who are not currently covered under any of the three State systems.*

In 2013, the Queensland Government Statistician’s Office (QGSO), released an index that compares prices in regional Queensland with prices in Brisbane (Brisbane, Ipswich, Logan, Moreton Bay and Redland local government areas) (QGSO, 2013). Cost of living was determined by ranking regions against the following cost categories – Clothing and footwear, Housing, Food and non-alcoholic beverages, transportation, furnishing, household equipment and services, and recreation and culture.

According to the index, when the cost of housing is excluded, the cost of living varies by up to 20.6% across Queensland, indicating that international students will have varying experiences regarding cost depending on where in Queensland they are based. Popular student destinations such as the Gold Coast and Cairns have a slightly higher cost of living (excluding housing) than Brisbane. In 2013, 10 regions had a higher cost of living than Brisbane and 19 regions have a lower cost of living. Regions with the lowest cost of living include Gatton and the Sunshine Coast with a cost of living 6.6% and 7.1% less than Brisbane (QGSO, 2013). To improve students’ cost experience, there is opportunity to promote study in places such as Gatton, Sunshine Coast or Toowoomba which all have universities as well as a relatively low cost of living.

The price of courses is also a large component of the overall costs faced by international students. Chart 5.3 compares the price of the popular courses for international students, between the highest ranked and most internationalised universities in each State. On average, courses are relatively more expensive at these selected institutions at Sydney and less expensive in Queensland.

Against the international backdrop, while Australia has been regarded as an expensive education destination, with the average annual cost of studying and living in Australia in 2011 equal to $44,000 compared to $37,000 in the United States and $30,000 in the United Kingdom (International Education Advisory Council, 2013), the trend has been in reverse over the past two years, as the Australian dollar has depreciated with the end of the mining boom. The Australian dollar is likely to remain at these lower levels and help Australia remain price competitive into the medium term.

17 Common degrees studied by international students were determined by 2014 enrolment numbers from Department of Education and Training.
5.1.2 Visa requirements

As the Queensland Government does not have control over visa policy, it is subject to the same settings as in the rest of Australia. Despite recent changes to national visa policies, an IDP Research (2013) survey of 1,100 international students found that Australia is perceived favourably by its visa policies compared to the United Kingdom and the United States. However, Australia still ranks behind the emerging competitors, New Zealand and Canada, which have more relaxed visa regulations for international students. Further, while Australia may compare favourably to advanced economies, it is likely that Australia has stricter visa policies than most developing economies (Mau et al, 2015), and could be a possible barrier to future growth in the longer term. However, given that visa policies serve important security and diplomatic purposes, it is recognised that visa policies are set in a broader context rather than to simply to attract international students.

5.1.3 Course accessibility

Australia’s pathway programs offered both onshore and offshore, combined with the recognition of a variety of secondary qualifications from foreign countries, are accommodative of international students. For instance, the University of Queensland accepts the equivalent year 12 qualifications from 25 countries (University of Queensland, 2015b), and requires the students to meet minimum entry scores and English competencies for admission. This is typically simpler than the systems in rival countries such as the United States, where students are required to take additional college admission examinations (SAT), complete individual applications for universities, and admission is at the discretion of the institutions. Given limited data to compare the differences in course accessibility for the individual States and Territories, it is assumed that overall Queensland is placed similarly to the other jurisdictions when international students are choosing between destinations within Australia.

There is, however, an opportunity for Queensland to increase course accessibility across its international education and training sub-sectors after learners arrive in the State. Queensland has historically had greater numbers of short-stay students on non-student visas, with many moving to other States to continue longer term studies. Education sub-sectors in Queensland could work
together to strengthen the pathways between schooling, ELICOS, VET and higher education, which would encourage greater retention of students and grow the sector overall.

5.1.4 Proximity

Queensland’s geographic proximity to key source markets has the potential to be another significant point of differentiation, particularly given the expected growth in demand from the Asia Pacific source markets. Queensland has five airports which are located in Brisbane, Cairns, Sunshine Coast, Gold Coast and Townsville, all with direct flights internationally (Queensland Government, 2015). An overview of the major Queensland airport international routes for the key current and future source markets is shown below in Table 5.2.

<table>
<thead>
<tr>
<th>Key Source markets in 2026</th>
<th>Brisbane</th>
<th>Cairns</th>
<th>Gold Coast</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>1 Stop over</td>
<td>1 Stop over</td>
<td>1 Stop over</td>
</tr>
<tr>
<td>China</td>
<td>Direct</td>
<td>Direct</td>
<td>Direct</td>
</tr>
<tr>
<td>Brazil</td>
<td>1+ Stop overs</td>
<td>1+ Stop overs</td>
<td>1+ Stop overs</td>
</tr>
<tr>
<td>South Korea</td>
<td>Direct</td>
<td>1 Stop over</td>
<td>1 Stop over</td>
</tr>
<tr>
<td>Nepal</td>
<td>1 Stop over</td>
<td>1 Stop over</td>
<td>1 Stop over</td>
</tr>
<tr>
<td>Japan</td>
<td>Direct</td>
<td>Direct</td>
<td>Direct</td>
</tr>
<tr>
<td>Vietnam</td>
<td>Direct</td>
<td>Direct</td>
<td>1 Stop over</td>
</tr>
<tr>
<td>Colombia</td>
<td>1 + Stop overs</td>
<td>1 + Stop overs</td>
<td>1 + Stop overs</td>
</tr>
</tbody>
</table>

Table 5.2: Routes of travel for key future source markets to Queensland

Source: Brisbane Airport Corporation (2015); Cairns Airport (2015); Gold Coast Airport (2015)

While Cairns Airport is the closest direct route into Queensland for both established and emerging source markets in Asia (including from China, Japan, Vietnam and Papua New Guinea), Brisbane is still Queensland’s most important international airport, accounting for 74% of total inbound aircrafts (Department of Infrastructure and Regional Development, 2014).

Appendix C also compares the number of direct routes to key source markets by States. It finds that Queensland is the only State with direct international flights to the regional centres, and this strength could continue to support student growth in regional institutions. There is also further potential to increase capacity across the other two Queensland airports with international flights – the Sunshine Coast and Townsville – that have more limited flight options.

In addition to Queensland’s geographic proximity to the emerging markets in the Asia Pacific region, it also shares diplomatic and cultural ties with the region. For instance, 14 Queensland regions have international sister city connections. Ipswich has used its sister city relationship with Nerima in Japan to promote scholarships for students, and homestay exchanges (The Queensland Times, 2014). Queensland also shares a common time zone with Asia, which increases the overall perception of proximity to Asia when, and is conducive to the synchronous online delivery of courses offshore.
The opportunity and imperative for Queensland’s international education and training sector

Notable alumni from Queensland universities

The following selection of notable alumni illustrates the achievements of international students that have graduated from Queensland institutions and the role that they can play as formal or informal ambassadors and advocates for Queensland international education.

Prof Huy Nga Nguyen from Vietnam graduated from Griffith University with a Master of Science in Public Health and has become a leader in the field of public health recognised by both Vietnamese and international agencies. He has been the leader of numerous public health organisations in Vietnam, and his work has significantly contributed to numerous Vietnamese public health initiatives. In 2010, he received the Queensland Government Award for “International Alumnus of the Year”.

Prof. Feng HAN from China completed a Doctor of Philosophy within the Built Environment and Engineering Faculty at Queensland University of Technology in 2007. She currently is a Professor at Tongji University in Shanghai and is the Chinese representative for the ICOMOS-IFLA International Scientific Committee on Cultural Landscapes, and an expert within the UNESCO program for Conservation and Management of World Heritage Sites in China.

Atul Khare from India studied two Masters, in Business Administration and Leadership at the University of Southern Queensland (USQ), and has had a long career with the United Nations, and was appointed the UN Under-Secretary-General for Field Support in March 2015. He credits his post-graduate studies at USQ as factor in enabling his success.

Australian students studying overseas also help to promote cultural and diplomatic proximity between Australia and other nations. Currently, one in seven Australian undergraduates undertake international study experiences. While this is roughly similar to statistics from the United States, Australia has a stronger focus in the Asia region, with 35% of Australian students choosing to study in the Asian region, compared to just 12% of students from the United States (SPRE, 2014). Promoting outbound mobility is another important part of a broader internationalisation strategy.

The New Colombo Plan, launched in 2015, is a signature initiative of the Australian Government that aims to lift knowledge of the Indo-Pacific in Australia and strengthen our people-to-people and institutional relationships, through study and work placement undertaken by Australian undergraduate students in the region. The New Colombo Plan Scholarship Program provides an opportunity for high achieving undergraduate students to undertake study in one of the eligible host locations across South Asia, South East Asia, North Asia and the Pacific. In 2016, 56 students from Bond University will work and study in China, Singapore and the Solomon Islands under the Scholarship Program. From the University of Queensland, 96 students will travel to countries such as India, Japan and Nepal on engineering and clinical based scholarships. In total, 634 students across six of Queensland’s higher education institutions are anticipated to participate in the New Colombo Program in 2016.

However, while Queensland may be able to leverage its proximity to the Asia Pacific region over domestic competitors in New South Wales and Victoria, and traditional competitors in North America and Europe, the proximity advantage may be less relevant against emerging regional competitors in Asia. As countries such as Singapore, Malaysia, Hong Kong and China continue to develop their local...
education capacity, they will similarly advantaged by proximity and disrupt the current proximity narrative.

5.2 Experience

Within the three broad student decision driver groups, experience is considered to have a relatively greater bearing than accessibility across all segments of international education and training and encompasses a range of factors both inside and outside the classroom.

5.2.1 Social and community participation

While there have been efforts Australia-wide to facilitate interaction between the students, they have had limited success, with international higher education students in Australia having lower satisfaction in areas such as ‘host friends’ and ‘local orientation’ rated compared to international benchmarks (DET, 2015d).

Within Australia, Queensland is potentially better positioned to deliver a truly global experience for international students through interaction with the local community compared to the other States. For instance, Queensland in particular prides itself on the friendliness of its people, and its multicultural communities. It has a lower proportion of international students on campus, making up 22% of total student enrolments compared to 34% in Victoria and 25% for Australia as a whole (DET, 2015a). This could potentially promote more chances for interaction with domestic students on campus. There are also international students from a more diverse number of source markets in Queensland, with the top five source markets in Queensland making up 46% of total enrolments across the four sub-sectors, compared to 51% for Australia as a whole. This trend is likely to be reflected in the wider community as well, and promotes a truly international and multicultural experience. However, realisation will involve the active efforts and coordination of the government (at both State and local levels), the local community, and the education institutions.

5.2.2 Working during studies

The sizeable tourism industry in Queensland compared to other jurisdictions and the availability of part-time work during studies could be another advantage for the State in attracting international students. For instance, 3.5% of GSP in 2013-14 can be attributed to direct tourism, while 5.6% of the Queensland workforce was directly employed in tourism. This is higher than both New South Wales and Victoria (TRA, 2015a). Given the labour shortages in tourism, with an estimated shortage of nearly 10,400 workers in Queensland, and the part-time nature of jobs, this could be a factor of consideration for international students who are supporting themselves financially during studies (Deloitte Access Economics, 2015b). The Austrade growth target of doubling tourism expenditure (from 2010) by 2020, suggest that there will be additional jobs in the future. Jobs in the tourism sector could utilise the bilingual capacities of international students, promote further integration into the community, and equip them with the soft skills needed for future employment.

Australia more broadly compares favourably with traditional international competitors, such as the United States. Currently, international students in Australia are permitted to work for up to 40 hours every fortnight while their course is in session, and unrestricted hours during any scheduled course break. In the United States, there are strict restrictions around student work off-campus, limited to those students under “severe economic hardship” (United States Department of Homeland Security,
Australia’s policies encourage students across the education sector to work, including students in school.

5.2.3 Lifestyle

One of Queensland’s primary advantages has long been the lifestyle experience associated with the State’s attractive climate and natural beauty. The State’s regions provide the opportunity for a variety of unique experiences, ranging from the bustling of metropolitan life in Brisbane (South East Region), the relaxed lifestyle of coastal beach communities in the Gold Coast and Sunshine Coast, or the peace and quiet of rural towns in the Darling Downs. The wide range of lifestyle opportunities have been essential to attracting international students to the various regions, with approximately 28% of onshore international students located outside of Brisbane (Deloitte Access Economics, 2016a). This is significantly higher than the national average. Workshop participants have noted that it is important to celebrate the unique experiences and features of each region, and to have a nuanced strategy that leverages the strengths of each region for each type of student. This could also be important for combating the singular association of Queensland with beaches, and the consequent perception that Queensland is a tourist rather than a study destination.

A summary of the regional experience differentiators can be found in Table 5.3.

Table 5.3: Lifestyle points of differentiation for Queensland regions

<table>
<thead>
<tr>
<th>Region</th>
<th>Lifestyle experience differentiators</th>
</tr>
</thead>
</table>
| Brisbane (South East region) | - Queensland’s largest city, positioned around the Brisbane river provides a laid back city lifestyle, with warm and hot temperature for most of the year  
- Gateway to the rest of Queensland and Brisbane hosts the range of retail, entertainment and dining options expected of a globalised city |
| Bundaberg (Wide Bay Burnett region) | - Provides both a coastal and country experience, and has a sub-tropical wet climate with mild winters  
- Mon Repos beach renowned for largest concentration of nesting marine turtles on the eastern Australia mainland and is one of the largest loggerhead turtle rookeries in the South Pacific Ocean |
| Rockhampton and Gladstone (Central Queensland) | - Humid, sub-tropical climate with no dry season – year round rainfall means that it is constantly moist and green  
- Mount Archer National Park, Rockhampton Botanic Gardens (heritage listed) and Rockhampton Zoo |
| Darling Downs (SQC) | - Country lifestyle. Ideal destination for food, outback tourism and the annual Toowoomba Carnival of Flowers is Australia’s longest running floral event. |
| Fraser Coast | - Contains the Great Sandy Biosphere area, recognised internationally in 2010 for its unique environmental values, and the subregion is home to areas of critical environment and geological distinctiveness, including the World Heritage area of Fraser Island  
- Coastal waters also host humpback whales on their annual migrations and Fraser Coasts is a gateway to Frasers Island |
| Gold Coast | - City on Australia’s best beaches with sub-tropical rainforest, shopping and entertainment (sport and conventions). There are 13.5 billion in major infrastructure projects in preparation of the Commonwealth Games in 2018 |
While Queensland offers a range of natural wonders, it has comparatively less to offer in culture compared to New South Wales and Victoria. Consequently, while Brisbane and the Gold Coast were ranked the 18th and 69th most liveable city for students in the world, it is ranked behind Sydney (ranked 2nd) and Melbourne (ranked 4th) (QS Top Universities, 2015b). Further, given the consistent theme of focus for the international education strategies of competitors, including United Kingdom and Canada, on enhancement of lifestyle and culture, Queensland cannot rely purely on its natural assets.

5.2.4 Accommodation and infrastructure

In addition to the affordability of existing accommodation in Queensland compared to New South Wales and Victoria (see section 5.1), Queensland is also strongly positioned to increase its supply high quality accommodation (suitable for a range of student needs) to meet future needs. For instance, research by JLL (2015) indicates that Brisbane currently has over 8,600 (purpose built student accommodation) beds in various stages development, which could increase existing supply by approximately 91% by 2019.

Assuming 40% of all international students in 2014 demanded purpose build student accommodation, it is found that the accommodation developments will lead to Brisbane having the smallest projected gap in beds compared to Sydney and Melbourne. Only 46% of international students demanding purpose built student accommodation are required to turn to the private rental market, compared to 60% for Sydney and 75% for Melbourne (Table 5.4).
The opportunity and imperative for Queensland’s international education and training sector

Table 5.4: Accommodation supply analysis and forecast by State capital

<table>
<thead>
<tr>
<th>Accommodation supply analysis</th>
<th>Brisbane</th>
<th>Sydney</th>
<th>Melbourne</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of international students (2014)</td>
<td>33,424</td>
<td>49,124</td>
<td>92,167</td>
</tr>
<tr>
<td>Existing supply</td>
<td>9,454</td>
<td>14,809</td>
<td>15,988</td>
</tr>
<tr>
<td>Pipeline supply</td>
<td>8,661</td>
<td>4,954</td>
<td>6,856</td>
</tr>
<tr>
<td>Existing gap</td>
<td>23,970</td>
<td>34,315</td>
<td>76,179</td>
</tr>
<tr>
<td>Residual gap if pipeline is delivered</td>
<td>15,309</td>
<td>29,361</td>
<td>69,323</td>
</tr>
<tr>
<td><strong>Expected residual gap as % of total demand</strong></td>
<td>46%</td>
<td>60%</td>
<td>75%</td>
</tr>
</tbody>
</table>

Source: JLL (2015)

Outside of Brisbane, there is greater capacity still to develop residential accommodation and support a growing population including international students. The latest Broad hectare studies for relevant council areas in the tourism regions suggest that Whitsunday, Townsville, and Fraser Coast can support the largest additional population relative to its current population (Table 5.5). For instance, Whitsunday has enough unconstrained residential land to support an additional 30,400 people, based on the current average dwelling sizes and number of persons per household. In absolute terms, the Gold Coast can support the most population growth of any Queensland region, at 125,000 persons.

Table 5.5: Residential accommodation capacity by Queensland regions

<table>
<thead>
<tr>
<th>Tourism Region</th>
<th>Broad hectare study area</th>
<th>Year of study</th>
<th>Expected potential additional population</th>
<th>% of then population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brisbane</td>
<td>Brisbane</td>
<td>2013</td>
<td>115,000</td>
<td>10%</td>
</tr>
<tr>
<td>Bundaberg</td>
<td>Bundaberg</td>
<td>2015</td>
<td>41,600</td>
<td>44%</td>
</tr>
<tr>
<td>Central Queensland</td>
<td>Rockhampton</td>
<td>2012</td>
<td>24,600</td>
<td>22%</td>
</tr>
<tr>
<td>Darling Downs</td>
<td>Toowoomba</td>
<td>2012</td>
<td>55,200</td>
<td>36%</td>
</tr>
<tr>
<td>Fraser Coast</td>
<td>Fraser Coast</td>
<td>2015</td>
<td>54,300</td>
<td>54%</td>
</tr>
<tr>
<td>Gold Coast</td>
<td>Gold Coast</td>
<td>2012</td>
<td>125,000</td>
<td>24%</td>
</tr>
<tr>
<td>Mackay</td>
<td>Mackay</td>
<td>2015</td>
<td>46,100</td>
<td>37%</td>
</tr>
<tr>
<td>Northern</td>
<td>Townsville</td>
<td>2014</td>
<td>123,900</td>
<td>65%</td>
</tr>
<tr>
<td>Outback</td>
<td>Mt Isa</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Sunshine Coast</td>
<td>Sunshine Coast</td>
<td>2013</td>
<td>101,200</td>
<td>31%</td>
</tr>
<tr>
<td>Tropical North Queensland</td>
<td>Cairns</td>
<td>2014</td>
<td>68,400</td>
<td>44%</td>
</tr>
<tr>
<td>Whitsundays</td>
<td>Whitsunday</td>
<td>2015</td>
<td>30,400</td>
<td>89%</td>
</tr>
</tbody>
</table>

Source: QGSO (2015)

Furthermore, there are plans to expand and enhance current public transport infrastructures for most of Queensland’s regions. With ten of Australia’s 30 largest cities located in Queensland and State population projected to nearly double by 2044, planning for the provision of transport services throughout metropolitan and regional areas has been recognised as essential to supporting growth and is recognised each regional plan. Increased public transport will compliment Queensland’s advantage of providing international students with concession cards, and mean increased accessibility for international students.

Depending on the city or town, the cost of accommodation is variable across Queensland. Remote regions with mining industries have the highest cost of housing, contributing to a state-wide variation of 131.2% in median weekly rents for dwellings, electricity and other household fuels (QGSO, 2013). Amongst popular destinations for international students, Brisbane and the Gold Coast had similar high
median weekly rents. Notably cheaper housing can be found in Toowoomba, Cairns, and Gatton with weekly rent being 11.6%, 20.4% and 24.1% below Brisbane respectively.

Increasing inbound international education to destinations with lower weekly median rent means that accommodation for international learners will be lower. This will lead to increased affordability and satisfaction with the overall international learning experience. There is particular opportunity in lower cost housing regions with universities such as Cairns and Gatton.

Overall, the high accommodation costs in Australia have become a point of relative dissatisfaction for international learners, with only 49% of surveyed learners satisfied with accommodation costs (DET, 2014b). The constraint on accommodation and other infrastructure, such as classrooms and laboratories, could act as a brake on the amount of growth sustainable in the industry.

5.3 Outcomes

As employment and employment outcomes for graduates are among the most important choice drivers for international students, Queensland education providers will need to demonstrate their positive outcomes to in order to fully meet the available growth opportunities.

5.3.1 Quality of education

While the top ranked university in Queensland, the University of Queensland (46th), is similarly ranked to the top universities of New South Wales (University of Sydney at 45th and Victoria (University of Melbourne at 42nd) under the 2015 QS Rankings, top Queensland universities are ranked lower on average than universities from New South Wales and Victoria (Chart 5.4). Similarly, in the Times Higher Education (THE) World University Rankings and the Academic Ranking of World Universities (ARWU), Queensland universities are ranked lower on average compared to the other two States.

Workshop participants have also raised the possibility of a negative spiral between rankings and international student enrolments. Without the fees from international students, universities in Queensland will have fewer resources to hire high calibre staff for research, without which university rankings will drop further. This could potentially then lead to fewer international student enrolments as rankings are the most visible proxy measure of quality for students.
However, Queensland universities are performing relatively strongly in subjects such as agriculture and forestry, biological sciences, and environmental sciences, compared to New South Wales and Victoria. The location, unique climates, industrial strengths and natural assets of each Queensland regions could also potentially lend themselves to excelling or performing well in specific subject areas such as mining, agriculture and tropical medicine. Given the increased sophistication of international students in choosing universities based on the rankings in their areas of interest, communicating the niche strengths of different Queensland universities will be essential in reaching particular students. The industrial strengths of the regions will be discussed below under ‘employability’.

Further, Tropical North Queensland’s international education and training providers have experience and expertise in tropical fields, including tropical medicine and economy, disaster management, and marine biology, and has the potential to be further marketed to reach developing markets with similar needs. Such markets include Papua New Guinea and the Philippines – two markets that already make the top five markets for the Queensland VET public sub-sector. JCU has already undertaken efforts to incorporate a distinctive focus on sustainability and the tropics into its curriculum.

As the global focus on research and development shifts towards Asia, it is likely that the rankings of universities from Queensland’s emerging international competitors will rise and Queensland’s relative position could decrease. For instance, according to a study by the OECD in 2014, research and development expenditure in China doubled from 2008 to 2012, and is projected to become the largest spending country in the world by 2019. Further, Malaysia is hoping to have two institutions ranked in the global 100 by 2025 (ICEF Monitor, 2015).

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18 Strong performance by a state in a particular subject is proxied by a high proportion of schools placed within the top 500 in the subject, compared to the number of universities placed within the top 500 overall using QS University rankings.
Further, given that international or national rankings for quality are only available for universities, this section has focused on the higher education sector. This also suggests that effective communication of the high quality of education by other sub-sectors through alternative means, such as student feedback and surveys, Year 12 results and the OECD’s Programme for International Student Assessment (PISA) results, could attract more international students to Queensland.

5.3.2 Post-study employability

While Australia overall is rated as third for graduate employment opportunities behind the United States and Canada (IDP Research, 2013), workshop participants noted that many international students viewed Queensland as having less employment opportunities than New South Wales and Victoria, which could discourage them from studying in the State.

However, Queensland as a whole, and the individual regions have industrial strengths that should be communicated clearly to attract potential students interested in those particular fields. At the state-level, the industrial strength has been approximated by the proportion of workers employed in a particular industry (relative to the entire workforce) in Queensland, compared to New South Wales and Victoria. A higher proportion of workers imply, all other factors equal, that the region has a comparative advantage in a particular sector and consequently focuses its resources accordingly.

Based on average its full-time equivalent (FTE) work force figures from the ABS (2015b) over the 2014 period, Queensland has an industrial advantage in mining, construction, and health care and training, compared to both New South Wales and Victoria. Conversely, while Agriculture, Forestry and Fishing has always been thought of as one of Queensland’s advantage areas, employment in 2014 is lower than both New South Wales and Victoria. The full comparison over the industries in 2014 is shown in Table 5.6.

While the ‘information media and telecommunications’ and ‘professional, scientific and technical services’ industries are currently more significant in the New South Wales and Victoria economies, the Queensland Government’s commitment to transitioning to a new knowledge-based economy, could create future opportunities in these sectors. For instance, the Government has committed $180 million over the next four years under the Advance Queensland initiative to promote innovation and an entrepreneurial culture.

There are also differences in industrial strengths and employment opportunities between the regions, with industrial strength in the regions proxied by the proportion of employed in each industry according to the 2011 ABS Census data (the latest available data) compared to the Queensland average.

It finds that the Darling Downs, Outback, and Bundaberg regions are particularly focused in agriculture in 2011 compared to Queensland as a whole. Further, subregions can also have niche focuses. For instance, Rockhampton in Central Queensland is renowned as the beef capital of Australia. There could potentially more post-study work experience opportunities for those students undertaking courses in livestock agriculture and farming. Given the expected increase in global demand for food that will accompany population growth, with the Asian demand for food is expected to rise by 77.0% by 2050 (Idso, 2011), there could be both increased international demand for agricultural exports direct or demand for knowledge and experience indirect from those regions.
The opportunity and imperative for Queensland’s international education and training sector

Table 5.6: Comparison of State FTE employment by industry, 2014

<table>
<thead>
<tr>
<th>Industry</th>
<th>NSW</th>
<th>Vic</th>
<th>Qld</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, Forestry and Fishing</td>
<td>3%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Mining</td>
<td>1%</td>
<td>1%</td>
<td>4%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>8%</td>
<td>11%</td>
<td>8%</td>
</tr>
<tr>
<td>Electricity, Gas, Water and Waste Services</td>
<td>1%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Construction</td>
<td>10%</td>
<td>9%</td>
<td>11%</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>4%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>9%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Accommodation and Food Services</td>
<td>6%</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Transport, Postal and Warehousing</td>
<td>6%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Information Media and Telecommunications</td>
<td>2%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Financial and Insurance Services</td>
<td>5%</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Rental, Hiring and Real Estate Services</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Professional, Scientific and Technical Services</td>
<td>9%</td>
<td>9%</td>
<td>8%</td>
</tr>
<tr>
<td>Administrative and Support Services</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Public Administration and Safety</td>
<td>6%</td>
<td>5%</td>
<td>7%</td>
</tr>
<tr>
<td>Education and Training</td>
<td>7%</td>
<td>8%</td>
<td>7%</td>
</tr>
<tr>
<td>Health Care and Social Assistance</td>
<td>11%</td>
<td>11%</td>
<td>12%</td>
</tr>
<tr>
<td>Arts and Recreation Services</td>
<td>1%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Other Services</td>
<td>4%</td>
<td>4%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Source: ABS (2015b)

Note: **Bold** represents proportion of Queensland employment in industry is greater than the share in either NSW or Vic, while **highlighted** represents a greater share than both.

The regions of Central Queensland, Mackay and Outback are particularly strong in mining. In particular, mining in Queensland comprises of coal mining, metal ore and other mining services, such as coal seam gas and liquefied natural gas. The JCU Mt Isa campus in Outback is perfectly placed to specialise in a mining curriculum. Other support regions also serve as industrial resource hubs that support the export of mining goods. Fitzroy is forecast to experience the largest share of employment growth in the mining sector. Much of this growth is driven by the operational skills requirements emerging in the sector.

Other regions, including Mackay and Townsville, are also expected to experience a solid increase in labour and skill demand. Mackay is a major service centre that supports the coal mining operations of the Bowen and Galilee basins. It has a significant proportion of its workforce employed in transport, postal and warehousing compared to the Queensland average. The region is home to 20 training firms that can deliver high growth services like mining safety and risk management. Townsville is the primary service and processing centre for base metals from Queensland’s North West Minerals Province (Queensland Government, 2015a). The **Townsville region has recognised the important role it plays in the mining industry and has highlighted the opportunity to position itself as training hub for the mining sector.**

**Bundaberg and the Sunshine Coast have an advantage and employment opportunities for workers in health care and social assistance.** With the development of the Sunshine Coast University Hospital, the region will be well placed to specialise in the provision of health qualifications and competencies.
Further, the South East Queensland regions of the Gold Coast and Sunshine Coast have an industrial advantage in construction. This means that universities and TAFE institution spread between the Sunshine Coast and the Gold Coast are well placed for those students looking to gain employment of experience in this area of work. Adding to this opportunity is the strong growth in the residential sector that the South East Corner is set to experience in the next five years (Urban Development Institute of Australia, 2014). Plans for construction represent an opportunity for international students studying VET qualifications in construction, concreting and electricity, or engineering in higher education; there may be opportunities for employment or work experience in this area of construction.

The capital city of Brisbane is the Queensland leader in professional, scientific and technical services, and ranks above the national average. There is also the potential for positive synergies with the other industrial strengths of the State. For instance, Brisbane specialises in mining technology sciences, with the hub worth more than $1 billion, or 60% of world demand for mining software (Queensland Government, 2015b). Furthermore, workshop participants have also noted that Brisbane is the Australian base on multinational companies such as Boeing and General Electric.

Tropical Northern Queensland also has an industrial advantage in aviation, with Cairns boasting the largest avionic facility in Australia. Further, it is the only recognised service facility in the Southern Hemisphere Cairns for Bombardier's Dash 8 Q-Series aircrafts, which are important regional passenger planes.

Furthermore, within Queensland, the regions of Tropical North Queensland, Gold Coast and the Sunshine Coast have a higher proportion of its workforce employed in tourism and hospitality related industries such as accommodation and food services, retail trade, and arts and recreation services.

In addition to the industrial strengths of each region, the labour market context for each region should also be considered, in order to more fully articulate the employment prospects of international higher education and VET students both during and post-studies. The opportunity to gain relevant work experience during and post study are important considering that the complete learner experience is no longer seen as ending with the awarding of a degree or qualification. Learners now increasingly regard post-study work experience as an integral part of the education ‘package’ – and it is the combination of industrial and labour market strengths that provide improved employment opportunities for graduates. Table 5.7 shows the unemployment and participation rate for each labour force region in Queensland (which are equivalent to the ABS Statistical Area Level 4 regions).
The opportunity and imperative for Queensland’s international education and training sector

Table 5.7: Key labour market indicators for Queensland regions

<table>
<thead>
<tr>
<th>Labour force region (SA4)</th>
<th>Unemployment Rate (Jan 2016, %)</th>
<th>Participation Rate (Jan 2016, %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brisbane - East</td>
<td>5.5</td>
<td>71.0</td>
</tr>
<tr>
<td>Brisbane - North</td>
<td>6.3</td>
<td>67.9</td>
</tr>
<tr>
<td>Brisbane - South</td>
<td>5.7</td>
<td>72.4</td>
</tr>
<tr>
<td>Brisbane - West</td>
<td>4.9</td>
<td>69.6</td>
</tr>
<tr>
<td>Brisbane - Inner City</td>
<td>3.2</td>
<td>74.6</td>
</tr>
<tr>
<td>Ipswich</td>
<td>8.1</td>
<td>65.2</td>
</tr>
<tr>
<td>Logan - Beaudesert</td>
<td>6.0</td>
<td>56.0</td>
</tr>
<tr>
<td>Moreton Bay - North</td>
<td>6.8</td>
<td>60.9</td>
</tr>
<tr>
<td>Moreton Bay - South</td>
<td>5.9</td>
<td>74.0</td>
</tr>
<tr>
<td>Cairns</td>
<td>7.2</td>
<td>59.5</td>
</tr>
<tr>
<td>Darling Downs - Maranoa</td>
<td>3.3</td>
<td>65.5</td>
</tr>
<tr>
<td>Fitzroy</td>
<td>5.7</td>
<td>68.7</td>
</tr>
<tr>
<td>Gold Coast</td>
<td>5.0</td>
<td>70.6</td>
</tr>
<tr>
<td>Mackay</td>
<td>6.9</td>
<td>68.9</td>
</tr>
<tr>
<td>Queensland - Outback</td>
<td>14.6</td>
<td>61.5</td>
</tr>
<tr>
<td>Sunshine Coast</td>
<td>4.8</td>
<td>63.4</td>
</tr>
<tr>
<td>Toowoomba</td>
<td>4.1</td>
<td>63.2</td>
</tr>
<tr>
<td>Townsville</td>
<td>7.1</td>
<td>62.1</td>
</tr>
<tr>
<td>Wide Bay</td>
<td>8.4</td>
<td>50.4</td>
</tr>
<tr>
<td><strong>Queensland</strong></td>
<td><strong>6.9</strong></td>
<td><strong>65.6</strong></td>
</tr>
<tr>
<td><strong>Australia</strong></td>
<td><strong>6.5</strong></td>
<td><strong>64.7</strong></td>
</tr>
</tbody>
</table>

Source: ABS (2016)

A region that has a low unemployment rate and a high participation rate suggests a strong labour market, and by implication, greater opportunities for those seeking employment (including international students). As a whole, Queensland has a slightly higher unemployment rate than Australia (6.9% compared to 6.5%), and a higher participation rate (65.6% compared to 64.7%).

The labour force regions of Brisbane – Inner City, Darling Downs – Maranoa and Toowoomba have the lowest unemployment rates (3.2%, 3.3% and 4.1% respectively), which are significantly lower than Queensland’s unemployment rate. Brisbane – Inner City has the highest participation rate of any of the regions (at 74.6%), and a similar story can be seen across the broader Brisbane metropolitan area. This reflects the geography and economic strengths of Brisbane as described earlier, and suggests that there is a strong labour market in these regions, which increases the employment prospects for international higher education and VET graduates.

In contrast, Darling Downs – Maranoa and Toowoomba rank 10th and 13th respectively in terms of participation rates. However, this is not to say that there are no job opportunities for international students in these areas during or post-study; rather that potential employers have a larger group of potential applicants (who are currently unemployed, or through inducing those not currently participating to enter the labour force) to draw upon.

Other regions that have reasonably low unemployment and high participation include the Gold Coast (5.0% unemployment, 70.6% participation), and Moreton Bay – South (5.9% unemployment, 74%
participation) – reflecting the Gold Coast’s strong tourism, hospitality and construction sectors, and Moreton Bay’s proximity to Brisbane and its strength in the growing health care and social assistance industry. **In order to utilise the industrial strengths and leverage the labour market context of each region to its fullest, there needs to be collaboration between the education sector, Government, and business sector to promote internships, equip students with soft skills, and secure employment opportunities in their relevant disciplines upon graduation.** A cohesive and coordinated approach to international education and training and its growth will help to ensure that a consistent and fully articulated message about the benefits of studying in Queensland is presented to students. The following section describes steps that the sector can take in order to realise the opportunities that lie ahead.
6 Realising the growth opportunities

Key points – Realising the growth opportunities

• Deliberate, targeted and active collaboration between State Government, industry, the wider Queensland community and businesses is required to fully realise the growth opportunities in international education and training.

• The average lower cost of studying and living in Queensland, particularly in regional Queensland, combined with the State’s strong regional aviation infrastructure supports accessibility by international students to both the capital city and regional centres. This is complemented by the overall Australian advantage of a strong pathway system, and large alumni network.

• A quality education experience, matching the needs of a range of student segments, could potentially be supported by Queensland’s capacity for infrastructure, availability of casual jobs in tourism, varied lifestyles, diverse and attractive landscape, and above all else, its friendly and multicultural communities. This is supported by the overall international image of Australia as a safe place for international students compared to international competitors.

• While Queensland may not have as many universities ranked as highly as domestic competitors such as New South Wales and Victoria, and Australia as a whole lags behind the United States and United Kingdom, it can compete on outcomes in niche areas of advantage. For instance, Queensland universities as a whole are ranked strongly in agriculture and forestry, biological sciences, and environmental sciences. The State can also leverage its industrial advantage in mining, construction, and health care and training.

• The differences in industrial strengths and employment opportunities between the regions should also be emphasised to target the appropriate market segments.

The realisation of the growth opportunities in international education and training, both onshore and offshore, requires a strategy that matches the unique needs of international student segments with the comparative advantages of Queensland and its regions. It is important for the Queensland Government to take a leadership position and help to coordinate the institutions and communicate the State regional comparative advantages. Growing Queensland’s international student market does not necessarily have to be a zero sum game. If Queensland can effectively communicate strengths that other States may not have, or focus on new types of student, it can unveil a new facet of the Australian international education and training experience, and increase Australia’s overall share of the global market.

Competition for international education intensifies both from domestic and international competitors and disruptive technological trends such as the rise of online delivery methods. Countries that have traditionally been priority source markets for international education, including Malaysia, Taiwan, South Korea, Japan, Singapore, and China, are now repositioning themselves as study destinations. These seismic changes emphasise the need for a clear, comprehensive strategy for international education in Queensland. Appendix L provides a summary of the international education targets set by Queensland’s competitors in Australia and abroad.

Deloitte Access Economics finds that Queensland’s potential comparative advantage lies beyond just its perceived beach lifestyle and culture, encompassing a host of other advantages across the spectrum of accessibility, experience, and outcomes. An effective strategy would require the clear leadership, governance and connectivity of the industry in building a comprehensive experience ‘package’ and the research and communication of those strengths to the relevant student segments.
Further, Queensland’s advantage also lies in the niche strengths of its regions. These regional comparative advantages need to clearly articulated and targeted at particular segments of markets of interest, in order to attract the best fit international students. As raised by workshop participants, this requires a stratified strategy that emphasises regional differences, while falling under a central ‘Brand Queensland’ and shows how this fits in with the broader ‘Brand Australia’. Such a strategy should also be aligned with and complement Queensland’s tourism marketing strategies, given the importance and prominence of tourism as an export for the State. A single approach to marketing can also create scale in branding and promotion that would not be achievable by individual or small regional groups of institutions acting alone. There is also a role for Government in ensuring that policies and regulation support and encourage the growth of, and incentivise investment in the international education and training sector, whilst also ensuring that there are safeguards for education quality and consumer protections in place.

6.1 Accessibility

Queensland should leverage its proximity to key source markets in the Asia Pacific region, and develop further bilateral relationships with foreign public and private education providers, at both the State and local levels. For instance, this could be through building upon sister city, State or school relationships. To further cultural ties, the institutions should harness the word of mouth powers of its alumni network, and promote further outbound mobility of Queensland students, particularly to neighbouring countries in the Asia Pacific region.

Given the uncertainty and increased competition in the offshore market, partnerships with the appropriate local parties with the right experience and resources, is likely to be the most appropriate strategy going forward. The Queensland government can play a market intelligence role to play to ensure that Queensland realises the available opportunities in the offshore space (International Education Advisory Council, 2013). In particular, they can utilise their offshore networks to help identify the markets with the most potential, and facilitate links between Queensland institutions and businesses with potential partners. This is important for both established offshore sub-sectors such as higher education or VET, and emerging sub-sectors such as edTech and professional development courses targeting businesses, as these partnerships can provide Queensland institutions with deeper understanding of local needs in markets, thereby allowing them to tailor their products appropriately.

6.2 Experience

Queensland is well placed to offer a world-class international student experience, not just in its capital city, but through its diverse regions. Recognising Queensland’s strong aviation and transport infrastructure, additional capacity for accommodation supply, workshop participants have raised the prospect of providing a quality, streamlined and rewarding student experiences from arrival to departure. For instance, this could include welcome and orientation from ‘millennial’ greeters (i.e. between the age of 15-29 years) and a mentoring system, enhanced interactions with the wider community, and support for access to accommodation and internship or employment opportunities. This has the potential to be tailored for the student segments.

For instance, the average ELICOS student may prefer a package experience that highlights the beach lifestyle and natural beauty of the region, and offers leisure travel opportunities. Meanwhile, the average higher education or VET student may prefer a ‘package’ that combines access to
accommodation (and rental rights), a quieter lifestyle conducive to studying, and internship opportunities in their field of education.

To ensure positive student experiences and that students do not experience the challenges brought about by English language deficiency (Orth, 2015) and differences in cultural beliefs and values (Orth, 2015; Deresky & Christopher, 2012), it will be important to promote and cater for a multicultural society not only in Queensland education institutions but in the general community. Encouragingly, each regional plan recognises the value of cultural diversity and intends to promote and cater to it.

Pursuing these opportunities for cross-industry collaboration could lead to more successful ‘edu-tourism’ products that leverage the strengths of each region and promote Queensland’s international education and training sector. For instance, ‘edu-tourism’ in Townsville has successfully brought together tourism operators and education and research providers in the region, and offers 16 unique courses in marine life, ecology and the environment. Institutions could also work with businesses and other organisations to provide work-integrated learning and internship opportunities to students that are related to their degree. This would allow students to gain valuable work experience and networks that could assist them in finding employment post-graduation. The focus on experience can be especially important for Queensland given the relative importance placed on experience by school and ELICOS students.

6.3 Outcomes

While Queensland may not have as many universities ranked as highly as domestic competitors such as New South Wales and Victoria, and Australia as a whole lags behind the United States and United Kingdom, a strong profiling of the State and its education providers can be essential in pinpointing the advantage areas of strength and the niche fields to focus in. For instance, Queensland universities are well placed against domestic rivals in agriculture and forestry, biological sciences, and environmental sciences, while JCU is likely to be a world leader in tropical-related fields.

Post-study employability of international students can also be supported by the internationalisation of the curriculum, to focus on the ‘21st century skills’ such as communication, problem solving and collaboration, that will support international students whether they choose to continue to work in Australia, their home country or a third country. The internationalisation of the curriculum can also support domestic students, and help them succeed in a globalised world.

Given the emphasis placed on employment outcomes by prospective students, there should also be a clear communication of the State and region’s industrial strengths (section 5.3). In particular, industrial strength has to be translated into internship and post-study work experience opportunities for international students. This requires the cooperation and collaboration of a range of stakeholders, from the education providers, to the Government (at both State and local levels), and businesses. A highly skilled workforce will also support Queensland’s vision for transitioning into a sustainable, resilient, new economy based on a culture of innovation and entrepreneurship.
7 Conclusions and next steps

Queensland has been able to successfully build the third largest international education and training market in Australia so far. In the face of intense and growing competition, domestically and from traditional and emerging competitors overseas, State-specific comparative advantages need to maintained and strengthened in order to realise the significant global opportunity that exists for this sector. These include:

- extending marketing of the State’s natural beauty, warm climate and alluring lifestyle to not only appeal to holidaymakers who come for short study periods but also open up pathways for international learners to undertake more permanent studies in Queensland;
- leveraging the State’s standing as the most affordable Australian east coast destination for onshore international education and training, in terms of the overall cost of living, course fees and the value it represents (particularly in specific fields of study);
- providing a safe and multicultural society that welcomes international learners and supports deeper integration into the community and local businesses to foster long lasting ties;
- taking advantage of direct air transport access and proximity to source markets in Asia, including the importance of shared time-zones for synchronous online learning;
- utilising the unique benefits of Queensland’s regional learning opportunities, from tropical research in the north of the State, agricultural training in the central and south west, tourism and hospitality in the south east and creative industries in the capital; and
- offering a range of high quality educational opportunities that draw on Queensland’s inherent industrial structure and are in line with the high value added and ‘soft’ skills demanded in the modern world economy.

As is often the case with simultaneously implementing state-based and national industry strategies, there is a basic tension between ensuring that a Queensland international education strategy is sufficiently aligned with the national strategy, while at the same time ensuring it provides a sufficiently differentiated basis for competition. It is imperative that Queensland’s comparative advantages are leveraged to ensure the State achieves a growing share of the demand for international education in Australia. Scenario analysis indicates that if Queensland were to grow its current market share of enrolments of just over 16% to a share that is equal to its share of the national economy of 20.1% within the next decade, the State’s onshore enrolments could reach 193,550 by 2026 — an increase of 42,700, or 28%, above the baseline ‘no strategy’ case.

How Queensland international education and training is branded will also play a role in promoting the State to targeted source markets and segments. This necessitates the development of a differentiated Queensland brand that strikes a balance between highlighting the State’s regional diversity without masking the core consistent message of ‘Brand Queensland’. This includes counter balancing perceptions that appeal to students and their parents — for instance, moving away from the concept that Queensland is primarily a holiday destination and that holiday destinations regions may not have high quality education offerings.
Enablers

As the contemporary empirical literature on this topic suggests, the international education and training sector needs to ensure the right enablers are in place across the identified themes of accessibility, experience and outcomes, to capitalise on Queensland’s strengths.

Accessibility

Though key accessibility student decision drivers such as visa settings are largely outside the control of the Queensland sector, it is important that institutions in the State continue to promote and open up education pathways and ensure course costs are competitively priced. This includes developing source market strategies that look to retain a greater share of students through the academic spectrum in Queensland, both onshore and offshore. Encouraging a supportive framework for start-ups, new technologies and Queensland businesses to collaborate and partner with one another across the education sector can also serve to heighten enrolments and returns.

Encouraging partnerships that facilitate the bilateral movement of students from Queensland to overseas, and international students to the State, such as franchising in schools and the tertiary onshore, is one example. Another is the potential to attract students to Queensland from courses they have undertaken online. It is also likely that learners that have studied in Queensland onshore are more inclined to undertake offshore programs offered by Queensland providers.

Experience

It is important for students to feel genuinely welcomed, safe, respected and valued in the broader community. Adopting a streamlined ‘whole user’ experience model that increases the ease with which students acclimate to life in Queensland, from arrival to departure, can greatly enhance not only student experience, but also the perceptions relayed to their friends and family abroad in this highly digital era. Such an approach recognises that word of mouth and a positive student experience can bolster Queensland’s tourism industry by bringing more visiting friends and family of students to the State.

This could include options such as welcoming ceremonies, connecting students to support networks and host families, ensuring there is sufficient and affordable accommodation and developing rewarding employment opportunities. The whole user experience should acknowledge the key experience tastes and preferences by source market and the distinctions between the practical requirements of Queensland’s large short-stay student population and those staying for a longer period of time.

Outcomes

Ensuring that Queensland international education and training provides the further study or employment outcomes sought by learners is important. In this respect, the internationalisation of curriculum in common fields of study in Queensland and across Australia is one means of improving the employability of highly mobile international students. This is an action that would simultaneously prepare domestic students for the modern, more globalised economy.

There is also potential to increase the number of employment opportunities available to international learners during study and after graduation (depending also on the Commonwealth’s migration policy). In the coming decade, as more of Queensland’s enrolment mix is comprised of students from
emerging source markets with lower purchasing power, the ability to offset the costs of study through part-time work will become more important. Education-related professional internships with businesses have also been found to be a strong drawcard internationally. Leveraging the presence of multinational businesses to connect students with employment opportunities that can be transferred back to source markets is also gaining momentum internationally.

Perhaps more than in other categories, improving post study outcomes requires the greatest collaboration with the business community. Here, the State Government can play a facilitator role, in promoting the importance of international education and training to the Queensland economy, culturally and by increasing the State’s profile on an international stage.

**Further research and data collection**

In aid of these strategic endeavours, there are opportunities for further research and data collection, including to:

- segment key source markets to understand the different decision making drivers and also allow for customisation of product and messaging by audience;
- understand supply-side constraints (including capacity and capability), of onshore and offshore, and support business models and products that take advantage of the dimensioned opportunities and avoid supply constraints;
- identify markets most open to partnering in international education and training with Queensland institutions in terms of research and student mobility;
- develop process frameworks for collaborating and sharing lessons learned among the State’s regional providers (onshore and offshore, established and emerging), for instance, by profiling Queensland and other domestic success stories to see what lessons can be drawn from their experiences;
- analysis of yield and how this varies across the international education and training sector, source markets, private and public provision and length of stay;
- explore opportunities for providers to collaborate with industry to ensure the currency of qualifications with skills demanded and provide integrated work programs, given the importance of employment outcomes to learners in both Queensland’s metropolitan and regional areas; and
- develop a consistent and detailed regional evidence base that can support ongoing targeting and differentiation initiatives at the sub-state level.

This work would allow Queensland’s strongest advantages to be identified, and in combination with the findings of this report inform the Queensland International Education Strategy and developing of markets with the greatest growth potential.

**Implementation**

Finally, and perhaps most critically, successful strategy lies not in its articulation but in its implementation. In this sense, the following factors will be critical:

- **Implementation plan:** ensuring the intent of the Strategy is translated into clear, specific actionable tasks and initiatives with associated timelines and milestones.
The opportunity and imperative for Queensland’s international education and training sector

- Assignment and demarcation of responsibilities: ensuring that leadership for discrete components of the Strategy’s implementation plan – tasks, initiatives, programs, etc – is clearly assigned.

- Governance: ensuring the assigned roles and responsibilities sit within an overarching framework and are overseen by a set of guiding principles that ensure harmony, coordination and coherence.

- Capability and resourcing: ensuring the skills, capability and resourcing that underwrites the Strategy’s deployment is sufficient and appropriate to sustain its success.

- Engagement and buy in: ensuring that the Strategy is implemented in a fashion that engenders the support and commitment of those party to its success (or otherwise). An effective communication strategy is integral.

- Monitoring, measurement and modification: ensuring definitions of progress and success are clearly established and those mechanisms are put in place to monitor and periodically review the implementation – both as a basis for accountability and to enable refinement as conditions change.
Appendix A: Further detail on the Queensland international education and training sector’s profile

This appendix provides further detail on the current profile of the Queensland international education and training sector.

Onshore international education and training

Qualification level (higher education and VET)

Over time, the numbers of both onshore undergraduate and postgraduate higher education enrolments have grown in Australia. In 2014, undergraduate enrolments accounted for 53% of all Queensland onshore higher education enrolments, down from a high of 58% in 2012. The most popular undergraduate course for international students (in 2015) was a bachelor degree in business and management, with 2,700 enrolments and the most popular postgraduate course was a masters degree (by coursework) in business and management, with 1,500 enrolments. In contrast, the most popular courses nationally at the undergraduate and postgraduate level are accounting bachelor and masters (by coursework) degrees (TAFE QLD International, 2015a).

Almost half of all international onshore students at public VET providers in Queensland are undertaking a Diploma or above level qualification (Chart A.1), followed by those at the Certificate III and Certificate IV level (43%) in 2014 (NCVER, 2015a).

Chart A.1: Queensland onshore public VET provision by qualification level, 2014

Source: NCVER VOCSTATS (2015a)
Note: this only includes fee-for-service provision to international students by public VET providers. It is possible that the distribution of training across qualification levels at private providers may differ.
Field of education (higher education and VET)

While management and commerce is the most popular field of education in Queensland, accounting for 44% of all international higher education enrolments, it is less popular compared to Australia as a whole, where 49% of total enrolments are in this field. Courses in information technology, natural and physical sciences, agriculture, health, and non-award courses are more popular in Queensland than in Australia as a whole, while courses in architecture and building, engineering and related studies are less popular. The full distribution of higher education enrolments by field of education in 2014 is given in Chart A.2.

Chart A.2: Queensland onshore higher education enrolments by field of education, 2014

Source: DET (2015a)

For public VET provision, management and commerce is the largest field of education in Queensland (Chart A.3), and makes up proportionately more of the training delivered than Australia overall (38% compared with 28%). Provision of health training is likewise more popular in Queensland, standing at 11% compared with 6% nationally. In contrast, there are fewer onshore international enrolments in courses for the society and culture training, education, and food hospitality and personal services fields in Queensland relative to the rest of Australia.
The opportunity and imperative for Queensland’s international education and training sector

**Chart A.3: Queensland onshore public VET enrolments by field of education, 2014**

<table>
<thead>
<tr>
<th>Field of Education</th>
<th>QLD</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural and Physical Sciences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information Technology</td>
<td></td>
<td></td>
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<tr>
<td>Engineering and Related Technologies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Architecture and Building</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture Environmental and Related Studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management and Commerce</td>
<td></td>
<td></td>
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<tr>
<td>Society and Culture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creative Arts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food Hospitality and Personal Services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed Field Programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Award course</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: NCVER VOCSTATS (2015a)
Note: this only includes fee-for-service provision to international students by public VET providers. It is possible that the distribution of training across fields of education at private providers may differ.

There are also differences across public and private VET providers within Queensland in terms of the most popular courses. If there are significant differences in the distribution of training between public and private providers when comparing Queensland and Australia as a whole, this could influence the different distributions of training observed above. For private providers, Diploma level studies in Management and Commerce not further defined, Business and Management not further defined, and Certificate II level studies in Literacy and Numeracy Programmes are the most popular courses (TAFE Queensland International, 2015b). The popularity of these courses could be related to the relatively lower costs associated with delivering these courses – as they generally do not require providers to make significant capital investment in specialised equipment or facilities – making it easier for new providers to enter the market, and for existing providers to increase the scale of delivery to meet demand. The popularity of Certificate II level studies in Literacy and Numeracy Programmes at private VET providers could also be related to the marketing approaches of different providers and differences in student cohorts they enrol.

The most popular courses for international learners at public VET providers are Diploma level studies in Aircraft Maintenance Engineering, Nursing not elsewhere classified, and Certificate III level studies in Vehicle Mechanics, which are courses that require more specialised equipment and facilities. As a result, these courses tend to higher costs associated with their delivery and these costs can prevent new (generally private) providers entering the market, and existing providers (historically public providers, such as TAFE Queensland) have greater capacity to deliver qualifications in these fields.
Appendix B: Economic contribution modelling framework

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 company or industry.

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 territory 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.

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:

- **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 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 B.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 B.1: Economic activity accounting framework**

![Economic activity accounting framework diagram]

Source: Deloitte Access Economics.

Contribution studies generally outline employment generated by 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 (ABS 2015a).

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.

**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 20012-13 IO tables (2015c). The industry classification used for IO tables is based on ANZSIC, with 114 sectors in the modelling framework.
Appendix C: Student contribution estimation methodology

This section describes the methodology and data used to estimate the contribution of international students studying in Queensland in 2014-15 to the State. The contribution of international students studying in other states and territories to Queensland through indirect supplier links (such as through agriculture, or domestic tourism) 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) has not been considered.

2015 State Revenue

Australian Bureau of Statistics (ABS) data on the total export revenue of international students in Queensland is the starting point of analysis (ABS, 2015a). The ABS finds that in financial year 2014-15 (the latest available data), export revenue from onshore international students was equal to $2.7 billion. This includes both international student expenditure on fees and goods and services in Australia (excluding international airfares).

The calendar year 2015 revenue ($2.8 billion) was then estimated by applying the ABS national growth rate in education-related personal travel over the six month period (6%) to 2015 to the State figure (ABS, 2015). This implicitly assumes that international education and training in Queensland grew at the same rate as Australia as a whole. Any differences in the growth rate are likely to affect the accuracy of the consequent analysis and results.

Revenue by sub-sector, 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, SV 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 2014 DET enrolment figures by sub-sector (DET, 2015e) have been used to attribute revenue to the sub-sectors in Queensland. For instance, given that higher education enrolments in Queensland makes up 15% of national total, it is assumed that the revenue from fees is also equal to 15% of the national total, or approximately $989 million in dollar terms. The fee revenue from the other education sub-sectors is similarly apportioned. 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 Queensland based on enrolments. However, re-balancing adjustments have been made to ensure that the sum of expenditure on fees and goods and services equals to the State total. This can be thought of as accounting for the price differentials in living between states.

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19 At the time of estimation, DET data for 2014 was the latest full calendar year of data available.
The ABS export revenue figure does not include international student expenditure on international airfares with Australian carriers (IMF, 2009). This is instead attributed to export revenue for the aviation sector directly. However, given that international student expenditure on airfares is likely to directly support activity in the aviation sector that otherwise would not have occurred, this analysis estimates the amount of international airfares attributable to international students. Tourism Research Australia (2015c) reports that approximately 7% of total student expenditure on goods and services are likely to be on international airfares. Therefore, $88 million is added into the international airfares component resulting in an estimated total export expenditure of $2.9 billion from international education and training in Queensland in 2015.

A flow diagram of the data and methodology for estimating the export revenue attributable to Queensland international students in 2015 (by sub-sector, and category of expenditure) is shown below in Figure C.1.

**Figure C.1: Estimating export revenue for Queensland international students**

The consequent results are summarised below in Table C.1.

**Table C.1: International student expenditure in Queensland by sub-sector, 2015**

<table>
<thead>
<tr>
<th></th>
<th>HE</th>
<th>VET</th>
<th>Schools</th>
<th>ELICOS</th>
<th>Non-award</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fees ($M)</td>
<td>989</td>
<td>178</td>
<td>76</td>
<td>112</td>
<td>81</td>
<td>1,436</td>
</tr>
<tr>
<td>Goods and services ($M)</td>
<td>932</td>
<td>270</td>
<td>72</td>
<td>84</td>
<td>48</td>
<td>1,405</td>
</tr>
<tr>
<td>International airfares ($M)</td>
<td>58</td>
<td>17</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>88</td>
</tr>
<tr>
<td><strong>Total ($M)</strong></td>
<td><strong>1,979</strong></td>
<td><strong>465</strong></td>
<td><strong>153</strong></td>
<td><strong>201</strong></td>
<td><strong>131</strong></td>
<td><strong>2,929</strong></td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016); ABS (2015a); DET (2015e); TRA (2015c)

**Contribution**

From the estimated export revenue from international students in Queensland, the contribution from fees and goods and services are estimated using the methodology described below.
Fees

The fees of each education sub-sector are assigned to the relevant ANZSIC industries.\textsuperscript{20} The schools are put under the ‘Primary and Secondary Education Services (incl Pre-Schools and Special Schools)’ sub-sector; and ELICOS (SV) under ‘Arts, Sports, Adult and Other Education Services (incl community education)’. These are listed below in Table C.2.

<table>
<thead>
<tr>
<th>Mode/Sub-sector</th>
<th>IO category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher education</td>
<td>Direct calculation</td>
</tr>
<tr>
<td>VET</td>
<td>Technical, Vocational and Tertiary Education Services</td>
</tr>
<tr>
<td>Schools</td>
<td>Primary and Secondary Education Services</td>
</tr>
<tr>
<td>SV ELICOS</td>
<td>Arts, Sports, Adult and Other Education Services</td>
</tr>
<tr>
<td>Non-Award</td>
<td>Technical, Vocational and Tertiary Education Services</td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016)

For higher education, the revenue and expenses of the sub-sector are taken from the DET 2014 Finance Publication (2015c). 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 Queensland. 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 the University of New South Wales (2015c) and the University of Adelaide.\textsuperscript{21} It finds that of the university sub-sector’s expenditure on intermediate inputs, the three biggest expenditure items are contract services (35%), travel and entertainment (11%), and repairs and maintenance (10%).

Adjustments are also made to account for the proportion of expenditure that is likely to occur within the individual States and in the rest of Australia, based on past analysis by Deloitte Access Economics. It finds that approximately 60% of expenditure on intermediate inputs will occur within the State that the university is located in, 30% within the rest of Australia, with the remaining 10% 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, has 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.

\textsuperscript{20} 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 in either a higher education or VET course.

\textsuperscript{21} 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’.
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 put through the Deloitte Access Economics IO model under the relevant industries.

**Goods and services**

For student expenditure on goods and services, the total is on goods and services of $1.5 billion (including expenditure on international airfares) was apportioned to individual spending categories using TRA data on the spending of international students by source markets in Australia (2015b). The process is outlined as below:

- total expenditure is split across the source markets based on their enrolment share in Queensland (DET, 2015e);
- 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 $1.5 billion;
- for each source market, apportion their expenditure into individual categories based on the TRA data on the spending patterns of international students from that particular source market (TRA, 2015b).

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 Queensland 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); and
- the proportion of expenditure that is likely to be directly imported. Both are derived using the ABS 2012-13 IO tables.

These figures are then used to model both the direct and indirect value added and employment contribution from the living expenses of students during their studies in Australia. By using the 2012-13 IO tables, it is implicitly assumed that:

- the production structure in the overall sectors have remained constant;\(^{22}\) and
- the production structure is linear and an additional dollar of production will use the same resources as the average production in 2012-13.

\(^{22}\) This is a reasonable assumption given that whole sectors are unlikely to change production processes over the short term.
Appendix D: VFR contribution estimation

There are a few steps taken to estimate the number of visitors who were motivated to come to Queensland to visit an international student and their respective expenditures. First, information on visitors who indicated that visiting an international student was a reason for their trip to Australia was used. When filling out the International Visitor Survey, visitors were first asked their main reason for coming into Australia and subsequently asked the other reasons they had for coming to Australia. 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 Queensland 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 Queensland is not to have a holiday or visit friends and relatives are less likely to have been driven to come to Queensland by the presence of a friend or relative studying here.

Figure D.1 shows that out of a total population of visitors in Queensland, 132,994 visited an international student in Australia. Out of this group, only 14,058 visitors in Queensland were assumed to have come to Australia to visit an international student (their main reason for coming to Australia was either to holiday or visit friends and relative and they specifically indicated that a reason for coming to Australia was to visit an international student or relative). As the main objective of this study is to obtain the contribution of international students in Queensland to the Queensland’s economy, it is important to determine the number of visitors in Queensland who came to Queensland to visit an international student.

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

24 For consistency with the rest of the document, visitors who come to Queensland to visit an international student are based on the 2014-15 financial year. The larger group who visited an international student is based on the 2014 calendar year which was the latest period for which this data is available.
Figure D.1: Summary of visitation and expenditure by visiting friends and relatives

<table>
<thead>
<tr>
<th>Visitors in Qld</th>
<th>Visitor Nights in Qld</th>
<th>Expenditure in Qld</th>
</tr>
</thead>
<tbody>
<tr>
<td>132,994</td>
<td>3,089,909</td>
<td>$261m</td>
</tr>
<tr>
<td>Visited an International student in Australia</td>
<td>Visited an International student in Australia</td>
<td>Visited an International student in Australia</td>
</tr>
<tr>
<td>14,058</td>
<td>144,909</td>
<td>$19.6m</td>
</tr>
<tr>
<td>Came to visit an International student in Australia</td>
<td>Came to visit an International student in Australia</td>
<td>Came to visit an International student in Australia</td>
</tr>
<tr>
<td>11,107</td>
<td>114,495</td>
<td>$15.5m</td>
</tr>
<tr>
<td>Came to Qld to visit an International student</td>
<td>Came to Qld to visit an International student</td>
<td>Came to Qld to visit an International student</td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016)
Note: Expenditure in Australia excludes expenditure on education fees and education fee where purpose was not education.

There were 6,540 visitors (30,415 visitor nights) who arrived outside Queensland and spent time in Queensland visiting an International student. From Figure D.1 30,415 visitor nights had to be excluded from the 144,909 visitor nights (21%), to obtain the number of visitor nights in Queensland for visitors who came to Queensland to visit an international student. Therefore, in 2014-15, VFRs of international students in Queensland spent 114,495 visitor nights in the State leading to tourism expenditure worth $15.4 million. This is then adjusted to calendar 2015 figures by assuming the national growth rate in international student export revenue expenditure over the six month period as given in Appendix C. Total expenditure by VFR of international students studying in Queensland in 2015 is estimated to be $16.3 million.

Out of the $16.3 million spent by visitors who came to Queensland to visit an international student, expenditure on recreational, cultural and sporting services was adjusted upwards to account for non-market consumption based on ratios contained in the ABS Tourism Satellite Account (2015a). 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. This revision reduced the total level of expenditure from $16.3 million to $14.6 million as shown in Table D.1.
Table D.1: Expenditure on goods and services by VFR in Queensland, 2015

<table>
<thead>
<tr>
<th>Expenditure industry category</th>
<th>$M</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail trade</td>
<td>4.0</td>
<td>27.4</td>
</tr>
<tr>
<td>Food and beverage services</td>
<td>4.0</td>
<td>27.4</td>
</tr>
<tr>
<td>Accommodation</td>
<td>2.5</td>
<td>17.1</td>
</tr>
<tr>
<td>Rental and hiring services (except real estate)</td>
<td>1.3</td>
<td>8.9</td>
</tr>
<tr>
<td>Air and space transport</td>
<td>1.3</td>
<td>8.9</td>
</tr>
<tr>
<td>Sports and recreation</td>
<td>0.5</td>
<td>3.4</td>
</tr>
<tr>
<td>Road transport</td>
<td>0.5</td>
<td>3.4</td>
</tr>
<tr>
<td>Gambling</td>
<td>0.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Automotive and coal product manufacturing</td>
<td>0.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Travel agency and tour operator services</td>
<td>0.1</td>
<td>0.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>14.6</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016)
Note: The prices shown is at purchasers’ prices and not at basic prices.

The expenditures are then put through the Deloitte Access Economics IO model under the relevant industries.
Appendix E: Non-student visa ELICOS student contribution

Revenue estimation

The revenue from non-student visa (NSV) ELICOS students has been estimated using ABS (2015a) data on student visa (SV) ELICOS student revenue, DET data on SV ELICOS enrolments, and English Australia (2015) survey data on the likely size and characteristics of the NSV ELICOS cohort in Queensland including:

- the proportion of SV to NSV enrolments;
- the average length of study; and
- the average expenditure on fees (and goods and services) per week.

These are applied to the population SV data to estimate the likely size of the NSV population, and their expenditure on fees and goods and services.

While the English Australia annual survey, *English Australia Survey of Major ELICOS Regional Market* covers only part of the ELICOS provider population, it is the most up-to-date source of information with the widest coverage for the NSV ELICOS market. In 2015, it achieved an overall response rate of 48%, with the majority of responses (61%) from English Australia member organisations.

As the survey is skewed towards both English Australia members and large providers (with English Australia members reportedly covering 88% of total ELICOS enrolments in the sector), it is possible that responding providers may have different characteristics from non-responding providers and attract SV versus NSV international students in different proportions. Consequently, the accuracy of the estimation is likely to depend on the similarity between the sample respondents and the broader SV population.

Number of non-student visa enrolments

Assuming the DET student enrolment figures over the calendar year 2014 represent the true SV population in Queensland, the English Australia survey proportion of SV to NSV enrolments (47% of total ELICOS enrolments in Queensland were NSV) is applied to estimate the total number of NSV enrolments. Deloitte Access Economics estimates that there were approximately 23,620 NSV ELICOS enrolments in 2014.

Average number of weeks studied by SV and NSV enrolments

The English Australia survey provides the average student weeks for both NSV and SV enrolments in Queensland. It finds that the average NSV enrolment in Queensland is 6.1 weeks, compared to 16.0 weeks for SV enrolments.

Average fees (and living expenses) per week

Assuming the English Australia average SV enrolment week to be correct, the estimated export fees and expenditure on goods and services for the SV ELICOS sector (Appendix C) is divided by the number
of SV enrolment weeks to ascertain the average expenditure on fees, and goods and services per week for each state. This assumes that NSV students spend similar amounts on their fees and other goods and services as their SV counterparts.

Past Deloitte Access Economics Consultations have revealed that this may not necessarily be the case, with those students who have enrolled through agents or studying longer term likely to be paying discounted fees. This suggests that it is possible that NSV students, who study for shorter periods of time on average, are paying higher fees per week compared to their SV counterparts. Similarly, for NSV students who are also concurrently sightseeing during their studies, it is possible that they are spending more on other goods and services as well. However, due to limitations in the data, this report is unable to account for these differences.

A flow diagram of the relationship between the data elements is shown below in Figure E.1.

**Figure E.1: Estimating export revenue for Queensland NSV ELICOS students**

Using the methodology described above, Deloitte Access Economics estimates in 2014-15, NSV ELICOS revenue in Queensland was $62 million (Deloitte Access Economics, 2016a). Assuming the same six
month growth rate in the sub-sector as in the broader Australian international education and training sector, the 2015 revenue is estimated to be $66 million.

**Contribution**

Assuming the same consumption bundle as with other international students with student visas (TRA, 2015c), the expenditure by NSV ELICOS students are attributed to the relevant IO industries, and put through the in-house Deloitte Access Economics IO model. Full detail is given in Appendix C.
Appendix F: Regional student contribution methodology

In terms of calculating the regional student contribution for the 12 tourism regions in Queensland, the State revenue from international education is not split by fees and goods and services like for the state-level. Given the lack of student enrolment figures for each of the region, it would be challenging to apportion student fees into the 12 regions. Furthermore, the NSV ELICOS revenue is not split by region given the lack of information on student enrolments between regions.

Instead the total revenue at the state level is apportioned into the 12 tourism regions based on visitor night in Queensland data from the TRA, filtered by the main reason of trip as Education (2015c). The total revenue is assumed to be split between the same ANZSIC industries as the Queensland State. This implicitly assumes that students in each region are likely to be enrolled across the sub-sectors in the same proportions, which might not necessarily be the case.

These expenditures are also adjusted for both the price received by the domestic producers (basic price) by removing consumption taxes from the price paid by consumers (purchaser’s price), and the proportion of expenditure that is likely to be directly imported.

In order to assess a region’s capacity to supply intermediate inputs to the tourism sector – and, therefore, to rigorously quantify the indirect impacts at a regional level – Deloitte Access Economics has utilised a gravity modelling technique based on parameters that define the intermediate inputs relevant to each ‘tourism characteristic ‘ANZSIC industry and a corresponding analysis of the local industry base in each Tourism Region.

The inclusion of indirect effects in the regional TSA framework provides a more complete view of the total contribution of tourism to regional Queensland. Both the direct and indirect effects have been calculated using input-output analysis methods. The IO analysis method provides a breakdown of the supply and demand of commodities in the regional economy. As the tourism sector by nature does not have its own multiplier, a correspondence between the tourism consumption bundle and production industries is used to calculate a weighted tourism industry multiplier.

The multipliers measure the individual contribution of the supply industries and thus provide the benchmark for estimating direct and flow-on effects for tourism output, GVA, GRP, and employment.

Direct and indirect contributions

The indirect effect of tourism consumption is a broad notion that covers downstream and supplier effects of tourism demand. Intermediate inputs represent those goods and service which support the supply of the tourism product – the cleaning services that are inputted to the hotel sector; the fuel that is inputted to the aviation industry; the fruit and vegetables that are inputted to the restaurant industry. Together with any downstream impacts, it is these flow-on effects which determine the tourism industry’s indirect contribution. The indirect value added is mainly driven by demand for inputs, and those regions with industrial structures able to supply intermediary goods as explained in Figure F.1.
The opportunity and imperative for Queensland’s international education and training sector

Figure F.1: Significant supply flows for the retail, accommodation and food sectors

20-70% of the direct intermediate inputs to processed food sectors* are from primary agriculture

15-35% of the direct intermediate inputs to Retail, Accommodation, and Food and Beverage Services are taken from the processed food sector

95% of Queensland employment in primary agriculture occurs in regions outside Brisbane

50% of Queensland employment in processed foods occurs in regions outside Brisbane

More specifically, Table F.1 shows the regional effects of indirect flow-on effects from the four main consumption items by international students in Brisbane, namely education and training, ownership of dwellings, other retail trade, and cafes, restaurants and food services. For instance, of an international’s expenditure on education and training in Brisbane, 51% of the indirect value added will be attributable to Brisbane, while the remaining amount is spread almost equally between four to six per cent in the other regions.

Table F.1: Regional effects of indirect flow on effects from consumption in Brisbane

<table>
<thead>
<tr>
<th>Regions</th>
<th>Education and training</th>
<th>Ownership of dwellings</th>
<th>Retail trade</th>
<th>Cafes, restaurants and food services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brisbane</td>
<td>51%</td>
<td>45%</td>
<td>33%</td>
<td>29%</td>
</tr>
<tr>
<td>Bundaberg</td>
<td>5%</td>
<td>3%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Central Queensland</td>
<td>5%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Darling Downs</td>
<td>5%</td>
<td>3%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Fraser Coast</td>
<td>5%</td>
<td>3%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Gold Coast</td>
<td>4%</td>
<td>3%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Mackay</td>
<td>5%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Northern</td>
<td>4%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Outback</td>
<td>5%</td>
<td>3%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Sunshine Coast</td>
<td>6%</td>
<td>4%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Tropical North</td>
<td>4%</td>
<td>2%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Queensland</td>
<td>4%</td>
<td>3%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Whitsundays</td>
<td>4%</td>
<td>3%</td>
<td>3%</td>
<td>2%</td>
</tr>
</tbody>
</table>

* Excluding Bakery Product Manufacturing and Soft Drink, Cordials and Syrup Manufacturing, both of which are heavy users of other processed food sectors

The two main drivers of cross border indirect impacts are the region’s proximity to the consumption source and the strength of the region’s economy in the key supply industries for key consumption
sectors. Using retail trade as an example, the main supply sectors are manufacturing, health care and social assistance, arts and recreation services, construction, and wholesale trade (Table F.2).

Table F.2: Top five supply sectors of retail trade in Brisbane

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>13%</td>
</tr>
<tr>
<td>Health Care and Social Assistance</td>
<td>13%</td>
</tr>
<tr>
<td>Arts and Recreation Services</td>
<td>11%</td>
</tr>
<tr>
<td>Construction</td>
<td>11%</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>10%</td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016)

From Table F.3 above, retail trade in Brisbane has similar indirect flow on effects to Tropical North Queensland (3%) and Bundaberg (4%) although Tropical North Queensland is significantly further from Brisbane. However, in terms of the strength of these two regions’ economies in the key supply industries for retail trade, Bundaberg has significantly lower activities in manufacturing, construction, and wholesale trade although it has slightly higher activity in health care and social assistance as shown in Table F.3 below. Therefore, it shows that the region’s proximity to the consumption source and the strength of the region’s economy in the key supply industries for key consumption sectors play an important role on flow on effects.

Table F.3: Share of regional economy for main retail trade sectors

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Tropical North Queensland</th>
<th>Bundaberg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>6%</td>
<td>3%</td>
</tr>
<tr>
<td>Health Care and Social Assistance</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Arts and Recreation Services</td>
<td>1%</td>
<td>4%</td>
</tr>
<tr>
<td>Construction</td>
<td>12%</td>
<td>3%</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>5%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016)
Appendix G: Onshore projections methodology

Onshore commencements and enrolments

To dimension the size of the economic potential presenting the Queensland international education onshore sector, Deloitte Access Economics’ in-house forecasting model has been used. The forecasts are based on a two-stage methodology:

- Stage 1: in the short-run, commencements are determined by the existing pool of international students already in Queensland and their progression along recognised study pathways into other Australian international education sectors; and
- Stage 2: in the medium to long-run, the granting of new student visas are incorporated and commencements start to 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. 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 Queensland in the past (o benchmark the likelihood of students choosing Queensland); and
- competitiveness impacts driven by exchange rates (influencing the relative cost of service provision to students).

Demographic changes in the Asian region suggest the number of 15-29 year olds will decline across the next 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).

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.

Due to data limitations, other forms of non-formal 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.

**Onshore student yield**

Deloitte Access Economics estimated per student expenditure (by fees and goods and services) by sub-sector for the baseline and aspirational scenarios based on historical trends from 2011 to 2014.\(^\text{26}\) The historical revenue was calculated using ABS data (2015a) on the total revenue by sub-sector (catalogue 5368.0.55.004), and DET data on enrolments, where:

\[
\text{average student expenditure on fees} (g+s) = \frac{\text{total student expenditure on fees} (g+s)}{\text{total student enrolments}}
\]

This is adjusted by historical inflation rates to arrive at the real expenditure in 2015 dollars. Between 2011 and 2014, overall growth in real expenditure per student enrolment has ranged between -3.3% per annum for ELICOS students and 2.3% for non-award students.

Finding the relationship between time and changes in student expenditure (using linear regression), Deloitte Access Economics forecasts the path of average student expenditure from 2016 to 2026. In the baseline scenario, it is assumed that over the forecast period from 2016 to 2026:

- average yield per student enrolment grows linearly by past historic trends from 2011 to 2014.

In the aspirational scenario, it is assumed that strategies that increase the quality of education, the length of stay by students, and provide additional offerings, will be required to make the enrolment targets feasible. As these initiatives are likely to student expenditure, it is assumed that over the forecast period from 2016 to 2026:

- for higher education: average expenditure on goods and services per student enrolment grows by past historic trends, while expenditure on fees grows faster than historically;
- for schools, ELICOS: average expenditure on goods and services per student enrolment halts its historic reduction and remains constant at 2014 levels, while expenditure on fees follow historic trends;
- for VET: average expenditure on goods and services, and fees halt their historic reductions, and remain constant at 2014 levels; and
- for non-award: average expenditure on goods and services, and fees, follow historic trends.

\(^{26}\) The calendar year 2011 was chosen as the starting point to avoid the dramatic decrease in average student expenditure over the 2009-2010 period (particularly in VET) that likely reflects changes in student to enrolment ratios rather than actual average student expenditure. The calendar year 2014 was chosen as the end point, as it is the latest year of available sub-sector expenditure data, at the time of analysis.
The average student expenditure growth rates (in real 2015 dollars) used over the forecast period 2016 to 2026 is shown below in Table G.1.

Table G.1: Growth in average student yield by sub-sector by scenario, 2016-2026

<table>
<thead>
<tr>
<th>Sector</th>
<th>Baseline (% p.a.)</th>
<th>Aspirational (% p.a.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Education</td>
<td>1.7</td>
<td>3.6</td>
</tr>
<tr>
<td>VET</td>
<td>-4.4</td>
<td>0.0</td>
</tr>
<tr>
<td>Schools</td>
<td>0.2</td>
<td>1.0</td>
</tr>
<tr>
<td>ELICOS</td>
<td>-3.0</td>
<td>0.6</td>
</tr>
<tr>
<td>Non-Award</td>
<td>2.1</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016)

Regional analysis

The State baseline forecasts have been approximated at the sub-state level using TRA data (2015c) on the source market composition of international students in each of Queensland’s 12 tourism regions over the cumulative period 2005-06 to 2014-15.

- The cumulative period was chosen given sample size limitations in the survey data, which would underrepresent international students from small source markets in regional Queensland. However, while the cumulative data gives a greater representation of the source markets, it could potentially overlook recent shifts in the source market composition.

Deloitte Access Economics’ forecast growth in Queensland enrolments by source market is then attributed to the regions based on their share of international students from a particular source market. A region that has a greater share of faster growing source markets would consequently grow faster compared to the overall State.

Due to data limitations, sub-sector analysis is not possible.
Appendix H: Economy-wide modelling

Deloitte Access Economics estimated the economy-wide impacts of the aspirational scenario using the Deloitte Access Economics – Regional General Equilibrium Model (DAE-RGEM). The DAE-RGEM is a large scale, dynamic, multi-region, multi-commodity computable general equilibrium model of the world economy. The model allows policy analysis in a single, robust, integrated economic framework. This model projects changes in macroeconomic aggregates such as GDP, employment, export volumes, investment and private consumption. At the sectoral level, detailed results such as output, exports, imports and employment are also produced.

The model is based upon a set of key underlying relationships between the various components of the model, each which represent a different group of agents in the economy. These relationships are solved simultaneously, and so there is no logical start or end point for describing how the model actually works.

Figure D.1 shows the key components of the model for an individual region. The components include a representative household, producers, investors and international (or linkages with the other regions in the model, including other Australian States and foreign regions). Below is a description of each component of the model and key linkages between components. Some additional, somewhat technical, detail is also provided.
DAE-RGEM is based on a substantial body of accepted microeconomic theory. Key assumptions underpinning the model are:

- The model contains a ‘regional consumer’ that receives all income from factor payments (labour, capital, land and natural resources), taxes and net foreign income from borrowing (lending).
- Income is allocated across household consumption, government consumption and savings so as to maximise a Cobb-Douglas (C-D) utility function.
- Household consumption for composite goods is determined by minimising expenditure via a CDE (Constant Differences of Elasticities) expenditure function. For most regions, households can source consumption goods only from domestic and imported sources. In the Australian regions, households can also source goods from interstate. In all cases, the choice of commodities by source is determined by a CRESH (Constant Ratios of Elasticities Substitution, Homothetic) utility function.
- Government consumption for composite goods, and goods from different sources (domestic, imported and interstate), is determined by maximising utility via a C-D utility function.
- All savings generated in each region are used to purchase bonds whose price movements reflect movements in the price of creating capital.
- Producers supply goods by combining aggregate intermediate inputs and primary factors in fixed proportions (the Leontief assumption). Composite intermediate inputs are also combined in fixed proportions, whereas individual primary factors are combined using a CES production function.
- Producers are cost minimisers, and in doing so, choose between domestic, imported and interstate intermediate inputs via a CRESH production function.
- The model contains a more detailed treatment of the electricity sector that is based on the ‘technology bundle’ approach for general equilibrium modelling developed by ABARE (1996).
- The supply of labour is positively influenced by movements in the real wage rate governed by an elasticity of supply.
- Investment takes place in a global market and allows for different regions to have different rates of return that reflect different risk profiles and policy impediments to investment. A global investor ranks countries as investment destinations based on two factors: global investment and rates of return in a given region compared with global rates of return. Once the aggregate investment has been determined for Australia, aggregate investment in each Australian sub-region is determined by an Australian investor based on: Australian investment and rates of return in a given sub-region compared with the national rate of return.
- Once aggregate investment is determined in each region, the regional investor constructs capital goods by combining composite investment goods in fixed proportions, and minimises costs by choosing between domestic, imported and interstate sources for these goods via a CRESH production function.
- Prices are determined via market-clearing conditions that require sectoral output (supply) to equal the amount sold (demand) to final users (households and government), intermediate users (firms and investors), foreigners (international exports), and other Australian regions (interstate exports).
- For internationally-traded goods (imports and exports), the Armington assumption is applied whereby the same goods produced in different countries are treated as imperfect substitutes. But, in relative terms, imported goods from different regions are treated as closer substitutes than domestically-produced goods and imported composites. Goods traded interstate within the Australian regions are assumed to be closer substitutes again.
- The model accounts for greenhouse gas emissions from fossil fuel combustion. Taxes can be applied to emissions, which are converted to good-specific sales taxes that impact on demand.
Emission quotas can be set by region and these can be traded, at a value equal to the carbon tax avoided, where a region’s emissions fall below or exceed their quota.

The representative household

Each region in the model has a so-called representative household that receives and spends all income. The representative household allocates income across three different expenditure areas: private household consumption; government consumption; and savings.

Going clockwise around Figure B, the representative household interacts with producers in two ways. First, in allocating expenditure across household and government consumption, this sustains demand for production. Second, the representative household owns and receives all income from factor payments (labour, capital, land and natural resources) as well as net taxes. Factors of production are used by producers as inputs into production along with intermediate inputs. The level of production, as well as supply of factors, determines the amount of income generated in each region.

The representative household’s relationship with investors is through the supply of investable funds – savings. The relationship between the representative household and the international sector is twofold. First, importers compete with domestic producers in consumption markets. Second, other regions in the model can lend (borrow) money from each other.

Some detail

- The representative household allocates income across three different expenditure areas – private household consumption; government consumption; and savings – to maximise a Cobb-Douglas utility function.
- Private household consumption on composite goods is determined by minimising a CDE (Constant Differences of Elasticities) expenditure function. Private household consumption on composite goods from different sources is determined is determined by a CRESH (Constant Ratios of Elasticities Substitution, Homothetic) utility function.
- Government consumption on composite goods, and composite goods from different sources, is determined by maximising a Cobb-Douglas utility function.
- All savings generated in each region are used to purchase bonds whose price movements reflect movements in the price of generating capital.

Producers

Apart from selling goods and services to households and government, producers sell products to each other (intermediate usage) and to investors. Intermediate usage is where one producer supplies inputs to another’s production. For example, Hotels supply inputs to the services sectors where travel is a part of client service.

Capital is an input into production. Investors react to the conditions facing producers in a region to determine the amount of investment. Generally, increases in production are accompanied by increased investment. In addition, the production of machinery, construction of buildings and the like that forms the basis of a region’s capital stock, is undertaken by producers. In other words, investment demand adds to household and government expenditure from the representative household, to determine the demand for goods and services in a region.
Producers interact with international markets in two main ways. First, they compete with producers in overseas regions for export markets, as well as in their own region. Second, they use inputs from overseas in their production.

**Some detail**

- Sectoral output equals the amount demanded by consumers (households and government) and intermediate users (firms and investors) as well as exports.
- Intermediate inputs are assumed to be combined in fixed proportions at the composite level. As mentioned above, the exception to this is the electricity sector that is able to substitute different technologies (brown coal, black coal, oil, gas, hydropower and other renewables) using the ‘technology bundle’ approach developed by ABARE (1996).
- To minimise costs, producers substitute between domestic and imported intermediate inputs is governed by the Armington assumption as well as between primary factors of production (through a CES aggregator). Substitution between skilled and unskilled labour is also allowed (again via a CES function).
- The supply of labour is positively influenced by movements in the wage rate governed by an elasticity of supply is (assumed to be 0.2). This implies that changes influencing the demand for labour, positively or negatively, will impact both the level of employment and the wage rate. This is a typical labour market specification for a dynamic model such as DAE-RGEM. There are other labour market ‘settings’ that can be used. First, the labour market could take on long-run characteristics with aggregate employment being fixed and any changes to labour demand changes being absorbed through movements in the wage rate. Second, the labour market could take on short-run characteristics with fixed wages and flexible employment levels.
Investors

Investment takes place in a global market and allows for different regions to have different rates of return that reflect different risk profiles and policy impediments to investment. The global investor ranks countries as investment destination based on two factors: current economic growth and rates of return in a given region compared with global rates of return.

Some detail

- Once aggregate investment is determined in each region, the regional investor constructs capital goods by combining composite investment goods in fixed proportions, and minimises costs by choosing between domestic, imported and interstate sources for these goods via a CRESH production function.

International

Each of the components outlined above operate, simultaneously, in each region of the model. That is, for any simulation the model forecasts changes to trade and investment flows within, and between, regions subject to optimising behaviour by producers, consumers and investors. Of course, this implies some global conditions must be met such as global exports and global imports are the same and that global debt repayments equals global debt receipts each year.
Appendix I: Offshore profiling and projections

Offshore VET revenue estimates

The VET revenue estimation implicitly assumes that average fees are the same between those enrolled with a Victorian VET provider, and those with a Queensland provider. This might not necessarily be the case for three reasons:

- the different source market countries with 81% of Victorian student enrolments in 2013 based in China, compared to just 47% for Queensland with students of various source markets differing in their willingness and ability to pay; and
- differences in the broad field of education between offshore students enrolled with Victorian and Queensland VET providers. It is equally probable that management and commerce courses are more expensive due to their popularity, or less expensive as they require fewer resources to run.
- differences in the fees charged by private versus public VET providers. While the Victorian results have been based on public VET providers, the analysis for Queensland extends them to private providers.

Offshore projections

The definitions of the activities likely to be covered under the forecast are based on definitions from the OECD Survey of Adult Skills (PIAAC):

- **formal education** refers to the “planned education provided in the system of schools, colleges, universities and other formal educational institutions” (OECD, 2015); and
- **non-formal education** refers to “sustained educational activity that does not correspond exactly to the above definition of formal education” (OECD, 2015). It can cover open or distance learning courses, private lessons, organised sessions for on-the-job training, and workshops or seminars.

Compared to the emerging offshore sub-sectors described above, tertiary education (particularly postgraduate studies) is covered under formal education. However, schools and most undergraduate tertiary education are unlikely to be covered as adults aged between 25-64 years old are the population of focus. Online learning, English language learning, and professional development are nominally covered under non-formal education. As participation in non-normal education is determined by survey respondents’ self-assessed answers, the coverage will depend on the extent to which respondents view their particular activities as non-formal. For instance, while many individuals may enrol in MOOC courses or learn English language independent, they might not consider them as non-formal education.

The PIAAC surveyed adults from 33 countries (5,000 individuals in each participating country) on their participation in formal and non-formal education over the last 12 months (2012). It found that on across the countries, an average of 50% of adult respondents aged 25-64 participate in formal and/or non-formal education in a given year.
There is a positive relationship between GDP per capital and participation in education. Assuming a linear relationship, Deloitte Access Economics estimates that for each US$1,000 increase in GDP per capita globally, an additional 7 persons per 1,000 25-64 year old population will participate in either formal or non-formal education.

This is used to estimate the participation in formal and non-formal education by the 25-64 year old population in Australia’s 29 key source markets for international education. This implicitly assumes that there is a linear relationship between participation in education and income for OECD countries, and that relationship can be extrapolated to non-OECD countries. There may in fact be other factors that influence participation in education, as well as cultural value on education and accessibility to technology.

Then based, on the expected GDP per capita growth in those key source markets over the 2015 to 2025 period, the total number of individuals participating in education is forecast. The model implicitly assumes that there are not diminishing effects as GDP per capita continues to rise over the forecast period. An indicative share by Australia and Queensland is then used to gauge the potential reach of Queensland’s offshore education sector.
Appendix J: Consistency with other Deloitte Access Economics reports

The modelling approach used in this report (‘Queensland report’) is consistent with that applied in The Value of International Education to Australia (Deloitte Access Economics, 2016a) and Growth and Opportunity in Australian International Education (Deloitte Access Economics, 2016b). These two reports are henceforth referred to as the ‘National reports’.

Estimates in this report may differ from results reported in the National reports, reflecting differences in the time horizon and scope of the studies. A summary of key results from the National and Queensland reports are summarised in Table J.1. The National report does not contradict the Queensland report.

Table J.1: Summary of key results from Deloitte Access Economics reports

<table>
<thead>
<tr>
<th>Contribution result</th>
<th>National reports</th>
<th>Queensland report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base year</td>
<td>2014-15</td>
<td>2015</td>
</tr>
<tr>
<td>Total value added to Queensland ($B)</td>
<td>2.7</td>
<td>2.3</td>
</tr>
<tr>
<td>Total full-time equivalent (FTE) employment to Queensland</td>
<td>21,474</td>
<td>19,470</td>
</tr>
<tr>
<td>Visiting friends and relatives (VFR) value added to Queensland ($M)</td>
<td>23</td>
<td>11</td>
</tr>
<tr>
<td>VFR FTE employment to Queensland</td>
<td>215</td>
<td>120</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student enrolment forecasts</th>
<th>2015-2025</th>
<th>2016-2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative enrolment growth (%)</td>
<td>4527</td>
<td>37</td>
</tr>
</tbody>
</table>

Source: Deloitte Access Economics (2016a, 2016b)

Economic contribution results

The value added and FTE employment figures reported in the National report (2016a) are higher than those reported in the Queensland report.

This is primarily driven by a difference in the scope in the reports. The National report also captures the value of international students studying in other states and territories to Queensland, while the Queensland report focuses on the contribution from international students studying in Queensland. Consequently, the Queensland report results are lower ($2.7 billion in value added and 19,470 FTE jobs, compared to $2.3 billion in value added and 21,474 FTE jobs) as it would not include the contribution to – for instance – the Queensland agriculture and manufacturing industries from supplying goods and services to international students in other states and territories.

Deloitte Access Economics estimated the growth rate for student enrolments. The growth rate was subsequently used to forecast future student numbers.
The impact of the difference in scope is most pronounced for VFRs. Many international students in other states are visited by friends and relatives who might then also visit Queensland for leisure or other purposes. Their contribution has been excluded in the Queensland report as they cannot be attributed to internationals students studying in Queensland.

The $11 million in value added and 120 FTE jobs represent the value to Queensland of friends and relatives visiting Queensland international students, while the $23 million in value added and 215 FTE jobs represent the value to Queensland of friends and relatives visiting international students throughout Australia.

**Student enrolment forecasts**

The base year and forecast period differs between the Queensland and National reports, leading to differences in enrolment growth over the forecast period.

The National report (2016b) uses enrolment and commencement data up to the 2015 June quarter to project national student commencements and enrolments from calendar year 2015 to 2025. In contrast, the Queensland report uses enrolment and commencement data up to the 2015 December quarter to project national student commencements and enrolments from calendar year 2016 to 2026.

Given the profile of enrolment growth over time – with faster growth in 2015-2016 and slower growth in 2025-2026 – the overall cumulative growth is higher in the National report (45%) compared to the Queensland report (37%).

Based on the 45% growth in enrolments, *the National Strategy for International Education 2025* (Australian Government, 2016) projects that Australia will host approximately 720,000 students onshore by 2025. This is a different concept to both student visa commencements and student visa enrolments, as an individual student may be enrolled in multiple courses. Consequently, care should be taken when comparing them.
Appendix K: Findings from the literature on student decision drivers

This appendix provides an overview of the literature in relation to three key student decision drivers – accessibility, experience and outcomes.

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 (Hobsons 2014; i-graduate, 2012; Orth, 2015; Kho Pooh, 2014).

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 (Hobsons 2014; i-graduate, 2012; Orth, 2015; Kho Pooh, 2014).

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 Queensland (and across Australia) over the 2009 to 2011 period (discussed in Section 2.1.1) the VET and ELICOS sub-sectors experienced the most dramatic falls in enrolments.

Furthermore, while price is relatively important across the spectrum of the onshore international education sector, it is potentially more so for the offshore sector given students’ lower average ability to pay and increased competition. International students enrolled in higher education or VET courses with Australian providers in their home countries are likely to be poorer than their globally mobile counterparts, who study onshore in Australia. For instance, the average annual fee revenue accruing to higher education institutions in the United Kingdom from their offshore activities is approximately £1,530 per student (Department of Business, Innovation & Skills, 2014), compared to £11,987 for onshore undergraduate students and £12,390 for onshore postgraduate students (QS Top Universities, 2015a). Further, offshore education competes directly with more affordable local education providers, which have lower costs of delivery and are typically subsidised by the local governments (British Council, 2014).
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).

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 (Productivity Commission, 2014).

*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 (ASEAN, 2015).

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. For instance, 22% of international students in the University of New England are completing a doctorate by research, compared to 5% for Australia as a whole (DET, 2015a). 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.

Course availability in the offshore space can also refer to the ease with which an education provider can enter the local market and make their courses available for local learners. Traditional offshore providers in higher education and VET have to navigate foreign ownership rules and regulations, and the destination education qualification framework, while emerging providers, such as edTech providers need to establish local relationships to penetrate the foreign market.
It is expected that accessibility for the offshore sector is likely to improve in many emerging markets in the future as trade and other barriers to entry are removed. For instance, the recent signing of the Trans-Pacific Partnership (TPP) could open up new opportunities and reduce barriers for Australian higher education and VET providers, promising guaranteed access to the growth markets in Brunei, Malaysia, Mexico, Peru and Vietnam, including through online platforms (Minister for Trade and Investment, 2015).

**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 (Hobsons, 2014). 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). 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% of offshore international students in higher education studied part-time in 2014 (DET, 2014d). 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. A high-quality foreign qualification offered in proximity of their residence can hence be an important advantage for a particular institution delivering offshore.

It is possible that as disruptive technologies such as online learning will continue to remove the barriers of geography, physical proximity considerations become less important for offshore international student choice.

While there is less research focused 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 (Chen, 2006; Phang, 2013; Australian Education International, 2006). This could be promoted through alumni networks and closer trade and cultural links between countries.

**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 (Hobsons, 2015).
The opportunity and imperative for Queensland’s international education and training sector

**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.

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 (Griffith University, 2015). It is also likely to be important for offshore emerging products, including online learning, professional development, edTech solutions, and English learning, as their primary interaction will be through the studying process.

**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.

Many international students also highly value interactions and ‘making personal connections’ as a part of their international education experience (Hobsons, 2015). 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 (International Education Advisory Council, 2013). More tangibly, 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 (English
Australia, 2015). This is seen in the higher proportion of non-student visa ELICOS students in Queensland compared to other States, helped by its strong image as a tourism destination (English Australia, 2015). 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 (British Council, 2014a). 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 instance, 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 WHM 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 are 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% of surveyed international secondary students in 2014 stayed with host families (DET, 2014b), a reliable network of host families will be necessary to support the onshore schools sub-sector. Similarly, given the shorter course length of ELICOS studies, there needs to be suitable short-term accommodation options to suit their needs.

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.

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 (Hobsons, 2015).

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 (i-graduate, 2012).

The importance of employability-related prospects varies between source markets. For instance, higher education 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, it 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.

**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% of international learners in Australia obtain permanent residency following their degrees (lagging behind the United States and the United Kingdom, where 25% and 21% of learners,
respectively, obtain permanent residency) (IDP Research, 2011). 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.

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.
## Appendix L: Competitor international education targets

### Table L.1: Target source countries and international education targets of competitors

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>International education strategy and targets</th>
</tr>
</thead>
</table>
| New South Wales | By 2021:  
1. New South Wales delivers cutting edge, industry-relevant education that launches domestic and international students into careers of choice;  
2. New South Wales education is regarded in our key markets as one of the best life and career decisions for international students; and  
3. New South Wales universities and the research sector are linked into leading global industry and research networks to develop world class talent and bring world class research findings and capabilities to bear on social, economic and environmental challenges. |
| Victoria | Victoria is the leading provider of international education in the Asia-Pacific region, strengthening the State’s position as a globally competitive services economy. |
| United States | Aiming to double the number of students that study abroad as part of their degree by 2018. |
| United Kingdom | Aiming to increase international higher education enrolments by 15-20% by approximately 90,000 by 2018. |
| Canada | Double the size of our international student base from 239,131 in 2011 to more than 450,000 by 2022 (without displacing Canadian students) |
| New Zealand | Has set a target to double the economic value of international education to NZ$5billion by 2025 and have invested NZ$40million to promote it as an international study destination. |
| Japan | Japan wants to double the number of international students to 300,000 and has an ambition to have ten Japanese universities in the top 100 by 2020, investing heavily in the Top Global project. |
| Malaysia | Malaysia’s goal is to become the world’s sixth largest education exporter by 2020. It also has a target of 250,000 international students and two institutions in the global top 100 by 2025. |
| China | China is aiming to become a global education hub offering more programs in English and scholarships for overseas students. China has a goal of 500,000 international students by 2020. |
| Russia | Russia’s 5/100 initiative to boost the global competitiveness of its universities calls for five Russian institutions to be ranked among the top 100 by 2020. |
| Germany | International student enrolments in Master’s degrees have more than tripled over the last seven years in Germany, part of a push to achieve 350,000 international enrolments by 2020. |

Source: Deloitte Access Economics (2016)
Appendix M: Routes of travel for key source markets

The table below compares routes of travel by State. Where there are no, or minimal direct flights, represents an opportunity for Queensland. Compared to other jurisdictions, Queensland also has more international airports with direct flights to non-capital city regional hubs. A desktop review of Queensland, New South Wales and Victoria airport international routes was conducted to populate Table 5.2. Online flight booking tools such as Skyscanner and Webjet were used in circumstances were information from airport websites were not sufficient.

<table>
<thead>
<tr>
<th>Key Source markets in 2026</th>
<th>Brisbane</th>
<th>Cairns</th>
<th>Qld Gold Coast</th>
<th>VIC Melbourne</th>
<th>NSW Sydney</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>1 Stop over</td>
<td>1 Stop over</td>
<td>1 Stop over</td>
<td>Direct</td>
<td>Direct</td>
</tr>
<tr>
<td>China</td>
<td>Direct</td>
<td>Direct</td>
<td>Direct</td>
<td>Direct</td>
<td>Direct</td>
</tr>
<tr>
<td>Brazil</td>
<td>1+ Stop overs</td>
<td>1+ Stop overs</td>
<td>1+ Stop overs</td>
<td>1+ Stop overs</td>
<td>1+ Stop overs</td>
</tr>
<tr>
<td>South Korea</td>
<td>Direct</td>
<td>1 Stop over</td>
<td>1 Stop over</td>
<td>1 Stop over</td>
<td>Direct</td>
</tr>
<tr>
<td>Nepal</td>
<td>1 Stop over</td>
<td>1 Stop over</td>
<td>1 Stop over</td>
<td>1+ Stop overs</td>
<td>1 Stop over</td>
</tr>
<tr>
<td>Japan</td>
<td>Direct</td>
<td>Direct</td>
<td>Direct</td>
<td>Direct (limited availability)</td>
<td>Direct (limited availability)</td>
</tr>
<tr>
<td>Vietnam</td>
<td>Direct</td>
<td>Direct</td>
<td>1 Stop Over</td>
<td>Direct (limited availability)</td>
<td>Direct (limited availability)</td>
</tr>
<tr>
<td>Colombia</td>
<td>1 + Stop overs</td>
<td>1 + Stop overs</td>
<td>1 + Stop overs</td>
<td>1 + Stop overs</td>
<td>1 + Stop overs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Papua New Guinea</td>
<td>Direct</td>
<td>Direct</td>
<td>1 Stop over</td>
<td>1 Stop over</td>
<td>1 Stop over</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Direct</td>
<td>Direct</td>
<td>1 Stop over</td>
<td>1 Stop over</td>
<td>1 Stop over</td>
</tr>
<tr>
<td>Philippines</td>
<td>Direct</td>
<td>Direct</td>
<td>1 + Stop over</td>
<td>1 Stop over</td>
<td>1 Stop over</td>
</tr>
</tbody>
</table>
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