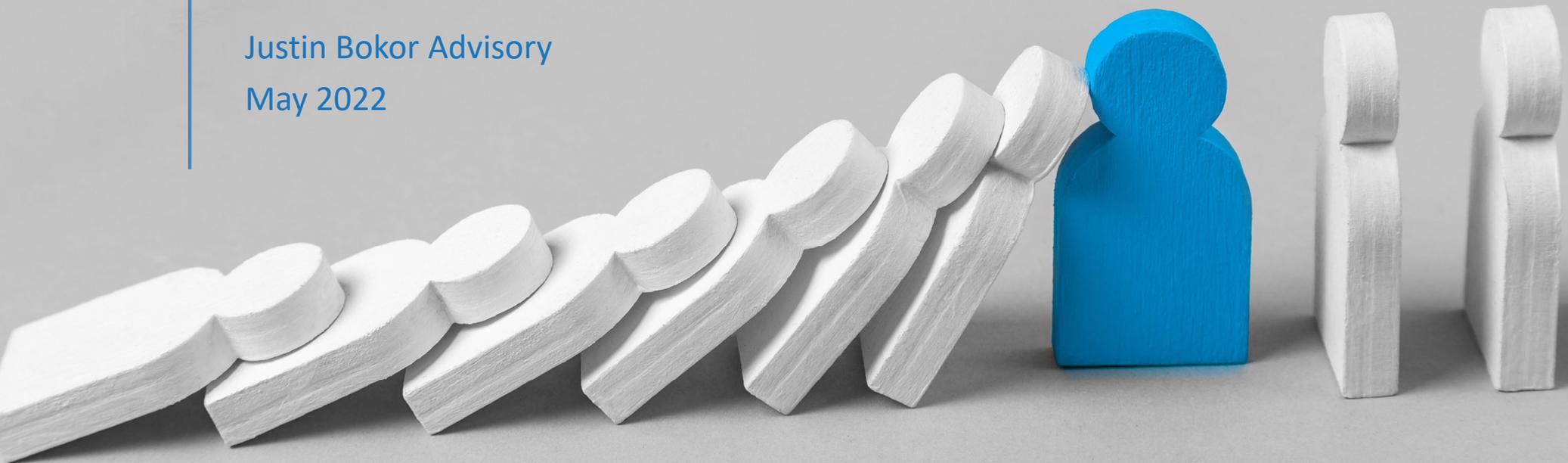


The decade ahead

How Australian universities are positioned for the post-Covid rebound

Justin Bokor Advisory
May 2022



Introduction

The pandemic brought to a close a tumultuous decade in higher education. The decade began with the introduction of the demand-driven system in the domestic market, progressed into a booming international market and the reimposition of domestic caps, before culminating in the shock of Covid. Well-run universities with strong brands thrived before the pandemic, though most spent the proceeds of their success and missed the opportunity to convert the good times into a corpus for the future. Universities with weaker brands lost share – several nearly failed to see out the decade.

What lies ahead for the next decade and how will Australian universities fare? These questions lie at the heart of this report.

The key drivers of higher education – domestic and international student demand – will rebound in the decade ahead. But public universities will not have the sector to themselves – private equity and non-traditional players are circling the profitable segments of the student market. Some universities are well prepared, others are highly vulnerable.

The paper starts with an overview of the key factors that will influence demand. We then outline six drivers of success that will mark how well positioned your university is to rebound post-Covid.

The analysis concludes with an evaluation of public Australian universities against each driver of success. The leaders include some unexpected results; likewise, those at the lower end of the scale.

We hope the report provides food for thought as you work with your organisation to chart the journey ahead.



Justin Bokor
Director, Justin Bokor Advisory

The market:

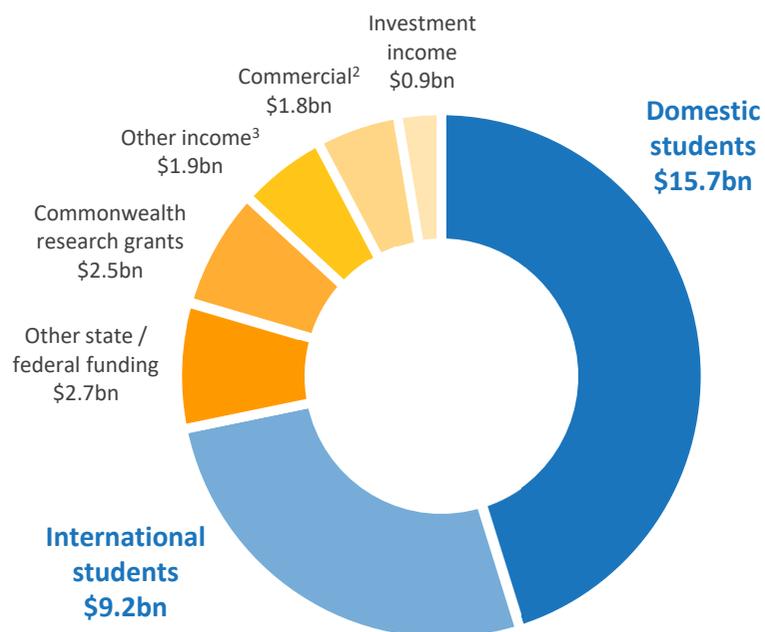
**Poised for a rebound, subject to
government policy settings**



Projecting higher education demand and growth for the decade ahead

Australia's public universities generated \$34.7 billion of revenue in 2020, nearly three quarters of which came from student programs (primarily, student fees and government subsidies). Leaving aside the potential of increased research commercialisation, the vagaries of investment income, and the never-ending pursuit of philanthropic support, student-related income will remain the key source of university finance. Most of the drivers of student demand will be conducive to growth in the decade ahead, except for the uncertainties surrounding government policy and geopolitics.

Figure 1. University revenue by source, 2020 (\$ billion)¹



(1) Source: Department of Education, Skills and Employment (dese.gov.au), 2020 Higher Education Providers Finance Tables; Justin Bokor Advisory analysis.
 (2) Commercial – Consultancies, contracts and royalties-related income.
 (3) Other income – Donations, non-government grants and other revenue sources.
 Key: ✓ Conducive to growth ✓✓ Highly conducive ✗ Negative ✗✗ Highly negative

Figure 2. Domestic student market – Growth outlook

Driver of demand	Conducive to growth?	Summary outlook
Population growth rates	✓✓	Costello baby boom will propel increases in school-leaver demand
Participation rates	✓	Decades-long growth has further to run
Labour market	✓✓	Demand for skilled labour and transition to services and knowledge economy will continue apace
Government policy	?	Budget pressures will intensify but difficult for government to ignore the school leaver population bulge

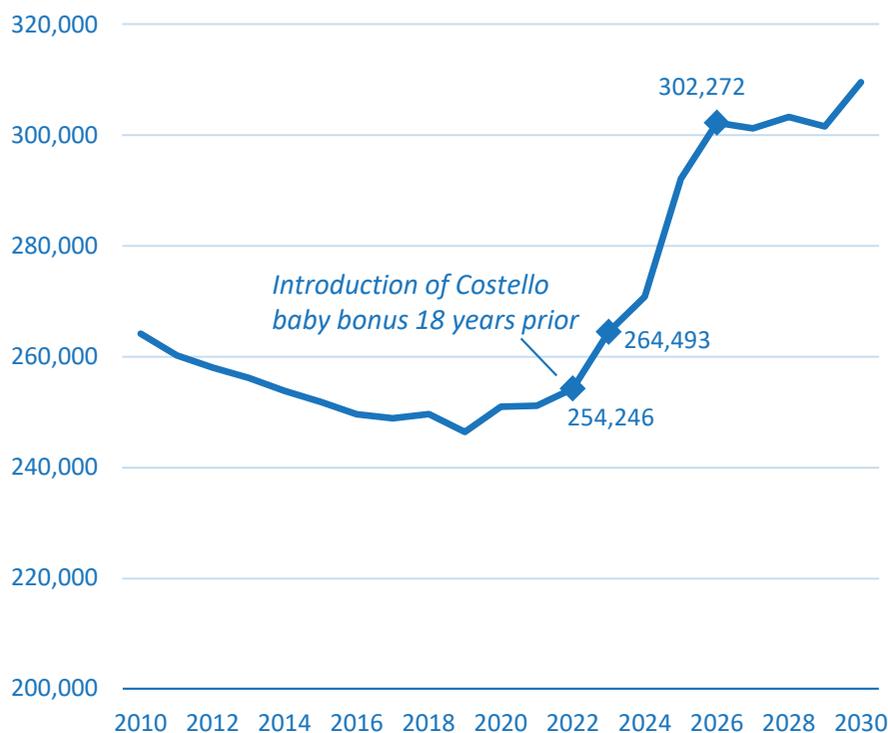
Figure 3. International student market – Growth outlook

Driver of demand	Conducive to growth?	Summary outlook
Participation rates	✓✓	The single biggest factor – massive capacity for further expansion
Population growth rates	✓	Modest growth across source markets as a whole despite declines in some markets
Economic growth	✓✓	Overall positive but uneven per capita performance across source markets will limit the full potential of international education
Value	✓✓	Safety, security, quality of life and English language education remain major drawcards
Geopolitical environment	✗✗	Fragile state of the China relationship and broader disruption to the global order threatens key source markets
Government policy	?	Govt will come under pressure to reduce the migrant intake and # of internat. students

Domestic drivers of demand – Population and participation rates

The Howard government introduced the baby bonus in 2004 and increased it in subsequent years. The number of children born soared from 2005 to 2010 and has held relatively constant since then. The impact on the number of 18 year olds coming of age in the decade ahead is evident in the chart below. The first increase – 10,000 additional 18 year olds – will be felt in 2023. By the year 2026 nearly an extra 50,000 Australian teenagers will come of age. This will drive large increases in demand for university places across the country.

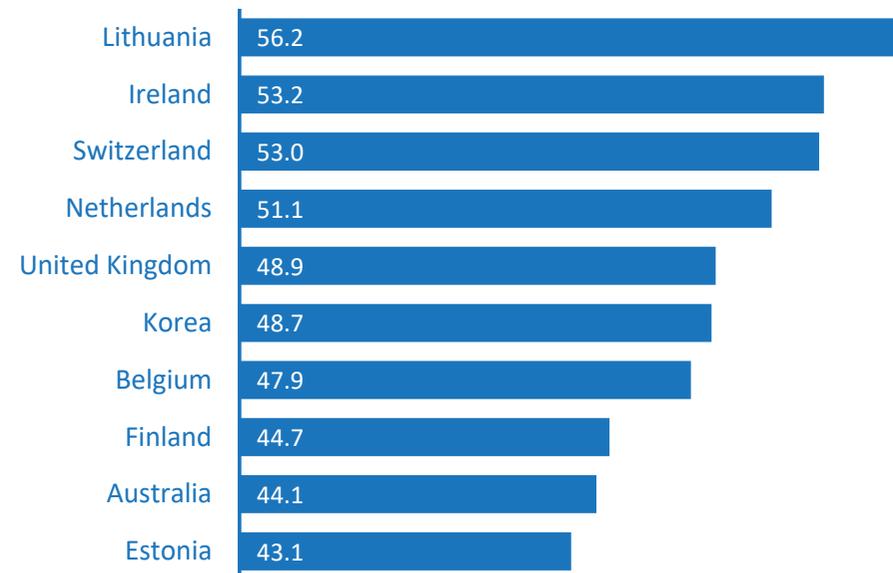
Figure 4. Population of Australian-born 18 year olds based on birth rates 18 years prior



Source: Australian Bureau of Statistics, Births, Australia; Justin Bokor Advisory analysis.

The proportion of young Australians enrolled in higher education has been growing steadily over many years, from 19% of 19 year olds in 1989 to 41% in 2016¹. Australia's higher education participation and attainment rates are now in the top 10 in the OECD. However, the gap to the leaders (Figure 5) shows ample capacity remains for continued growth. The ongoing transition to a knowledge-based economy will create further incentives for students to enrol in higher education and raise the participation rate. Combined with the growing population of school leavers, this will provide a multiplier-effect boost to demand for university places – assuming government policy supports funding for more places.

Figure 5. Higher education attainment rate, % of 25-34 year olds, OECD top 10, 2020²



(1) Norton, A., Cherastidtham, I., and Mackey, W. (2018). Mapping Australian higher education 2018. Grattan Institute.

(2) Source: OECD Education at a Glance database (data.oecd.org/education.htm); Justin Bokor Advisory analysis

Domestic drivers of demand – Labour market

The growth of services as a share of the economy has been underway for several decades now. Services now account for more than two thirds of employment in Australia and the services sector will dominate jobs growth in the years ahead. Most of these jobs will require a higher education degree in fields like health care, education, the professions, financial services, and technology.

Figure 6. Australian employment by sector, 2021 (million jobs)¹

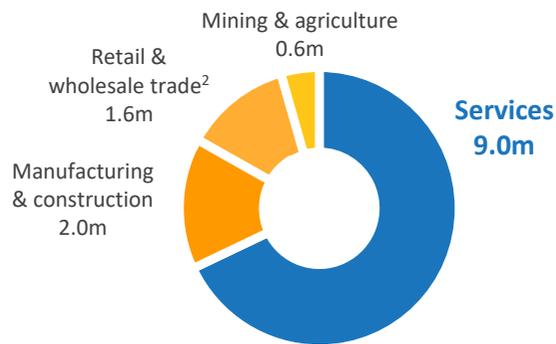
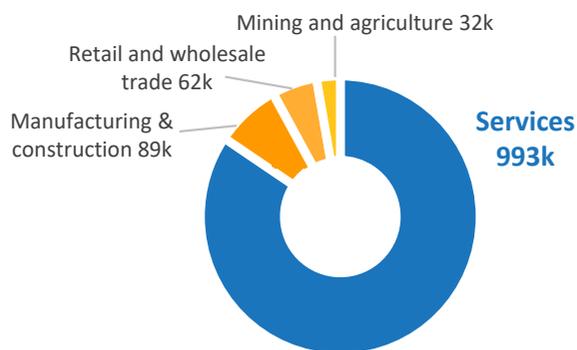


Figure 7. Projected growth in jobs, five years to Nov 2026 ('000)



- (1) Source: National Skills Commission, Labour Market Insights (labourmarketinsights.gov.au); Justin Bokor Advisory analysis.
- (2) Retail and wholesale trade is typically included in the category of 'Services'. We exclude it here because most of the jobs in the trade sector do not require a higher education degree.

ANZSCO separates employment markets into five skill categories^{3,4}. Level 1 jobs require a Bachelor degree or above. This is the largest of the five categories in Australia, accounting for 35% of the labour market. It is by far the fastest growing segment, representing 53% of forecast jobs growth in the next five years. This is emblematic of the continued rise of the knowledge and services economy, which will attract more and more students into higher education.

Figure 8. Australian employment by skill level, 2021 (million jobs)

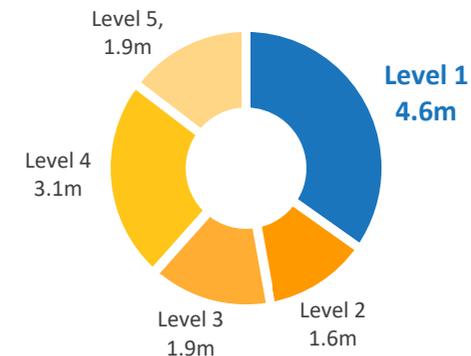
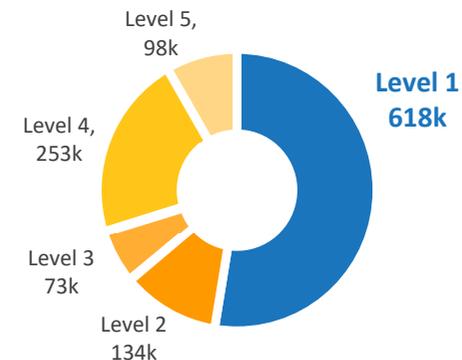


Figure 9. Projected growth in jobs, five years to Nov 2026 ('000)



- (3) ANZSCO = Australian and New Zealand Standard Classification of Occupations
- (4) Level 1 = Bachelor degree or higher; Level 2 = Advanced Diploma or Diploma; Level 3 = Certificate III or IV and 2+ years of on-the-job training; Level 4 = Certificate II or III; Level 5 = Certificate I or secondary education

International drivers of demand – Participation rates and population

The decades-long rise in participation rates is the key driver of growth in international education. In 2010, there were 401 million 20-24 year olds in the main source markets for international education (China, India, East Asia, Latin America, the Middle East and North Africa). A decade later, there were 367 million 20-24 year olds in these regions, the decline driven by falling birth rates in China in the 1990s due to the one-child policy.

Despite this decline, the number of international students globally rose by 65% over the decade to 2020, from 3.7 million to 6.1 million. Participation rates explain this apparent discrepancy. The percentage of 20-24 year olds attending tertiary education has been rising steadily for the last 20 years, coming off a very low base in the main international source markets. The proportion of those students studying abroad has also been growing as incomes have risen. The result has been a 'double positive': more young people enrolling in university and more of them choosing to study overseas.

The good news for universities targeting the international market is that participation rates have much further to grow (Figure 10). Australia's tertiary education participation rate among 20-24 year olds is 46%, while the OECD average is 43%. The corresponding figure in China is 26%, East Asia 23% and India just 13%. Even a modest closing of the gap in participation rates will swell the number of prospective international students by several million – assuming supportive government policy in Australia – regardless of population growth rates.

Moreover, the population decline in source markets has stabilised (Figure 11). The impact of the one-child policy has almost finished passing through this age group in China. While the combined population of 20-24 year olds in China, India, East Asia, Latin America, the Middle East and North Africa fell by 34 million in the last decade, we project it to grow by 3 million in the decade to 2030.

Figure 10. Tertiary education participation rate 2020 (% of 20-24 olds)

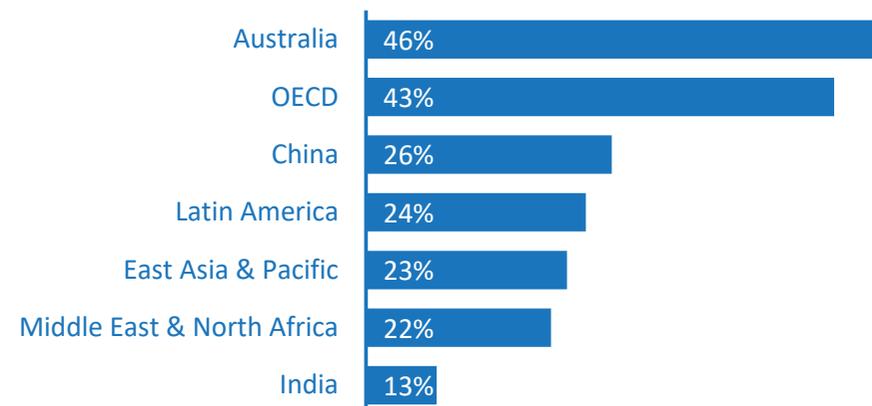
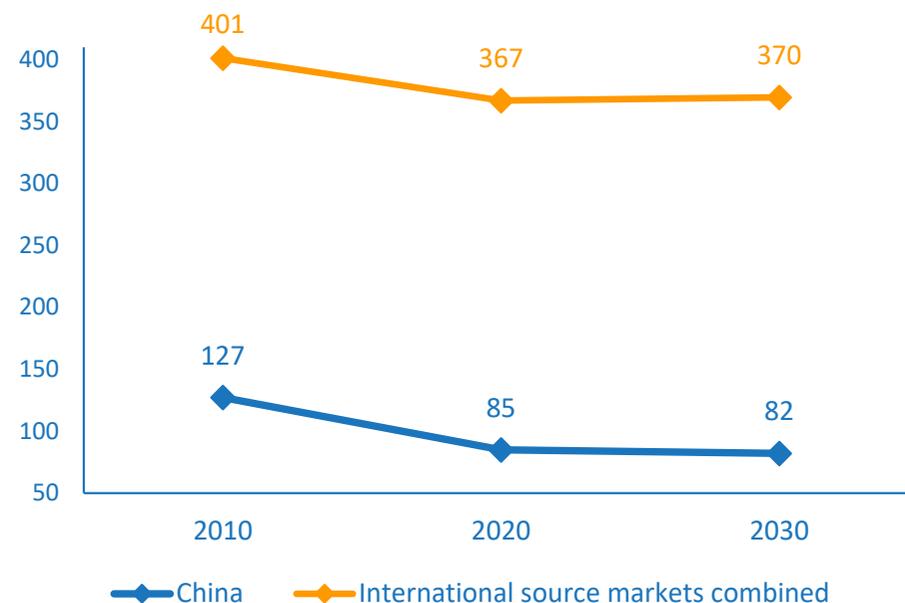


Figure 11. Population of 20-24 year olds, current & projected (million)



Sources: UNESCO Institute for Statistics (data.uis.unesco.org); World Bank DataBank (databank.worldbank.org); OECD Education at a Glance database (data.oecd.org/education.htm); Justin Bokor Advisory analysis.

International drivers of demand – Economy and the value equation

Education typically has an income elasticity of demand greater than one – the more people’s income rises, the more they spend on education as a percentage of total. This is part of the explanation for the sustained growth of international education over the last 20 years. As income levels have increased in low and middle income countries, families have committed more of their new-found wealth to educating their children. Per capita incomes in key source markets for international education remain well below OECD levels (Figure 12) despite the years of growth in China and East Asia more broadly. As post-pandemic economic growth rates stabilise and return to trend levels, we should see continued steady growth of per capita incomes – feeding into demand for international education.

Rising population and participation rates grow the pool of potential international students, increases in per capita incomes provide the necessary funds. It is the value of the product that spurs the underlying demand. Like participation rates and per capita incomes, the fundamental ‘value equation’ of international education will support strong growth for many years to come.

QILT surveys consistently place reputation (of the course and institution), safety, security, employment opportunities and quality of life factors at the top of international students’ drivers of choice (Figure 13). Countries outside of the main destination markets can compete on education reputation through investments in their domestic universities, such as the highly-ranked Chinese universities. However, being able to compete on safety, security and quality of life would take a decades-long transition that in many source countries has yet to commence. Destination markets like Australia, Canada and New Zealand are likely to retain their attraction and competitive edge, in terms of international education as a product, for decades to come.

Sources: QILT Student Experience Survey (qilt.edu.au), 2020 international tables; World Bank DataBank (databank.worldbank.org); Justin Bokor Advisory analysis.

Figure 12. GDP per capita, 2020, purchasing power parity



Figure 13. Top 10 international student reasons for choosing to study in Australia, % importance rating (2020)



Barbarians at the gate: Competing against for-profit providers and the rise of new entrants

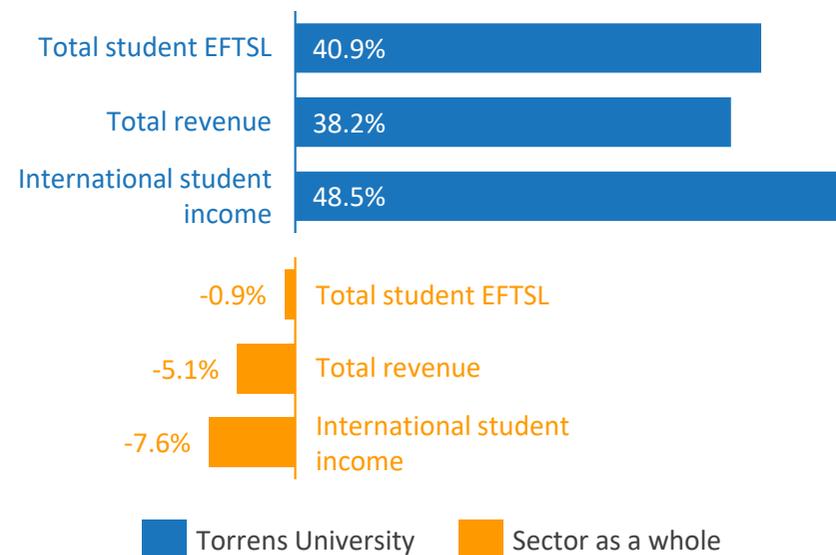
The long-term prospects for the growth of higher education have not been lost on the private sector. A host of players from listed for-profit providers to private equity firms to new entrants such as Google and Microsoft have staked out positions in the sector – and have ambitious plans to grow their presence. Some of these firms are focused on innovation in the professional education sector, providing short courses, micro-credentials and online aggregation of third-party programs.

Others are focused on the profitable segments of traditional degree education in fields like business, IT and health. The sale of Torrens University to Strategic Education in November 2020 is a prime example of this. Torrens opened its doors in 2014 and was sold, together with Think Education and the Media Design School in New Zealand, for \$900m six years later¹. To create nearly a billion dollars of value in six years is testament to the opportunities sought by for-profit players. The sale was finalised at the height of the Covid pandemic. Indeed, Torrens outperformed the sector by a large margin in 2020 (Figure 14), which highlights the threat posed to public universities by new entrants will well-drilled digital operations.

So, while Australian public universities should find themselves in a market with strong underlying demand, they won't have the field to themselves. The logical focus of for-profit competitors on the higher margin segments – or on introducing disruptive new business models – will threaten the viability of public universities with sluggish operations and an expensive course mix. All the more reason to focus on creating a lean, market-aligned and student-focused business now before the rebound reaches its full potential.

(1) The sale price was \$US 643m, which equated to \$A 900m based on the prevailing exchange rate at the time (Source: investors.laureate.net/news/2020).

Figure 14. % change, 2020 vs 2019: Torrens University compared to the sector as a whole²

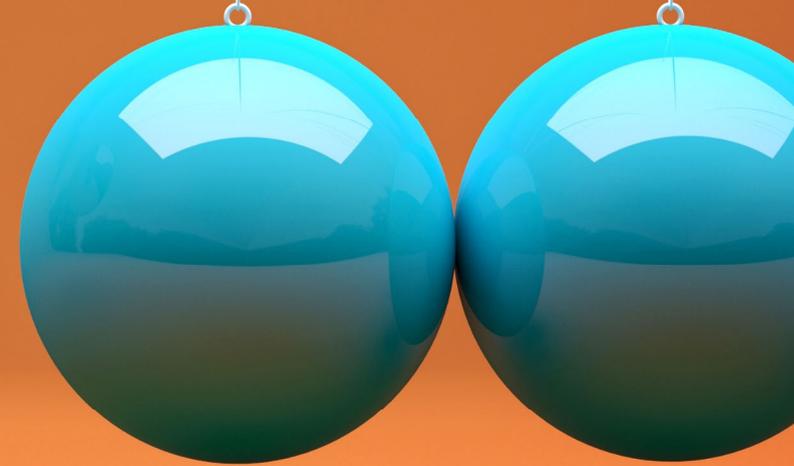


The other factor that will restrain the potential of public universities is the willingness of the federal government to fund surges in domestic demand. The post-pandemic federal budget will be marked by an imperative to reduce the deficit. Legislated tax cuts will hit the revenue side of the federal accounts meaning the pressure will fall on spending. However, the size of the Costello baby boom, combined with the need for growing numbers of skilled workers to power the knowledge economy, should sway the government to fund increased student places, albeit with policy settings that mean students themselves bear a growing share of the cost.

Sources: Department of Education, Skills and Employment (dese.gov.au), 2019 and 2020 Higher Education Providers Finance Tables, 2019 and 2020 student data; Torrens University Australia Limited, Annual Report 31 December 2020



**Post-pandemic recovery:
What do you need to get right?**



Introduction

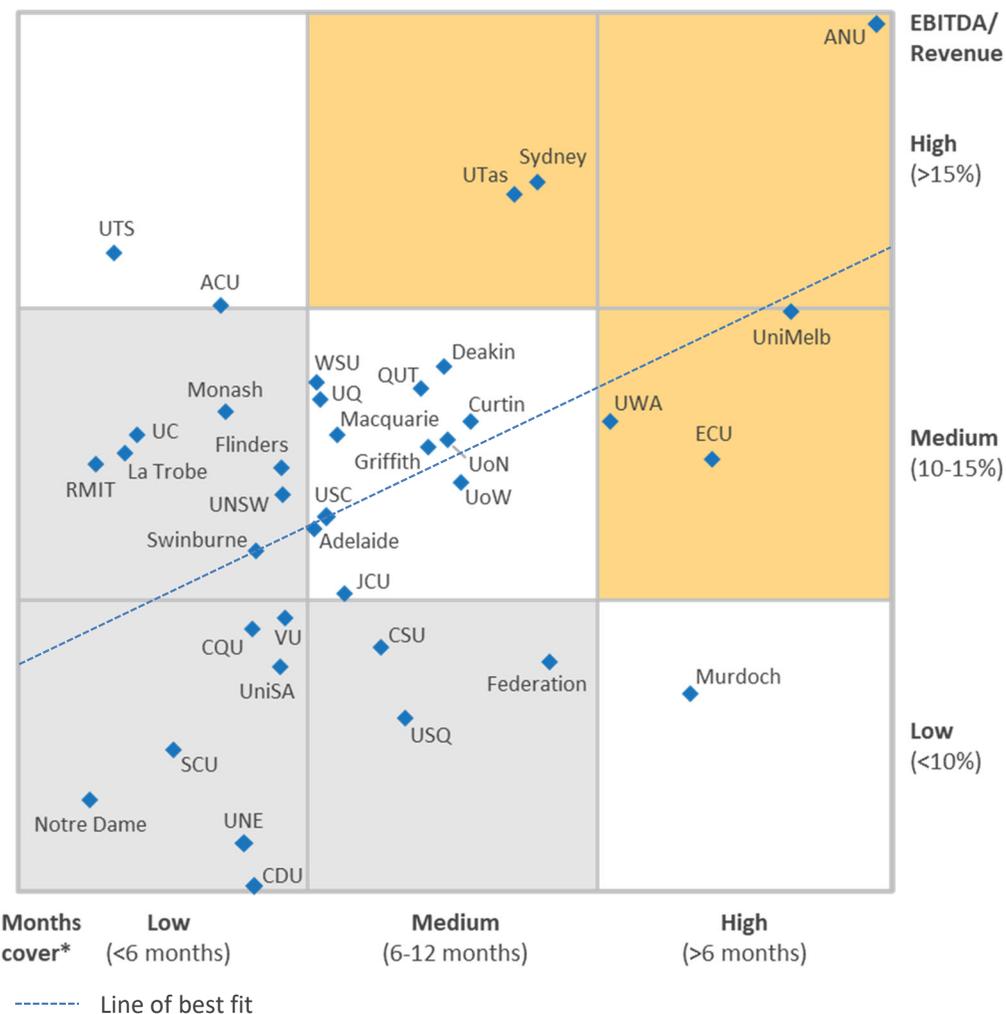
Despite the buoyant international market in the years leading up to the pandemic, most Australian universities were poorly prepared for a downturn. Few had taken the opportunity to build strategic reserves: an endowment that could generate an income stream to support research and other underfunded endeavours in good times and provide a buffer in tough times.

In Figure 15 we plot university reserves and operating margins prior to the pandemic. We analyse reserves based on the ratio of cash and investments in the 2019 balance sheet to the 2019 operating expenditures, multiplied by 12 to measure the number of months' spend covered by reserves. Nearly half of the Table A universities had less than 6 months cover prior to the pandemic. Only five universities (**ANU**, **Melbourne**, **ECU**, **Murdoch** and **UWA**) had one year or more cover. The lack of reserves shows in the chart: universities visibly 'skew left' on the months cover axis.

Our operating margin ratio is EBITDA/Revenue, averaged over three years (2017-19) to reduce the impact of year-on-year anomalies. Margins were clustered around the 'medium' level of 10-15% EBITDA ratio. Most of the universities with low margins also had low reserves. These universities were, unsurprisingly, some of the hardest hit during the pandemic.

The pandemic illustrated the exposure of the sector to the international market and the importance of building adequate reserves to manage shocks. The decade ahead should provide an opportunity to do so for nimble, well-prepared institutions. This section of the report outlines six focus areas to create the conditions for success. In section 3 we assess how well prepared Australian universities are against each of the drivers.

Figure 15. Operating margins (EBITDA/Revenue) and reserves (months cover) (2019)¹



Positioning for the post-Covid rebound: Drivers of success

Business model

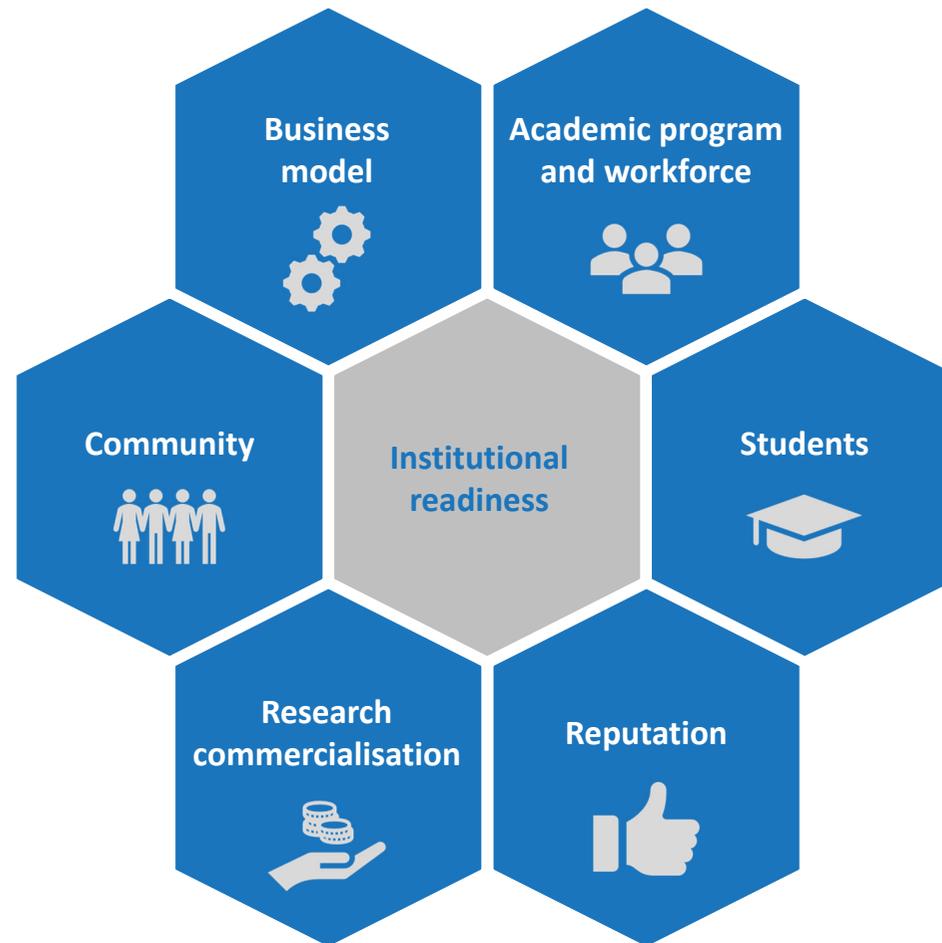
What role does international play in your business? How will you manage the income when growth returns? What is your strategic advantage against new entrants?

Community

Who are your natural constituencies? What connections do you have with them? How do you become a 'university town' in a big city?

Research commercialisation

How do you redouble your connections to industry? How can you translate impact into research self-sufficiency?



Academic program & workforce

How effectively did you innovate under Covid? Does your academic portfolio fit the changing market? Is your academic workload model sustainable?

Students

How do your students feel about their experience post-Covid? How are you tracking on employability? How do you revive campus life?

Reputation

How has your reputation held up under Covid? How do you reclaim rankings growth and appeal in international markets?

Drivers of success: Business model

University business models are driven by a variety of factors – discipline mix, campus footprint, research funding, mix of face-to-face and online teaching among them – but international student income has been the key driver for most universities over the last decade. In Figure 16 we plot international share of total revenue over the decade 2010-2019 against the EBITDA ratio over the decade. Most universities recorded solid operating margins over the decade, buttressed by income from the international market.

The analysis highlights several key questions:

- What did universities who 'outperformed' do over the last decade? Universities such as **ANU**, **Sydney**, **Deakin** and **Notre Dame** recorded higher operating margins than their international share might have suggested. What aspects of their business model delivered higher-than-average profitability? Will the same factors work for them in a post-pandemic environment?
- What caused underperformance in those with low margins? Many of these were regional universities such as **CDU**, **SCU** and **UNE**. But not all: **Monash** was a big player in the international market but recorded modest surpluses over the decade. **VU**, for its part, posted losses in excess of \$10m four years in a row in the middle part of the decade, but bounced back with a major innovation in its undergraduate teaching and implementation of a new academic workload model.
- Where does your university sit on this chart and how have its finances shifted in the two years of the pandemic? How does its trajectory look? What business model strategies and innovations deployed by peers might aid your outlook?

Figure 16. Operating margins (EBITDA/Revenue) and international income (% of total revenue), 2010-2019¹



(1) Source: Department of Education, Skills and Employment (dese.gov.au), Higher Education Providers Finance Tables 2010-2019; Justin Bokor Advisory analysis.

Drivers of success: Academic program

Labour market forecasts prepared by the National Skills Commission (NSC) present a clear picture of the transition to a services and technology-led economy. The NSC forecasts 5.2 million Australian jobs will require a higher education degree by 2026 ('Level 1 jobs'). Mapping these jobs to the education disciplines that underpin them shows the concentration of the labour market. The top ten disciplines (Figure 17) are nearly all services and technology-related and account for 3.4m of the Level 1 jobs (65% of total)¹.

Having world class academic programs in these disciplines will be crucial for universities to prosper in the decade ahead. Business schools will be particularly important: four of the top ten disciplines are business-related (business and management, sales and marketing, banking and finance, and accounting). Business and management ranks number one in both total projected jobs and growth of jobs. These disciplines are also the dominant sources of international load, making up nearly one-third of the international market in 2020².

As the market rebounds and the Job-ready Graduates funding reforms flow further through the system, universities will once again have an incentive to chase market share in their business programs. To protect their position, universities with a lower profile will need to deepen their relationships with industry, embed a sustained focus on student employability, and connect business school students with digital skills and experiences. The latter will be a key driver of student employability as the digitalisation of the economy continues apace. Too few business school students graduate with the high-end digital know-how required to stand out in the labour market. This is a missed opportunity for business schools to differentiate themselves in a crowded market.

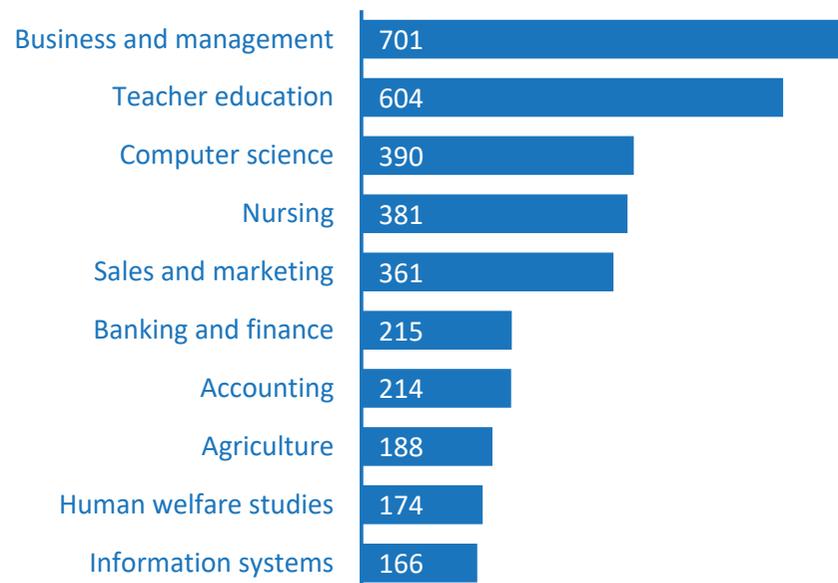
(1) Source: Employment Projections to November 2026, National Skills Commission, Labour Market Insights (labourmarketinsights.gov.au); Justin Bokor Advisory analysis.

(2) Department of Education, Skills and Employment (dese.gov.au), Selected Higher Education Statistics – 2020 Student data.

IT is a key discipline in its own right. Computer science ranks #3 for projected employment in 2026 and ranks #2 for employment growth, accounting for nearly 12% of the NSC's forecast growth of Level 1 jobs. Meanwhile, teaching and nursing continue to supply jobs for thousands of Australian graduates each year.

Each academic discipline asserts a role in the economy and in a university's portfolio but for institutions to thrive in the decade ahead, these key labour market disciplines need to be top of mind for university leaders. They will be the ones that require the greatest investment in course innovation, currency of the curriculum, student experience, industry connections, and digital integration.

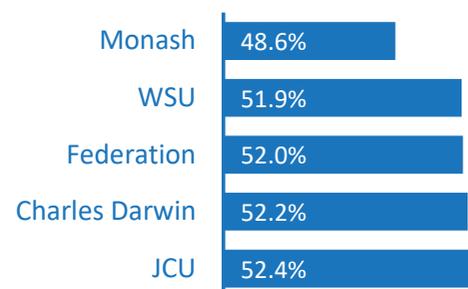
Figure 17. Projected employment in 2026 ('000 Level 1 jobs) mapped to education disciplines – Top 10 disciplines¹



Drivers of success: Workforce

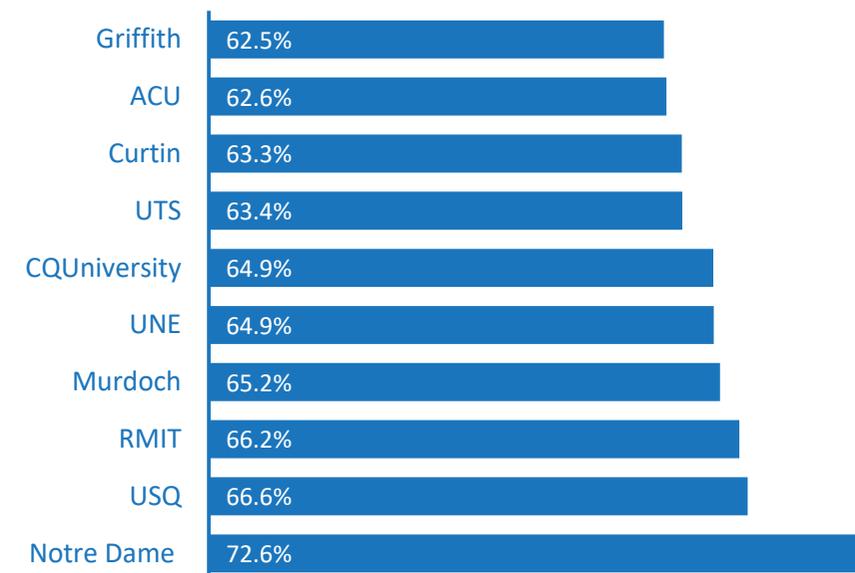
Figure 18 shows the five universities in Australia with the lowest staff cost ratio prior to the pandemic. Size is not the only determinant of an efficient workforce model. The top 5 includes one of Australia's largest universities (**Monash**), two mid-sized universities (**WSU**, **JCU**) and two small regional universities (**Federation**, **Charles Darwin**).

Figure 18. Staff costs as a percentage of revenue 2019, National top 5^{1,2}



If we look at the other end of the spectrum – the ten universities with the highest staff cost ratio prior to the pandemic (Figure 19) – we see small universities such as **Notre Dame**, **USQ** and **UNE**. But we also see billion dollar institutions such as **RMIT**, **UTS** and **Griffith**. How have these institutions changed their workload models and cost structure since the onset of the pandemic? How has your institution? How do your 2020 and 2021 staff cost ratios look when you strip out redundancy payments and other pandemic-related once-off costs?

Figure 19. Staff costs as a percentage of revenue 2019, Bottom 10



Universities across Australia are grappling with the challenge of getting their workforce back on campus and settled into a new way of working, which will likely involve an ongoing level of remote work and an associated greater degree of autonomy. Well implemented, this could be a positive for staff, students and the institution. But for many universities, new ways of working will also need to mean implementing a more sustainable academic workload model that balances staff and union demands with flexibility and an efficient cost structure. At the same time, universities will need to reduce their reliance on a casualised workforce or, at a minimum, improve security and conditions for casuals. These might seem like competing demands but the prize is there for those who can deliver a lean cost base, satisfied students and content staff.

(1) Source: Department of Education, Skills and Employment (dese.gov.au), 2019 Higher Education Providers Finance Tables; Justin Bokor Advisory analysis.

(2) We have not included the 2020 cost ratio because redundancy payments affect the comparability. We recommend re-benchmarking your cost ratio with 2021 sector data when it is available and evaluating the practices of those with lean ratios, for example, their post-Covid academic workload models.

Drivers of success: Students

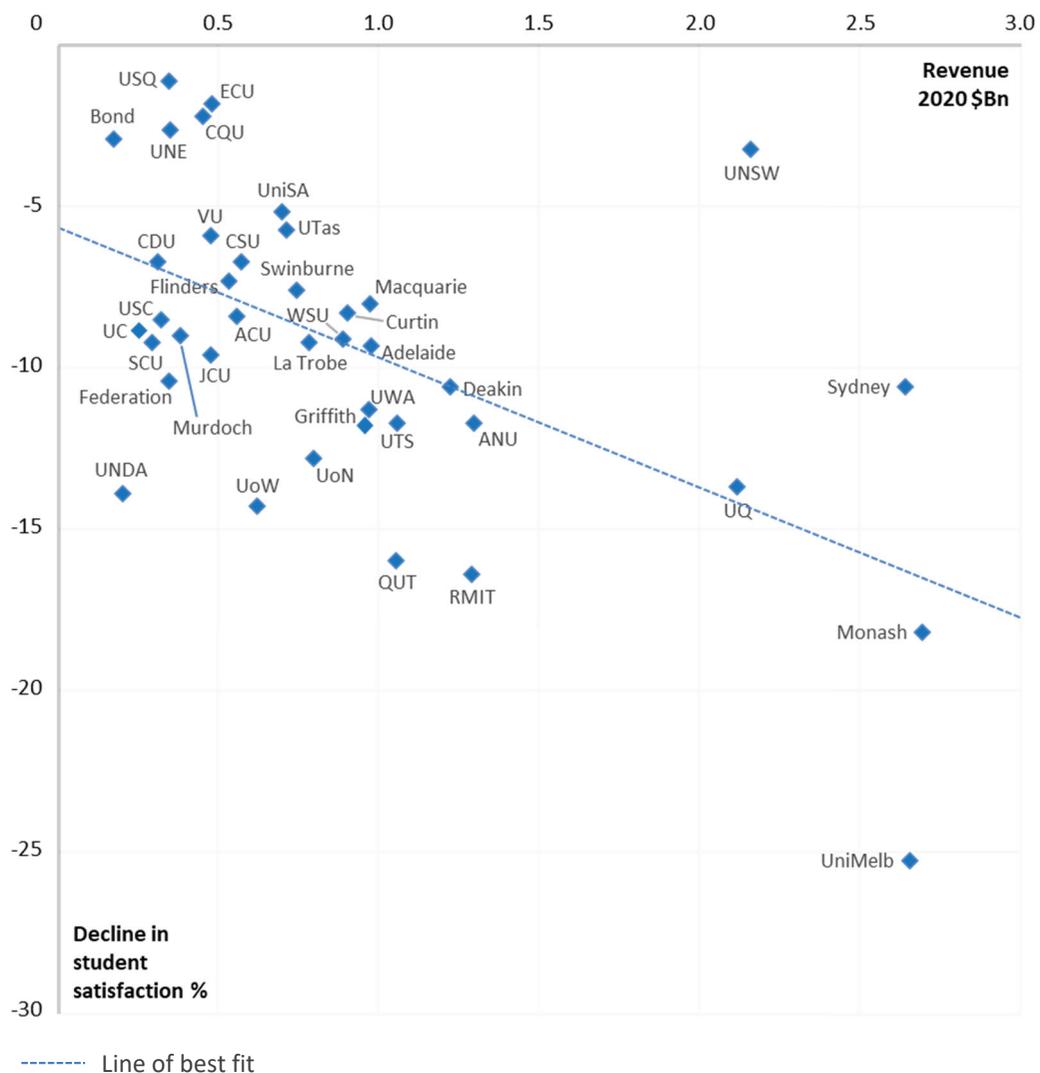
Covid triggered the greatest disruption to student experience in living memory, particularly for school leaver students in locked-down cities. Even for universities in states with few lockdowns, the way students interact with academics, attend class, manage their studies, and engage on campus has shifted dramatically. Some aspects of pre-Covid student life will reassert themselves, notably the desire of school leavers for a vibrant campus life experience with their peers. Many students, however, will now come to university – whether virtually or in person – with a new set of expectations.

Student satisfaction declined at all Australian universities during the pandemic (Figure 20). The declines were most pronounced at large universities, with the exception of **UNSW**¹, but few universities were spared. Nearly half the sector had a decline of 10% or more.

Universities should stay flexible as they reconfigure their student experience in 2022 and 2023. They – and students themselves – will need to discover what different cohorts are looking for in what we hope is a post-pandemic world. Employability should be a key focus area. The goal should be to embed employability skills and practice into the core of each degree, rather than as an extra-curricular ‘add-on’.

The revival of campus life will also be a key driver for universities targeting a post-pandemic bounce in their student experience. For larger universities, the focus should be on creating localised activities, cohort networks, student support and learner engagement that reflect the interaction and familiarity experienced at a smaller university.

Figure 20. Decline in student satisfaction (quality of entire educational experience) 2020 vs 2019 (Y-axis) and institutional revenue 2020 (X-axis)¹



(1) This may partly be a result of UNSW’s low start point: UNSW’s 2019 student satisfaction was the lowest in the sector by a large margin. It declined only marginally further from that level in 2020.

(1) Sources: QILT Student Experience Survey (qilt.edu.au), 2019 and 2020 national report tables; Department of Education, Skills and Employment (dese.gov.au), 2019 Higher Education Providers Finance Tables; Justin Bokor Advisory analysis.

Drivers of success: Community

The pandemic may have emptied campuses for months on end but it also reinforced the importance of place to a thriving university. Universities' strength comes from their relationships, relevance and impact in their community. We recommend a 'natural constituency' model that focuses on building strategic relationships with the groups most likely to align with a university for the long-term.

Our natural constituency framework (Figure 21) starts with the campus. Even universities with a high proportion of online students need a physical campus presence that connects with the local community, advocates for future students, and grows participation in university activities. **Southern Cross University**, for example, has more than 40% of its students online but its Lismore campus played a vital role in the evacuation and recovery phases of the 2022 floods.

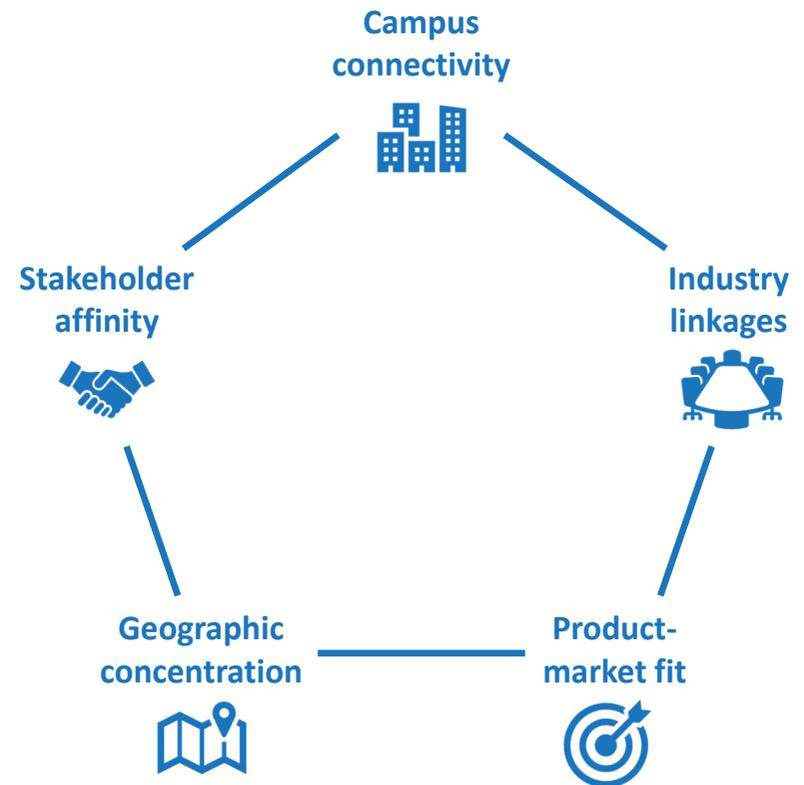
These types of linkages are equally important for city-based universities. Some like **Monash** in Melbourne's outer east or **Victoria University** in Melbourne's west have a geographic concentration that they can use to build natural constituencies. Student programs can be aligned to the demographics of the local market and industry linkages concentrated on the dominant economic drivers in the region.

Others, such as **UTS** and **UNSW** in Sydney, are surrounded by competitors on all sides. For these universities, a central location can be harnessed to focus on student cohorts and industry partners drawn from a wider pool. Segmenting and selecting particular industry and student groups to focus on is essential to overcome the lack of a natural geographic constituency.

Stakeholder affinity is a natural strategic driver for a university such as **ACU** with its mission-based relationships with the Catholic schools sector and Catholic healthcare providers. Stakeholder affinity is also an advantage for Group of Eight universities with established brands and connections into private school networks.

We recommend a renewed focus on natural constituencies in the post-pandemic period. Location is perhaps the dominant factor in creating strategic advantage – witness the rapid growth to 3000+ enrolments in the **University of Sunshine Coast's** new Moreton Bay campus¹, built beside a train station in the heart of a growth corridor. Universities who are unable to replicate these types of location advantage need to renew and strengthen their alignment to other constituencies and sources of long-term strategic differentiation.

Figure 21. Natural constituency framework



(1) Data source: usc.edu.au/about/key-statistics.

Drivers of success: Research commercialisation

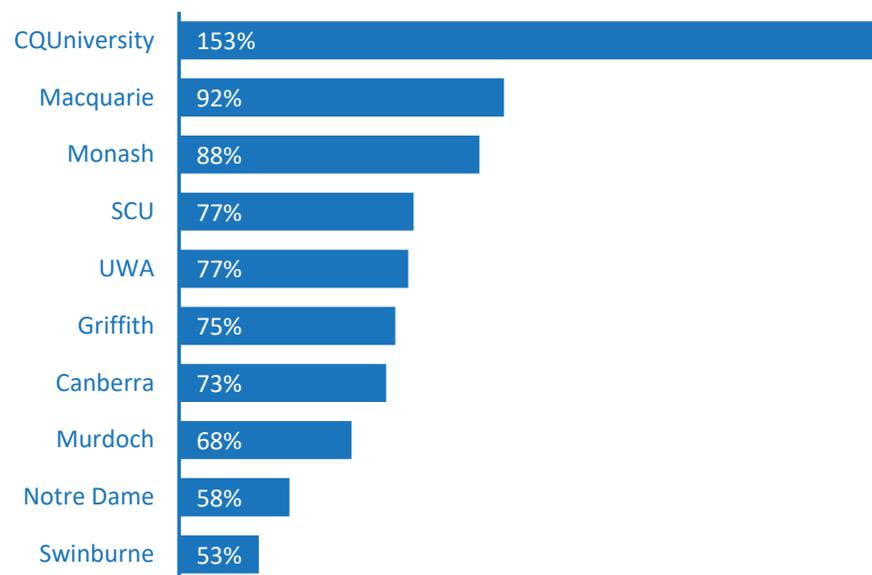
The federal government has been clear in its agenda to promote research commercialisation, launching its Action Plan in February of this year. The core of the Plan – six national manufacturing priorities¹, a new \$1.6 billion translation and commercialisation fund, and reform of existing research funding in pursuit of increased university-industry collaboration – has economy-wide goals and implications. The plan signals change in the way research is funded across the university sector. Universities will increasingly be expected to fund research through collaboration with industry and generate an economic and commercial return on that research. The greater the return, the more funds available to reinvest in research.

This will put a premium on academics who combine research excellence with commercial instincts and skills. It will also compel universities to develop the institutional capability to foster, house and retain those academics and the commercial ventures they develop in partnership with industry. There is no point spinning off a billion dollar technology or start-up if the university doesn't retain a meaningful stake in the upside.

We recommend universities go further than 'partnering' with industry. This mindset risks replacing reliance on government funding with dependence on industry. We think universities should instead aim to translate their research impact into research self-sufficiency. This means setting out to own the commercialisation agenda as far as possible: define your own sub-sector priorities, set financial targets, and bring in a pool of partners to exploit the opportunities. The winners will be those who, in doing so, play a intentional portfolio game that maximises their bargaining power in targeted areas of strength.

Smaller universities can pursue this approach as well as the multi-billion dollar institutions. Industry connectivity and generating external research income are not the preserves of large institutions. Figure 22 shows the 10 universities who recorded the fastest growth in Category 3 research income over the last four reporting periods (recalling that Category 3 income comes primarily from industry, both for-profits and not-for-profits). The top 10 includes three of the smallest universities in Australia with revenues near \$300m or less (**Canberra**, **Southern Cross** and **Notre Dame**), billion dollar institutions (**Macquarie**, **UWA** and **Griffith**) and the \$2.7 billion dollar **Monash University**. Figure 23 (overleaf) shows the top 10 universities in terms of royalty income – an equally diverse mix of universities.

Figure 22. Growth in Category 3 research income, 2017 to 2020, National top 10²



(1) The six priorities are: Defence, space, food and beverage, resource technology and critical minerals, medical products, recycling and clean energy (University Research Commercialisation Action Plan, Australian Government, 2022).

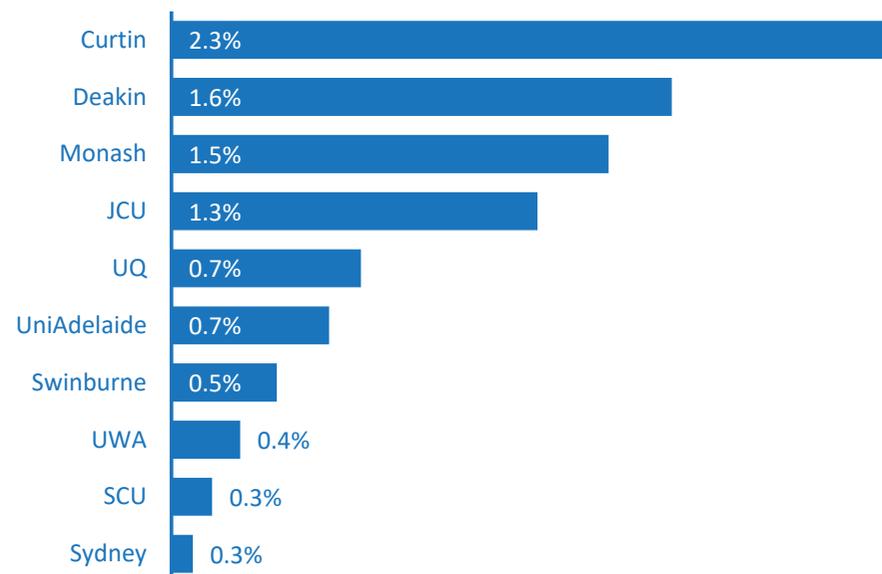
(2) Source: Department of Education, Skills and Employment (dese.gov.au), Higher Education Research Data Collection time series (1994-2020), Justin Bokor Advisory analysis.

Research commercialisation

Figure 23 illustrates the work to be done by Australian universities to increase commercial income streams from research. Only four universities in Australia generated more than 1% of their income from royalties over the period 2017 to 2020. Even in the top 10, it drops away quickly: **UQ** was the fifth-ranked university nationally but generated only 0.7% of its income from royalties. The **University of Sydney**, ranked 10th nationally, generated just 0.3% of its income from royalties.

Ten universities did not generate any royalty income at all over the four years. The bottom 20 universities over the four year period generated only \$3.6 million in royalties between them – an average of \$45,000 per year per institution. That’s hardly enough to make a meaningful contribution to institutions spendings hundreds of million dollars each year on research.

Figure 23. Royalties, Trademarks and Licenses, % of total revenue, 2017 to 2020, National top 10¹



The list of institutions in Figure 23 includes five Group of Eight universities, as one might expect, but is headed by two ATN universities (**Curtin** and **Deakin**) and contains one IRU university (**James Cook**), one regional university (**Southern Cross**) and one unaffiliated university (**Swinburne**). The diversity of institutions in the top 10 shows that any university can be successful in research commercialisation. And the rewards are substantial: **Curtin**, **Deakin** and **Monash** earned \$313m in royalty income between them from 2017 to 2020. By contrast, **UTS**, **UniSA** and **UNSW** – a similar mix of two ATN universities and a Go8 – earned only \$5.7m in combined royalty income over the same period.

Many academics will decry the increasing focus on research commercialisation. A particular concern is for humanities and social sciences academics, whose research is much harder to commercialise. This paper does not argue whether the government focus on research commercialisation is the right or wrong policy setting. The purpose here is to recommend an optimal response for universities to sustain a vibrant research program, given the policy has bipartisan support and is likely to remain in place for the foreseeable future.

The more universities can foster self-sufficiency in their research portfolio, as articulated here, the more likely they can support humanities and other research programs that may not generate commercial returns but are crucial to human understanding, social cohesion and artistic endeavour. A renewed focus on social impact and related measures may also aid humanities-related disciplines maintain a share of research funding in competition with readily-commercialised fields such as biomedicine and engineering.

(1) Source: Department of Education, Skills and Employment (dese.gov.au), 2019 Higher Education Providers Finance Tables; Justin Bokor Advisory analysis.

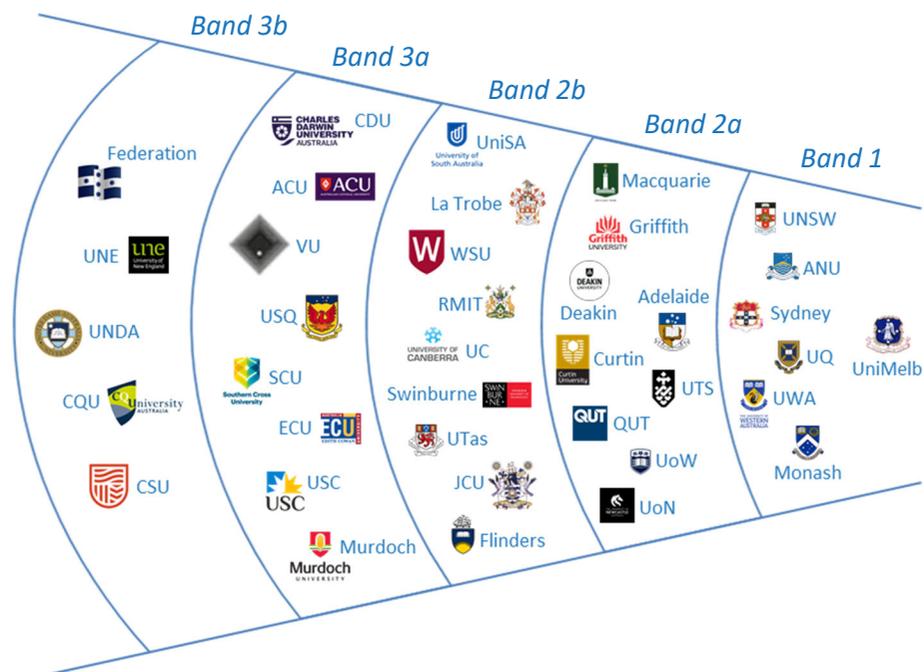
Drivers of success: Reputation

International rankings systems have long played a key role in the recruitment of international students, staff and partnership opportunities, despite the protestations of many executives in the sector who decry the emphasis on rankings. Most Australian universities have committed significant effort and resources to the pursuit of higher rankings. Some have been more successful than others. **UTS**, **Newcastle** and **Griffith University**, for example, have made gains across each of the three main rankings systems¹ over the last 2-3 years.

We advocate a more nuanced approach to rankings based on reputational ‘bands’ (see Figure 24). The key factor for students and potential partners is what band you belong to, rather than your precise position within that band. In band 1, the **University of Melbourne** is the clear leader with rankings in the 30s across each of the main systems. Melbourne’s distinct #1 position gives it an edge in the market. Beyond that, there is little difference between a rank of, say, 58, 65 or 73 – especially when the positions are interchanged across the three main systems. Likewise, there is minimal advantage to a rank of 318 compared to a rank of 341 or 367, for example.

Pushing across bands over time is strategically significant and worth investing in, where it is realistic. Shuffling within bands may deliver a ‘feel good’ factor at the time of a rankings press release but offers little value beyond that. We recommend university leaders set rankings goals that focus on either: (a) holding their position within a band (and conserving resources and management effort accordingly); or (b) targeting a longer-term move across bands where feasible, potentially within one particular ranking system. The **University of Canberra** provides a compelling example of this approach, executing a targeted strategy to move up each year from a rank of 500-600 in the 2016 THE rankings to a rank of 170 in the latest THE rankings.

Figure 24. International ranking bands, 2021²



We use five bands to demarcate Australian universities’ international rankings. The Group of Eight universities (Band 1), except for the **University of Adelaide**, occupy various top 100 positions in the main ranking systems. There are a large group of mid-tier universities in Australia which we separate into Band 2a, generally in the top 100-250 of the rankings, and Band 2b, in the 250-400 range. Universities like **UTS** and **Deakin** have established themselves as the #3 institution in their state by pushing into Band 2a rankings. We also distinguish two sub-bands in what are usually called tier 3 universities, with a group of them (Band 3a) that have pushed into the top 400 – 600 of the rankings, creating a gap to Band 3b in the 700-1000 range.

(1) THE, QS and ARWU World University Rankings.

(2) Source: THE, QS and ARWU Rankings; Justin Bokor Advisory analysis.

Where to from here?

Assessing your readiness for a post-Covid
rebound



Assessment framework

We have evaluated 38 universities in Australia (37 Table A universities plus the University of Notre Dame) on each of the six nominated drivers of success: Business model, Academic program and workforce, Students, Community, Research commercialisation, and Reputation. For each of the six criteria we produce a composite measure, scored out of 100, based on each universities' absolute and relative performance on a series of indicators. We then aggregate the six scores, equally weighted, to produce an overall assessment of readiness for a post-Covid rebound.

Monash University is the clear leader in its readiness for the post-pandemic rebound, based on our assessment framework. Monash is in the top 10 nationally on each of our drivers, including a clear #1 position nationally on our research commercialisation measure based on the high growth rate of its Category 3 research income, solid 1.5% share of revenue attributable to royalties, and its strong growth of research income overall.

UTS is the non-Go8 leader in terms of overall readiness, closely followed by **Macquarie University** and **Deakin University**. Each of these non-Go8 universities score more highly on our readiness framework than several Go8 universities.

This section of the report provides feedback on the overall readiness assessment across the sector, university results for each driver, implications and potential responses.

For more information on the specific results, measures and benchmarks for your university, please contact Justin Bokor on 0499 777 840.

Driver	Indicators
Business model	<ul style="list-style-type: none">- Operating margin, trend and 2020 sector comparison- International share of revenue, trend and 2020 performance
Academic program and workforce	<ul style="list-style-type: none">- Market performance (domestic and international student growth rates)- Staff cost ratio- Academic yield (net academic revenue per academic FTE)- Non-academic staff costs to total costs
Students	<ul style="list-style-type: none">- Student experience- Employment outcomes- Employer satisfaction- Attrition rates- Completion rates
Community	<ul style="list-style-type: none">- Geographic concentration (% of load in programs ranked #1 or #2)- Equity and indigenous participation
Research commercialisation	<ul style="list-style-type: none">- Growth of category 3 income- Overall growth of research income- Royalty share of total income
Reputation	<ul style="list-style-type: none">- THE, QS and ARWU aggregate ranking

Readiness for rebound – Aggregate ratings

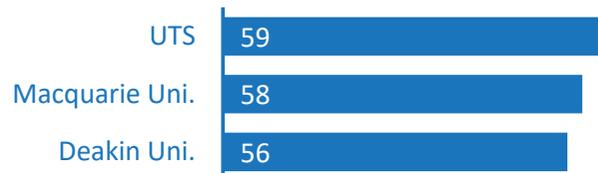
Group of Eight universities lead the aggregate scores on our readiness framework, as we might expect. They used their reputation and appeal in international markets to build pre-Covid business models that delivered sustained surpluses. With rankings intact and a lean cost base post the pandemic, Go8s such as **Monash University** are well positioned for the recovery. However, the overall results belie significant variations in individual drivers that will affect future results. The **University of Sydney**, for example, scores well down on our research commercialisation measure, with its growth of Category 3 research income and its revenue share of royalty income well below that of peers.

Figure 25. Readiness for rebound (100 point scale), national top 3



We see a similar scenario with non-Go8 universities. The three leading institutions have some distinct strengths. All three score well on their business model, in particular **Deakin** – which ranked second nationally on this metric. They also score well on reputation, in particular **UTS** and **Macquarie** sitting just behind the Go8s. However, Deakin and UTS trail the sector on our community metric and Macquarie trails national averages on our student metric.

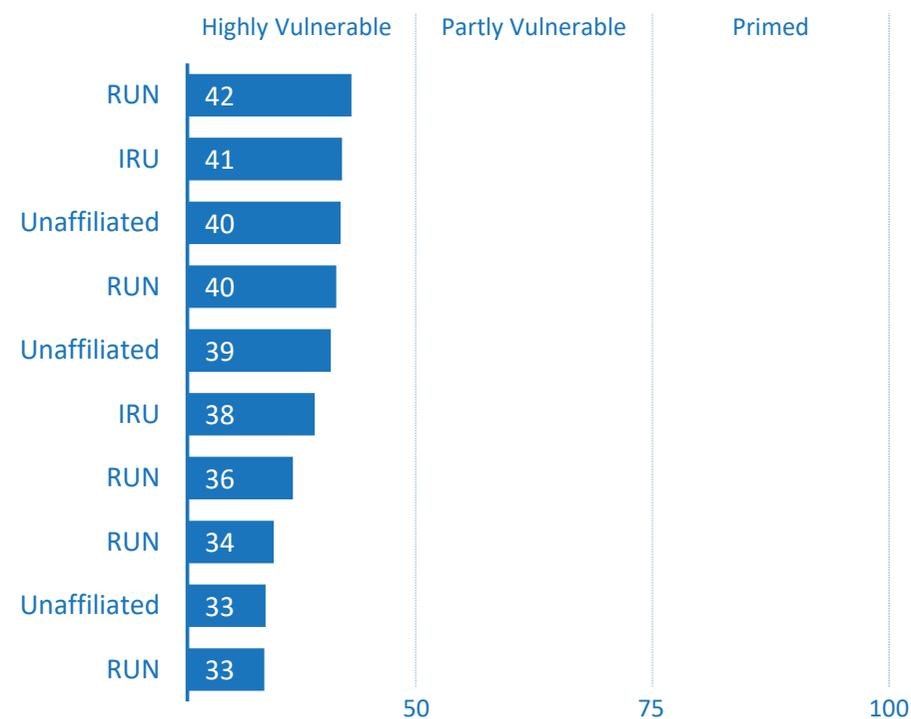
Figure 26. Readiness for rebound, top 3 non-Go8 universities



At the other end of the spectrum, we see a number of universities with low levels of readiness for post-pandemic conditions. We have chosen to de-identify them, showing only their affiliation within the sector. The group includes, unsurprisingly, five regional universities, who play vital roles in their communities but have long struggled with marginal business models and low-end rankings.

The bottom 10 includes two IRU universities held back by low scores on student metrics. The group also includes one of the higher-ranked unaffiliated universities, with a business model particularly impacted by the pandemic and declines in research income. Each of these universities is exposed in specific ways but a rebound in the market presents an opportunity to address these limitations.

Figure 27. Readiness for rebound (out of 100), bottom 10 universities



Readiness for rebound – Business model

Our business model metric is a composite measure based on operating margins and international revenue share pre-pandemic and data released to date on performance post the pandemic. The standout performer is the **University of Sydney**. Sydney had one of the highest operating margins in the years leading up to the pandemic and recorded a solid result in the first year of the pandemic, including 4% growth in international student income, the most of any Go8 university.

Deakin University has also had one of the highest operating margins over the longer term, at the same time as being one of the fastest growing universities in the country. The **University of Melbourne** has used its brand and reputation to build a strong business model supported by international student income but its operating margins have been marginally lower than the University of Sydney (14.1% long-term EBITDA ratio compared to 16.4%).

Figure 28. Business model rating (100 point scale), national top 3



At the other end of the scale, we again see primarily regional and unaffiliated universities in the bottom 10 scores (Figure 29). However, a regional presence has not prevented other universities from building a business model that can deliver strong operating margins. The **University of the Sunshine Coast** recorded operating margin ratios in the top 10 nationally over the last decade, while the **University of Southern Queensland** was marginally outside the top 10. USQ rates just outside the top 10 in our overall business model assessment, well ahead of two Go8 universities. USC is not far behind. Regional and unaffiliated universities in the bottom 10 should not be there as a given based on reputation, location, size or other pre-determined factor.

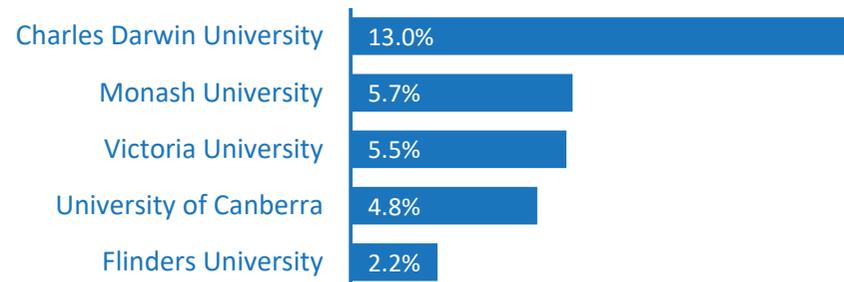
Our bottom 10 includes one IRU university and one of the Go8 universities whose historically low international revenue share has fed into operating margins below the sector average.

Figure 29. Business model rating (out of 100), bottom 10 universities



Five universities, including two of the smallest in the country (**CDU, UC**) increased margins by 2% or more in the first year of the pandemic, showing again that size is not the only determinant of resilience.

Figure 30. Growth in EBITDA ratio, 2020 vs historical average



Readiness for rebound – Academic program and workforce

Our academic program and workforce metric is a composite measure based on the performance of the academic portfolio (in terms of market growth) and the sustainability of the supporting workload model, measured using three workforce ratios. An additional measure that we would typically include here would be the alignment of the academic portfolio (discipline mix) to labour market drivers of employment growth. We have not included that in this report because university discipline mix is not publicly available.

Southern Cross University is the standout on our academic program and workforce metric. SCU's academic program has delivered nation-leading growth in domestic and international EFTSL, it has one of the leanest academic workforces in the country, and a relatively lean professional workforce. However, SCU has been unable to translate those assets into high operating margins as a result of consistently having one of the sector's highest levels of 'other expenditure'¹.

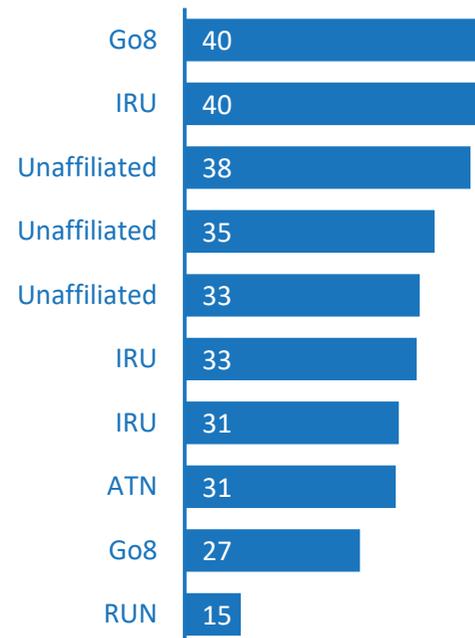
Figure 31. Academic program and workforce (100 point scale), national top 3



The bottom 10 universities on our academic program and workforce measure (Figure 32) are a diverse mix of institutions: two Go8 universities, three IRU, three unaffiliated, one ATN and one regional university. One of the Go8 universities is the second last nationally on this measure, caused by low rates of growth of its domestic and international student programs.

(1) Source: Department of Education, Skills and Employment (dese.gov.au), Higher Education Providers Finance Tables 2010-2020.

Figure 32. Academic program and workforce, bottom 10 universities



One of the sub-measures we use to assess workforce derives from professional staff costs as a proportion of total costs – in effect, an overhead measure. This ratio rose across the sector as a whole in 2020, despite (or perhaps as a result of) the work done to cut academic costs. Some of this increase would likely stem from the cost of redundancy payouts. The size of the increase (nearly \$0.5 billion) suggests there is more work to be done across the sector to adjust workforce operating models in readiness for the post-pandemic era.

Figure 33. Sector non-academic costs as a proportion of total costs¹

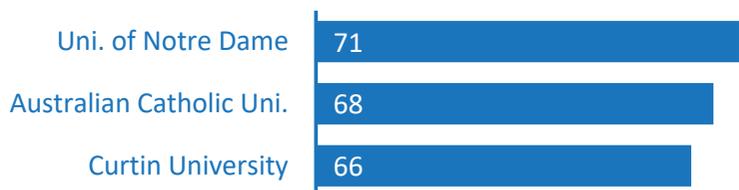


Readiness for rebound – Students

Our student metric is a composite measure derived from student experience, graduate satisfaction, employment outcomes, employer satisfaction, attrition and completion rates. The national leader is the **University of Notre Dame**, one of Australia’s smallest universities. Small universities have typically led the sector in student experience – if we included **Bond University** in this analysis, it would also rate near the top.

ACU and **Curtin University** are considerably larger (\$550+m annual revenues in the case of ACU, \$900+m for Curtin) but have different strengths. ACU has one of the highest levels of employer satisfaction nationally and strong graduate outcomes in terms of employment. ACU’s strengths and industry connections in professional programs in health and education are a key driver of their student success. Curtin records high levels of employer satisfaction and high levels of graduate satisfaction, particularly amongst its undergraduates.

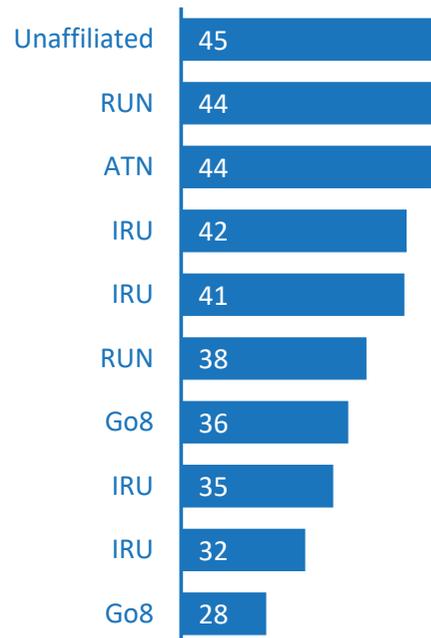
Figure 34. Student experience and success rating (100 point scale), national top 3



The bottom 10 universities contain, like the measure of academic program and workforce, a diverse mix of institutions: two Go8 universities, four IRU, two regionals, one ATN and one unaffiliated university. The two Go8 universities in the bottom ranks here are the same two as in the academic program and workforce metric, which suggests a logical correlation between student experience, success, and the growth of academic programs.

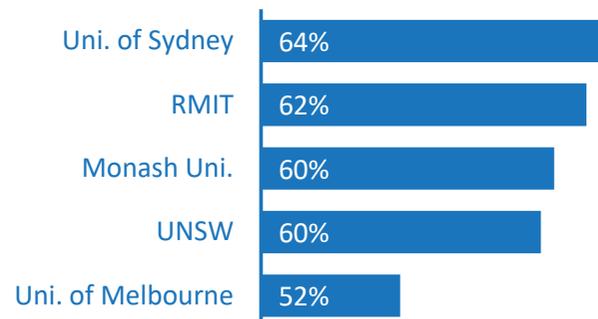
(1) Source: QILT Student Experience Survey (qilt.edu.au), 2020 national report tables.

Figure 35. Student experience and success, bottom 10 universities



The declines in student satisfaction in the first year of the pandemic (Figure 20 on page 16, Figure 36 below) left many universities with poor results in QILT’s 2020 student experience survey. QILT’s 2021 results will reveal how these universities have addressed this and their readiness for student success in the post-pandemic era.

Figure 36. Satisfaction w. education experience, QILT 2020, bottom 5¹



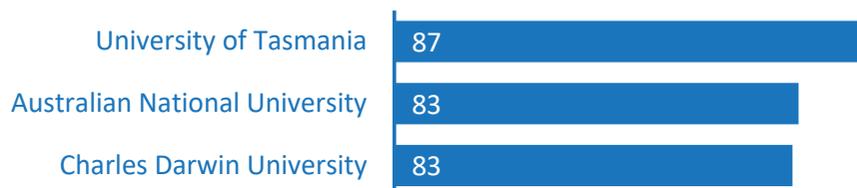
Readiness for rebound – Community

Our community metric is a composite measure based on equity and indigenous participation ratios and the percentage of load in programs ranked #1 or 2 in the market based on size and growth rates. These indicators test elements such as stakeholder affinity, geographic concentration and product-market fit described in the natural constituency framework (page 17).

Equity and indigenous participation ratios are based on the population share in the relevant state or territory. Programs ranked #1 or 2 are also based on state/territory market share. The indicator may thus favour universities like **UTas** and **CDU**, which have no meaningful state-based competitors, but this is appropriate. Universities in cities like Melbourne, Sydney and Brisbane with multiple competitors need to work harder to create distinctive strengths in their academic program to avoid long-term declines in student demand and financial performance.

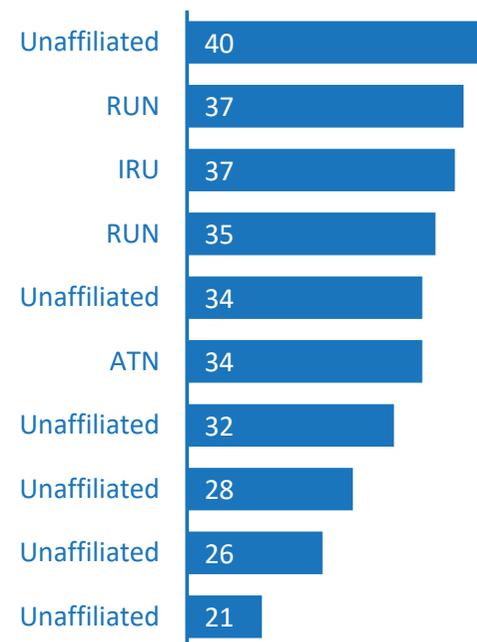
UTas is the number one ranked university on our community metric. It naturally has a dominant position in terms of programs ranked #1 or 2 in the state and performs reasonably well in terms of equity participation, particularly with respect to students from a non-English speaking background and low-SES communities. **ANU** and **CDU** likewise have dominant positions in their state market, along with pockets of strength in their equity programs – particularly participation rates for students with a disability (ANU) and students from a non-English speaking background (CDU)¹.

Figure 37. Community rating (100 point scale), national top 3



The bottom 10 on our community metric is dominated by unaffiliated universities. These are the lower-ranked universities in crowded state markets who have few if any programs in the top #1 or 2 of their state. Most of these universities would have community, campus and stakeholder connections that cannot be measured through publicly-available data. However, we assert that, without strong linkages to equity and indigenous groups and few dominant academic programs, these universities will consistently be exposed to losing market share to competitors, particularly in the more profitable program areas like management and commerce.

Figure 38. Community rating (100 point scale), bottom 10 universities



(1) Source: Department of Education, Skills and Employment (dese.gov.au), Selected Higher Education Statistics – 2020 Student data.

Readiness for rebound – Research commercialisation

Our research commercialisation metric is a composite measure derived from the growth of Category 3 income, the overall growth of research income, and royalties share of total income. **Monash University** is the clear national leader on this measure. Monash leads its Go8 peers on each of the sub-measures by a large margin. Monash's royalty share of total income, for example, averaged 1.5% over the period 2017-2020. The next best Go8 was the **University of Queensland**, with 0.7% over the same time period. The **University of Melbourne**, **UNSW** and **ANU** averaged 0.05% royalty income share over the same period. UQ has long had a strong reputation for research commercialisation through its UniQuest organisation. Monash's commercialisation team might have a lower profile but they have built an outstanding track record.

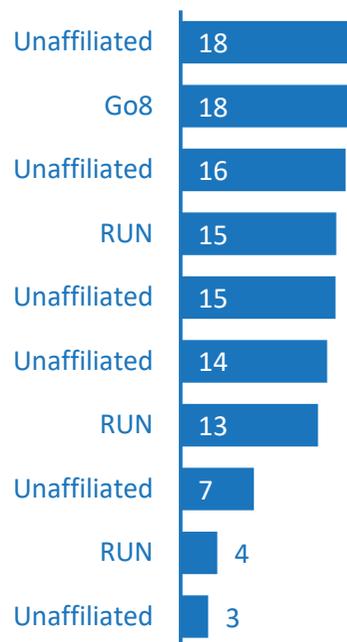
There is only one other Go8 university in the top 10 of our research commercialisation measure. RUN, ATN and unaffiliated universities are well represented in the top 10, demonstrating the ability of diverse, smaller institutions to align to industry and generate commercial outcomes from their research. Two regional universities (**Southern Cross**, **CQU**) are in our national top 3, behind Monash but both have been generating nation-leading levels of growth in category 3 income and research income overall.

Figure 39. Research commercialisation rating (100 point scale), national top 3



The bottom 10 consists primarily of unaffiliated and regional universities, along with one Go8 university. All of these universities have recorded negative growth in Category 3 income. Most have recorded negligible royalties income – or none whatsoever. Some have also recorded negative growth of research income overall. These ten universities have a lot of work to do to be ready to prosper in an era of increased focus on research commercialisation.

Figure 40. Research commercialisation rating (100 point scale), bottom 10 universities



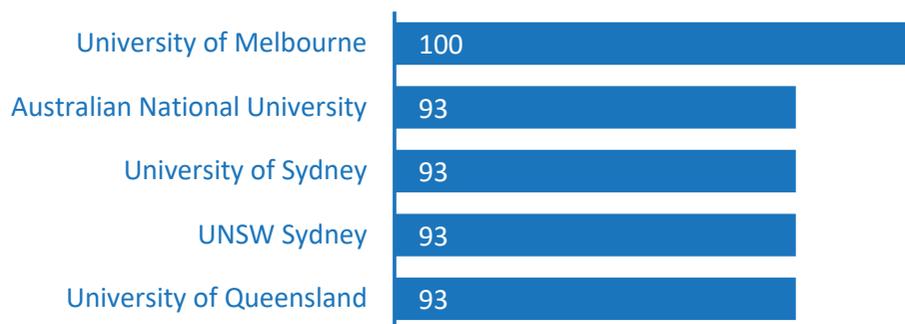
Sources: Department of Education, Skills and Employment (dese.gov.au), Higher Education Research Data Collection time series (1994-2020) and 2019 Higher Education Providers Finance Tables; Justin Bokor Advisory analysis.

Readiness for rebound – Reputation

Our reputation metric is based on a composite score from the three main international rankings systems (THE, QS and ARWU World University Rankings). This is similar to UNSW’s Aggregate Ranking of Top Universities (ARTU). However, unlike the ARTU methodology, we include universities ranked below the top 500 on the three systems. That enables us to compare universities across the sector, including lower-ranked universities. We also focus more on bands than precise rankings within bands.

The top universities are, naturally enough, Go8 institutions. The **University of Melbourne** is a clear number one, like it is on the ARTU scale. We have **ANU**, the **University of Sydney**, **UNSW** and the **University of Queensland** evenly scored and ranked behind the University of Melbourne. This reflects our focus on bands and the top position, rather than minor differences in rank underneath the top.

Figure 41. Reputation rating (100 point scale), national top 5



The bottom 10 on our reputation metric consists primarily of smaller regional and unaffiliated universities. Most of these universities barely registered on the rankings systems a decade ago but several have made considerable progress in getting ranked and moving up from a low base. Other universities outside the Go8 have made large gains in rankings and reputation over the last 10-20 years, demonstrating the potential to ‘shift the dial’ on reputation over the longer term.

Figure 42. Reputation rating (100 point scale), bottom 10 universities



Sources: THE (timeshighereducation.com/world-university-rankings), QS (topuniversities.com/university-rankings) and ARWU (shanghairanking.com/rankings); Justin Bokor Advisory analysis.

Implications and potential responses

Optimism is hard to find in Australian universities at present. Domestic enrolments in 2022 have been below expectations, international commencements are recovering but the 2020 and 2021 declines are still flowing through the system. University budgets are tight and neither of the two major political parties appear inclined to invest in the sector in the years ahead. But we see the conditions in place for a post-Covid recovery. Domestic student demand will continue to grow over the next 5-10 years, albeit with a question mark over the willingness of the federal government to fund the growth. The fundamental drivers of the international student market will propel growth for many years to come – assuming supportive government policy. Most Australian universities are emerging from the pandemic with leaner organisations and a suite of new models and lessons learned on all aspects of how to run a university.

Our analysis highlights the Go8 and non-Go8 universities that are primed for success in a post-Covid rebound. We have elaborated six key drivers of success and articulated the issues that different universities face on each of these drivers. We conclude the paper by summarising potential strategies and focus areas to position your university to thrive as the pandemic recovery gathers pace.

Business model

Define the role of international education (financial and non-financial) in your business for the decade ahead. Mandate a more active role for the finance committee of your governing body in the management of the financial dividends (and risks) of international. Assess shared procurement models, optimisation of asset use (e.g. of campus buildings) and other methods to reduce operating costs.

Academic program and workforce

Reassess the alignment of your academic portfolio to post-Covid labour markets. Ensure digital skills and experiences are embedded across *all* of your student programs. Assess your exposure to loss of share in key programs as students and competitors continue shaping their responses to the incentives of Job-ready Graduates funding. Further streamline your academic and professional workforce.

Students

Monitor post-pandemic fluctuations in student experience and expectations – how do different cohorts want to engage post-Covid? Benchmark your student experience against the approach used by the leading small universities – which aspects of their approach can be translated to your environment? Ensure employability skills and experiences feature in the curriculum of all your degrees.

Community

Identify mechanisms to create deeper connections with natural constituency groups. Consider further tailoring your student, research and industry programs to local conditions, including the needs of equity groups.

Research commercialisation

Embed a portfolio strategy and mindset into your commercialisation agenda. Benchmark your approach to growing Category 3 and royalties income against the strategies deployed by universities achieving high growth.

Reputation

Scrutinise the feasibility of a significant shift across rankings bands. Define rankings strategy, level of focus and investment accordingly.

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